

ISTITUTO SUPERIORE DI SANITÀ

**Ageing today:
a new challenge for tomorrow**

**State of the art of the European Project CHANGE
(Care of Health Advertising New Goals for Elderly people)**

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Ageing today: a new challenge for tomorrow. State of the art of the European Project CHANGE (Care of Health Advertising New Goals for Elderly people).

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The Istituto Superiore di Sanità (the National Institute of Health in Italy) participates in the European project CHANGE (Care of Health Advertising New Goals for Elderly people). The project is an intervention model designed to provide the elderly population with healthy lifestyles to stay active accounting the increase in life expectancy and the working period. The intervention model consists of an informal educational system centered on increasing motor activity and optimization of diet to be carried out after identifying and training of social health mediators (physicians, gerontologists, social workers, psychologists and pharmacists).

Key words: Active aging; Quality of life; Education, continuing

Istituto Superiore di Sanità

Invecchiare oggi: una nuova sfida per il domani. Stato dell'arte del Progetto europeo CHANGE (Care of Health Advertising New Goals for Elderly people).

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L'Istituto Superiore di Sanità partecipa al progetto europeo CHANGE (Care of Health Advertising New Goals for Elderly people) che si pone quale modello di intervento finalizzato a fornire alla popolazione anziana la promozione di stili di vita più salubri per rimanere attivi e far fronte all'aumento della speranza di vita e del periodo lavorativo nel modo più appropriato. Il modello d'intervento proposto consiste in un sistema educativo informale centrato sull'aumento dell'attività motoria e sull'ottimizzazione del regime alimentare da effettuare dopo aver individuato e addestrato i mediatori socio-sanitari (medici, gerontologi, assistenti sociali, psicologi e farmacisti).

Parole chiave: Invecchiamento attivo; Qualità della vita; Programmi educativi di aggiornamento

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PREFACE

The present work as the result of the 2nd Work Package of the project “Care of Health Advertising New Goals for Elderly people” (CHANGE) comprises a variety of different approaches concerning health issues for elderly people. It ranges from theoretical explanations of ageing and wellbeing of elderly people (biological, psychological and social theories), through the role of communication and social relationships for elderly and suggestions for solutions (e.g., social marketing approach) up to the state of the art of elderly people as well as health promotion practices in the participating five European countries (Lithuania, Spain, Italy, Austria, Poland).

Following a short general introduction to the topic (Introduction), the aims and goals of the CHANGE programme are presented. Subsequently the relationship between mind and body and the state of health of elderly people (Chapter 1) is discussed by investigating theories of social and mental representations of health and illness.

Chapter 2 about “Theoretical models on ageing and the promotion of wellbeing” primarily tries to give a short overview about different ageing theories ranging from biological, psychological, social, gerontological up to behavioural explanations. The aim is a careful analysis of theoretical approaches to the promotion of health and wellbeing in order to design useful and efficient training models and interventions which should motivate elderly people to remain active. Finally, the limitations and strengths of these theoretical models are discussed and analysed in a conclusive chapter.

Chapter 3 of the report emphasises theories of communication and the role of social relations and emotions in communication processes of elderly people. After highlighting the existing connections between quality of social relations and health, the relevance for the programme CHANGE as well as useful suggestions for interventions are given.

Concerning children and young people, the prosociality concept (as discussed in Chapter 4) has been often studied in regard to the benefits for personal and interpersonal development. When it comes to the issues of elderly people, it helps to understand the process of relations between individuals and hence to improve their quality of life. The importance and benefits of prosociality (higher levels of group cohesion, solidarity, participation, co-operation, motivation, etc.) and their impact on health issues are illustrated in this chapter. The result is a critical summary highlighting the relevance of prosociality for the CHANGE project.

Chapter 5 exemplifies the social marketing concept. Based on marketing principles the concept tries to influence and adapt the behaviour of target audience for the benefit of society (increased public health and safety, benefits for environment and communities) and individuals. After pointing out the standards of social marketing practice, general applications for social marketing theories as well as specific applications for the CHANGE project are given.

Chapter 6 (Characteristics of Elderly people), gives a rather general overview depicting the demographic aspects, socio-cultural scenarios, social developments, structural indicators on health (mortality & morbidity rates), nutrition issues and the importance of physical activities. Taking into consideration various efforts how to reduce the problems of ageing – such as different cultural approaches, society norms, available information, economic factors, social development, patterns of mobility and transport, etc. – an attempt has been made to increase the awareness of the planners of co-ordinated action programmes towards ageing issues.

Chapter 7 examines the interaction between mediators and elderly people. In this case, mediators may be doctors, gerontologists, nurses, physiotherapists, psychologists, social workers, pharmacists, etc. This chapter tries to highlight the exchanges between professionals in

healthcare and receivers of the health care system. Such exchanges are possible in many ways (verbal *vs* non-verbal, oral *vs* written, personal *vs* impersonal, etc.). In the following, intrapersonal as well as interpersonal aspects of communication are described. The latter depicts communication processes between mediators within the health care system and elderly people and discusses social skills training for professionals. Finally, an overview of relevant areas for the CHANGE project is outlined.

The last part of the report (Chapter 8) lists the particular country reports on elderly people, health issues and health promotion in each of the participating countries – Austria, Italy, Lithuania, Poland and Spain. Hereby each country provided an overview about specific demographic and health indicators, lifestyles of elderly people and concerns for health in their respective countries.

In Appendix A examples of good practice in health promotion for elderly people give an idea about different programmes that have already been implemented. Furthermore they serve as examples for further campaigns since they promote active ageing and support the designing and implementing of a training model for social health mediators.

INTRODUCTION

The ageing of population is a demographic phenomenon which is continuously increasing. The percentage of the world population aged over 65 years has increased from 23.5 in 1950 to 26 in 2000, and researchers estimate that it will reach the percentage of about 38% by 2050. The conditions of aged people having a longer life and wellbeing expectation today are very different from their life condition in the past. Today aged people, besides taking care of their health, demand new educational, amusement, knowledge, body care and social interaction opportunities. In this context in Europe a new social ethics is going to impose itself, in which aged people are considered in a new and more functional perspective. Aged people are defined as people wanting to make their subjectivity emerge, taking more care of themselves, trying to increase the quality of their “life expectancy” through their mental and physical activity. Among the elderly the idea of care of themselves and their physicality is becoming stronger and stronger, together with the enhancement of more psychological-social values. Unlike the past, today the elderly know who they are, they are perfectly aware of their role in society and of their needs and aspirations. The European Union considers health alphabetisation as one of the strategies which will best promote the social-economic development of a society. In order to try to face these deep social-cultural and demographic transformations, a multidisciplinary research team which is implementing the project “Care of Health Advertising New Goals for the Elderly” has chosen to identify itself in the acronym CHANGE. The goal is that of promoting a perspective shift and an intervention in the training of social-health mediators working with the elderly. CHANGE is committed to build and implement new models for promoting the elderly wellbeing by the enhancement of the competencies of social-health operators. The general aim of the CHANGE project is to enhance healthy lifestyles in elderly, especially less educated people, by developing a new model of prevention and health alphabetisation to be systematically adopted by social-health institutions, as a part of current practices carried out by mediators (doctors, gerontologists, social operators, psychologists, pharmacists). The specific objective is to develop a referential model, which will be to increase mediators’ competencies and awareness of their role in educating elderly to adopt healthier lifestyle by a vocational training for mediators on motivational, communicative and emotional techniques.

The CHANGE project proposes a model of intervention in the frame of Lifelong Learning Programme (LLP) aiming to provide the elderly with necessary competencies to remain active and to tackle the increase of life expectancy and working period in an appropriate way. This means to utilise training concepts as a strategy to produce a more integrated society that includes the elderly among actors of sustainable socio-economical development. The proposed model is an educative and non-formal system that is focused on the increase of walking activity and healthy diet among aged population to guarantee a better quality of life (good and long-lasting health condition) and the containment of social and health costs.

Together with some of the most important international organizations (World Health Organization, and European Union), we have shared key concepts such health, wellbeing and active ageing. In this perspective, wellbeing will be not a mere lack of illnesses or infirmities, but as a state in which physical, mental and social wellbeing coexist in the same individual. According to the World Health Organization (WHO), the state of health is determined by the coexistence of three conditions: the physical-biological health, the social-environmental wellbeing and the psychological-emotional wellbeing.

As regards people over sixty, the definition of a state of wellbeing cannot neglect the essential principles identified by the United Nation (UN) in the International Plan for Ageing.

Such principles are based on the ideas of:

- *Independence*

The elderly should:

- have access to food, water, a house and clothes and a suitable health care, regardless of their economic, family and community conditions and their degree of self-sufficiency.
- have the opportunity of working or have access to other earning opportunities.
- be enabled to participate into decision-making and into carrying out procedures of retirement from work.
- have access to adequate educational and training programmes
- be enabled to live in safe places, which can be furnished according to their tastes and their personality and adapted to their necessities.
- be allowed to live in their house as long as possible

- *Participation*

The elderly should:

- be integrated within society, by actively participating into the planning and carrying out of policies regarding their wellbeing and sharing their knowledge and their abilities with younger generations
- be enabled to look for and develop opportunities for serving their communities and for serving as volunteers with functions conforming with their interests and their abilities
- be enabled to set up movements or associations of the elderly

- *Care*

The elderly should:

- be supported by their families and communities, according to the system of cultural values of each society.
- have access to treatments which help them to keep or recover the optimum level of physical, mental and emotional wellbeing and to prevent or delay the onset of diseases.
- have access to social and legal services for increasing their autonomy, their protection and care.
- be enabled to use adequate levels of institutional care which can provide them with protection, rehabilitation and social and mental stimuli in a human and safe environment.
- be enabled to enjoy human rights and the fundamental rights of freedom, regardless of their residence place, being their house or a health care or rehabilitation institution, the full respect of their dignity, their thought, their needs and their privacy and the right of taking decisions about their medical treatments and the quality of their life included.

- *Self-realization*

The elderly should:

- be enabled to take advantage of all opportunities for the full development of their potentials.
- have access to the educational, cultural, spiritual and recreational resources of society.

- *Dignity*

The elderly should:

- be enabled to live in conditions of dignity and safety, far from any exploitation situations and situations of physical and mental abuse.
- be treated without discriminations, regardless of their age, their sex, their race or ethnic origin, their disability or other conditions, and be estimated regardless of their economic conditions.

In 2002, the WHO adopted the definition *active ageing*. This definition is based on the conception of ageing which can optimise the opportunities of health, participation and safety, in order to improve the quality of life in this sector of population.¹ Active ageing does not only mean physical or productive activity, but also the participation into social, economic, cultural and civic issues, according to the needs and the inclinations of each individual or group: the positive adaptation to a new stage of life. Ageing is intended as a part of a normal process of development along the life of an individual and age² is considered from a biological, psychological and social point of view.

In this perspective it is necessary to work for preventing social discomfort in its different aspects, for the promotion of wellbeing and the improvement of life quality.

In order to change the lifestyle of those inactive elderly people, generally being poorly educated and who find themselves living in a condition of psychological-physical risk, which often results in a loss of wellbeing, of health and personal autonomy, we must carry out interventions motivating them to change their condition for a better life.

In this perspective those working in this field as social-health mediators function as filter and catalysts of that change which we want to foster in the elderly being at risk of social discomfort. Our idea is that of training social-health mediators so that they can help the elderly to consolidate their wellbeing and improve their life quality. To motivate the elderly to change, it is necessary to modify the images social-health mediators have of this stage of life. In this intervention intended for stimulating a change in the elderly, social-health mediators cannot avail themselves only of their technical competencies acquired from their specific jobs, but they above all need to consolidate the instruments of a relational, emotional and communication kind they have got.

The motivation to change comes from within an efficient and gratifying relationship between mediators and the elderly facilitating the activation of those changes aiming at the improvement of the life quality of the elderly.

Focusing the attention on the promotion of the wellbeing of the elderly means to carry out a complex action of prevention of biological-psychological-social discomfort. This prevention action is to be carried out at more than one level: in proactive terms, through interventions aiming at changing the objective and material conditions limiting the wellbeing of the elderly, but also in reactive terms, that is by a work aiming at transforming the perception about this stage of life, of the elderly and of the people working in this field.

The change of perception to which we refer does not only regard those the elderly who consider this stage of life as “an inevitable decline and the end of everything”, but also the people working in this field who starting from the idea of a chronic and multidimensional lack operate within an only compensation perspective. The change of self-representation by the elderly above all starts from the transformation of some wrong beliefs of which sometimes the social-health mediators themselves unconsciously are the spokesmen. From these considerations, the project CHANGE is born as well as its choice of concentrating its action on the identification of a training model for social-health mediators which can transform them into facilitators of the promotion of wellbeing of the elderly and of the other people working with

¹ In 1999 the world campaign “Global Embrace” promoted by the World Health Organization was launched. It consisted of a day devoted to physical activity of the elderly taking place at the same time in about 100 countries in the world. From the Global Embrace the global Movement for active ageing was born, an event to which the “Global Strategy on Diet, Physical Activity and Health” (WHO, 2004) followed.

² These three principles are integrated into that of *functional age* (balanced index of biological, psychological and social abilities).

them with different functions. “The only way to change someone is to change ourselves”, M.H. Erickson said.

We will work at building and implementing a training model for social-health mediators unifying the different dimensions of which the state of wellbeing and health consists. The term *active ageing* is used today to refer to not only physical activities³ which the elderly actively perform, but also to behaviours such as the prevention of illnesses and the promotion of health, among which there are paid works, volunteer services, caregiving, social and civic commitment and lifelong learning.

The main task of those working for the elderly in the social-health field is that of promoting an active ageing and their training cannot but start from this transversal perspective oriented to the development of the global wellbeing of the individual.

CHANGE looks at this direction and avails itself of a partnership in the medical and psychological-social areas, which reflects the choice of integrated acting on more levels, putting into practice the idea of intervening in a wide biological-psychological-social perspective.

³ In a strictly physical sense the “physically active ageing” means the participation into a regular physical activity. This implies benefits to physical health (prevention of cardiovascular diseases, diabetes, neoplasiae), to psychological health (mood and cognitive functions) and social health (integration, friendship). Canada is one of the countries which has most invested in this field by a big number of projects. As a consequence of this the percentage of people over sixty involved in physical activity is equal to 22% for men (the highest percentage in the world) and to 13% for women. In Italy the percentage of the elderly practicing physical activity are 4.7% for men and 2.6 % for women. World percentages are: 25.1 % for men and 15.5% for women.

1. RELATIONSHIP MIND-BODY AND STATE OF HEALTH

To present a model of health and of promotion of wellbeing from a biological-psychological-social point of view, it is also important to describe, even if briefly, our point of view on the relationship between mind and body.

In the development of the scientific and philosophical thought, the distinction between mind and body, handed down from generation to generation in Europe over centuries, can be essentially explained within a process of social and cultural construction which cannot be found in any other forms in other cultural worlds. In this regard let us remember the medicine man of the American Indians, the shamans of Nepal or other figures existing in other cultures, to point out that the relationship mind-body is always situated within and is typical of the social and cultural groups to which they belong. In the western world the first dualist theories on the relationship mind-body start with Plato who proposes a sharp distinction between the soul and the body and a sharp distinction as well, between the world of ideas and nature. Another fundamental step along the process of thought which considers the distinction between mind and body to be substantial, can be found in Carthesius' philosophy, "where a *res cogitans* (the mind) gives shape, brings into life and makes an inert, amorphous material have a function, the body, the *res extensa*" (Solano, 2001). Later a big number of schools and thinkers have followed such a study trend.

The other trend of thought is represented by the materialistic or monist which have tried to simplistically and forcedly reduce the mind into something physical. Starting from the eighteenth century, however, other trends were born which tried to escape a variety of traps introduced by both spiritualist dualism and reductionist monism (Moravia, 1986). As Sergio Moravia sustains, today the danger is in attitudes alternative to the two trends described above, which are themselves a more sophisticated form of transposition and reduction from the mental to the physical.

The big progresses of neuroscience lead, with their danger of reducing mental functions, to something which in a more or less veiled manner, solely falls within the biological. On the other hand neuroscience itself points out that "the effects do not depend on the matter of which machine is made but on the programs which are put in it" (Bordi, 1987). The distinction between hardware and software, heritage of all theories on the artificial intelligence, has also become subject of the daily experience of people. The functioning of the mind and body both in conditions of health and illness, cannot be referred to an isolated individual but must be represented as something under development and can be examined only within a relationship (Solano, 2001). Therefore our contribution sets the relationship mind-body within a framework in which the adjustment of the emotional and physiological states in the relationship with an object which is first external and then internal, is dynamically interrelated with the state of health and its preservation (Grotstein, 1986; Taylor *et al.*, 1997).

The body and mind are considered integrated and dynamic dimensions of each person and instead of being separate entities, harmonise with each other in an interdependence being in relation to the different situations of health or illness.

1.1. Mental representation of illnesses

The approach of the mental representation of illnesses proposed by Leventhal, Meyer and Nerenz (Leventhal *et al.* 1980) comes from the need of analysing behaviours which are

seemingly inexplicable. Researchers have tried to explain behaviours such as the little degree of proportionality between the tendency to resort to doctors and the symptoms of which people complain. There are people, who, even if they show significant symptoms, tend not to resort to doctors or not to follow the treatments prescribed to them. On the other side, there are healthy people who frequently resort to health services even for minor disturbances. These two behaviours can be even more found within a different way of self-representation and then of living the ageing stage of our life.

According to the model of mental representation, the answers that people give are regulated by the implicit theories that they develop about illnesses. Mental representation plays a fundamental role in the processes of response that people put into practice towards diseases and it consists of four elements: a) the identity, intended as the word label given to a disease; b) the cause (the reason why we think to have taken ill); c) the time course, intended as the whole of expectations about the duration of the illness; d) the consequences, that is the expectations about the outcome of the illness (Zani & Cicognani, 2000). Later as a further element, the treatment, that is the whole of actions that a person can carry out for lightening his/her condition or for recovering his/her state of health (Lau & Hartman, 1983).

Other studies regarding mental representation of diseases are those carried out by Bishop (Bishop, 1987; Bishop, 1991). The author affirms that people cognitively organise the information on different illnesses and recall them to their mind, referring to general conceptions defined prototypes (Rosch, 1978), on the nature of diseases, of their causes and consequences. The prototypes of diseases available in our memory, are compared with the symptoms experimented at the moment. Later we choose the prototype which best fits the symptomatic experience we are living. The comparison between prototype and symptomatic experience does not require a precise and meticulous adherence, but a suitable correspondence bigger than other possible prototypes. The choice of a certain prototype has consequences both in the actions and the behaviours which will be later adopted, and in the recall of information in our memory. In this regard we have observed that the information which best adapt themselves to the prototype are better and more accurately remembered (Bishop, 1996). From other researches it has resulted that the cognitive organization of information by an individual about illnesses influences the way he relates to ill people, and that shows a different way that today exists to consider the condition of the elderly in relation to these beliefs. The parameters used for classifying diseases are their seriousness as regards life expectancy and their contagiousness (Bishop, 1991). The interesting aspect to be observed is that, regardless of the real characteristics of a certain disease, the perception of its seriousness and particularly its contagiousness regulate the responses to that disease and to the people who have got it.

The approach to disease representation is centred on the analysis of information procedures which people use, thus considering health from an essentially individualistic point of view. On the other hand, Bishop himself underlines the importance of cultural factors on the definition of categories and dimensions essential for the organization of information in our memory and for the decisions which people make about diseases.

1.2. Theory of social representations

The theory of social representations has greatly helped the spread of social psychology of health. Since the first study by Moscovici (Moscovici, 1961) on the social representation of psychoanalysis, it has become an essential point of reference for social psychology, particularly the European one. The theory of social representations is characterised by the analysis of the distinction between individual and social factors. This theory highlights the social and collective

nature of the view that people have of themselves and of the world which surrounds them. Social representations are symbolic socially shared worlds (Farr & Moscovici, 1984). They have a “cognitive function of integration of new information in previous knowledge systems and a motivational function of containing the anguish deriving from having to face something unknown, and then threatening...” (Petrillo, 1996). Social representations are not formal systems but have a practical character which guides and directs people’s behaviour. They are subject to the moral codes existing in a certain society and distinguish themselves over the different historical ages or in the same age among different social groups. Social representations are dynamic; they are built and regenerated through social communication processes (Petrillo, 1994). In particular social representations are ingenuous theories, typical of the common sense, which distinguish themselves from other kinds of knowledge that are more formalised like scientific knowledge. Social representations in the field of health are born from the need that people and groups to which they belong, have, to interpret diseases and give them a sense and to answer to questions referring to why do diseases develop? And why has that particular illness affected just that person? What does to be elderly mean? Common sense beliefs are actively built in order to give a sense to the often-confused experiences which people happen to face, and they do not represent wrong interpretations of scientific knowledge. Profane conceptions which people develop are surely linked to their personal experiences and to the experience they have of illnesses, but are defined within their cultural and social reference structures. On the other hand, a number of researches have highlighted that within the same cultural context the representations which people develop as regards health and illnesses, are a variety, especially according to the different groups by which it is characterised. The ideas which people produce with reference to health and illnesses are far from the official scientific thought and are rooted into social daily life. Many fields of research have highlighted this: the representation of illnesses and health (Herzlich, 1969), the representation of the body and its importance in guiding health actions, the representation of mental illnesses (Jodelet, 1989; Nicoli & Zani, 1998) and of handicap (Markova & Farr, 1995).

1.3. Social representations of health and illnesses

In one of the studies which is by now considered to be classical, about the representation of health and illness, Herzlich (Herzlich, 1969) highlighted the presence in common sense of a vision of the link between health and illness as the expression of an opposition relationship between the individual and society.

Collective imagination considers the individual as healthy and society as carrier of physical and mental pathologies. This research starts from considering three conceptions of health and three different typologies for explaining diseases, which vary according to different interpretations of the relationship between the individual and society. In the first case any illness is considered as destroying and to be affected by it is interpreted as personal and relational destruction. We tend to refuse illnesses and their treatments or on the other side, we accept them absolutely passively. In other cases an illness can be conceived as liberation that is an exceptional event which expresses needs that in a condition of health are sacrificed in the name of daily routine. Moreover, in other cases, an illness is interpreted as a job that is as an integral part of one’s own life. In this case people accept their illness and develop ways to cope with it which allow them to experience new forms of participating into social life. Illnesses become then the subject of a collective intercourse which gets another meaning, that of the relationship between individual and society. On the other hand the social representations of health and illness are extremely varied. Health can be represented as: a) mere lack of illness, without any

further specifications of a positive kind; b) a lifestyle; c) a condition of balance that is of a suitable adaptation between individual and society. Diseases can be on the other hand intended as: a) lack of health; b) escape from daily life; c) negation. In a later work Herzlich (Herzlich, 1991) sustains that, even the representations of health and illness have not undergone changes over the last years, what has been developing is the conception of health as a kind of social “rule” or of “moral imperative”. The value given to health has been increasing as well as a new way of interpreting health as synonym of happiness and wellbeing, for which any individual “must be well and recover his health”. Within the structure of social representations, subjective representations of health have the function of mediating between the general system of knowledge which includes cultural, social representations, and individual action (Flick, 1992). The theory of social representations of health and illness has offered a great contribution to social sciences. It has fostered the integration between the different subjects studying health and has enriched the methodological and technical apparatus of research on health. Moreover the theory of social representations has highlighted the differences in terms of representations, between logic of daily life and institutional logic’s, users and health operators, patients and their relatives, etc. (Petrillo, 1996).

2. THEORETICAL MODELS OF AGEING AND PROMOTION OF WELLBEING

Ageing refers to the regular changes which occur after the age of physical maturity in persons living under usual environmental conditions, as they advance in years of age. Many theories have been proposed to explain the ageing process⁴. The training model which we want to build within the project CHANGE, starts from a careful analysis of the theoretical models on the promotion of health and wellbeing which will be presented and described below, underlining its innovative aspects of utility and efficiency, but also its critical aspects and limits.

Training interventions will be particularly focused on the theoretical and research models which from an integrated point of view not only include the risk factors of the ageing stage, but above all the protection factors and the resources which still exist in this stage of life.

The description of the theories existing in literature is not only meant for familiarising us with the cognitive, emotional and social functioning of the elderly in terms of wellbeing or illness, but also allows to show the presence of different levels of analysis and the intrinsic complexity of this field.

2.1. Genetic ageing theories

The genetic ageing theories are divided in:

- *Genetic factors theories*

Probably the most famous of the genetic factors theories is the one by Hayflick (Hayflick, 1965). He observed that cells taken from old animals divided much less often than cells from younger animals and concluded from this that the species' life span is fixed and genetically determined at the level of the cell, specifically by the genetic code in DNA. Other investigators contributing to the DNA models were Comfort (Comfort, 1979), Watson (Watson, 1969), and Orgel (Orgel, 1963), who varied the work to include RNA.

- *Longevity genes*

More recent work about genes involves examining chromosomes contained in the cell's nucleus. For many years of a person's life, the pairs of chromosomes continue to divide to form new cells. As one ages, the dividing reaches a point where it stops. When this happens, DNA synthesis is blocked. This is known as cell senescence. Thus far, the research has been conducted on fruit flies and yeast, and 14 genes have been identified which seem to be related to this explanation of the ageing process. Eventually, researchers hope to find human genes which demonstrate this same process.

2.2. Biochemical ageing theories

The biochemical ageing theories are divided in:

⁴ Most of the information which follows about current genetic, biochemical and physiological theories comes from the document titled "In search of the secrets of aging" (1993), Department of Health and Human Resources (DHHS), NIH Pub. No. 93-2756.

- *Somatic mutation theory*

It holds that exposure to low doses of radiation accelerates ageing and shortens the life-span by mutating cells, thus rendering them unable to perform their normal functions. Genetic mutations occur and accumulate with increasing age, causing cells to deteriorate, eventually resulting in death. The theory was based on the observation that exposure of animals to low doses of radiation resulted in an increase in abnormal chromosomes which were similar to those found in old animals. Similar conclusions were also drawn from the observation that exposure to the sun accelerates ageing in skin (Curtis, 1966; Curtis & Miller, 1971; Failla, 1958). The theory explained little about the ageing process because (1) the effect of radiation occurs mainly in dividing cells (such as the skin and red blood cells) while the effects of ageing are seen mainly in cells that no longer divide (such as the nephrons of the kidney), (2) the number of cells that undergo mutation is too small to account for overall ageing, and (3) most cells contain mechanisms for the repair of DNA.

- *Wear and tear theory*

It assumes that human organisms are much like machines in the sense that continued use leads to worn out or defective parts, similar to the wearing out of parts in machinery (Sacher, 1966). However, this theory ignores the fact that increased use actually leads to improvements in some functions such as in muscle groups. Rather than wearing muscles out, exercise actually builds and strengthens muscles.

- *Deprivation theories*

They attribute ageing to inadequate delivery of essential nutrients and oxygen to cells of the body. The evidence for this was concluded from such effects as the localised death of brain cells following a stroke. Brain tissue and neurones died when deprived of oxygen. However, although there is localised damage due to oxygen deprivation in stroke cases, there is no evidence for systematic reduction of oxygen with advancing age.

- *Crosslinkage theory*

It suggests that with ageing, there is a chemical reaction that produces crosslinking of essential molecules in cells (which cannot be repaired), ranging from DNA within the nucleus to macromolecules such as protein. These crosslinked structures such as elastin and collagen (i.e., proteins in connective tissue) cause rigidity and decreased pliability in lungs, heart and supporting muscle, cartilage, and lining of blood vessels (Saxon & Etten, 1987). An accumulation of crosslinked proteins damages cells and tissues, slowing down bodily processes. The increased prevalence of osteoarthritis with age is an example of this theoretical perspective.

- *Accumulation theory*

It emphasises the build up of certain body substances over the years (such as lipofuscin or lipids) which ultimately interfere with cell efficiency to such an extent that the cell dies. A clinical example as evidence of this theory might be the accumulation of atherosclerotic plaques (Saxon & Etten, 1987).

- *Oxygen radicals theory*

Some of the earliest work on this theory was done by Harman (Harman, 1987) who proposed that most ageing changes and degenerative diseases are due to free-radical damage. A free radical is a molecule with an unpaired, highly chemically reactive electron. An oxygen free radical is a by-product of metabolism, produced as cells convert food and oxygen into energy. The free radical is extremely unstable and combines to form compounds which can damage proteins, cell membranes and nucleic acids, particularly

DNA. Although the free radicals are rapidly destroyed by corrective mechanisms in the body including anti-oxidants such as vitamins C and E, and beta-carotene, some damage still occurs which causes tissues and organs to break down (NIA, 1993).

- *DNA repair theory*

Throughout life, the DNA in cells is damaged by oxygen radicals, ultraviolet light and other toxic agents. This results in changes and/or losses of parts of the DNA which make up the genetic code. Researchers theorise that the DNA damage rises steadily over the lifespan, causing genes, proteins, and cells to function incorrectly, and tissues and organs to break down. However, it is also known that in the cell various enzyme systems exist to repair damaged DNA (NIA, 1993).

- *Heat shock proteins theory*

Cells in the body produce a type of protein called Heat Shock Proteins (HSPs), whenever the body is exposed to stressors, such as heat, toxic chemicals, and psychological strain. These seem to be protective against some of the ageing processes. Scientists have found that the amount of HSPs produced is related to one's age. When animals are put under stress in experimental conditions, older ones produce less HSPs than younger ones. It is known that (1) HSPs work in cells to help break down and remove damaged proteins, (2) contribute to the making and transport of new proteins and (3) seem to be related to hormones released when one is stressed. However, how or why HSPs change as one ages is not yet understood (NIA, 1993).

- *Hormones theory*

It is known that the size and strength of muscles decrease as one ages. However, in a study where men aged 60 and older were given injections of recombinant human Growth Hormone (GH), it was found that (1) the hormone had reversed some signs of ageing by increasing the size of muscles (that is muscle mass) and, (2) when the GH was stopped, muscle strength declined. GH is a synthetic version of the hormone that is produced in the pituitary gland, which has a major role growth and development of young people. Based on the study of GH, it seems that hormones have some role to play in the ageing process. Other hormones currently under investigation include oestrogen and testosterone (NIA, 1993).

- *Glucose crosslinking theory*

This is a more current and extensive version of the previously presented cross-linking model. In a process called non-enzymatic glycosylation, glucose molecules attach themselves to proteins forming a chemical reaction where proteins bind together or "crosslink". This interferes with their ability to carry out biological roles. The crosslinks called "Advanced Glycosylation End products" (AGEs) seem to make tissues less elastic. AGEs have been linked to changes seen typically in older persons including stiffening of collagen in connective tissue and hardening of arteries, changes in the eye, and decreased kidney filtration. Although the body has means of counteracting some AGE changes, AGEs increase steadily with age (NIA, 1993). The changes which occur in older persons are also seen in younger people with diabetes who have high glucose levels. Therefore, diabetes has been studied as an accelerated model of ageing. Glucose or blood sugar appears to be a factor in crosslinking that results in hardened tissue and deterioration (NIA, 1993).

2.3. Physiological ageing theories

The physiological ageing theories are divided in:

- *Stress theory*
It describes ageing as the result of the additive effect, over time, of the effects of the stresses of living. Each time a stress occurs it leaves a residual impairment from which one does not fully recover. Eventually the cumulative stresses deplete one's body of needed reserves (Selye, 1966). The theory ignores the fact that, depending on how one learns to manage stress, the ability to handle stress and the side effects can actually be increased and improved.
- *Adaptation theory*
It attributes ageing to the failure of adaptive mechanisms (Blumenthal & Bems, 1964; Walford, 1969). For example, as one ages the antidiuretic hormone works less efficiently in preventing excess loss of body fluid through urination. There are many other ways in which the body's physiologic changes with age may evidence failure of adaptive mechanisms such as (1) the fact that receptor sites important to sugar metabolism are fewer, (2) breathing capacity diminishes and (3) immune response is thought to decrease.
- *Immune system theory*
Theories about immunity and autoimmunity go as far back as the researchers Blumenthal & Berns and Walford. The theories are based on two observations: (1) that the functioning of the immune system decreases with age, as is autoimmune disease as one ages. The immune system includes the thymus, spleen, tonsils, bone marrow and lymphatic system. These produce many substances important to resisting infection including lymphocytes, antibodies, and interleukins (NIA, 1993).
- *Lymphocytes theory*
They are of two major types: B-cells and T-cells. B-cells (found in the bone marrow) secrete antibodies to overcome infections. T-cells are further divided into (1) cytotoxic T-cells and (2) helper T-cells. Cytotoxic T-cells attack infected or damaged cells directly; helper T-cells produce chemicals that assist other immune system substances to function. T-cells are formed in the thymus, which decreases in weight and ability to produce T-cells as one ages (NIA, 1993). It is known that the interleukins help regulate the immune system. Researchers have found that interleukin-6 rises with age. It is thought that this increase interferes with immune system response. Another observation has been that interleukin-2, which stimulates T-cell production thereby improving resistance to infection, declines as one ages (NIA, 1993). The decrease in immunological function may result in an increase in autoimmunological function. There is some evidence that there is an increase in autoantibodies in older people, which act to destroy normal cells (NIA, 1993).
- *Calorie restriction theory*
Research done on animals gives some support to the theory that fewer calories are better than more calories. Mice which were given 30 to 60% fewer calories than the comparison mice lived longer than the mice on higher calorie diets. Currently, the effect of dietary calories is being studied in other species and primates (NIA, 1993).
- *Behavioural factors theory*

Many different theories are being explored concerning behavioural factors. Some of the factors being investigated are the effects of dietary fat, calcium, vitamin D, and exercise and lifestyle changes (NIA, 1993).

2.4. Bio-psycho-social model

It is an integrating model, based on the general theory of systems, which overcoming the reductionism and dualism of the traditional medical model, maintains that health alterations are based on a dynamic interaction of different factors (Engel, 1977). In such a model, both the specificity of the levels of analysis and the interdependence and integration between levels is emphasised. It particularly aims at deepening the psychological and social level, directing interventions towards the individual's health, in a global sense and within his/her life environment (Bertini, 1988). Such model gives more emphasis to the promotion of health, intended as self-realisation and exploration of the new, also encouraging the prevention of illnesses. The necessity of interaction or integration among the different levels of analysis (interdisciplinarity) and the different professional roles (multiprofessionalism) are here taken into account. Starting from these assumptions, the social-health intervention becomes structurally integrated, thus keeping together biological/psychological/social aspects useful for a proper evaluation of the state of health for prescribing a suitable programme of wellbeing development. In *Science* Engel wrote (Engel, 1977):

The biomedical model not only requires that illnesses are considered as entities independent from social behaviour, but also requires that behavioural deviations are explained with reference to disturbed somatic (biochemical and neurophysiological) processes. Therefore the biomedical process includes both reductionism (the dogmatic philosophical point of view, according to which complex phenomena finally derive from a single primary principle) and the dualism mind-body, (the doctrine separating the mental from the somatic aspect).

From the biopsychosocial model the individual's wellbeing or bad being results to exist not only in the biological body, intended as a machine, but also in the ability of facing and solving problems in a satisfying and flexible way, within the context to which it belongs. In this sense the quality of relations which the individual has got with his/her environment becomes fundamental. According to this model, the "psycho-physical limit" is conceived and evaluated as a variation which takes place along three dimensions defined as deficiency (organic or psychic), limitations of activity and limitations in participation. As regards participation, all areas of human life are considered, from physical appearance to spirituality and political involvement. According to this new classification, an individual can have impairments, without having any limitations in his/her abilities; he/she can have an impairment in carrying out his/her activities and limitations of his/her abilities, even if he/she has not got evident impediments (chronical diseases); he/she can have an impairment in carrying out activities/participating, without having any impediments or limitations in his/her abilities; finally he/she can have limitations in his/her abilities without help, and can not have any problems in carrying out activities. Specific studies have also showed the necessity of not neglecting the characteristics of culture in which rehabilitation programmes are carried out (Sinha, 1986; Saraswathi, 1998).

The social representation of the body and its pathologies is influenced by attitudes and attributions rooted in the culture (Kim & Berry, 1993). The meaning given to a specific pathology varies and influences the process of development and social integration of the individual.

Such assumptions have important implications at the intervention level: efficient programmes require a global and integrated approach, which respects the individual in his biological, psychological and cultural dimension and which does not only consider pathologies, but also the social, economic, cultural and psychological issues influencing its symptomatology and course. It is evident that any intervention on the elderly must be necessarily directed at the same time to all the above said directions (physical health, social-environmental and psychological-emotional field) and the multidimensional evaluation (multidimensional geriatric assessment) is born setting as its goal that of global intervention. It is a methodology which has already been very successful in different international studies (Cohen *et al.*, 1992; Sager *et al.*, 1996). Today the revolution in geriatric medicine is that of trying a holistic intervention not only taking into consideration the elderly person and not only the ill person. Even if most doctors continue to use a “too technical” approach, more illness than ill person oriented, there are also positive signs, among which there are the spread of instruments and the increasing, even if not satisfying yet, interest of politicians. By this approach the attention is not solely addressed to illnesses anymore, but to wellbeing, health and the possibility of building it within contexts of social interaction. The innovation and the historical value of this model “lies in having helped in a general but peremptory way, the problem of the complexity of health to emerge, giving voice to different voices coming from a variety of fields from psychology to sociology” (Bertini, 1999). However, different aspects of the problem to be considered exist. The innovation assumptions contained in this model have not always got concrete and real equivalents in the present cultural and operative territorial context. That comes out not only from the poor attention of public, local and national administrators and politicians, but also from an intrinsic difficulty of integrating the different levels, without building a hierarchy between biological, social and psychic dimensions.

2.5. Psychology of health

The birth of the psychology of health coincides with the shift from the biomedical model, according to which illnesses can be explained by the deviation from the norm of biological variables which can be objectively identified, to an integrated model which is defined as bio-psycho-social by Engen himself, based on the general theory of systems (Zani & Cicognani, 2000). “The psychology of health is the whole of specific (scientific, professional, training) contributions of psychology to the promotion and preservation of health, to the prevention and treatment of illnesses and the identification of etiological, diagnostic equivalents of health, illnesses and related disorders. A further objective is represented by the analysis and improvement of the system of health care and by the setting up of specific health policies” (Matarazzo, 1980). The origins of health psychology can be dated back to the ancients, to the thought of philosophers whom emphasised the importance of the link between physical illness and the psychological and relational aspects of life. Later historical and cultural changes in the way of considering the relationship mind-body have made other branches of study also develop a sensitivity to the recognition of the influence of psychological and behavioural aspects on health and illnesses. On the other hand, we have only recently seen the steady spread of a thought focused on the themes of health in a wide sense, intended not only as personal endowment but also as social endowment. Particularly in the 1970s, study interests and approaches were born giving rise to the building of a specific field of study. The psychology of health investigates the cognitive, emotional, behavioural and social factors linked to illnesses, which modulate their course, influencing their management and regulating their impact on the individual’s life. This field of study is interested in all this but also in what happens after the

onset of a more or less serious state of illness. While modern medicine becomes more and more specialised, and considers illnesses objectively, the interest of this field of psychology is addressed to the interaction between illness (or rather a pathological process) and the individual, privileging the promotion of health, considered as global wellbeing of the individual in his context.

2.6. Theory of the stages of the psycho-social-development

In his theory of the stages of the psycho-social development, Erikson (Erikson, 1968) considers the individual's development along the whole course of his life, suggesting the hypothesis of a cycle of stages starting from childhood and developing in the other two stages of adult age and old age. Each of them is characterised by a psycho-social crisis. "He used the term development crisis for describing the evolution tasks of each stage, each task is the result of psycho-social tensions between the individual and society" (Chattat, 2000). The last stage of life, that concerning the ageing stage, is that of the integrity of the Self which, struggling against desperation, produces wisdom, considered as conscious and detached in life, even towards death itself (Amoretti, 1994). The crisis of old age manifests itself as "a drawing of conclusions" about one's own existence. The qualities of the Self which emerge from this are: the full acceptance of oneself, wisdom in contrast with fear of death, depression, despair for the time past and the short future time left. In this theoretical model, the retrospective view on the past life becomes very important, also giving place to a trend of studies on the Life Review, which shows the big importance given to the theme of reconciliation. In the studies of his wife, Erikson (Erikson, 1982) focused the attention on the ninth stage of the old age which well describes the change and development of those very old people defined "very aged people".

2.7. Theory of continuity

The theory of continuity does not suggest an ideal model of ageing, underlining the importance of the single individual to recall the aspects of his own past for considering his future and structuring his choices (Atchley, 1976). "According to this theory it is fundamental that the elderly person does not live any break of his activities, within his family, his work and society, to which he was used during his mature age" (Baroni, 2003). On making adaptive choices adult and the elderly try to maintain the already existing internal and external structures and prefer to make choice according to a principle of continuity meeting different needs. To preserve continuity allows a better interpretation of life events, it helps preserving the integrity of the Self and keeping self-esteem high, allows to keep and promote more gratifying social relations. The limit found in this theory is represented by the fact that it remains too much linked to the integrity of memory processes. Moreover the theory of continuity has also been criticised because it does not take into account the presence of physical pathologies related to old age, or those aspects related to this stage of life, such as loneliness and the idea of one's own death and of one's dear ones.

2.8. Lifespan psychology

The Lifespan Psychology model considers the ontogenetic development along the whole life span, like Erikson's model. The development to which we refer is multidirectional, multidimensional and multifunctional. It is a model having a strong evolution and a context related mark (Baltes & Baltes, 1990). The idea of development suggested by this approach is defined within interaction processes between biological and cultural factors, underlining the necessity of a multidisciplinary approach. The development comes from the action of three systems, in relation to age: normative, historical and non-normative influences. Development processes are interactive and dialectic and assign an active role to the individual. The passage from adult age to old age is not examined in relation to the passing of years, but in relation to events. The result of ageing development depends on personal and social factors which take into account the simultaneous presence of losses and gains. Resources are used according to the needs of the development stage. If in the child energies are directed towards growth, energies in the elderly are oriented towards the preservation of the state of health. The basic approach of Lifespan Psychology is also used within the SOC (Selection, Optimisation and Compensation) models.

2.8.1. SOC Model

Paul and Margaret Baltes have set up a meta-theoretical model, which tries to explain optimal ageing as the result of the action of two processes: the maximisation of gains and the minimisation of losses (Baltes, 1997). It is a universal and relativistic model at the same time. Among the modern theories of development and ageing, the model of Paul Baltes (Baltes, 1987; Baltes, 1997) well represents the perspective of the life cycle (life-span) and the new conception of positive ageing. The SOC model offers new starting points for intervening in the elderly's life, in it an active selection is made by the individual himself as regards the loss of resources and of the necessary means to reach the result. In case of losses it is possible to use different strategies or to reduce the objectives of the performance (compensation).

We can briefly summarise the model suggested by Baltes, by saying that he affirms that by adopting a positive perspective on ageing, this stage can be mastered by the individual and can give the elderly new abilities and skills, also greatly increasing the quality of their life. Such model is called SOC, which emphasises the processes implied in the improvement of the life quality of the elderly: selection (a pianist can select, by reducing it, the repertoire of pieces he can play), optimisation (he must practice more), compensation (he must adopt new strategies, such as playing the pieces more slowly, in order to give the sense of speed, even if his fingers have lost their speed). The positive culture of ageing suggested by Baltes, starts from the idea that ageing is a complex and varied process which, implying different aspects, cannot be faced in a linear and homogenous perspective. From this point of view, in the ageing stage both dimensions inclined to improvement and dimensions clearly oriented to decline are interconnected. According to Baltes in conditions of loss and/or limitation a person learns new strategies of progress and acquires new abilities to cope with losses. Such idea can also be traced back to the psycho-analytical tradition of social origin and particularly to the Individual Psychology by Adler. A good ageing process is based on the emotional and cognitive mastery of one's own physical decline, which leads to a correct exam of reality and not to the refusal or the negation of the decline itself. Baltes distinguishes seven key formulas which represent the positive culture of ageing. The seven formulas by Baltes are:

1. The course of ageing is heterogeneous.

2. Normal ageing is different from pathological ageing.
3. In ageing many abilities are reserve abilities and can be developed.
4. On ageing the fluid mechanisms of the mind show a decline.
5. Cognitive knowledge and practice enrich the mind of the elderly and can compensate losses.
6. The balance between gains and losses becomes more positive or strongly negative over years.
7. On ageing the Self becomes a strong and stable psychic nucleus, useful as coping system and for preserving its integrity.

By empirical studies Baltes identifies two qualities which characterise the old, compared with adult age: the professional expertise that is the whole of experiences of the individuals and wisdom considered as increase of the experiential or pragmatic intelligence which can compensate the loss of fluid or cognitive intelligence (software vs hardware). We refer to the Berlin ageing study (Baltes & Mayer, 1999) which puts wisdom as richness of the experiences lived, in the middle of positive ageing.

2.9. Gerodynamics and branching theory

Gerodynamics is developed starting from the models of the general theory of systems (von Bertalanffy, 1968), in which individuals are considered as open systems. From this point of view we can see how the passing of years is necessarily linked to the increase of entropy and disorder and then to the death of the system itself (Schroots, 1995). In this course of increasing disorder, we feel the necessity of moments of reorganization which allow a better survival of the system through the tendency to differentiation.

As regards the branching theory, along the ageing course it assumes the presence of transformation points and behavioural branching at a biological, psychological and social level. This theory shows that in the transformation point the body can follow different branches towards structures and processes of lower or upper level. The development is considered as the process in which consolidation periods are alternated to crisis periods.

2.10. Theory of gerotranscendence

The theory of gerotranscendence focuses its attention on the phenomenon of the alteration of conscience in the old age: meta-perspective shifts from a material and rational view to a more cosmic and transcendental vision which is associated to a better life satisfaction. Western societies hinder this more cosmic vision while the Eastern ones foster it. Gerotranscendence can also be traced back to Zen philosophy and to the idea of Jung's collective unconscious. The process of gerotranscendence implies three change levels (Tornstam, 1989):

1. The cosmic level (changes in space-time perception, a new vision of death and feelings of participation towards the universe, a greater link with other generations).
2. The level referring to the Self (the individual discovers hidden aspects of the Self and is better oriented to understand the fundamental questions on his Self and his own life. Tendency to altruism and the rediscovery of childish aspects of his self).
3. The social level and the level of relational proximity (a greater sense of reciprocity and of link to the others, a better understanding of one's role and a greater open-mindedness).

2.11. Integrated and ecological theory of ageing

This theory assumes that evolution and ageing are strictly linked to each other and take place simultaneously: “the joint, synchronic occurrence of gains and losses, development and ageing” (Birren & Schroots, 1996). The two processes are parallel, both if they are seen diachronically along the lifespan, or if they are synchronically evaluated.

2.12. Subjective perspective

Within the psychology of health, a number of researches on wellbeing and the quality of life underline the relativity of these concepts and the necessity of interpreting them from a subjective point of view (Fitzpatrick, 2000; Nordenfelt, 1994). Each individual, according to his own health conditions, physical impairments, personality and interaction style with the opportunities offered by the environment, develops a personal evaluation of what a good life quality is. The western therapeutic approach has focused the treatment of illnesses regardless from the subjective experience and the social-cultural environment in which the person subject to the intervention lives (Woelk, 1992). Still today the therapeutic approach is essentially problem-centred: the patient is treated for his pathology, regardless of the fact that his cultural context and his life experiences can influence his perception of symptoms and the identification of their causes. A therapeutic person-centred approach on the contrary suggests that an illness, a psychic disorder, an organic syndrome are treated according to the state of general balance of the individual and the quality of its relation with the surrounding environment (Beardsley & Pedersen, 1997). In more recent times, the point of view of the user, in terms of satisfaction and of the perceived quality of the intervention, has assumed an increasing importance in rehabilitation programmes (Fitzpatrick, 2000). Starting from 2003 the European Union (EU) has also provided specific directions in favour of an approach centred on the subjective perspective. From this point of view it is useful to know the quality of the experience that disabled people associate with daily activities and contexts, and their ways of interacting with the opportunities available in their environment. This can show resources and potentials of the individual, emphasise faults and opportunities of the environment, and enhance the contribution that each individual can offer to the cultural context (Massimini *et al.*, 1996).

In the strategies adopted by disabled people for reaching social integration and carrying out their individual development, important factors are involved: the psychological profile of the individual (the term of self-telic personality has been used in this regard, which characterises the individuals who have a creative relationship with the environment, spontaneously identifying opportunities of concentration and gratification in it); the education and the cultural background which provide the individual with a variety of potential nuclei to cultivate and develop as daily activities and interests, the characteristics of the whole social system, in terms of the idea of pathology and disability, the social roles assigned to disabled citizens, action opportunities offered to them.

2.13. Personological and dispositional theories

A short overview about different ageing theories ranging from biological, psychological, social to gerontological and behavioural explanations is given in the following paragraphs.

2.13.1. Social-cognitive theory

The social-cognitive theory of Bandura (Bandura, 1996) is based on the conception of the individual considered as active agent operating in a structure interdependent between the individual, his behaviour and the environment. The interaction between man and the environment and, consequently the behaviours (triadic reciprocal determinism) are reciprocally interconnected, on their turn, with the notions which dialogue with the emotional dimensions of the individual who carries them out. From this point of view the individual's behaviour is influenced by 3 mechanisms of self-regulation: the perceived self-efficiency, the result expectations, and the personal objectives. What people believe about their self-efficiency is fundamental in their decision to participate into physical activities. Self-efficiency determines the intention of carrying out a behaviour, the amount of effort made for pursuing this goal, the persistence to make efforts notwithstanding the obstacles and the degree of success or failure implied. The result expectations are the beliefs concerning the relation between specific levels of execution of the task and the consequences which the individual has experienced. Three classes of expectations are distinguished: material, social, and self-evaluation consequences. The sense of self-efficiency in relation to physical activity is highly predictive of the individual's behaviour and more in general of healthy behaviours. The importance that the sense of self-efficiency assumes is to be noticed, as regards the continuation of physical activity and effort, distinguishing the different typologies of self-efficiency:

1. efficiency related to the exercise;
2. efficiency beliefs regarding barriers;
3. efficiency related to healthy behaviours;
4. behaviour control efficiency.

2.13.2. Theory of cognitive adaptation

The theory of cognitive adaptation (Taylor, 1993; Taylor & Lobel, 1989) centres on the search of meaning ("why did it happen to me?"). People perform the attempt of keeping the event and their life under control ("what can I do to avoid that it happens again or for managing this disease?). The greatest effort is that put in strengthening the feeling of self-esteem by comparing oneself to the others (for example by comparing oneself with the others being at a lower level) and the redefinition of some beliefs and representations about health/disease and wellbeing. In many cases the beliefs of the elderly are illusory (e.g. the causes of cancer are not clear; the personal control over their disease is limited), but such illusions in many cases result to be however useful for activating functional coping strategies.

2.13.3. Theory of social-emotional selection

In this theory (Carstensen, 1987; Carstensen *et al.*, 1999) the perception of time is considered as limited *vs* expanded and open: such conception is central and has fundamental implications in terms of knowledge, emotions and motivations. It is a social-motivational theory which mainly takes two social motivations into account: the acquisition of knowledge and the regulation of emotions. The perception of time is purposely intended as expanded for the youth (it directs towards knowledge objectives) while it is intended as mainly limited for the elderly (it directs towards positive emotional and support situations).

2.13.4. Theory of self-determination

The theory of self-determination (Deci & Ryan, 2000) is focused on the regulation process (how the objective is pursued). Two processes are distinguished: an autonomous and self-determined process *vs* a process controlled by other people or events. The intrinsic motivation is the clearest example of the activity of autonomous regulation; when people are intrinsically motivated they are also self-determined. 4 different regulation kinds are distinguished:

1. external regulation;
2. introjection (it represents a partial interiorisation);
3. identification (acceptation of the personal value of a certain activity; by identifying the value of a behaviour, people internalise regulation even more);
4. integration (a more complete kind of internalisation of an external motivation, the behaviour of an individual is integrated with other behaviours of the same individual).

2.13.5. Theory of planned behaviour

The theory of planned behaviour (Ajzen, 1991) is the extension of the theory of the reasoned action. It is applied in many contexts of prevention and promotion of health. According to this theory the best predictor is the behavioural intention. Three determining factors of intention are distinguished: attitude towards behaviour; subjective rules, perceived behavioural control (beliefs on control). As regards physical activity an important predictor is the intention: it results to be more important in order to explain the stress involved by physical activities as age increases.

Compared to affective processing models, theory of planned behaviour miss emotion variables such as threat, fear, mood and negative or positive feeling and assessed them in a limited fashion. In particular in the health related behaviour situation, given that most individuals' health behaviours are influenced by their personal emotion and affect nature, this is a decisive drawback for predicting health-related behaviours (Dutta-Bergman, 2005). Poor predictability for health-related behaviour in previous health research may be attributed to the exclusion of this variable.

2.13.6. Theory of activity

The theory of activity, originally proposed by Havighurst in 1963 (Havighurst, 1963) considers the elderly from a point of view different from that suggested by the theory of disengagement. Havighurst was the first researcher to suggest activity as antidote to pains and discomforts of old age. The elderly who get old in an optimum way are those who remain active and succeed in resisting the restriction of their social world. This theory of activity assumes that ageing is characterised by the ability of the individual of preserving those activities linked to old and new roles. Good ageing is characterised by the ability of preserving one's own activities and attitudes remaining tied to the lifestyle of a middle-aged person, replacing the lost roles with other roles and interests. The idea of "good ageing" suggested by the theory of activity, implies that the elderly remain active until very old age, because through activity individuals can feel themselves to be still efficient, also from a social point of view, thus escaping those feelings of being useless, hopeless and depressed which affect some of them. Both theories (Disengagement and Activity) have been criticised as regards their regulating character. The publication by Neugarten (Neugarten *et al*, 1968) on the Kansas City study results to be

interesting in this regard, because it underlines the importance of interindividual differences and of personality.

2.13.7. Health Belief Model and perception

We suggest this model for the attention it dedicates to the perceptive factors of every subject. The Health Belief Model (HBM) was a psychological model developed by Rosenstock in the 1966 (Glanz *et al.* 2002; Ogden, 2004) for studying and promoting the uptake of services offered by social psychologists. Subsequent amendments to the model were made to accommodate evolving evidence generated within the health community about the role that knowledge and perceptions play in personal responsibility. Originally, the model was designed to predict behavioural response to the treatment received by acutely or chronically ill patients, but in more recent years the model has been used to predict more general health behaviours.

The original HBM was based on four constructs of the core beliefs of individuals based on their perceptions:

- Perceived susceptibility (an individual's assessment of their risk of getting the condition)
- Perceived severity (an individual's assessment of the seriousness of the condition, and its potential consequences). Undoubtedly, this susceptibility can turn into motivation.
- Perceived barriers (an individual's assessment of the influences that facilitate or discourage adoption of the promoted behaviour) or perceived costs of adhering to prescribed intervention.
- Perceived benefits (an individual's assessment of the positive consequences of adopting the behaviour). The relatives or third parties who accompany the elderly receivers might contribute to this perception.

Other mediating factors to connect the various types of perceptions with the predicted health behaviour are:

- Demographic variables (such as age, sex, ethnicity, occupation).
- Socio-psychological variables (such as social economic status, personality, coping strategies).
- Perceived efficacy and perceived control (a measure of the level of self-efficacy).
- Cues to action (external influences promoting the desired behaviour, may include information provided or sought, reminders by powerful others with the power of influence, persuasive communications, and personal experiences).

The prediction of the model is the likelihood of the individual concerned of undertaking recommended health action (such as preventive and curative health actions).

2.14. Gerontology

The scientific study of late maturity and ageing is called gerontology, a discipline which studies ageing as an evolution process by adopting a multidisciplinary approach to ageing with contributions of physiology, pathology, biology, chemistry, physics, mathematics, statistics, economics, psychology and social sciences. As regards psychology in particular, systematic studies on ageing were born after the second world war with gerontology or psychogerontology. Three kinds of ageing are distinguished: primary ageing (intrinsic changes in the ageing process, changes linked to age, which are inevitable and irreversible, such as slowed down body movements, reduction in eyesight, white hair, wrinkles, etc.), secondary ageing (changes which are inevitable but are caused by the lifestyle and/or external agents such as osteoporosis,

hypertension, diabetes and diseases related to age which can be prevented and are curable), tertiary ageing (derivative processes which occur during the months preceding death).

2.15. Healthy behaviours

Our health, wellbeing and life expectancy may be influenced by adjustment to our lifestyle. The factors we can correct directly are diet, exercise, smoking, alcohol intake and the degree to which we expose ourselves to pollutants. Sleep, fluid intake, and excessive stress affect our rate of ageing. There is a well-known list of life events which are related to stress. High on the list are the deaths of a partner or child, loss or change of a job, financial crises and major illness.

Longevity relates to a sense of purpose and meaning in life, commitment within a community and a quality of independent mindedness. In many respects the present cohort of 50 and 60 year olds represent a pioneer group. They grew up in the post war years when there was a new spirit of freedom and they have retained a determination to find purpose in the later years of their life. They represent a significantly large section of the community and are, therefore, increasingly influential in economic terms (Perring, 2009).

Many gerontologists agree that high levels of physical, cognitive, and social functioning are related to health and successful ageing. A large body of research and theoretical literature confirms that physical, cognitive, and social functioning, broadly speaking, are key factors of successful ageing and that multiple lifestyles choices, behaviours, and psychological factors influence them. Empirical studies have shown that many age-associated declines in physical and cognitive functioning can be explained in terms of lifestyle factors such as smoking, physical activity, and nutrition (Franklin & Tate, 2009).

Older adults, who abstain from smoking, engage in physical activity and sustain quality dietary habits, may improve their health span and quality of life. In this sense, the predictors of successful ageing are in many ways under personal control (Franklin & Tate, 2009).

The identification of risk and protection is certainly one of the most relevant objectives of health psychology. In mass media, sometimes even in scientific literature, the extent of risk is presented in a way which, even if fundamentally correct, seems to be extremely misleading. A certain way of presenting data, in order to modify people's habits, transforms itself not in an information action, but in a message which terrorises and destabilises. It is the case of anti-smoking campaign (Thompson, 1978; Leventhal & Cleary, 1980; Maburn, 1982) where exposition to terrorising messages rather than leading to a change of one's behaviour, produces the negation of it and a kind of desensibilisation which people carry out in order to avoid the anguish caused by messages. A realistic evaluation of risks would seem to better allow the individual to emotionally integrate the message and activate a process of change of his behaviour. A careful analysis of the question underlines the importance of biological risk factors, but above all their simultaneous presence with other factors and their interaction in each individual. Many researches show that the adoption of certain habits and lifestyles by people are linked to attitudes and beliefs people have about health. The impact that events like losses, divorces or diseases have on the individual does not only depend on the kind of such events and the physiological processes which are activated, but also on the ability of the individual to cope with that specific situation. Such ability of facing situations is strongly influenced by the interpretation the individual has carried out of the event and by the degree of social support which he receives from his reference context (family, friends, peer groups) (Zani & Cicognani, 2000). On the other hand to define what healthy behaviours or behaviours dangerous for health are is not easy.

Gochman (Gochman, 1988) suggests a definition of healthy behaviour which includes both actions regarding doing or avoiding doing (to follow a diet or giving up smoking), and sensations or mental events. Factors strongly linked to health are the cognitive elements, consisting of expectations, beliefs, perceptions, values and motivations, the personality characteristics and the behavioural patterns such as habits and actions and actions referred to the improvement and preservation of the state of health. The personal factors we have just described are influenced and structured within family processes, processes within the peer groups and within the organization and cultural dynamics of a certain society. Whitehead (Whitehead, 1995) and Marks (Marks, 1996) highlight the variety of factors involved as determining factors of health and describe an onion shaped structure within which they can be found. Within this structure we find individuals with their genetic characteristics of age and sex, surrounded by 4 levels of factors influencing them. They are the individual lifestyles, intended as lasting and over time consistent behavioural model, social influences and those of the community to which the individual belongs and general social-economic, cultural and environmental conditions (Marks, 1996). This model considers the individual in the model of healthy behaviours, but at the same time it recognises the great importance of factors of another kind, such as social-economic, cultural, job and environmental factors. In this field of study the different elements implied in the determination of healthy behaviours are focused, but above all these studies show the complexity of factors on which such behaviours are based. Even if it is by now evident that people, who have a healthy lifestyle, can actively anticipate some health problems, they can prevent morbidity and mortality, a lifestyle going into this direction does not seem to be widespread. Researches show that in Italy sedentariness concerns 65% of Italians, overweight 41%, smoking 30% and alcohol about 10% of Italians. In a different way in Europe these factors also are the main risk factors identified within each national health plan, as they are causes of behaviours dangerous for health.

2.16. Risk and protection factors, resources

The promotion of the elderly's health and wellbeing, as well as the adoption of healthy lifestyles require the precise knowledge of risk and resource factors, in order to create and implement intervention models suitable for influencing them.

In this regards the WHO adopted the expression "active ageing" in 2002, in order to define a conception of ageing which optimises health, participation and safety opportunities for improving the quality of the elderly's life. The term "active" refers to the possibility of participating into social, economic, cultural, spiritual and civic issues, according to the needs, wishes and inclinations of each individual or social group (WHO, 2002a). The adoption of this conception is an answer to those factors which have been identified as risk factors of a pathological ageing. Ageing, as transition stage, implies a renegotiation and a personal adaptation within wider family and community systems which require the carrying out of suitable coping strategies. The change of lifestyle with retirement from the job world, the progressive physical and psychological decline, the partner's death, a poor physical activity represent fundamental risk factors to be added to more structural factors such as the disadvantaged social-economic conditions in which the elderly find themselves to live, particularly those of a low social-cultural level. These and other elements are to be considered as factors of a more complex process, which in some cases research has decomposed and considered from a linear point of view for scientific rigour reasons. The term bio-psychological-social refers to a variety of different meanings within which most of the times the antinomy between normal and pathological, usual and unusual is assumed as an apparent definition. The

element common to all the different meanings of this term can be found by the prior assumption of a possible negative evolution result. In the research of non adaptive outcomes of development processes the idea of bio-psychological-social risk has been used with reference to all those situations which regardless of the factors involved, cause compromises in the trend of evolution lines or an unsuccessful integration between the individual and the environment. In the investigations (widespread since 1970) on risks in terms of development, it is possible to distinguish three directions. A first direction tries to identify a direct causal link between a single risk factor and a result derived from bad adaptation. It implies a deterministic conception of development and can be referred to the medical model of etiopathogenesis of morbid states. A second direction is focused on risk measurement and on the identification of psycho-social risk cumulative indexes, thanks to which it is considered to be possible to define the degree of danger or risk of a certain situation. Such point of view, even if it admits the idea of a multifactorial causality in determining negative development outcomes, it does not seem to suitably consider the process dimension which is implied in an evolution line, in which the interaction between the existing risks and the available resources becomes important. The third direction is centred on the analysis of adaptation processes. It takes into account the incidence of risk factors and protection factors considered as specific resources of single life stories. It tries to explain the way an individual and his context reciprocally interact in producing forms of adaptive or disadaptive functioning. From this point of view it is then necessary to consider both the characteristics of life events and the personal characteristics, because only by evaluating such characteristics within specific contexts and within a systemic and relational perspective the function of damage or protection, which they perform on the individual's life, can be explained.

The idea is that of putting the conception of risk together with that of resilience, intended as the ability of the individual of being flexible, of carrying out a good adaptation, notwithstanding difficulties. To resort to the idea of resilience allows explaining individual differences in responses to negative life events. A well known literature today shows as only a part of the elderly exposed to risk factors, produces dysfunctional or pathological responses. In this sense, the problems of risk prediction are strictly linked to that of protection, even if up to date, we must recognise that the study of protection risks has been quite neglected. It certainly deserves a greater interest, since it is absolutely necessary to understand what factors, what abilities can be consolidated, in order to let the elderly be more resistant. The researches made up to now let us sustain that resilience is not a stable feature of personality (Sroufe & Rutter, 1984) because it can be found in the different development processes. Protection factors have a less influence according to a variety of elements among which there are the evolution stage under consideration, the individual's sex and the kind of disturbance which they are expected to contrast. However, even if they are not so many, the studies carried out in this field (Sameroff & Seifer, 1990) have underlined that protection factors which define resistance, even if they are classified in different ways, fall within the range of cognitive or social-relational processes. Even if they are for many aspects different from risk factors, what they have in common with them, is that they carry out their action within processes which take place in the interaction between the individual and the environment. The relationship between the individual and the environment can better be defined in terms of life space, a lewinian conception later taken by Bronfenbrenner (Bronfenbrenner, 1979), who refers to the whole of personal and environmental forces involved, influencing the individual's behaviour. The Bronfenbrenner's model (defined person-process-context) is considered the most advanced point reached by researches on risk, because it efficiently integrates personal characteristics with categories of an environmental kind, then putting apart the mere overlapping of the psychic with the social dimension. They cannot be analysed separately, because from their interdependence, positive or negative evolution outcomes are caused. The ecological approach to human development by

Bronfenbrenner has its focus in the study of the progressive adaptation between the individual and his environment and the way the relationship between the individual and his immediate environment (microtext) is influenced by “forces” belonging to a wider physical-social-cultural environment (mesocontext, exocontext, macrocontext). The conception of social environment, as it is suggested by the author, must be considered from a systemic and interactive point of view, in which from one hand, the action carried out by the individual is widely emphasised, the individual with his own way of perceiving and acting helps to define the characteristics of the contexts with which he interacts and, from the other hand, the different contexts (from the nearest to the most distal one) are studied and defined as regards their general characteristics and their reciprocal interconnections. It is just from the interaction between categories of social order and personal characteristics which moderating effects of the evolution process can be produced, that is positive or negative influences helping to direct in one sense or another, the evolution line. A positive moderating effect is produced when a factor succeeds in stimulating positive influences in other variables and at the same time in inhibiting negative influences; an opposite situation occurs in the case of negative moderating effect.

2.16.1. Risk factors in the ageing stage

The WHO has identified the following risk factors in the ageing stage (WHO, 2002b): poor physical activity, which causes muscle arrest, increase of fractures, onset of diabetes; a wrong diet; depression as a state of psychic suffering which manifests itself with emotional indifference, deep sadness, reduction of the individual’s spirit of enterprise and creativity, loss of self-esteem, non motivated fears, fits of tears, disturbances of sleep and appetite. Mood and feelings undergo sudden changes and are out of proportion to the reasons which provoked them. Depression in the elderly often emerges after physical problems. Other factors which help the onset of depression are the family atmosphere, the death of one’s partner, loneliness, inability to use time in a useful and satisfying way, housing conditions and economic problems. Among the other risk factors of pathological ageing there is the stress intended as response of the body to different conditions and situations which impose a continuous adaptation to novelties which are often difficult to be accepted. The elderly are required to transform these painful situations into overcome experiences, otherwise a state of continuous frustration intervenes, which causes anxiety and psycho-somatic disorders which on their turn can help the onset of disturbances and diseases. In the elderly stressing situations emerge with retirement from work, the reduction of economic power, the death of the partner, hospitalisation and diseases. The retirement syndrome is certainly that which causes the greater stress because after job activity a repetitive and little stimulating routine follows. Among other risk factors there is the scarcity of affections which the elderly find themselves to live, together with a reduction of the attention, of love they feel to be directed to them. In elderly couples that have shared their life, there is a strong relational integration which the death of one of the partners can break and cause huge biological, psychological and social difficulties. Other important risk factors are the economic poverty and the poverty of social relationships. The condition of relational isolation induces to a kind of sensorial deprivation which leads the elderly to a reduction of motor and sensorial stimuli which can be experimented both by whom lives on his own, and whom lives with his family. Loneliness and social isolation cause both diseases and difficulties in carrying out daily tasks. But economic poverty must be added to loneliness, even in the last part of an individual’s life, it causes social differences which have an influence on the life quality of the elderly. Many studies analysing the effects of poverty on mental health have showed that poor people and people that have undergone strong stresses, also have a greater psychic vulnerability. From this point of view the theories of engagement and the theories of role postulate that stressing factors related

to the entrance of people in the stage of the old age require: a) the necessity of redefining one's own marital relationships, as privileged love relationship; b) the consideration of one's own personal identity in relation to one's social-family role and the mastery become passive after it had been active before ageing. According to the theory of engagement and activity, retirement from work represents a risk factor, if there is no compensation with other activities or interests. The theory of the role on the contrary postulates that risk factors are linked to the loss of social role and to the adoption of stereotyped roles. According to these theories, the coping strategies which better adapt themselves to a better old age (Fonzi, 2008) are those linked to the possibility of escaping automatisms, and those that implement situations in which a flexible thought is developed. Once again there is the participation into a social and productive life which allows the cultivation of educational and cultural interests and the participation into the life of one's own community. The possibility of being creative in some cases helps the emergence of a new self-consciousness, a better self-evaluation and a more positive attitude towards problems and the future (Cesa-Bianchi & Antonietti, 2003).

2.16.2. Resources

Some factors of protection for the active ageing are introduced (e.g. physical activity, volunteer service, social relationships, family relationships, etc.) in the following paragraphs.

2.16.2.1. Physical activity

The literature in this field shows a long list of positive effects that the participation into regular physical activities has on physical health. If we consider the psychological sphere, physical activity has an influence at a cognitive level and on the mood, as regards the social aspects, a social and cultural integration can be noticed, as well as the making of new friendships and the possibility of intergeneration exchanges. Physical activity positively relates to cognitive efficiency, with the levels of fluid intelligence and with memory (Lochbaum *et al.*, 2002; Fratiglioni *et al.*, 2004; Podewils & Guallar, 2006; Kramer *et al.*, 2006; Sing-Manoux *et al.*, 2005). Vance (Vance *et al.* 2005) suggests the hypothesis that physical activity positively influences cognitive activity through the increase of social contacts, which would have a stimulating effect on the brain and reduce depression. In the field of health psychology, different theoretical approaches have been developed to explain the variables influencing the adoption of behaviours promoting health and preventing diseases. On identifying variables which define health behaviours in the elderly, many studies have used physical activity as starting point for a better understanding of the complexity of this subject. The participation of the elderly into physical activity is described below from the point of view of different theories. According to the level of analysis adopted, the involvement into healthy activities like sports is explained by different variables. For adopting healthy behaviours and participating into physical exercise programmes decisive factors are: generalised self-efficiency, health locus of control, and optimism. According to the social-cognitive theory of Bandura (Bandura, 1996), our behaviour is influenced by the perceived self-efficiency, result expectations and personal objectives. In the behaviours identified as fundamental for health, the first two aspects result to be crucial; expectations are important above all in the stage of formulating intentions. Generalised self-efficiency mediates the stress effects on wellbeing (Lightsey, 1996) and has got a role in keeping the mood at good levels. A positive relation exists between the idea of self-efficiency and the participation into physical and social activities (Perkins *et al.*, 2008). Generalized self-efficiency however determines the degree of care the elderly take of their health. This theory shows that people adopt proactive behaviours of protection and promotion of health.

The theory of planned behaviour (Ajzen, 1991), instead, postulates that the best predictor of behaviour is the intention. Intention is based on three decisive factors: the first one is represented by the attitudes towards behaviour which can be positive or negative and are based on the belief that a behaviour can produce advantages or disadvantages; the second one is caused by subjective rules, referring to the evaluation that a significant group could make in terms of approval/non approval. The third factor is represented by the behaviour control, intended as ability or inability to carry out the perceived behaviour. Beliefs on control are the starting point of all this, these beliefs could be based on past experiences or on the observation of others' behaviour. The studies derived from this theoretical approach tend to decrease with age advancement, above all in women (Conn, 1998). Subjective rules seem to have more weight among people being at a low cultural level, while the perceived behavioural control is a decisive factor explaining the degree of physical involvement. The elderly, on their side, could be more reliably than the youth to translate intentions into actions. Decisive factors are also the effects of self-efficiency and of the past behaviour (Hagger, *et al.*, 2002).

The theory of self-determination considers autonomous motivation and controlled motivation, within a continuum (Deci & Ryan, 2000), the former is linked to the satisfaction of one's own needs and the latter is expressed as external influence. As regards the ability of internalising an external rule we can speak of an "external regulation", in which a behaviour is above all influenced by rewards and punishments; of "introjection", without a real integration of knowledge and affections; of "identification", as acceptance of the personal value, for example recognising the value of one's own health; of "integration", as a more complete form of external internalisation. The elderly would start physical activity when they can find their identity and have integrated external rules.

The health locus of control that is the tendency to link one's own health to internal, external causes or to destiny, has been a variable widely studied among the elderly. The internal locus leads to adopt a healthier lifestyle, a more intense physical exercise, and participation into social activities. In this field of studies, a strong link between the internal locus of control, the participation into social activities and to be protagonists of one's own health and wellbeing conditions has emerged. Optimism has got an influence on the possibility of carrying out physical exercise and it is linked to the internal locus of control and the perceived self-efficiency. The factors which in general foster a behavioural change and the development of positive motivations for health in the elderly are linked to the perception of keeping control of one's own actions (Seeman *et al.*, 1999). The role of beliefs directly influences, more than knowledge, the adoption of a behaviour (Pravettoni & Miglioretti, 2002).

Luriola (Luriola *et al.*, 2000) showed the importance of adopting a two-dimensional model in which "health management" and "negative thinking" are taken into account. People with high scores in the Health Management believe to be directly responsible for their health or diseases, they are motivated to preserve it and to direct their behaviour to the promotion of it, being aware of how to do that and feel to be competent in pursuing this objective. Negative Thinking regards negative evaluations on one's own state of health and perception of control. Some studies have showed how it is necessary to work on the activation of positive thinking (Henry, 2004): people who are taken up by tasks such as gardening, sports, or taking care of their grandchildren show a positive mood and thinking. During these activities they would lose the sense of passing time. Those who succeed in adopting a positive lifestyle, are people who have a positive thinking, who can find the original aspects of a new situation, who set themselves new goals, they are people who have good social relationships, a good image of themselves and of their body, who are well integrated both in their family and in society, and besides that they can easily adapt themselves to new life situations. The state of health of the elderly cannot be identified with the lack of compromises at a physical, psychic and social level, but with the ability of carrying out

in the most autonomous way, the activities of daily life and then of remaining within the usual life environment. The ability of looking after oneself, is then positively linked to wellbeing, with the levels of physical health and of social interaction, which on their turn are linked to personal levels of satisfaction (Steuerink & Lindenberg, 2008). Within the frame of “active ageing”, it is possible to include the idea of “productive ageing”, linked to the productive ability of the elderly and their contribution within working, family environments and within the context of their communities. By offering their help, the elderly increase their autonomy and care of the Self (Butler & Schechter, 1995). The activities carried out by the elderly increase their physical and mental health, they improve the quality of their interpersonal relationships, they increase their efficiency in solving problems and their creativity, as abilities which help them to minimise the degree of dependence and elevate the quality of their life (Birren, 2001).

2.16.2.2. Volunteer service

Volunteer service represents another protection factor for active ageing. We can speak of an active volunteer service, in the case of collaboration with organizations or of an informal volunteer service, if we refer to helping ways which are less informal. The elderly generally carry out activities in religious organizations or in organizations linked to social volunteer service and health. The advantages of volunteer service are linked to the possibility of keeping an active role, showing a strong sense of competence and control of one’s own life (Hertzog *et al.*, 1998). It would even directly influence physical and psychic health (Caro & Bass, 1997; Hertzog *et al.*, 1998; Warburton & May Peel, 2008), thus reducing the percentage of mood disturbances and increasing the wellbeing levels (Greenfield & Marks, 2004). The participation into volunteer activities would increase the perception of life satisfaction, and would consequently increase the perception of being useful to others; it would help keeping a meaningful role, a sense of affiliation, the self-perception of having competencies (Morrow-Howell *et al.*, 2003; Young & Glasgow, 1998). Volunteer service activities which produce the best benefits are those linked to interpersonal relationships. Among motivations to carry out volunteer service activities, we can find the sense of being useful, productivity and fulfilment of moral duties. People over seventy-five are motivated by the sense of duty and social values, knowledge and cultural enrichment (Chappell & Prince, 1997; Okun *et al.*, 1998). According to Grano (Grano & Lucidi, 2005) the attitude towards volunteer service is linked to one’s own way of being (introjected motivation), which helps personal growth and to feel useful (identified motivation) and for which critics are avoided (extrinsic motivation). Participation into activities carried out in contexts in which friends are present are positively linked to survival, since social participation modifies the profile of basal risk and produces reactivity to stress (Maier & Klumb, 2005; Seeman, 1994; Seeman & McEwen, 1996).

2.16.2.3. Life-long learning

Another resource factor is continuous learning. From one hand it provides from the point of view of activity, an educational and learning solution for healthy, active and positive lifestyles, by the adaptation to new social roles, from the other side it limits cognitive decline and helps to preserve some mental functions (Khaw, 1997). Within the conception of life-long learning, in Italy, the university for elderly represents one of the most representative places in which the growth of competencies but also socialisation continue to increase and be interconnected. Continuous education increases the physical and mental health of aged people by the increase of self-esteem and offers a greater amount of information, resources, and possibilities of action.

2.16.3. The role of social relationships

Most of the theoretical models presented remain at a level of individual analysis models, taking into account the complexities inherent to this field can also be found, such as the social-constructionist model, even if the attention is also focused on emotional and psychological-social factors. On the contrary, the idea that the whole body (its somatic side included) is influenced and strictly linked to this kind of relationships is less widespread and shared. A variety of researches (Hofer, 1984; Hofer 1996), however, shows the effects that the quality of internal and external relationships have on the body. In this sense we can speak of an emotional and relational dysregulation which causes harmful effects on the people's body. Unlike the traditional way of analysing health and diseases, we are convinced that the social dimension also intervenes as component of intraindividual processes, such as notions and emotions (Zani & Cicognani, 2000). From this point of view the idea of examining the variety of influences which the different levels implied have on people's health (individual, group, culture, etc.) is born. Then a systemic perspective is born which considers the individual as an active person who, interacting with his own physical and social context, tries to give a meaning to his own reality. From this point of view, starting from the second half of the 1970s, a big interest in the effects that "social support" has on the state of health (Cassel, 1976; Cobb, 1976; Kaplan *et al.*, 1977) has emerged. The beneficial effects of social support are evident if compared to mere disease behaviours, to the use of drugs, to a variety of acute and chronic illnesses, to the possibility of committing suicide and to the outcome of pregnancies. It is an acquired datum that social integration and the availability of social support are linked to a reduced risk of physical and mental illness, besides mortality. According to these studies in two ways social support has a beneficial effect on the state of health. In the first case, which refers to a behavioural model, "the social network acts on the individual by strengthening those behaviours which have positive effects on psychological and physical health while it extinguishes those which have negative effects" (Solano, 2001). It is the case of the higher degree of longevity found in particular religious groups among which the observance of rules prescribes a special diet and forbids the use of alcohol, tobacco and coffee. On the other side we have an approach which refers to the psychological-biological model, according to which social support has its beneficial both psychological and physical effect, through a direct action of a psychological-biological kind. Both models, however, consider social relationships as psychobiological regulators. We have seen as social relationships can be, however, sources of stress, as in the case of the loss of important ties because of the death of dear ones, conflicts in family or professional relationships, difficulties in love relationships. In literature the idea of social relationships is distinguished in social network, social support, social integration.

2.16.3.1. Social networks and the perceived social support

The idea of social network "objectively" describes the social and personal links of which a person avails himself. Social integration, on the contrary, shows the presence or the amount of social links. Social support, instead, has been defined as the information provided by others, of being subject of cares and love, of being esteemed and appreciated within a shared communication network. Social support refers to the functional content of social relationships and distinguishes itself from the first two definitions because it has always got the help of the other as an end, even if in some cases it is not perceived in this way. Moreover, social support – unlike the influence exerted by the observation of the others' behaviour (Bandura, 1986) – and the processes of social exchange spontaneously activated by the receiver (Taylor, 1993) show to be structured as conscious action. Social support can come from beloved people, from friends, from the people with whom we have got social links, or from people who belong to our

community. On the other hand, the presence and the actions of people (associations, parishes, etc.) being able to provide social support do not result to be functional by themselves to the possibility of activating an efficient support on the state of wellbeing of the individual. The possibility of receiving support from these people and of using it efficiently requires that the individual is able to establish satisfying relationships, to keep them and to use them in a positive way. What results to be essential is then the bidirectionality of the relational process and the distinction between an objective aspect which is the received social support and a subjective aspect which is the perceived social support. The theory of social relationships represents, then, a wide conception which includes those dealt with previously. It gives more emphasis to the fact that it is not possible to think, in a simplistic and reductive way, that the only positive effect on the state of health can be a more or less marked support. Many studies confirm that they show how precocious and adult relationships can have a regulating effect on thoughts, emotions, behaviours and physiological systems, which results to be extremely positive for the individual's wellbeing (Solano, 2001). From what reported above it becomes evident how the elderly's wellbeing is influenced by their participation into a social network (Myers, 2008; Scabini & Cigoli, 2000). The elderly succeed in preserving their social identity, if they are part of a significant network of relationships, even speech communication would represent one of the conditions which allow to preserve one's personal ability and to avoid depression.

2.16.3.2. Family relationships

According to systemic-relational perspectives, the risk and protection factors identified are the quality of family relationships, the presence of grandchildren and the necessity of redistributing powers within the couple itself. The perception of the support offered by one's partner results to be fundamental for living with satisfaction and serenity (Ducharme, 1994). This seems to be directly linked to the sharing of decision-making processes, above all within the house and in the financial field. In this change of roles, women experience depression and emotional tension at a greater extent. Over the last years, there is a trend of younger generations to live with a partner without any legal ratification of this union (Delbès *et al.*, 2006), all this makes then it difficult to define relationships within one's own family nucleus; they are in some cases source of stress -because they must keep their own system of relationships under control and in the most cohesive way- at the same time defining a new network of ties. In particular the ties after widowry are the ties which are most at risk, because a process of self-devaluation and then the adoption of rigid and stereotyped behaviours would follow. Sometimes even the renunciation to ties could occur, because it would seem to be dangerous for the integrity of one's own Self (Belloni & Calcaterra, 2008). The tie with brothers, in particular the index of intimacy between them, would seem to be connected with the perception of wellbeing. The simultaneous relational difficulties of children, such as separations and divorces, on the contrary, represent important risk factors. The appearance of the new generation of grandchildren would help to mitigate the sense of loss and the sense of emptiness deriving from the retirement from work. The task of the elderly would consist of the transmission by them of a cultural and family heritage. The intergenerational succession is caused by the quality of family relationships, by the form and kind of exchange. The role of grand-parents results to be decisive as "family roots", having the function of carrying out important care tasks and of fostering solidarity between brothers, as fundamental element of family ties, it would be above all the transmission of trust and sense of belonging to the same family. Relationships with grandchildren, above all if they are frequent and intense, help to restore functions and motivations, rediscovering rituals, the meaning of tales, the reappropriation of a cultural-historical and family sense. Moreover grandchildren become a resource for learning new technological codes and increasing stimulation and instrumental competencies (Cesa-Bianchi *et al.*, 2004; Uhlenberg,

2000). The family remains, however, still the first place on which the elderly's wellbeing depends (Blangiardo *et al.*, 2006). Some studies have showed how the transition to old age, can be positively or negatively influenced in relation to the dynamics implemented between the family system and the social-health system. Friendships, together with good family ties, represent one of the factors which help to live an active and healthy ageing.

2.16.3.3. Expression and communication of emotions

“The sense that individuals give to their emotions, using the specific narrative rules of their culture, is a rooted and socially built sense, which not only reproduces narrative rules, but also values, the language and the rules dominant in a certain society” (Petrillo, 1996).

A significant contribution to this approach is given by the studies on the social regulation of the expression of emotions. Researches show that a double way of expressing emotions exists, which determines effects different from health (short term and long term effects) in particular in the presence of traumatic events. An adequate communication of emotions by speech, that is through propositional and symbolic components, is to be considered within a style of cognitive-linguistic regulation, characterised by externalisation. Then another style defined expressive style of regulation, exists, which is characterised by internalisation. The expressive style of regulation of emotions gives the individual the possibility of creating a symbolic universe which preserves the long-term effects of traumatic events, through the unfolding and systematisation of memories over time and in the space. The expression of emotions develops the activation of coping strategies in the individual, both of an intra-individual kind, like mental rumination, and of an inter-individual kind, like social sharing (Rimé, 1995). Studies show that before a traumatic situation, the inhibition of emotional communication can cause deep and negative effects on the state of health because it avoids the possibility of people for working through that event and socially sharing it. From a clinic point of view, we can often find that because of the inability of expressing one's own emotions by speech (alexithymia) people tend to show different types of somatisation. On the other hand the competence of communicating emotions, showing itself within interpersonal relationships, has got a strongly psychosocial nature (Ricci-Bitti & Caterina, 1995).

2.17. Transtheoretical model of behaviour change

The TransTheoretical Model (TTM) was developed by Prochaska and DiClemente at the beginning of the 1980s (Prochaska & DiClemente, 1983). It is a theoretical integrative model of behaviour change. This model has been used to describe cessation of addictive behaviours and more recently to predict uptake of health-promoting behaviours. It has been applied to a wide variety of problem behaviours in the health area e.g. smoking cessation, alcohol and drug abuse, weight control, stress management, condom use for HIV protection (Velicer *et al.*, 1998).

The TTM focuses on the decision making of the individual. It is a model of intentional change which uses a temporal dimension, the stages of change construct as a basic framework. Around these stages other model components are located. The model includes independent variables (the processes of change), and some depended variables (the decisional balance and self-efficacy scales). Both the stages of change and the processes of change are suggestive of intervention methods to stimulate change. An important contribution of the model is the specific tailoring of educational efforts to include different methods for individuals in different stages of change (Bartholomew *et al.*, 2006).

2.17.1. Stages of change

Behaviour change is not the result of a single event, but it is a phenomenon which occurs over time. In the TTM change is defined as a incremental, gradual, continuous and dynamic process involving progress through a series of five or six stages (Figure 1) (Prochaska *et al.*, 1997a).

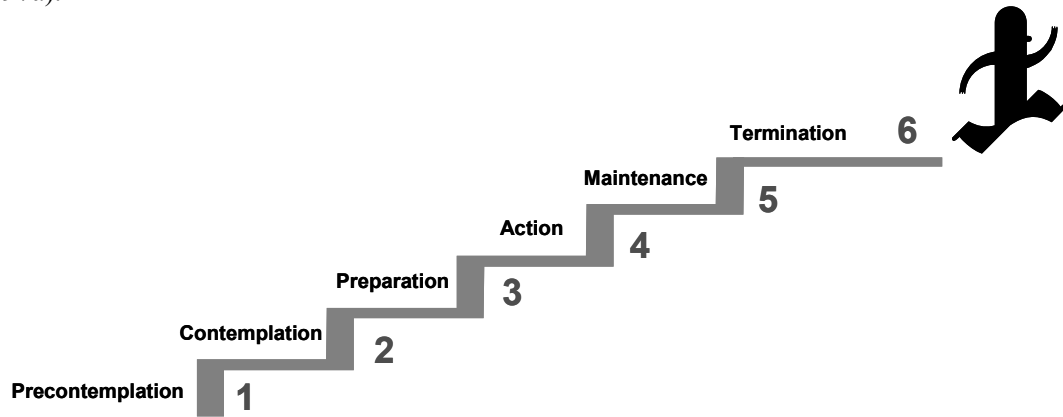


Figure 1. The six stages of the transtheoretical model

The model integrates changes in attitudes and behaviour. In the first two to three stages attitude changes are achieved and in stage four and five behavioural changes. In stage six attitudes and self-assessment is relevant. The model also considers regression. Regression occurs when people revert to an earlier stage. The regression can be from any stage to an earlier stage. In the health area for example relapse tends to be the rule (Velicer *et al.*, 1998).

The six stages of the transtheoretical model are:

- *Precontemplation* (poor problem recognition)
In this stage people are not intending to take action in the foreseeable future (= next six months). They are not aware of the problem, deny the problem or are uninformed or under-informed about the consequences of their behaviour. They may have tried to change a number of times and they have become demoralised about their abilities to change. Both uninformed and uninform groups tend to avoid thinking about their risk behaviours (Prochaska *et al.*, 1997a).
- *Contemplation* (some problem recognition, but ambivalence to the need of change)
People intend to change their behaviour in the near future (= in the next six months). They are aware of the pros and cons. The balance between costs and benefits of changing can produce profound ambivalence so that people might be stuck in this stage for long periods. They are not ready for actions.
- *Preparation* (commitment to change behaviour)
People are intending to take action in the immediate future (= next month). They usually have taken some significant measures in the past year and have a plan of action, e.g. joining a health education class, consulting a counsellor, talking to their physician, buying a self-help book, etc. (Prochaska *et al.*, 1997a).

- *Action* (concrete changes in behaviour)
 People have made specific overt modifications in their lifestyle within past six months. People have made actually modifications and a behaviour change, but their behaviour is not settled, and not all modifications of behaviour count as observable actions. It is a stage where vigilance against relapse is critical. People must obtain the criterion sufficient to reduce the risk of disease. For example in watching one's diet there is a consensus that no more than 30-20% of calories should be consumed from fat (Prochaska *et al.*, 1997a).
- *Maintenance* (stabilisation of behaviour and relapse prevention)
 The behaviour has been sustained for at least six months. People are still working to prevent relapse and are more confident that they can continue their change.
- *Termination* (100% stabilisation of behaviour)
 The last stage is included only in some versions of TTM-model. The new behaviour is seen as being fully established without fear of relapse, no temptation, and 100% self-efficacy. Termination may not be appropriate for dietary fat reduction behaviours (Prochaska *et al.*, 1997a).

2.17.2. Processes of change

Processes of change are ten cognitive and behavioural activities that facilitate change and are of varying significance at different stage transitions (Figure 2). Processes of change provide important guides for planning health education programmes. The first five are labelled experiential processes and are used primarily for the early stage transitions. The last five are classified as behavioural processes and are used for later stage transitions (Velicer *et al.*, 1998).

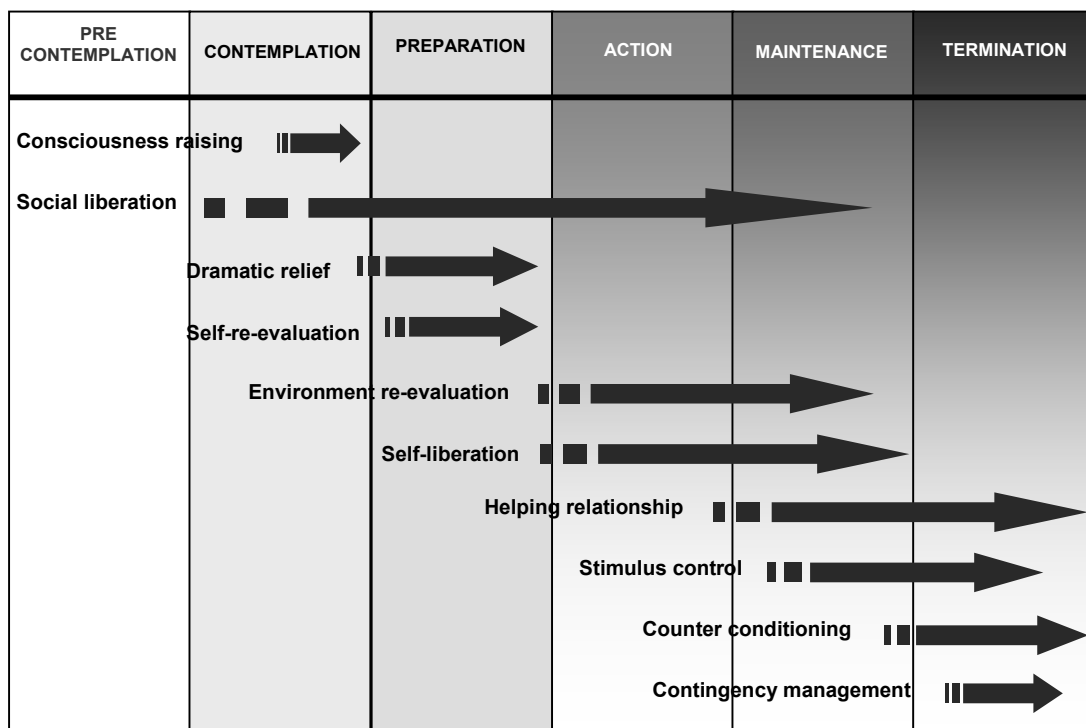


Figure 2. Stages of change in which change processes are most emphasised

The activities of the experiential processes are:

- *Consciousness raising*
Recalling information about the problem and creating new awareness of the problem, e.g. I recall information, I have heard or read about the consequences and cures of obesity. Interventions that can increase awareness include feedback, confrontations, interpretations, and media campaigns.
- *Social liberation*
Increasing of social opportunities or alternatives that makes it easier to change one's behaviour, e.g. advocacy, empowerment procedures and appropriate policies can produce increased opportunities for health promotion interventions, such as salad bars in senior clubs, easy access to diet consultations.
- *Dramatic relief*
Emotional expression and reaction if the problem is mentioned. Experiencing the negative emotions (fear, anxiety, worry) that go along with unhealthy behavioural risk; e.g. I react emotionally to articles about obesity elder people who died due to heart attack.
- *Self-re-evaluation*
Cognitive and emotional/affective assessment of one's self-image with or without a particular unhealthy habit. Acceptance of the problem and the necessity to change values, e.g. I feel satisfied of myself, as an active person.
- *Environment re-evaluation*
Considering the problem in the context of the individual's social and physical world, e.g. I consider the view that I cause additional problems to my family who will have to take care about me when I am getting more health problems due to my obesity.

The behavioural processes consist of:

- *Self-liberation*
Self-liberation is both the belief that one can change and the commitment and recommitment to act on that belief e.g. I make commitments to close people that I will change the diet and improve physical activity.
- *Helping relationships*
This activity combines caring, trust, openness, and acceptance as well as social support for healthy behaviour change. Rapport building and counsellor calls can be source of social support.
- *Stimulus control*
Things are removed that reminds on unhealthy habits and prompts are added for healthier alternatives. Avoidance, and self-help groups can provide stimuli that support change and reduce risks for relapse.
- *Counter conditioning*
Substituting healthy behaviours and cognition's for unhealthy ones. Relaxation, assertion, and positive self-statements are strategies for finding positive substitutes.
- *Contingency management*
Increasing the rewards for positive behavioural change, contingency contracts, overt and covert reinforcements, and group recognition are procedures for increasing reinforcement.

The processes of change are independent measures, how change occurs. In some versions dependent measures determining when change occurs are mentioned (e.g. Prochaska *et al.*, 1994):

– *Decisional balance*

This construct reflects the individual's relative weighing of the pros and cons of changing. In precontemplation the pros of the unhealthy behaviour outweigh the cons, in contemplation these two scales are equal and in the advanced stages the pros of preventive and health promoting behaviour prevail.

– *Self-efficacy*

Self-efficacy has two parts.

1. Confidence

This construct reflects the confidence of people coping with specific high-risk situations without relapsing to the unhealthy or high-risk habits. This construct is adopted from Bandura's self-efficacy theory (Bandura, 1982).

2. Temptation

It describes the intensity of urges to engage in unhealthy behaviour in specific difficult situations. There are three most common types of tempting situations: negative affect or emotional distress, positive social occasions, and cravings (Prochaska *et al.*, 1997a).

2.17.3. Relationship between stages and processes of change

Empirical results of analysis regarding relationship between stages and processes, which people apply, showed that in nearly stages people apply cognitive, affective, and evaluative processes to progress through the stages. In later stages, people rely more on commitments, conditioning, contingencies, environmental controls, and support for progressing toward termination (Prochaska *et al.*, 1997b) – see Figure 2 in which the scheme defines the processes suggested by the authors of TTM and by others, which have important practical implications (Bartholomew *et al.*, 2006).

To help people progress from precontemplation to contemplation, practitioners need to apply such processes as consciousness raising, dramatic relief, environmental re-evaluation, risk comparison, cumulative risk, qualitative and quantitative risks, positive framing, self-examination related to risk, revaluation of outcomes, and perception of benefits.

To help people progress from contemplation to preparation and action, practitioners need to apply such processes as: self re-evaluation, self-efficacy and social support, decision-making perspective, tailoring on time horizons, focus on important factors, trying out new behaviour, persuasion of positive outcomes, modelling.

To help people progress from preparation to action, practitioners need to apply such processes as: self-liberation, skill improvement, coping with barriers, goal setting, modelling.

To help people progress from action to maintenance, practitioners need to apply such processes as: helping relationships, counter conditioning, contingency management, stimulus control, skills enhancement, dealing with barriers, self-rewards for success.

To help people to maintain new behaviour practitioners need to apply coping skills development in identifying high-risk situations, selecting solutions, practising solutions, and coping with lapses.

2.17.4. Some methods to measure the stages of change

Two main methods have been used to measure stages of change (Sutton, 2001):

- *Staging algorithms*

A small number of questionnaire items are used. The participants are allocated to one of the stages. It is not possible to be in more than one stage at a given time point. Staging algorithms have been used in several studies to classify smokers or drug addicted people.

- *Multidimensional approach*

Several multidimensional instruments were developed for example:

- University of Rhode Island Change Assessment (URICA)

The instrument consists of 32 items. The items refer to the subject's problem and do not specify a particular problem behaviour. The URICA is mainly used in clinical context (McConaughy *et al.*, 1983)

- Readiness of Change Questionnaire (RCQ)

The questionnaire consists of 12 items and was designed to measure stage of change with respect to reducing alcohol consumption. The RCQ focuses on three critical stages: precontemplation, contemplation and action (Rollnick *et al.*, 1992).

- Stages of change readiness and treatment eagerness scale SOCRATES

SOCRATES was designed to measure stages of change for people with alcohol problems. It is a 20-item scale (Miller & Tonigan, 1996).

4.17.5. Pros and cons TTM

The TTM is based on critical assumptions about the nature of behavioural change and about the interventions that can best facilitate such change.

The model has the following advantages:

- The model is constructed on the basis of other important behaviour models. It enables to explain the complex human behaviour in a more comprehensive and adequate way.
- Many models only consider those people who are willing to change their behaviour. The TTM can be applied also for people who even have not thought about changing their risk and unhealthy behaviours and habits (precontemplation, contemplation).
- Interventions in the different stages have to look differently. This means the model makes it possible to take more targeted actions.
- The model considers stagnation and regression of a process.
- Not only the actual change of behaviour is considered as success, but every single step from one stage to the other.
- The model is relatively simple and can be easily applied for different risk or unhealthy behaviours
- If interventionists are to match the needs of entire population, they need to know the stage distributions of specific high-risk behaviours.

With respect to the cons the following aspects can be mentioned:

- The difference between stage 4 and stage 5 are only temporal nature (after six months). It would be better to define also qualitative attributes e.g. cognitive aspects of the process of change.
- The characteristics of the TTM are partly described as “atheoretical”, as different theories are combined without reflection. Some of these theories are even contradictory, e.g. behavioural counter conditioning and the cognitive change of wrong opinions.

2.17.6. TTM application in planning dietary and physical activity improvement for elderly

TTM is important in planning dietary and physical activity improvement for elderly, because:

- it assumes that target population (elderly people with low education) is combined of different groups, who might be in different stages of behaviour change;
- it suggests environmental (including socio-economic) barriers for change and considers behaviour change of agents (mediators) at various environmental levels;
- it defines determinants of various behaviours different for each stage;
- it gives a set of effective methods to be applied to health education programme;
- it describes educational methods which are tailored to stages (main methods are guided by processes of change such as: counter-conditioning, re-evaluation, self-evaluation, anticipated regret, consciousness raising, and mobilisation of social support).

2.18. Analysis of limits and strong points of the theoretical models discussed

The present view which seems to emerge today in the psychological and social field, and which mainly adopted on field working (in social-health services and projects) is that corresponding to the *bio-psychological-social model*. It is an approach intended to keep and further develop wellbeing in ageing processes, which provides different macrodimensions: *physical-biological health*, *social-environmental wellbeing* and the *psychological-emotional dimension*. In such model both the specificity of the levels of analysis of the body's complexity and the interdependence or integration between levels is emphasised, particularly aiming at deepening the psychological or social level, directing any intervention to the global health of the individual within his/her own life environment (Bertini, 1988). It is a perspective in line with the evolution of the studies of psychology of health, the cultural approach of which results to be particularly intended to privilege the direction towards the promotion of health, intended as global wellbeing of the individual in his/her social-ecological context (Amerio, 1993). The latter can be considered an integrating model, based on the general theory of systems, which overcoming the dualism and reductionism of the traditional medical model, sustains that health alterations are based on a dynamic interaction of a variety of factors. According to these assumptions, the social-health intervention is structured starting from the consideration of the interaction of the biological/psychological/social aspects, useful for a suitable evaluation of the state of health and for prescribing a right therapy or programme of wellbeing development. The theoretical assumptions on which the present interventions are based take into account, from an

holistic and integrated point of view, the different research contributions given in this field on the exploitation of personal, physical, cognitive and social resources, functional to the development of wellbeing and of individual autonomy, even if they do not consider some limits. One of the critical points to be referred to theoretical models is that they cannot always be applied in the training intervention of operators working with the elderly. We must consider that this new approach, oriented to the development of wellbeing is relatively recent (also as regards its application, it has developed over the last ten years) and that the change from the traditional medical model to the bio-psychological-social model is still in course. The process of a new substantial revision of the traditional model is often considered as topical, because of the lack of suitable methodologies shared by operators. To this a not clear conceptual definition of the different levels of analysis and intervention is to be added. We are still in the stage of construction of a virtuous circle which systematically takes into account theoretical studies and field practice. The most crucial problem is not only a cultural problem, but is linked to the speed of changes of an age and to the variety of variables intervening and which cannot be always controlled. We must however underline that the bio-psycho-social model results to be historically important, above all because it has caused the emergence of the problem of the complexity of health, giving strength to the many voices emerging from psychology and sociology besides biology (Bertini, 1999); but such model, beyond “good intentions”, just for the difficulty deriving from the above said complexity of this field, runs the risk of “becoming generic”, because instead of an interactive co-evolution of the different levels of behaviour (biological, psychological and social), we often observe a failed relationship between dimensions and levels (Romano, 1999).

As regards the evaluation of this model (in terms of adoption of the model itself), it would seem that today the idea that psyche and body are inseparable and that physical disorders have an influence on the psyche and vice versa, is widespread. A tendency to underline the dynamic character of the relationship between individual and environment (underlining the instability of such relationship) seems to be possible. By the adoption of this model, the influence of environmental and social factors is further underlined.

“Health” is then intended not only as wellbeing deriving from the good functioning of the body, but is also the result of the interaction between the environment and the individual. Such interaction aims at balance and has adaptive purposes. By the term “balance” we want to refer to the importance which wellbeing, the lack of stress, psychological wellbeing and good relationships with the others within one’s own personal and evolution condition, have. Personal inclinations can produce vulnerability to specific environmental factors which cause diseases. Environmental and personal variables can influence the onset of a disease through physiological mechanisms. Health outcomes are linked to social support, bad disposition of the individual and job stress. The subjective perception of a situation as stressing results to be more decisive in influencing the state of health than the mere exposition to stressing events (Baum & Posluszny, 1999). Theoretical approaches are generally starting to adopt holistic and systemic points of view, in which the interpretation of individual psychological and interpersonal variables tend to be interrelated to each other. We should also more deeply study the dynamics of the contexts to which the elderly belong. We also find a too big fragmentation of individual and contextual factors of the elderly and an exaggerated medication, even and above all in the international scientific literature. Unlike Italy, the USA and the European countries like Great Britain, seem to still emphasise with a marked pragmatic approach, the moment of therapy, the disease and lifestyles. In this case we see the necessity of carrying out a positive new interpretation of the idea of the elderly, emphasising not their competencies which undergo a decrease or need to be developed to foster a good transition to old age, but rather the already owned competencies and environmental resources, which can represent a trigger factor on which new study models and

good practices of ageing can be built. It would be important to reflect on the possibility of developing a culture of “the elderly” intended as “becoming elderly” and “being elderly”, which is a collective heritage, starting from younger generations, according to which their actions get a shared and recognised meaning. The possibility by the elderly to recover, through reconstruction interventions, their past experiences in which they have been the main actors responsible for themselves and others, is envisaged, in order to revive the perception of control of the carried out actions and the active participation into such actions and choices. In other words, the possibility of planning medical-psychological-social interventions for the increase of healthy lifestyles requires the operators’ ability of understanding the individual and contextual dynamics of the elderly, in order to start motivational interventions consistent with the latter. For example, even if the beneficial effects of volunteer service on psycho-social wellbeing have been showed, we must underline the limits of these activities, above all in the country, in which they have been not planned yet and where it would be functional to increase caregiving activities, especially within families. We can say the same as regards life-long learning, which in some cases could take place with the role of the elderly as promoters of apprenticeship activities for the youth.

2.18.1. Best practice in the training of social-health mediators

In the light of researches (both theoretical and field researches) in the field of old age, over the last years the need of a new organization social-health planning, as regards application, is going to impose itself, which also and above all takes into account, the personal and social resources of the elderly; a wider range of interventions for the exploitation of the elderly’s resources and of life itself. Today the need of an operational and training intervention which can also influence from a cultural and “educational” point of view, not only the target population identified but also health and social operators (appointed according to their different specialisation’s, to the elderly’s care). To take care of the elderly today, implies a variety of complex operational, communication, psychological and relational competencies, which we cannot but have for guaranteeing efficient responses and care levels suitable for the many kinds of the elderly we can find in our social context. Today, within the context of health promotion, wellbeing is considered as the ability of exploiting the potentials of an individual and of positively reacting to the challenges set by the environment. From these assumptions health is considered as a resource for daily life of people and not as a life goal. Health is then presented as a positive concept which tends to enhance social and personal resources, besides physical abilities. From the point of view of development of wellbeing, education to and promotion of health are intended as learning processes which can be facilitated by a stimulating training action which is co-ordinated by processes of social action, aiming at the creation of positive environments, and by health prevention and education. In this context the referred TTM can give useful advises to help people in this educational process. The TTM assumes that target population is combined of different groups, who might be in different stages of behaviour change. The model suggests environmental barriers for change, defines determinants of various behaviours different for each stage, gives a set of effective methods to be applied to health education programme and describes educational methods which are tailored to stages. According to their different roles, the main task of social-health operators working with the elderly is that of promoting an active ageing in contexts of social interaction to which the target people subjects of intervention belong. To such an end, a suitable training of social and health operators, oriented to the development of a systemic approach of multidimensional analysis, results to be necessary and cannot be independent from this perspective of holistic and transversal intervention aiming at the global development of the individual. From this point of view all health prevention, promotion and education are intended to keep, preserve and increase the state of health within different social reference contexts. The social context represents the place of care and

prevention, as regards services too, of the institutions and the policies focused on the protection of health in a wide sense. Professionals working in the field of help, within an ecological-systemic perspective, become “facilitators” of the psycho-physical wellbeing of the elderly and, at the same time, “mediators” of the culture of wellbeing within the different contexts of social interaction: with the task of making resources emerge and exploiting them, of fostering propulsive dynamics and promoting the point of view of wellbeing and psychological autonomy. In this perspective the condition of wellbeing in general can be improved through a fundamental work networking and involvement of the different formal and informal resources present on the territory envisaging the active involvement of the elderly and operators. Thanks to their activities, even and above all the free and spontaneous ones, it is possible to let concrete needs emerge, to offer a wider range of responses, to understand the meaning of discrimination or discomfort from more points of view, to offer a human and relational approach suitable for giving dignity back to people and to offer further complementary responses to be added to those already given by professional services. The envisaged intervention is then based on a model of educational and cultural model focused on the person: on personal and relational resources. A model which considers the elderly active and protagonists in a society which can still consider them as a resource for the different generations to which they relate themselves: a model focused on the involvement of social and health operators together with the elderly in the construction of a new life culture and a healthy ageing. The success of the individual within the community and his/her wellbeing is the priority goal in each degree and level of the world of adult’s education and training, both formal one (from the school to professional training up to university) and informal or non-formal one (from study circles to schools and popular universities). The culture of the competent development during the whole lifespan helps people to manage the changes of their life cycle, more efficiently and peacefully. One of the most difficult questions in the training of operators working with the elderly regards the link between professionalism and social competencies and professionalism and medical-health competencies. From one side the training of health roles seems to be strongly characterised by the specific medical-geriatric dimension, on the other side that of social operators is less focused on the “health” side of the question. In some cases the presence of psychologists or sociologists is envisaged, but such presence results to be strongly marginal if compared with the whole approach. If today the social-psychological and the medical-health fields result to be so poorly interconnected that even training approaches result to be quite apart from each other, such separation seems even more to be less acceptable. From one side there is the consciousness of the connection existing between health and social-family conditions in causing the occurrence of situations of need and/or specific demands of support regarding services, on the other side their responses to needs must take into account the whole of the existing resources (health, social, public and private resources). It then becomes more and more important to identify areas of overlapping of the approach procedures to the elderly’s conditions and then to specific knowledge. An example of training addressed to social-health operators according to a holistic intervention perspective on the elderly is presented with the VATO training package (see <http://www.kam.fi/vato/index.html>). Such training is above all focused on the functional abilities of the elderly, resorting to a gerontological approach based on the functional vision of health. According to such gerontological approach, the functional ability, the performance and health are resources to be absolutely identified, enhanced, supported and promoted in terms of development. To evaluate functional ability and to face daily life results it is more important than focusing the attention on disturbances, diseases and the limits typical of the elderly. One of the main goals of operators is that of facilitating autonomy among the elderly, as regards the daily management of their life: the elderly must be able to take care of themselves, to cope with daily problems and to represent a resource for their society. The support of the elderly’s functional ability should derive from his ideals and concrete needs and the main function of operators should be that of

encouraging the elderly to be independent and active. The helping and nursing approach is of a rehabilitation kind. Co-operation among all the people involved in the elderly's life, professional assistants and members of their family included, their friends and the tertiary sector, is of fundamental importance on implementing the helping and service plan. This guarantees the systematic character, the results and the quality of the support provided for the functional ability of the elderly. Operators' training should require the ability of understanding the individual contextual and cultural dynamics of the elderly, and oneself too.

1. The ability of working with the elderly implies a development in knowing them, of communication approaches and the ability of understanding and identifying in their life stories, the motivational factors which can influence their motivation to adopt healthy lifestyles.
2. Operators themselves should consider themselves as working in a network with the family system of the elderly themselves, this for better understanding their cultural and family context and starting interventions guaranteeing the elderly the ability of depending and trusting upon a family helper, even if they continue to mobilise their own autonomous resources, compatible with their remaining abilities, thus harmonising their emotional reactivity towards frustrating experiences (Bellotti & Madera, 2008). By mediating with family members or with people very near to the elderly, the interventions to be carried out would guarantee a positive influence on the elderly.
3. Moreover operators should become aware, through their reflection upon it, of the image they have of the elderly and of ageing, since just these images convey "good or bad practices" of taking care of the elderly. Some studies carried out on operators (Belloni & Calcaterra, 2008) have showed the connection existing between the images the operator has of "his self-referred self" and the "elderly self referred to the elderly". Operators represent themselves as what they are, according to what the elderly are not anymore, and in some cases they tend to create a mirror image which produces dependence. They also tend to project their own Self, sometimes superficially and subjectively reproducing the image of the elderly, as product of an assimilation/emulation process of certain relational-family models. In this sense it is possible to think of supervision meetings as a space in which to recognise, express and talk about one's emotions and discomforts linked to the organization context.

2.19. Relevance for CHANGE

From the analysis of the collected and examined material, we have been able to identify some theoretical models representative of an appropriate way to consider old age. Such examples are inspired from (or can be traced back) to the bio-psycho-social model which adopts a multidimensional analysis of the levels and complexities regarding the conditions of people in their old age. We can synthetically say that the above said models consider old age as a stage of complex life which requires a multidimensional analysis and the adoption of a multidisciplinary approach.

Consistently with the adoption of the new-presented models we must quote the SOC model (Baltes, 1997) used within the theory which is named "life-span psychology" (Baltes & Baltes, 1990). The positive culture of ageing suggested by Baltes in his model derives from a fundamental assumption, according to which ageing is a complex and varied process which involves different aspects of the individual and which cannot be faced within a linear and

homogeneous perspective; it integrates two sides of the same coin: improvement and decline. Synthetically speaking, the model suggested by Baltes postulates that by adopting a positive perspective on ageing, it can be mastered by the individual and can give the elderly new abilities and competencies, thus greatly increasing the quality of their life. Such approach when field applied, reveals to be particularly useful in working with the elderly, since it makes easy to redefine the importance which psychophysical limits have, aiming at the exploitation and recovery of personal resources which are often concealed or which are not suitably exploited. The idea of active ageing envisaged by Baltes can be considered, from a certain point of view, near to that of successful ageing (Rowe & Kahn, 1997) but the latter seems to have specific limits. According to the authors each of the following elements fosters the success of ageing, but only one of them is not enough: 1) Low probability of diseases and disabilities caused by diseases, 2) High ability of cognitive and physical functioning, 3) Involvement and active participation into relational and social life.

The other theories concerning ageing, more or less directly, even if they are useful, result to be focused on partial aspects which neglect the complexity of the elderly's conditions. Let us think of Erikson's works (theory on the stages of the psychosocial development) which have anticipated lifespan psychology, underlining the idea of continuous development along the whole individual's life. Other studies not strictly referred to old age, but which can be applied to it, are those on development and adaptation which are mostly concentrated on the cognitive and social emotional sphere; among them there is the social-cognitive theory (Bandura, 1986); the cognitive theory (Thomae, 1970); the theory of cognitive adaptation (Taylor, 1993; Taylor & Lobel, 1989); the theory of social-emotional selectivity (Carstensen, 1987; Carstensen *et al.*, 1999). Other theories useful for understanding the specific aspects of the elderly's functioning are those considering motivational aspects (the self-determination theory) (Deci & Ryan, 2000), the behavioural aspects and physical activity (theory of planned behaviour) (Ajzen, 1991), the theory of activity (Havighurst *et al.*, 1968).

Another theoretical example among those already identified which could be representative of a suitable way of considering old age, above all from the social-health point of view, through the intervention of "mediators" working on the "cultural side" of development of the empowerment and wellbeing, is that of a 'successful ageing' (Riley & Riley, 1990). In this regard these authors underline the "facilitating" role of wellbeing among the elderly, played by society which helps them to realise their ideals of successful ageing. Contexts of promotion and development of wellbeing culture become particularly important: structures allowing physical exercise, dedicated meeting places, etc. To draw a conclusion, we here present the so-called proposal of global integrated definition which provides the integration of: the SOC model by P.B. Baltes and M.M. Baltes (Baltes & Baltes, 1990), the contribution by J.W. Rowe and R.L. Kahn (Rowe & Kahn, 1997) (which however adds important elements concerning the role of lifestyles helping prevention) and the proposal by M.W. Riley and J.W. Riley (Riley & Riley, 1990) (which regards social development and external resources).

As regards the well/bad being of the elderly, we can synthetically say that there is a bi-directional interaction among:

1. psychological health, personality, coping strategies, resources;
2. physical and health conditions, polipathology, politherapy, chronicity and seriousness;
3. disability and autonomy limitations, availability of helps and supports;
4. social environment (availability of contacts and of significant interpersonal relationships);
5. institutional characteristics and of social policies (availability of services);
6. physical environment (housing conditions, suitability of the social context, availability of resources).

3. COMMUNICATION, SOCIAL RELATIONS AND EMOTIONS

This chapter is a short overview about theories of communication and it analyses the role emotions play in communicative processes; some theories about persuasion are also analysed in order to illustrate the mechanisms underlying the possibility of affecting human behaviour. It is important to highlight the connections existing between quality of social relations and health.

3.1. Communication principles and the role of emotions

Communication between living beings is at the basis of every form of interaction and relationship. Communication implies the transmission and reception of messages with different contents, such as a request for help, an invitation to play or the information about the emotional state. In the human species, communication can be varied and complex, from a wide range of non-verbal messages to verbal language articulations. Non-verbal communication is based on the evolution of the nervous system which allows the production as well as the de-codification of messages, typical of each living species. Between two species, only part of the communication can be understood, such as between a dog and its master. They both understand, for example, the invitation to play, but a wider part of communication remains incomprehensible between the two. Despite all this, the non-verbal natural ability to communicate of our brain is universal.

The development of verbal language, which started about 200.000 years ago, has made human communication extremely sophisticated, and makes interactions and co-operations among human beings more articulate, thus contributing to the development and progress of the species. Non-verbal communication is a wide part and it is more complex, richer and enigmatic compared to verbal communication. It is, in fact, very difficult to recognise all its elements and mechanisms. Both forms of communications, however, are strongly connected, and they have interdependent and complementary aspects of the same process.

The first cognitive theories saw communication mainly as an informative exchange with the following significant components: the subjects of communication, the sender and the receiver, the transmission channel, the message code, elements of disturbance, receiver's decoding which implies the comprehension of the transmission code, and finally the feedback that is the "returned information" on the part of the receiver as confirmation of reception.

More theories and hypotheses about the communicative process have been developed which have contributed to the modification and articulation of the model. A lively debate among the scholars concerned the sender's intentions: some state that a sender is only someone who has an objective or a reason to communicate, whereas others see any source of message as a sender. In any case, it might be misleading to think of communication as a linear process, where a subject produces a message and sends it to the receiver who will be affected by it. This typically classical view of communicative process (Shannon & Weaver, 1949) has been surpassed by modern communication theories which see it as a circular process with a perpetual communicative flow, where there is no clear cut distinction between the sender and the receiver; the latter, although a listener (like in the relationship between doctor and patient) is never only a passive listener: it generates reactions which become messages for the sender, thus inverting dynamically their roles.

The communicative approach depends on the transmission channel (the sensorial media like sight and hearing as well as the technical ones like telephone and the mail) and this affects the wholeness of the sender's information, thus reducing the complexity of the initial ideas.

Similarly, the message codification/de-codification process can be responsible for the distortion of the sender's information: the initial content of the information, in order to be transmitted, is usually changed into symbols and signs (codification) which must necessarily be interpreted by the receiver to achieve understanding. Evidently, the use of symbols (always intentional) and signs (generally non conventional) as well as the nature of the transmission media, might jeopardise the wholeness and intentionality of the information transmitted.

Another element to be taken into account is the context intended as a place (physical or relational) where the communicative exchange occurs. The context or the situation of the communicative act is part of the message, and it may change the meaning of the message itself. In any real communicative situation, many contexts are involved simultaneously, or overlap.

The message refers to the content of what is communicated and it is strictly connected to the concept of information. It could be a datum, a piece of news or a sensation through meaningful signs (sentences, single words or sounds, gestures, expressions, images, etc.). The meaning emerges only from the contextual reading of the message and of the other elements of communication.

In communication "interferences" are also to be taken into account (also referred to as "noises") being other constant aspects of communication. They can cause a bad reception of the message, warping, somehow, the original message. These communication interferences may involve:

- attitude;
- channel/code;
- listening;
- context/culture;
- content and relationship;
- verbal/non verbal;
- stereotypes.

Some typical examples of the way in which these intrusions work, can be found in the use of an excessive technical language which might be incomprehensible to those who do not have the same culture or knowledge or also when the listener gets bored or else, when you express availability in words but emotionally you feel aversion and closure. They also occur when one realises that the other interlocutor does not respond, not even with a suitable feedback (as it often happens in the communication between the doctor and the patient). The presence of a proper feedback confirming the sender's intentions is fundamental to establish and keep a personal and close relationship, and the lack of it may disrupt this relationship or trigger conflicts.

The following theories focus on the social nature of the human being which is best expressed in relationships and uses communication as a vehicle. Relationship is seen as a series of interactions, or actions among individuals, between individuals and contexts, and contexts and wider contexts. The human being must communicate with the others in order to achieve the awareness of himself/herself, his/her identity and to fulfil his/her primary and secondary needs. Communication, therefore, apart from sending information, contributes to the social building up of reality.

In 1971 Watzlawick laid the foundation of a new communication model highlighting five principles. These focus to the practical effects of communication and value the mutual influence of all elements involved. The practical approach analyses interpersonal communication as a

developing irreversible process, where the people involved affect each other: once the message has been sent, it produces its effects which cannot be deleted.

A different model refers to the strategic approach, which sees communication as a learned and guided act, therefore subject to education. Through interpersonal communication techniques, it is possible to become more aware of the elements affecting interaction.

In the practice of communication, the complexity of the process is outlined through 5 principles which describe components and relationships:

1. It is impossible not to communicate: when two people share the same space-time dimension, they automatically belong to a communication process, even in total silence.
2. Every communication has a content aspect and a relational aspect: when two people communicate, they exchange a specific content and, at the same time, they send messages which implicitly qualify their relationship (meta-communication): it is a communication about communication.
3. Communication is a circular process: each communication sequence is responsible for what comes next and the effect of what came before: it is action and response, cause and effect, and its circular nature is ensured by the feedback, that is to say by the amount of information produced in the opposite direction of the original communication.
4. Communication is verbal and analogic: human beings communicate not only with words (verbal language, possibly digitalised) but also with the body (posture, attitude, voice tone and inflection) as analogic language.
5. Communication exchanges are symmetrical or complementary, based on equality or difference respectively: in symmetrical exchanges, the relationship is balanced, whereas in the complementary exchanges one of the interlocutors plays a superior role, one up, and invites the other/s to adopt a complementary position or one down.

Apart from these general principles, it must be said that the degree and effectiveness of communication are affected by other aspects (human and physical) which characterise the context of the communication process.

One element which might affect communication is the identity of the interlocutors which may depend on personal characteristics (age, sex, gender, origin, physical characteristics), social (roles within the family, a class or caste), professional (job, status and authority), relational among the interlocutors (like in the doctor-patient communication), cultural or spiritual and ideal (faith, ethical values, ideological belief).

Communication may also be affected by the choice of language, which is the channel of subjective expression and it is used to represent the reality that you want to share; the choice of the words, links the cognitive content to expression modalities, thus giving to communication a determinate emotional quality. In this sense, the level of effectiveness of communication depends on the relevance between verbal language and analogic language.

Likewise important are the transmission channel and the context: the simultaneous presence of interlocutors, and the same space-time involvement, may represent a different condition if the channel is another physical medium (telephone, video conference) or it occurs a-synchronously (mail, e-mail).

Since the aim of communication is to enhance involvement, exchange, reciprocity of cognitions and emotions, it is necessary to think about different strategies so as to manage as flexibly as possible the appropriate behaviour with respect to the objectives.

Our main interest is to observe how communication might affect, within the field of health, the choice people make about their lifestyle. Therefore, some theoretical concepts about the

psychology of persuasion, which mainly aims at changing ideas, attitudes and behaviour rationally and symbolically, are reported.

Recent literature shows that persuasion and even seduction techniques and strategies, rather than authoritarian ones, are used to achieve this aim. Similarly, some very prominent modern theories are trying to recognise the underlying mechanisms of judgement and decisions (strongly affected by emotions), which can determine behavioural choices.

Social psychology has generated plenty of models and theories, along with detailed research which, however, needs still to be experimented, especially in health contexts.

The theory of cognitive dissonance by Leon Festinger (Festinger, 1957) was very popular in the 50s and it is still a milestone in the understanding of social influence. This rather simple communicative theory considers the psychological conflict between two or more incompatible beliefs, opinions and desires (for example, to change one's diet and/or take up physical activity while feeling like eating high calorie and elaborate food or spending free time spread out on the couch) as a source of cognitive dissonance (mental), which affects decisions.

It is easily observed that people tend to solve dissonance particularly when self-confidence is undermined. Dissonance affects motivation, pushing people towards choices of consonance: to avoid any discomfort, people may accurately stay away from information which can generate an interior conflict. As a case in point, we can consider a person whose pathology requires a drastic change in his/her diet or smoking habits but, despite all good reasons and aims, this person cannot make any change in his/her life; dissonance comes from comparing the current state and the desired one. Indeed, if the person cannot change his/her habits, he/she will tend to avoid confrontation by denying the problem (neither doctors nor treatments) and/or to be extremely rational (we must die anyhow!).

A different approach to communicative mechanisms is suggested by William McGuire (McGuire, 1950) of the University of Yale who recognises six stages in the persuasion process. According to McGuire, if even one of these stages is not fully applied, persuasion process does not occur:

1. The sender sends the message so as to let the receiver get it easily.
2. The receiver is able to pay attention to the message.
3. The sender uses a suitable transmission code (avoiding specialised languages or difficult contents for the receiver).
4. The receiver tunes into the message.
5. The receiver memorises the new opinion so as to make it his/her own.
6. The receiver reacts positively (the way he/she acts is in line with the message).

There are also other persuasion theories like the Elaboration Likelihood Model (ELM) by R. Petty and J. Cacioppo (Petty & Cacioppo, 1986) according to which the modification/reinforcement of actions may take two different directions.

The first central direction of persuasion is when people are able to process the information in the persuasion message effectively; in this case, people carry out a thorough and accurate analysis of the content (Petty *et al.*, 1991). Such a change in the behaviour is usually firm, secure and long-standing.

The second is a side-line direction which acts on the level of motivation, and it is about a process of change not precisely relevant to elaboration; in this case, behaviour changes through association of the object and certain simple key background elements (the attraction of the source, the length and simplicity of the message and its pleasantry) (Petty & Cacioppo, 1986; Petty *et al.*, 1991). Mood itself may play an important role in the change because it affects the level of persuasion message processing. Some studies show that positive mood plays processing down thus resulting in "heuristic processing" of messages (Batra & Stayman, 1990).

According to several studies, threatening or undesirable scenarios are successful when the receiver does not show any acknowledged conduct.

Another device, common in advertising, is the message replication: recurrence makes the message more familiar and therefore more acceptable. Still in advertising, persuasion relies on the quality of source (authority, credibility and testimonial expertise). Colours, brightness and sounds also favour the perception of the message.

A further formal aspect affecting the message effect is the order of issues: in a series of contiguous information, people tend to remember the first (primacy effect) and the last (recency effect), while central information is not easily recorded.

The use of these strategies for the promotion of healthy lifestyles is debatable for at least two reasons. First, a lifestyle change means the capacity to bear prolonged frustrations before the desired conduct becomes stable. The relapse into previous habits, in some cases, may take place even one year after the desired conduct has been established (as taking up smoke again, overeating and laziness). The reason is that our body is always looking for an immediate fulfilment, contrasting long-term benefits. The acceptance of healthy styles, although desirable, is something more difficult and complex than decisions like voting for someone or choosing among several brands of the same product.

The second consideration is ethical: marketing, more than often, has used strategies with manipulative purposes, hiding the real aims of persuasion. The ambiguity and excessive use of disquieting and disturbing mechanisms may generate scepticism about authenticity and real usefulness. For example, we can think of scepticism when summoned for vaccination, with simultaneous information about possible negative consequences.

On the other hand, however, the promotion of health and of socially advantageous behaviours through messages based only on rationality (sometimes presented as prescriptions) has failed.

This is the reason why health should be promoted taking into account the positivity of suggestions, with respect to life quality of people and appealing to their deepest needs, strongly connected to emotions.

On this score, the dual process theory models can be very useful, since they explain the occurrence of an event as the result of two different processes and modes: on the one hand, the event (for example, a new conduct pattern) is the result of an implicit, automatic and unconscious process, on the other hand it is affected by a rational and conscious process (sensitive to persuasion, it records the conducts to be changed).

In this theoretical context, the importance of emotions in judgement and decisions is important. Emotions are experienced as conditions (sensations and moods) which appear quickly (sometimes even unconsciously) and complement and reinforce the conscious and rational processes.

The name of the “affect heuristic” model (Slovic, *et al.*, 2002) highlights the importance given to affection and emotions in daily life and decisions. The authors, with a thorough analysis and study, discuss the practical implications of heuristic for our daily life. According to research, the authors underline the manipulative and deliberative use of affections on the part of those who want to pilot our conducts, such as fuelling the desire of owning a car or encouraging smoking, making use of non verbal forms exploiting images, sounds and alluring situations.

Considering the importance of experiential thinking, it is not surprising that the use of music in any common sequence may turn it into a special event. In this sense, car advertisers are particularly good: they associate cars to comforting and relaxing music, thus contrasting the stressful experience of daily traffic.

Alcohol advertising is likewise misleading, being so strongly related to seduction (even in this case, with music in the background) as well as advertisements for food (tasty and attractive, but not healthy) meant for children who are shown annoying their parents to have it.

Evidence shows that positive images related to smoke (movie stars) inhibit risk perception, thus contrasting persuasion processes based on scientific evidence.

The experiential system seems to work when used manipulatively, but it fails when changes occur slowly in time (like when you start smoking or use drugs, meant for occasional fun). Young smokers recognise the problem of nicotine-dependence cognitively, but not experientially. They don't experience at least until they get stuck in the mechanism, since symptoms like restlessness and craving are difficult to reconstruct artificially, without direct experience. A survey about smoke has reported that the question "would you have started to smoke if you had known what you would face afterwards?" was answered "no" by more than 85% of adult smokers and 80% of young ones.

Public health education authorities are having problems, in the face of the non-challant use of persuasion techniques based on emotions by marketing, to retaliate with convincing models and attractive/effective images to promote healthy life styles. In this sense, the study on "affective rationality" in health is still young, and applied sciences will have to make huge efforts to implement modes meant for the wellbeing of the individual and society.

3.2. Role of intersubjectivity and health

Inter-subjectivity, that is the innate impulse to establish a psychological contact with the others, ensures continuity to the species since it contributes to the forming, functioning and cohesion of groups which in turn, protect individuals from their vulnerability (Stern, 2005). Even ontogenetically, it has been demonstrated that relationships, especially physical care from the mother to her child, play an important role in regulating physiological parameters (heart beat, body temperature, blood pressure, hormone levels) (Hofer, 1994).

Our mind, like our personal identity, comes from a continuous communication with other minds, and this inter-subjective pattern represents, in the human being, a primary motivational system, equal to emotional closeness and sexual need. These needs, which urge to bond with other minds, become incredibly strong, and each frustration generates a sense of psychic solitude, to which we react with anxiety and other negative psycho-physical reactions. Widely known are the devastating effects of stress on health and on interpersonal conflicts.

Social relationships, on the contrary, reduce stress hormones (like cortisol) whereas they increase the production of wellbeing hormones (like oxytocin) (e.g., Taylor *et al.*, 2000). This is the reason why the tendency to inter-subjectivity, which appears as a desire to share the mental space with the other, must be considered a fundamental therapeutic instrument both in clinical practice and health education processes.

In order to differentiate the intersubjective contact from a simple interaction, we need to think about those moments when we experience the other, directly as if we were feeling the same emotion (like involvement in the other's mourning or laughing for a friend's joke). The possibility to participate in the mental life of the other (whose evidence is the discovery of mirror hormones) is at the basis of our ability to understand feeling, but especially the other's intentions. According to Daniel Stern the reading of intentions is the very essence of inter-subjectivity (that is to perceive the other's actions).

The inter-subjective contact can be unidirectional when the individual is able to understand within himself/herself what the other feels (I know how you are feeling), but it becomes more complicated when a bi-directional relationship is established: it is a sort of psychological bridge,

two minds hooking up, allowing mutual sharing. The most common example of this mutual experience is when two friends or lovers look in the eyes, and without saying a word they feel “I know you know I know what you are feeling, and vice versa) (Stern, 2005). The importance of this is that human beings, who are in a constant search for a similar mental correspondence, are particularly sensitive and attracted to all situations and contexts where it is possible to experiment this correspondence.

So inter-subjectivity is different from the attachment expressed as a need of physical contact with those who can ensure survival and wellbeing. In order to establish inter-subjectivity, it is necessary to have neither constant physical closeness to the other, nor intimate bonds, because it can occur also with strangers, in small as well as large groups. Inter-subjectivity and attachment are the extremes which coexist and support each other.

Intersubjective contact can be achieved in different ways and contexts. When you collaborate like doing the washing up or dancing, or chatting, you can achieve an unconscious physical synchrony, and this makes you feel like you were participating in the life of the other, even being well aware of the separation. Participation to artistic and sport shows, or any collective event, favours inter-subjectivity; apart from a direct participation, what attracts is the belief that that all participants share the same experience. However, there's something more that can explain the huge success of similar events and popularity of their protagonists: the inter-subjective contact generates and confirms personal identity, establishes contact with oneself, favours the perception of the real Self and therefore, supports the person in backing away from depression, low self-esteem and sense of life.

Perhaps the universality of inter-subjectivity has not been completely recognised, and it would be interesting to implement it for some collective social events (stadium conducts, disco enticement for the young, group use of drugs).

3.3. Role of social relation and health

The idea that a network of human social relations significantly helps people to face stressful events was first brought forward by Barnes in 1954. Only later was the idea of social support related to public and private health, seen both as protection and as a wellbeing booster. Over the last few decades, indeed, the concept of health has widened its definition and adopted a holistic vision where the wellbeing depends on the physical, psychic and social state. Thus, the exclusively biomedical approach (disease focused), is sided by two new models: humanistic and public health (Banchero, 2005).

Studies on social support date from 1979 with Berma and Syme who published their results about epidemiological survey on 7000 people whose health, lifestyles and interpersonal behaviour had already been reported. In nine years, individual social networks were observed by comparing the marital status, the number of friends, relatives, and the frequency of social gatherings, social roles or belongings to mortality and morbidity. The results showed a high correlation between these data and social network variables: among the people with few social bonds, mortality was two/five times higher than among the people with a more extended social net (Piccione, 2004).

To confirm all this, more recent studies have shown the connection between the social support and the prognosis of people hospitalised for a myo-cardiac attack (Lett *et al.*, 2007): the higher the social support, the better the prognosis of patients who did not achieve high levels of depression. According to Wilkinson (Wilkinson *et al.*, 1999), the support acts both individually and socially. For those people who have scarce social and emotional support, it is easier to get

depressed, to have complications during pregnancy and higher levels of disabilities after chronic diseases.

The quantity of social, emotional and practical support changes according to the economic and social status of people. Social cohesion (defined as the quality of social relations and the presence of trust, responsibility and respect within a community or society) helps to protect people and their health. Figure 3 compares five studies which show that high levels of social integration correspond to lower death rates and vice versa (both for men and, even more, for women) (House *et al.*, 1998).

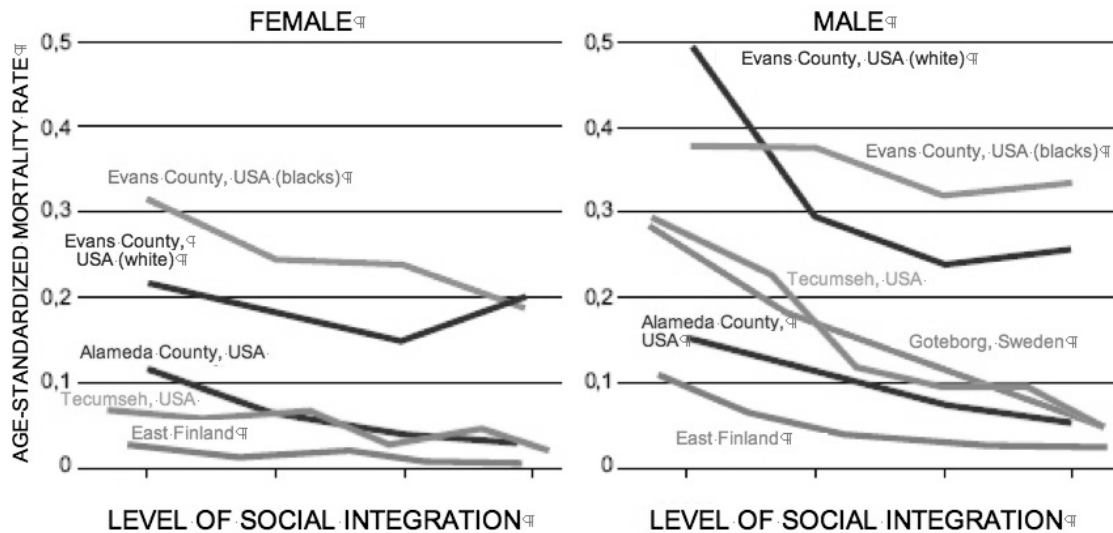


Figure 3. Levels of social integration and death rate

In his book, Caplan (Caplan, 1974) defined supportive systems as a configuration of social relationships which play a fundamental role for a psycho-physical balance. These interactions, for their particular functions of help, are social as well as environmental resources, which favour the healthy development of a person and help the person in difficult and stressful situations, by strengthening and reinforcing the person's reactivity and defence. For these reasons, supportive systems have been called health protective systems.

All supportive systems present a variable length which varies from individual to individual, depending also on the extension of the personal net which affects the number of people present in the supportive system. In the social support approach, the principle of individual social net is crucial: through a diagram of the individual's relational world, the whole architecture of interpersonal relationships is built. In the personal net, there are two types of supportive systems: the informal system which includes the bond with relations, friends, acquaintances and the formal system of professionals and operators. Within social support, such a chart allows to focus on the interactions and support structures, easy to use when needed. This implies understanding and empathy, thus resulting in a pro-social conduct (Sgarro, 1998).

In order to provide an effective support, the individual must be set in the centre of a social network thus reinforcing the communicative exchange. This will favour a cognitive streamlining, a wider range of problem solving resources and a higher control of vital situations.

Informal relationships represent the strongest means of protection. For each individual, indeed, health also depends on different social identities within the social network. Net and support are not always corresponding: the individual may have a wide network but the perception of the support may be poor, or vice versa, a small net formed by people giving quality support.

Several kinds of support have been highlighted, in proportion with the help they offer: emotional support favours restoration to normality, reassurance, encouragement, trust. Practical support provides material, financial, and food resources related to primary needs. Cognitive support provides suggestions, information and advice. Apparently, the emotional support meets the inter-subjective need, whereas the practical support fulfils the attachment need. The cognitive support seems to be more effective once the inter-subjective contact has been established.

In literature four types of social support effects are usually indicated (Sgarro, 1998):

1. Supportive relationships, systems and support are strictly related to physical wellbeing, they favour any evolutive aspect and preserve the subject's health (the more the support, the healthier the person);
2. Support absorbs stressors through two processes: the support helps to see the events as less stressful, thus absorbing the worrying through coping;
3. Support improves one's self-esteem, and so the capacity to cope. This reduces the risks of somatic and psychic disturbances and enhances coping.
4. Support is set in motion after the onset of disturbances, and mainly consists of intervention on an individual, net and systemic level.

It is widely accepted that it is not the effective availability which gives relief but rather its perception; in other words, if the support is available, the results are positive.

Taking into account the new principles of disease prevention and treatment, one of the most important American experts in social epidemiology, L.F. Berkman (Berkman, 2009), underlines the importance, for the future, to incorporate social support into health strategies, reinforcing abilities from families and communities. An effective social support must provide a sense of belonging and intimacy, helping single individuals to be more competent and self-efficient.

The importance of social nets has been known, on a European level, for at least 20 years: the concept of socio-health integration has been introduced although its application is still difficult and its potentialities are underused. The socio-health integration may be defined as "the co-ordination of health and social interventions in the face of complex and several needs, based on personalised supporting projects. The connection between social policies and health policies is a perfect synergy to give answers, exploiting all competencies and resources on the territory" (Bissolo, 2005).

Health as well as social systems exist and develop within the same prospective, namely, the assistance of the single individual on the part of the collectivity, which is the inspirational principle of the welfare (Bucci, 2002).

The following aspects are usually taken into account to evaluate the quality of a net: its size, the kind of bond existing between each member with the central figure, frequency of contacts, bond affinity, duration, the existence of subnets, the conflicts among these or individuals. The net may be homogenous and little open to the outer world. In this case, there is a strong normative control: the strong psychological support guarantees a high sense of safety although this also means rigid rules and values. A disjointed net means a less stable support, but it is open to new relationships. The dispersive net is negative since relationships tend not to last and not to be mutual, and this has a little psychosocial value.

The interventions through social nets and support may be different and usually result from the outlining of local community profiles. The interventions may promote the smoothness of social service access through a more personalised communication, especially if meant for more vulnerable and less educated groups like for example, the elderly. Sometimes, the target is achieved through effective messages using familiar situations (like post offices, doctors, pharmacies), with oral and informal diffusion. Other interventions offer a parenting support for the elderly (particularly those who live on their own) and the disabled. Recent initiatives include the organizations of groups to promote the wellbeing of the elderly (walking and cycling groups): they aim to integrate into the life of an elder person, regular exercise while socialising.

Many interventions are aimed to prevent use and abuse of tobacco, alcohol and drugs among younger generations, acting through school and more frequently through the family.

It is also important to stimulate interventions aiming at including the elderly in difficult situations, the unemployed and immigrants and therefore, remarkable interventions are those aiming at the acceptance and integration of foreign workers, particularly females (maids and assistants) which would fulfil the increasingly needs of the elderly and the families.

The social interventions highlighting differences in order to ensure equal rights are to be given consideration; they pay attention to all kinds of discrimination which affect the vulnerable citizens, from physically or mentally disabled people to non-independent elderly. In order to contrast the tendency to medication, initiatives have been created to favour integration in the world of work as an effective instrument to get over discrimination and contrast “the violation of human rights”.

3.4. Relevance for CHANGE

Expanding the connection between innovative principles in communication and their relevance for CHANGE is important especially for health professionals promoting healthy lifestyles.

Intersubjectivity is definitely the most significant feature of our analysis, since it represents the primary need of the human being. This also casts a light on the new principles of communication. First, inter-subjectivity confirms the validity of traditional models in communication, in particular the tendency to see the others as separate beings with intentions. In this sense, each communication, beyond its contents, defines the character of the relationship.

Although the effects of inter-subjectivity are immense, it has received little or no space in daily practices which seem to be more prone to technicality, prescription and rational information. The considerations related to inter-subjectivity confirm the potentiality of communication to satisfy the primary needs of human beings and facilitate therefore, the achievement of objectives; the inter-subjective contact may improve both therapy and lifestyles, responsible for the 50% of the onset of several pathologies. However, further considerations are necessary about communication modalities and the use of inter-subjectivity within the health context, whether it is a doctor-patient relationship or within a wider group of people.

A new aspect may be found in the distinction among two basic motivational aspects of human beings such as attachment (the need to keep a physical contact with the significant person who fulfils those primary needs) and inter-subjectivity (the need to establish a mental contact with the others to confirm, keep and protect their own personal identity). Both needs become real within a relationship, and although separated, they can be seen as extremes of a continuum, where they co-exist and support each other.

Social relationships protect and cure. In the case of administration of a treatment or drugs, there is a very concrete relationship, helping, supportive and dependence-oriented since it meets

the need for physical survival. This kind of intervention, which is similar to attachment, might not, however, stimulate the independent resources of the patient and the process of recovery. Inter-subjectivity, however, builds a mental bridge with the others for a psychological survival with a strong emotional response able to contrast both psychological and neurological stress (research about the effectiveness of attachment). Assistance, therefore, is very therapeutically effective when supported by inter-subjectivity, as well as rewarding and humane. It becomes the main instrument of change when the target is no longer the sick person but healthy people who can protect the thin balance of health by improving their lifestyles.

In order to achieve this objective, it will be important to imagine interventions starting from these considerations about the intimate nature of human beings and focus on the satisfaction of their deepest needs. After all, the increasing application of socio-health approach to public health systems is determined by concrete results in the management of important health events.

The communication training model for health mediators should consider:

1. aspects of inter-subjectivity highlighting the character, functions and application in different health contexts;
2. integration of items related to inter-subjectivity in the evaluation of formative and applicative effectiveness;
3. integration of inter-subjectivity to other compatible approaches which will define the model of intervention.

4. PROSOCIALITY

The importance and benefits of prosocialty (higher levels of group cohesion, solidarity, participation, co-operation, motivation, etc.) and their impact on health issues will be illustrated in this chapter.

4.1. Introduction

Since the 1970s, the prosociality concept has been much studied in children and young people of school age for the great benefits that it implies for personal and interpersonal development (Eisenberg & Mussen, 1989); nevertheless, it is also a concept that constitutes a contribution to understanding progress in the quality of life and in relations between adults (Caprara, 2006). In this line it is not surprising that one considers prosociality as generating high levels of group cohesion, participation and motivation even in environments, which for its characteristics might seem more complex such as: the case of the organizations (Brief & Motowidlo, 1986), in the city's civic culture, in help relationships (Marroquín & Pulido, 2009) or in doctor-patient relationships (Juárez, 2009).

4.2. Origin of the concept

Prosociality is a concept that has arisen as an antonym of the “antisocial” concept. It studies and demonstrates the factors and benefits that help, solidarity, giving, sharing and co-operation have for all the persons, groups or societies involved either as authors or receivers.

Most of the authors use it as an adjective (something prosocial); Roche began to use the noun prosociality to refer not only to qualify actions, but also to create a model of thinking.

The first evidence of the study of prosociality emerged in 1908, by McDougal, who suggested that the prosocial behaviours are the result of “tender emotions” created by the parental instinct (Penner *et al.*, 2005). Nevertheless, scientists' attention on the study of prosocial behaviours is more recent, and arose from the case of Katherine “Kitty” Genovese in 1964, a young woman brutally murdered to the indifference of her neighbours.

Since then, the study of prosocial behaviours has been developed from different perspectives, focusing more on the biological, motivational, cognitive or social processes involved (Penner *et al.*, 2005).

At interpersonal level, for example, many authors have examined cases where people were helping others, their motivations in doing so or simply why there were people who wouldn't help at all. Only recently scientists have begun to include the idea of prosocial behaviours in the work environment where it has been demonstrated to have important implications for the group mood.

The line of work, which has been developed since 1984 by the Laboratorio de Investigación Prosocial Aplicada (LIPA) of the Universitat Autònoma de Barcelona (UAB), centres not so much on the motivations which lie behind the prosocial behaviour, but rather on its optimisation: how to facilitate the occurrence of prosocial behaviours in the contexts in which we move, how they are propitiated, how we can increase them in quality and frequency.

4.3. Definition

In LIPA, in a novel way with regard to the anglo-saxon definition in the international bibliography (which does not specify this point), presents as a last and functional criterion of any prosocial action: the acceptance or satisfaction of the receiver. This element is central to overcoming the ever present connotation in traditional altruism which at times aims only to satisfy, the motivation of the author, others is motivated by heroism, and yet other by the desire to be a good human being.

The accent on the receiver and his/her circumstances, updates in a post-modern way the skills, capacities, motivations and attitudes of the one who acts in a prosocial way and who, on the other hand, must be faced to the specific benefit of other, to the generation of reciprocity, relational wellbeing and group and collective harmony.

Prosocial actions are defined as:

“Those behaviours that, without any prospect of an external reward, favour other people, groups or social objectives and increase the probability of generating a positive reciprocity which will in turn promote solidarity to unity on the following interpersonal and social relationships, safeguarding the identity, creativity and the initiative of the individuals or groups involved” (Roche, 1991).

4.4. Application field

An element to be emphasised in this definition is that even the prosocial actions carried out with the agreement of the receiver, must answer to certain quality standards if they are to safeguard the identity, autonomy, creativity and initiative of the individuals or groups involved. These conditions or requisites place a critical question, for example, on an action desired by a receiver and perceived by him or her as beneficial. However, if there were objective indicators which prove that the above mentioned action is, in fact damaging, it would not be prosocial, from our perspective.

For Roche there is a wide scale of actions in human interaction that would be considered to be prosocial behaviours and, therefore, not only those of help or those of donation. The author prepared a proposal of diverse categories of prosocial actions (Roche, 1995) amongst which there is naturally physical help, physical service, verbal help, verbal consolation, but also the actions of giving and sharing, the assertion and positive valuation of others, attentive listening, empathy, solidarity and positive presence and unit – each one with a precise operative definition.

The prosocial aspect for this author in contrast to the previous ones, is linked to verbal and non-verbal actions, in a present or non-present way, that not only intends to be of benefit to others but to those that really carry them out.

4.5. Importance and benefits

From a collective perspective, in the functionality of coexistence and harmony of people, groups and societies, it is assumed that prosocial actions would produce a decrease in violent behaviour.

Nowadays, in the advances science is making in the social field, altogether with systemic theory, social constructionism, neocognitivism, humanism, behaviourism and positive psychology, there is probably no topic border of such transcendental consequences and social relevancy as this. Nowadays, these theories can no longer be understood as being one-way in the causality of events and human actions, but instead as something as fundamental as reciprocity, dynamics which are constructed, facilitated and promoted precisely by this prosocial action.

In other words, the social frequency of prosocial behaviours would produce a multiplier effect across learning according to models, as well as by means of activation of a selective perception, or simply by activation of a response to the received benefit, through which reciprocity may take place. We would be talking about an improvement in social relations.

Furthermore, psychology is currently discovering how the person who acts in a prosocial way obtains psychological benefits, which represent a de-centralised psychic space, capacity of empathy and significant content, in relation to values, and therefore present in self-esteem perhaps through perception of achievement, efficacy, and, finally also the observation of the benefits that it brings to the receivers.

Real empathic communication makes dialogue possible among very diverse or even opposing human systems (ideological or political).

Prosocial action is a moderator of ambition and power. It constitutes a perceptively clear, incisive stimulus aimed efficiently at the target and at the receiver to whom it channels attention and consideration. Conditions of high conscience and sensibility, with regards to the action and its roots, increase their value and become real models. Therefore, it greatly increases the statistical possibilities so that the receiver him or herself becomes the initiator or author, in turn, of other similar actions.

It is important to consider that the type of reciprocity to be promoted should not respond to expectations which could determine the behaviour of the receiver, either to implicit contracts of immediate alternation or in continuity or in an alternation postponed in time.

It is precisely here that the truly prosocial action lies: it has to be carried out in a way in which the first target is good for others, not for the author, although they could be foreseen, be deduced or have subsequent positive consequences for the author.

If this is the case, the reciprocity that could take place would come to close a very positive circle of interrelation, always voluntary, but highly effective in the survival of the systems or human groups.

Prosocial action is operator of social transformation: it provokes concentric positivity circles in the environment. It is always difficult to realise the real effects that a prosocial action can generate in receivers, which eventually become authors towards other people and situations.

Therefore, the prosocial action sometimes becomes reciprocal. At other times it turns to other people, but it probably never remains inactive.

Even for scientific methods it would be difficult to verify the positive multiplier effects of the prosocial action due to the progressive distancing and complexity of the various receivers, with an incidence often superior to the simple formula of transmission of one-to-one.

In any case, it is a positive and progressive incidence in the wider social spectrum which can increase its power of transformation depending of the agent's-initiator's power involved in the sequence.

4.6. Prosocial quality communication

The model of Prosocial Quality Communication (PQC) describes important aspects of the communication. Before and during the communication process, factors such as openness, empathy, awareness of the others' dignity, quality listening, conflict resolution from a positive perspective, etc. are important.

4.6.1. Critical view to linear models of communication

The fundamental criticism of linear communication models is the excessive leading role of the sender in the transmission of messages to the somewhat passive receiver. And although linear models of communication are out of date in terms of theory, in practice it is not strange to find programmes of intervention based on this conception of communication.

From the prosocial perspective, it is understood that social networks are a product of communicative interaction and behaviour. Yet, from the point of view of a strict behaviourism, it is not an automatic and standard answer to the stimuli of external origin, but a subjective construction in accordance with the participants in the communicative process and with the culture and the situations of the everyday life.

From this perspective, it is important for the integration of the person in the social plot, its image (Self) attributed to oneself and to the other, at the time of communicating. The images are personal constructions of meanings that arise from symbolic interaction. Any act is co-built (constructionism) and therefore it has no meaning out of context.

The PQC model is framed rather in an interpretative perspective and especially in the line of what might represent the school of Palo Alto.

In consonance with this, in the European context, there is an increase in initiatives which promote the creation of spaces of participation and communication between heterogeneous groups, with cultural diversity in order to improve the climate of the organizations, the networks of collaboration, the indexes of trust, the feeling of unit and belonging to a group.

The slogans of the EU seem to confirm this tendency, with a considerable advance in the expectations of the role that organizations of all kinds assume in increasingly demanding societies (certifications of quality), which include the possibility of auditing to measure and responding not only to production or to the environmental impact of an organization, but also to its social impact, from the inside (relations between and with the members of the organization) as well as from the outside (relations with the stakeholder)

In this sense the role which professionals and organizations of health character have in the responsibility of management is undeniable, carrying out prevention programmes not only for present challenges, but also the future challenges of nutrition, health and people's quality of life.

Apparently there is a certain agreement on the benefit that is brought by a communication based on a more participative, (horizontal) dialogue for taking decisions, at least at the level of theoretical declaration of values (ISO/DIS 26000) (ISO, 2006). Nevertheless how to operate this communication is a matter which has not yet been thoroughly studied. And it is on this point that we try to visualise what the contribution of prosociality and PQC could be.

A quality prosocial communication must be satisfactory for both speakers. The PQC differs from the models centred on the initiator, since the quality indicators of the communicative exchange are determined specifically by the receiver of the action.

4.6.2. Definition

Although the scientific bibliography speaks about “prosocial communication” (Hocking & Lawrence, 2000; Adams, 2000) there is no definition that specifies what “communicating in a prosocial way” implies. Seeing the examples of the authors and the way they develop the topic, it gives the impression that they understand it as courteousness, co-operation, consensus, good manners in any situation, falling down sometimes with the idea of that to be prosocial, implies being even passive opposite to the injustice.

Nevertheless, prosociality being opposed to violence does not make it synonymous of passivity; the meaning of something prosocial is perfectly compatible with the attitude to express the one’s own interests in an assertive way.

The prosociality, more than efficiency in communication, gives an added “bonus” to quality. A communicative process can be interpersonal, efficient, satisfactory and also prosocial. “Quality” and “prosociality” are not synonymous, but are terms that complement each other. This is the contribution of the model of PQC, a concept that understands the communication as an interaction process between persons, even in situations of conflict, where at least one of them undertakes the act of conscious and voluntary esteem for the other, who is perceived as an actor with the same dignity.

The PQC is a deliberate speech, with special attention in the previous factors, to the treated contents, to the conduction of the process itself, to metacommunicative elements and to factors later to the communicative act; not only with the target of the consensus, but of visualising and understanding from the perspective of other (Escotorin, 2009).

The PQC model (Roche & Martínez-Fernández, 2006; Roche, 2006; Roche & Arozarena, 1988; Marroquín, 2002) has been experienced as a facilitator of autodiagnosis of the communicative style in the environment of the couple and family and as an optimiser with good results (Roche & Martínez-Fernández, 2006)

Currently, LIPA is investigating and implementing intervention programmes using this model in management (Escotorin, 2008) and health (Juárez, 2009) environments.

It is a model that can be trained, and although it has complex variables, it describes in an operative and didactic way each of the factors which define a satisfactory communicative process. It also facilitates the design of sustainable programmes of optimisation, which strengthen the social skills and points out the weak aspects to be worked on. However, all Roche’s publications have centred on a model with 15 factors (Roche & Arozarena, 1988; Roche, 2006) related to the environment of the couple and the family; the same author in later documents has developed this first proposal a little further, extending his own definitions and trying to adapt it to other contexts.

What we present below is a list of 17 points (Escotorín, 2008), which synthesises the first version of the model and the following proposals of work of the same author (Roche). Every factor is provided with an operative definition that allows it to optimise every variable with certain behaviours and attitudes (Escotorin, 2008; Roche, 2006).

The PQC model divides the communicative process into 17 points.

Each of these factors can be measured across questionnaires and also worked across specific programmes; nevertheless, this model can also be used as a general or ready check-up guide, for a personal review (Table 1).

Table 1. Model of communication of prosocial quality: attitudes, conducts and factors

Attitudes and conducts	Factor
Previous to communication	1. Openness and readiness as receiver 2. Opportunity as initiator
During the process	3. Emptying oneself 4. Living the present moment thoroughly 5. Empathy, reciprocity and unity 6. Confirmation of the other's dignity 7. Positive evaluation of the behaviours of the other 8. Quality listening 9. Quality emitting 10. Acceptance of what is perceived as negative 11. Conflict resolution from a positive perspective 12. Shared decision taking
Contents	13. Appropriate, relevant, not excessive, representative and frequent information 14. Openness to revealing emotions
Metacommunication	15. Checking and controlling the communicative process 16. Making explicit the structural rules of the system in a prosocial way
After communicative act	17. Cultivating and carrying out an empathic and concrete goal

4.7. Relevance for CHANGE

In accordance with the CHANGE targets, implementing programmes using a too linear communication model implies that the initiative is only on the side of the mediating health associate, and the effects occur exclusively on the users of the system (elderly people) and not on those that help them.

The models centred on the figure of the expert who knows the solutions and who thinks about how to convince and persuade the elderly of the changes that could help in their lifestyles have certain limits, since they do not include the initiative or point of view of the receiver or beneficiary in the design of any prevention programme.

Therefore, from the CHANGE perspective it would not only be a question of meaning or effective measurement to help or to benefit a certain population, but of understanding the perspective of the beneficiaries of this programme; what, how and when we must “say” so that the elderly people understand us from their perspective.

The health contexts of the quality communication model are: a hospital, a centre of primary health care, a retirement home or a civic centre, for instance, are primarily organizations, which constitute complex “interlaces” of relations between their external stakeholders (patients, patients’ relatives, patients’ associations, the community belonging of the centre, political authorities of health, providers) and internal agents (doctors, nurses, health, administrative personnel, direction of the centre, etc.), which determines the success or development of any prevention programme.

Prosocialising the communicative style of the mediating social-health staff, in their private and working environment, improving the collaboration between the internal and external stakeholders, improving the prosocial climate of the shared spaces and of communicative interaction can bring numerous benefits to the health organization itself, to its environment, and with it, to the users of the system.

5. SOCIAL MARKETING

The social marketing is a concept, which is based on marketing principles and which attempts to influence and change the behaviour of the target audience for the benefits of society (better public health and safety, benefits for environment and communities) and individuals.

5.1. Definition

Philip Kotler (Kotler *et al.*, 2008) defined social marketing as “a process that applies marketing principles and techniques to create, communicate, and deliver value in order to influence target audience behaviours that benefit society (public health and safety, environment and communities) as well as the individuals of target audience”.

According to Lefebvre and Flora (Lefebvre & Flora, 1988) “Social marketing is a process for increasing the adoption and acceptability of ideas or practices in a target group, a process for problem solving, a process to introduce and disseminate ideas and issues, and strategy to develop effective communication messages”.

Social marketing is the use of marketing principles and methods to increase the effectiveness of health education programmes to promote healthy lifestyles and to change health related behaviours. In short, it is a methodology for creating behaviour change on a population wide basis.

Social marketing is the application of commercial marketing models and strategies to the analysis, planning, execution, and evaluation of programmes designed to influence the voluntary behaviour of target audience in order to improve their personal welfare, quality of life, and that of their society (Andreasen, 1995). It is seen as:

1. key benefit to individuals and society, not focused on profit and organizational benefits as commercial;
2. focus on behaviour change, not only awareness, beliefs or attitudes change;
3. approach centered on target audience’s needs and expectations, having a primary role in the process.

5.2. Standards of practice

In the United Kingdom the National Social Marketing Centre has produced an 8 points Social Marketing National Benchmark Criteria, used to help encourage and promote greater consistency in the use and application of social marketing. The official site (<http://www.socialmarketingquarterly.com/whatis.htm>) reports as follows these criteria:

1. clear focus on behaviour and achieving specific behavioural goals;
2. centred on understanding the customer, using a variety of customer and market research;
3. is theory-based and informed;
4. is ‘insight’ driven;
5. uses of “exchange” concept and analysis;
6. uses of “competition” concept and analysis;
7. has a more developed “segmentation” approach, by going beyond basic targeting of the population;

8. utilises an “intervention mix” or “marketing mix four Ps” strategy, rather than relying on single methods.

Elements of social marketing framework should be integrated into the development of programme, planning of methods and practical strategies. Input from the target group and mediators greatly contributes to strategy refinement, solidification of the exchange principle, and programme development and implementation.

5.3. Application to health education

Social marketing can help to influence health related behaviours of the target audience in order to improve the welfare and quality of life of individuals and their society. It can help to identify the reasons why people resist health promoting change, uncover affordable benefits, which the audience cares about, and create strategies to market those benefits in compelling and cost-effective ways.

Social marketing helps organizations to increase targets’ participation, rebrand their images, and in the case of government and community organizations, to increase voluntary compliance with new introduced laws and policies. Use of social marketing has been proven to be effective in many health promotion programmes: from increasing immunisation rates among children, to increase physical activity in elderly (John-Leader *et al.*, 2008; Stralen van *et al.*, 2008; Neiger *et al.*, 2003) and change nutrition habits among them (Sahyoun *et al.*, 2004). The concepts, theories and design components for nutrition education and enhancing physical activity among older persons have been well described (Higgins *et al.*, 2003; Sahyoun *et al.*, 2004; Stralen van *et al.*, 2008).

5.4. Application to health behaviours

The practice of social marketing lies in developing and implementing integrated elements that have one purpose of leading to a specific change in behaviour, which is a main goal of the programme. The appropriate strategies, based on applied theoretical methods, have to be developed to meet educational objectives, which assume the change in knowledge, awareness, risk perception, health beliefs and attitudes of the target audience. The strategies might be on individual level (such as the development and distribution of print and audio-visual self-help materials to encourage individuals to change their behaviour), or to organizational and community level methods of change to develop and maintain social support. Each of this single strategy leads to behavioural change, but their combination and integration constitutes the social marketing approach.

Social exchange theory examines and explains relations between individuals and their environments, and it is relevant to health education programmes planning. Research focused on:

- equity;
- distributive justice;
- power;
- exploitation.

This theory is effectively employed by social marketing in achieving behaviour change and applied to the development and implementation of the health education programme.

According to Lefebvre and Flora, “Social marketing approach is an invaluable referent to which planners should design, implement, evaluate, and manage behaviour-change programmes” (Lefebvre & Flora, 1988).

It gives indications in following areas:

1. which the essential ingredients of social marketing are (programme component model);
2. how social marketing is done (marketing process model);
3. how strategy is developed (strategic model for implementation).

Lefebvre and Flora explain the social marketing process in eight-components model:

1. *Consumer orientation approach*: a target audience orientation that recognises its needs that drive health initiatives, as opposed to expert-driven or top-driven approaches. A main focus is on the needs, interests and values of the target population.
2. *Voluntary exchange*: an emphasis on voluntary exchange of goods and services between providers and target audience is given. Exchanges should be “win-win”: target audience should exchange their resources (money, time, effort) for benefits, those expended by the agency that provides the desired messages, products, or services.
3. *Audience segmentation*: the application of qualitative research in audience analysis and segmentation strategies to group the target population into smaller, more homogeneous subgroups characterised according following variables (Prochaska *et al.*, 1994):
 - current health promotion behaviours
 - beliefs to engage in behaviour change
 - communication networks
 - motivations to behaviour change.
4. *Formative research*: the use of formative research with target group representatives in testing of message design, and pre-testing of materials, practical strategies to be used in the programme.
5. *Channel analysis*: the identification and analysis of communication distribution channels and context to determine the times, places, and situations, where the target audience is likely to be most attentive and responsive to the message and service offering (media outlet, community organizations, business, and “life-path points”) (McGuire, 1985) .
6. *Marketing mix strategy*: to define and establish product, price, placement and appropriate promotion activities in intervention planning and implementation.
7. *Process tracking*: A process-tracking system to deliver, monitor and adjust the programme implementation.
8. *Co-ordinated management process*: a co-ordinated management process to assure quality of planning, implementation and feedback, if programme meets timelines, targets the audience and achieves educational objectives and behavioural goals.

The social marketing process can best be applied in so called marketing mix strategy which cover four marketing variables, the so called “four Ps” (McCarthy, 1979):

- *Product*
Product refers to actual programme which is planning with goals and objectives and available resources. Programme should be accessible and attractive for the target population.
- *Price*
Price is thought in economic and non-economic price such as: social, behavioural, psychological, physical reasons for change or not change (benefits and barriers). There should be determine the following:
 - what the abilities of the target population are;
 - what the demands/needs for the programme are.

- *Placement*
Placement is thought as distribution points, places to offer the programme. The places should be convenient and accessible at the best time for target population.
- *Promotion*
This is oral and written communication to attract target population to become involved in the programme, all kind of steps to make target audience aware, attentive, and involved. Such communication should be informative from one side, and persuasive on the other. The choice of title and slogan of the programme is important. There could be used two main ways of advertising:
 1. internal advertising within the organization;
 2. external advertising in a community at large through mass media, direct contact, and/or contact with specific professionals and leaders.
 Other techniques useful in promoting the programme are as following:
 - incentives (free t-shirts, etc.);
 - gaining the endorsement of key persons;
 - distributing mailbox;
 - personal contact with individuals: “friend to friend”;
 - setting up mentoring with experienced one;
 - a special launching, countdown, event to get programme started.

McKenzie (McKenzie & Jurs, 1993) added the fifth “P” of marketing mix strategy – the person of the target group – with specific individual characteristics, needs, interests, values and expectations (Figure 4).

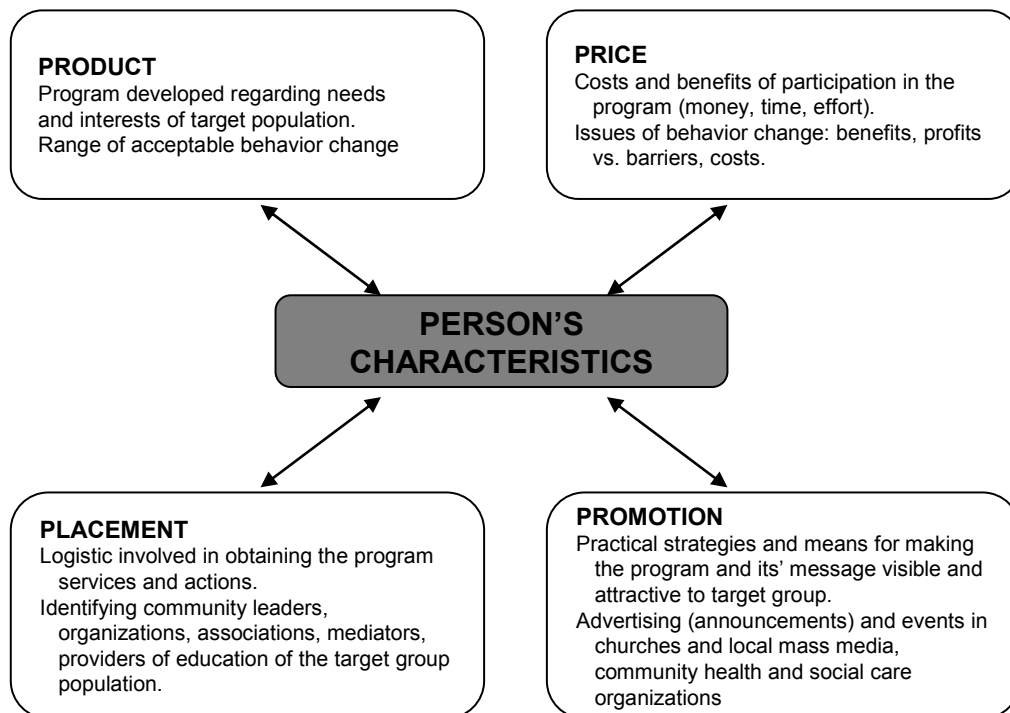


Figure 4. Application of marketing mix strategy to health education planning

Development of informative and persuasive communication is very important and ensures that the product (programme) is provided in an appropriate manner. Marketing process model (Novelli, 1990) is widely used as a framework for health (risk) communication in the programme. This model assumes:

1. to formulate programme objectives;
2. to employ and mix marketing approach;
3. to track response to the programme.

It takes into account what audience wants, needs, expects, their satisfaction/dissatisfactions.

The social marketing wheel defines 6 sequential stages (Lefebvre & Rochlin, 1997):

1. *Problem analysis*
 “Market” analysis of:
 - social context of the behaviour
 - available resources (human and financial)
 - other organizations involved (competitors analysis, coalition building)
 - target audience: socio-demographic and psychological characteristics, perceived benefits and barriers, mass media usage, important others, membership in community organizations, churches, etc.
2. *Planning the actions and strategies*
 Channels and materials, schedules, milestones, process and outcome measures, budget.
3. *Developing, testing, and refining elements of the programme*
 Qualitative research to pre-test, pilot testing, working with intermediary organizations, and providers’ training.
4. *Implementation*
 Managing and monitoring of key implementation elements in process evaluation.
5. *Assessing effectiveness*
 Development of effective management information system.
6. *Feedback to stage 1* (Figure 5).

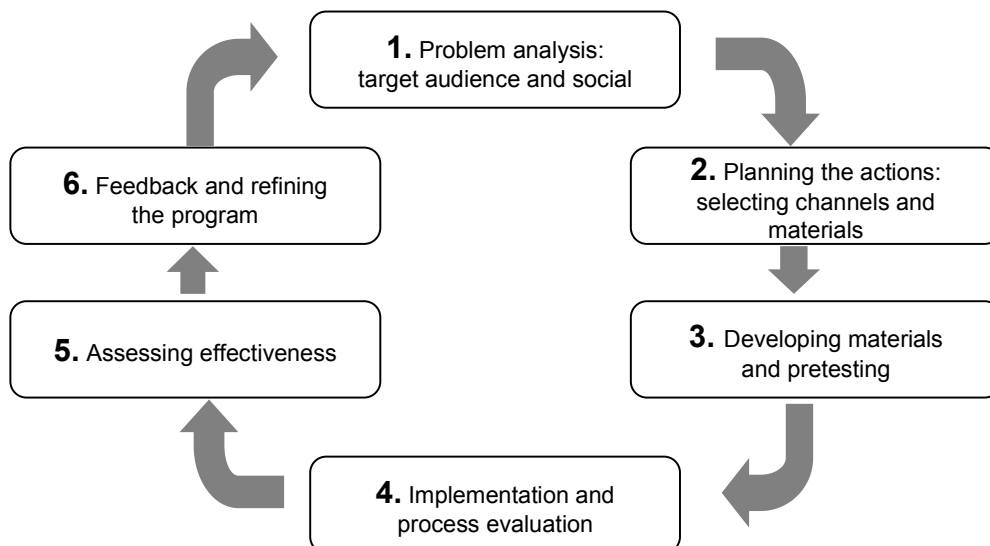


Figure 5. Social marketing wheel

Consumer-based Health Communications (CHC) is a strategic model for implementation (Sutton, *et al.*, 1995). CHC Model is an adoption of ROI (Relevance + Originality + Impact) process developed by Bill Wells (Wells, 1989), and underlines that planners should consider 6 basic questions in developing the programme message:

1. Who is the target audience, and what are they like?
2. Exactly what action do we want our target to take as direct result of experiencing the communication?
3. How will we support our promise to make it credible?
4. What communication openings and vehicles (channels) should be used?
5. What reward (benefits) should our message promise to the audience?
6. What image should distinguish the actions?

5.5. Relevance for CHANGE

Social marketing models and methods are extremely helpful in development of the informative and persuasive communication in process of behaviour change. Applying the social marketing approach to planning a community based education programme in healthy diet/nutrition and physical activity among elderly between 65 and 75 years, the following aspects should be considered:

- *Programme objectives:*
 1. to increase knowledge, changing awareness and risk perception, attitudes, self-efficacy regarding regular physical activity and healthy nutrition/diet.
 2. to develop skills and practices regarding appropriate healthy diet and regular physical activity
- *Analysis and segmentation of the target population*
 Target group: elderly age 65-75, women and men, with low and middle level of education, community living in the city and the village.

The study protocol should be developed based on theoretical models to collect needed data:

- conducting the in-depth interviews with older persons (focus groups) to collect information on: health promoting behaviours, beliefs and motivation to engage in behaviour change, preferred communication network, important other persons in health issues (key leaders of the community).
- establishing biological, psycho-social and economical factors influencing healthy behaviours (health status, including psycho-physical functioning; family status, social activity: organizations, associations, church; neighbourhood, income). Questionnaire interviewing might be applied for this purpose.
- *Message development based on collected information during in-depth interviews*
 Values, needs, interests, expectations, perceived benefits and perceived barriers to change the behaviour should be identified. Based on collected data, subgroups of older persons should be defined. Tailoring as a technique of individualising intervention message appropriate for each subgroup should be then applied.
- *Strategy/techniques*
 Strategies /techniques to advertise change of behaviour should be adjusted accordingly to certain subgroup.

- *Selection of communication and distribution channels*

Selection of communication and distribution channels reaching the target audience will be conducted. This maybe mass-media (print, broadcasts, articles in journals etc.), but, for example, regular contact with health professionals has been recommended as the best channel in the nutrition education intervention of older adults (Sahyoun *et al.*, 2004)

Medical and community organizations and other places, included commercial organizations, should be defined as the best organizations to advertise health promotion messages for older people.

Intermediary groups (such as health departments of local government, local senior service organizations, health and social service professionals, religious organizations, nongovernmental organizations) may play supportive role and should be established referring to cultural context.
- *Planning and pre-testing of practical strategies and materials*

Educational materials (for example brochures/booklets with cooking recipes, training films with demonstrations, user's guidebook, educators' manuals, whatever will be developed should be tested in pilot study if it is understandable by older persons and educators.
- *Implementation of communication strategies*

Training sessions for educators/mediators will be performed. Informative and educative mass-media campaign to target audience will be conducted.
- *Evaluation of the programme*

Process and outcomes evaluation should be planned.

Process tracking system to deliver, monitor and adjust the programme actions (using measures: for example degree of participants' adherence to programme, attrition rate, and outreach).

Conducting knowledge, attitude and behaviour change survey (K-A-P change) in healthy diet/nutrition and physical activity assessed by pre- and post-intervention evaluation method (to measure knowledge, behavioural, biochemical, anthropometric and physical fitness changes). Type of measurement should be established during the study-planning phase.
- *Feedback information*

Obtaining feedback information to refine and improve the programme

Social marketing provides a useful framework in methods and strategies within programme planning, development, implementation and evaluation in changing health related behaviours. It shows that the effectiveness depends on:

- how well the target audience is known, understood and listened to;
- how well barriers and benefits of new behaviours are strategically addressed and communicated;
- how well programme components are integrated, monitored, and managed.

Social marketing provides good foundations for effective health education programme planning by pointing at careful analysis of needs, interests, values and concerns of target population.

Regarding planning of health education programme to define the population there should be conducted in-depth interviews (for example focus group interviews) to gather qualitative information about their experience, routines, topics they are interested, attitudes, awareness and risk perception related to the behaviour, and best sources to be used.

6. CHARACTERISTICS OF ELDERLY PEOPLE IN EUROPE

This chapter depicts demographic aspects, socio-cultural scenarios, social developments, structural indicators on health (mortality, morbidity) nutrition issues and also underlines the importance of physical activities.

Considering the various difficulties of actions to minimise ageing problems – such as different cultures and norms, available information, economic factors, social developments, patterns of mobility and transport, etc. – this chapter attempts to make the planners of co-ordinated programmes of action more sensible for issues of ageing. The main objective of this chapter is to give a comparative overview about health-related indicators and ageing problems in some of the EU countries. A comparative analysis facilitates a better understanding of each specific situation and it helps to a better co-ordination of programmes of action to improve public health system.

6.1. Introduction

Sociodemographic change and mobility trends affect home care needs. The proportion of elderly people in the general population is increasing in many European countries and is predicted to rise still further in the coming decades. The numbers and proportion of older people in the population are growing because of decreasing birth rates and increasing life expectancy. By 2014, there will be more than 33% people aged 80 and more in the present EU than there were in 2004.

In the coming decades, global estimates show an increase in age groups with over 50 years. In all industrialised countries mortality rates, except those related to infectious diseases, have been reduced due to: 1) social factors (the improvement of diet, lifestyle and health and hygiene conditions, of prophylactics and prevention); 2) care factors (access to the entire population to hospital, outpatient and pharmaceuticals care); 3) facts (such as disappearing of endemic disease).

In 1950s, worldwide the elderly accounted for 8%, in 2030 will be approximately 1 billion and in 2050 in Europe the elderly population will reach 24%. According to the estimates of incidence of the population with at least 80 years of age, in Europe and North America the population in coming decades will account for 10% of the total, against a world average of 4%.

Life expectancy has risen sharply in the WHO European Region in the last few decades. This will mean increasing rates of care-dependent older people. These changes in needs and social structure require a different approach to health and social sector policy and services, since a disease oriented approach alone is no longer appropriate.

The changing of the traditional family structure and other sociological trends, such as urbanisation, complicate the situation. Family groups are often intact in rural areas, with many generations living in a household and family members taking care of the older or disabled family members. Urban communities are different, with small family units, limited living space and the younger generations often moving away from their families because of work commitments.

The individual differences found in any human group appear to increase with age. People are influenced by their experiences throughout life and their opportunities or lack of them, and the differences observed in groups of younger people therefore often become more pronounced as they grow older. Thus, the oldest population segment is the least homogeneous.

Older people have diverse needs, especially given differences according to sex, ethnicity and culture. We must recognise these differences and deal with them. The considerable research in this field shows certain sex differences that highlight the diversity of older people and their needs.

All these factors increase the likelihood of today's and future generations needing additional care that their relatives are unlikely to provide.

6.2. Definitions of old age and ageing

Old age can be considered as a disorder of the self-regulation system in organism and a destroying process, when adaptive features of the organism are decreasing and the chance of death is increasing. According to WHO, most developed world countries have accepted the chronological age of 65 years as an "arbitrary" definition of 'elderly' or older person (see <http://www.who.int/healthinfo/survey/ageingdefnolder/en/index.html>).

Long living people in the different countries are treated differently: in USA they are considered those older than 80 years and in European countries those older 90 years. In gerontology the problem of the longevity is seen as the most interesting and the most important. This topic is interesting for different people: gerontologists and geriatric medicine doctors, organizers of the health and social security, society, media (Čiobota *et al.*, 2003).

Gerontologists have determined that the phenomenon of the longevity is a result of the physiological ageing, when senile metabolic and functional changes are not so intense and when there is a development of the adaptation opportunities and adjustment mechanism. It is thought that adaptation opportunities of the organism of long livers are broader and increasing resistance to effect of the unfavourable environmental factors and different other contributors. Recently it is generally called in the scientific literature as successful ageing (Čiobota *et al.*, 2003).

Ageing is a natural process and its culmination is biological death that ends life of the human. Despite this, biological age is not always equal to real, factual age. Each of us has two ages: calendar age and biological age that shows how a person is feeling and how old he/she is actually. In order to prolong biological age it is necessary to return to the principles of a healthy lifestyle: ensure healthy nutrition, regular exercising, decrease stress and have high quality leisure. On the other hand, people are ageing differently.

Features of the ageing determine different lifespan that is typical for the various sorts of organisms. Considering occurring of the obvious ageing signs during particular period of the life, following three types of the aging are noted: normal, accelerated and premature. The most often type of the aging is normal aging that begins after fertile period of the life. Very rare premature (before the maturity) and accelerated (earlier and faster than normal) aging is conditioned by genetic factors.

Since the 1950s, the phrase "successful ageing" has been used increasingly to represent the factors and conditions underlying healthy elderly. The use of successful ageing as an identifier phrase for the healthy elderly began in the 1950s and slowly gained in popularity until its use exploded in the first decade of the 21st century.

"Quality of life" (QoL) in older people is not synonymous of functional ability, ability to perform a number of routine activities of daily living, good health or property. However, there are a number of other contributory factors strongly influenced the QoL, with different relative importance for different individuals. Due to co-morbidity usually present in older people, the impact of a specific disease on the QoL is hard to assess. The overall QoL includes non-medical aspects such as financial resources, family relationships and spiritually. It depends crucially on

the perspective of the older adult and may be influenced by the personal, social and cultural circumstance in which older people live (Čeremnych, 2003).

As a multidimensional reality of life, ageing is difficult to define. The National Institute on Ageing (USA) states “in its broadest sense, ageing merely refers to changes that occur during the lifespan”. The WHO defines ageing as “a process of progressive change in biological, psychological and social structure of individuals”. From a biological standpoint, ageing is often used synonymously with the term senescence, defined as “a biological process of dysfunctional change by which organism become less capable of maintaining physiological function and homeostasis with increasing survival”. Collectively, these definitions and other reflect the difficulty in defining ageing precisely (Franklin & Tate, 2009).

6.3. Demographic aspects

The population structure within European region countries is changed during last decade. In particular, the proportion of old people is increased, resulting in an ageing population profile. In Europe, the 25 EU countries* have 18.2 million inhabitants aged 80+, which is 4% of the total population. In 2014 the corresponding number will be 24.1 million (5.2%). About one-third of Europe population will be aged 60 or over in 2025, with a particularly rapid increase in those aged 80 years and older. The number of older people aged 65-79 has increased significantly since 2000 and it is expected to increase until around 2050 (Figure 6).

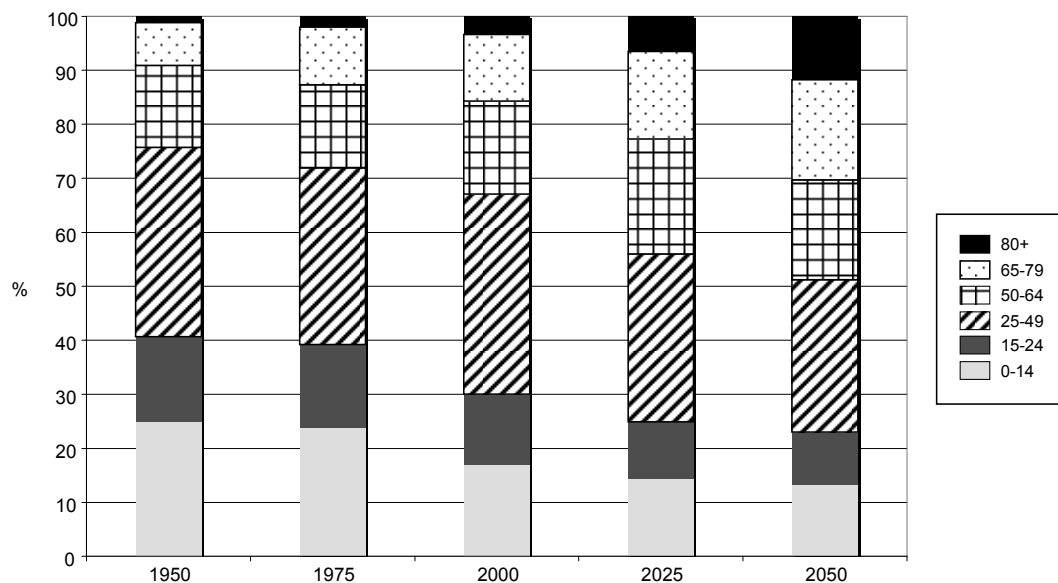


Figure 6. Population distribution in EU 25 by age group (1950-2050)

* EU members (and when they joined) are: Belgium, France, Germany, Italy, Luxembourg, Netherlands (1952); Denmark, Ireland, United Kingdom (1973); Greece (1981); Portugal, Spain (1986); Austria, Finland, Sweden (1995); Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia (2004); Bulgaria, Romania (2007). In this context we refer to the period previous 2007.

In 2008 live in EU more than 470 million people, 17.1% of them aged over 65 years. Therefore more than 80 million people live last period of their life often in bad conditions (see http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/a_to_z).

According to the European Commission *Green paper – Confronting demographic change: a new solidarity between the generations*, Europe has the world's highest proportion of older women. Today there are approximately three women for every two men between the ages of 65 and 79, with over twice as many women over the age of 80 (Figure 7)

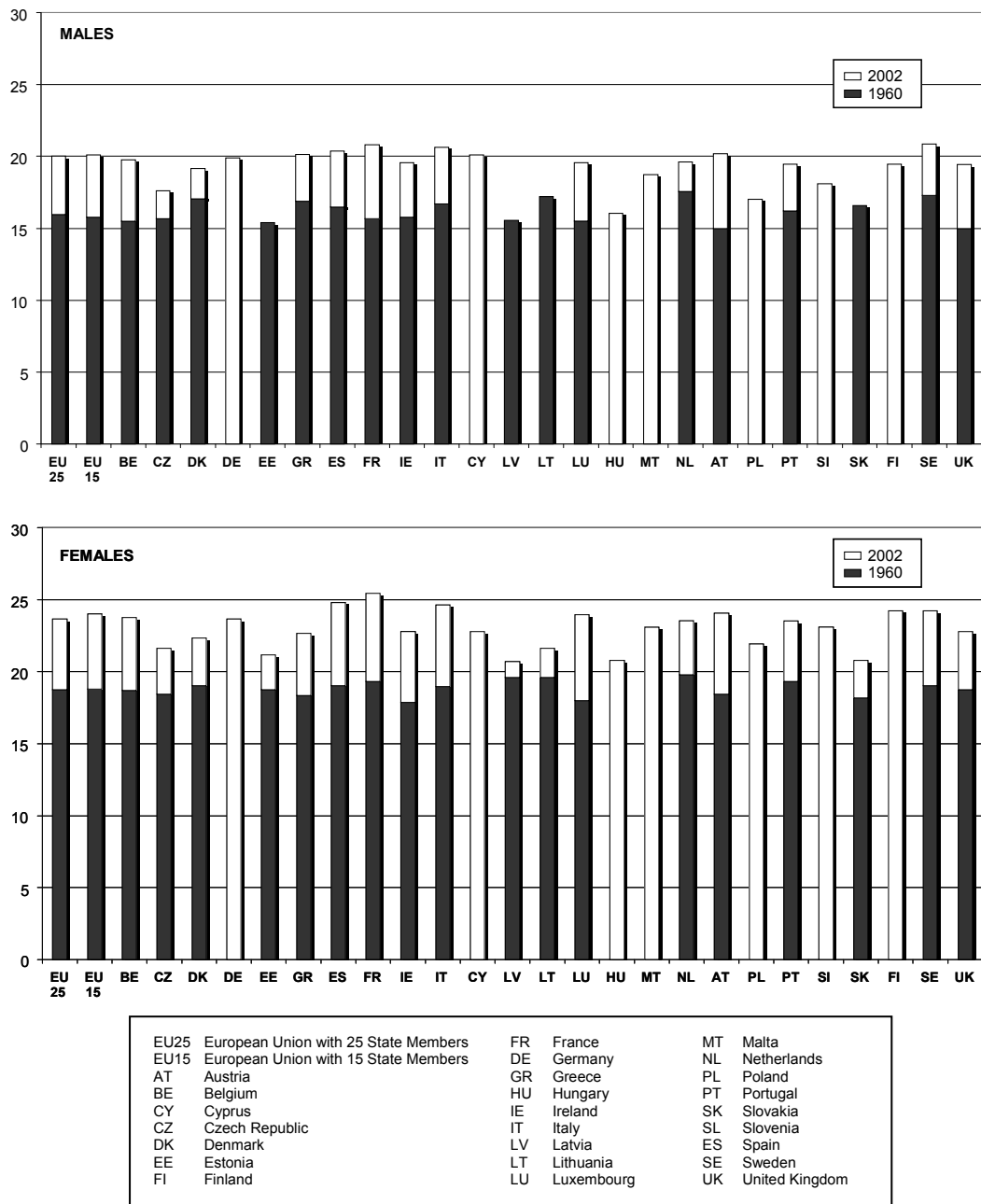


Figure 7. Life expectancy at the age of 60 (1960-2002)

Moreover, the socio-demographic situation appears very different within the member countries. Alongside “elder” countries like Italy and Germany where approximately 1 in 5 is over 65 years, there are countries like Ireland where 1 in 10 is in this situation.

In particular, among the active members of the project CHANGE, the situation is quite different ranging from Italy, which counts 11.7 million of elderly – equal to 19.84% of the resident population – from Poland where the elderly are just over 5 million – equivalent to 13.35% of population (Table 2).

Table 2. Population aged 65+ years in the 5 Member Countries of CHANGE

Countries	Population	Population aged 65+ years	
		%	<i>n.</i>
Italy	58,941,500	19.84	11,693,994
Spain	43,398,192	16.75	7,269,197
Poland	38,132,276	13.35	5,090,659
Austria	8,281,948	16.69	1,382,257
Lithuania	3,394,082	15.45	524,386
Total	152,147,998	17.06	25,956,448

Overall this is a volume of over 25 million people in 5 countries members of the project CHANGE representing approximately 17% of the total population – these figures are from the European Health for All databases, a central database of information on health in the WHO European Region (WHO-HFADB, available from: <http://www.euro.who.int/HFADB>).

In addition to a static view, a dynamic reading can help to clarify the picture. The increase of the population over 65 years old in the 1990-2006 period was not homogeneous, and, in some countries there has been a sort of opposite direction as the percentage of elderly was even reduced: -10% Norway, Denmark -4%, Sweden and Ireland -3% (WHO-HFADB). On the other hand, there are countries where the process of ageing seems relevant such as: Armenia (+76%), Albania (+49%), Azerbaijan (+44%), Montenegro (+44%), but also Croatia (+43%) and Slovenia (WHO-HFADB).

In the 5 countries of CHANGE project, those with the largest growth in aged population is Lithuania (+37%) followed by Italy (+32%), Poland (+29%), Spain (+22%) and Austria (+9%).

In general 3 situations can be defined (Figure 8):

- *area A*

This area consists of countries where both the percentage of elderly people, and the growth rate are relatively small. These countries are “young”, and these in the short-medium period probably remain in this situation;

- *area B*

This area is also somewhat “static”, where there is a large ageing population (on average 15% of the total) but the variation has been reduced or even negative. These are relatively “elder” countries with high-income, that at least in the short to medium period does not appear to be subject to radical changes in the demographic structure.

- *area C*

This situation is more “dynamic”, where the proportion of elderly is significant and where the growth of this part of population was particularly high.

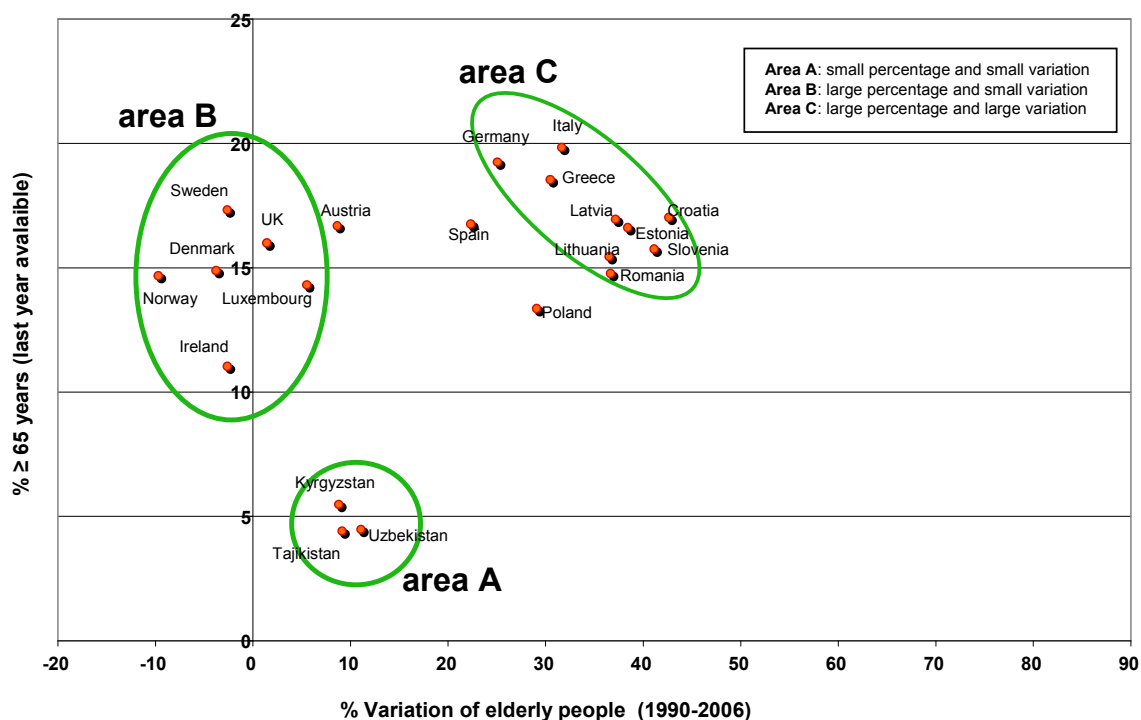


Figure 8. Elderly people in the WHO European Region: percentage and % variation

Although less relevant, there are differences in life expectancy to 65 years. Iceland, France, Italy, Norway and Switzerland are the countries where, at 65 years of age, the expected life exceeds 18 years. On the other hand there are Eastern European countries where life expectancy at 65 years is lower (Moldova, Russia and Ukraine 11 years, while Estonia, Latvia and Lithuania about 13 years).

In summary, there are countries where demographic changes are leading to an increased demand for home care. In these cases, improvements in lifestyle, food, disease prevention, standards of living and self-care activities are very important.

A widely used indicator to measure the ageing of the population of a country is the “ageing index” (ISTAT, 2008a), defined as the percentage ratio between the population older than 64 years and the population with less than 15 years. In 2005, Italy is the oldest country in Europe (139.9), close to Germany (136.2). The average value for EU indicates a basic balance between the two age groups (105.1).

In total, there are nine countries with an “ageing index” higher than the European average and, in addition to the two already mentioned, countries with high ageing index are Greece, Bulgaria, Latvia, Spain, Estonia, Slovenia and Portugal. Austria, Hungary, Belgium and Sweden are the countries for which the ratio is close to the value 100, i.e. a state of perfect balance between young and old. At the other end of the list, instead we find countries where the weight of age groups younger is relevant. In particular the country where this ratio is more favourable (54.2) is Ireland, where the ratio between young and old is basically of two to one. Among the

countries of significant population size that have a positive outcome for young people is also Poland (82.0), France (87.3) and the United Kingdom (89.7).

A consequence of the sharp increase in the elderly population is the emergence of a generational imbalance. A suitable indicator to measure this characteristic is the dependency index (ISTAT, 2008a), calculated as the ratio of the population in active age (0 to 14 years and 65 years and over) and the population of working age (15 to 64 years). This ratio, which is usually multiplied by 100, measures the social and economic burden of theoretical population

Values above 50% indicates an imbalance between generations because it means that the population of working age, besides having to meet their own needs, in theory must also deal with a large proportion of the not active population. In the European context, Italy is one of the seven countries where the dependency ratio exceeds 50%.

Only 9 of the 27 EU countries have higher than average values. Italy, with a value of 51.1%, is in fifth place ranking, behind France (53.4%), Sweden (52.8%), Belgium (52.2%) and Denmark (51.2%). Among the countries with values below the European average there are Ireland (46.2%) and Spain (45.3%). Finally, Poland, the Czech Republic and Slovakia enclose the list with the lowest values close to 40%.

Ageing of the population is a phenomenon of the 20th century. It is most evident in Europe (Lesauskaitė, 2001). Rapid ageing of the population is a world-wide problem. The world's elderly population is estimated to be around 673 million at present and this means that one of ten persons aged 60 years and older (Table 3) (Department of Economic and Social Affairs, 2005).

Table 3. Size of world elderly population (60+) by regions (in thousands)

Regions	1995		2000		2005	
	<i>n.</i>	%	<i>n.</i>	%	<i>n.</i>	%
Africa	36,016	5.0	41,558	5.1	47,416	5.2
Asia	280,716	8.2	322,412	8.8	364,861	9.3
Europe	138,446	19.0	147,734	20.3	150,591	20.7
Latin America and Caribbean	36,197	7.5	42,320	8.1	49,340	8.8
Nothern America	44,447	16.2	51,137	16.2	55,584	16.8
Oceania	3,660	12.7	4,071	13.2	4,594	13.9
World	543,482	11.4	609,242	11.9	672,386	12.2

Population ageing is a complex phenomenon, evocative of different social and economical consequences. Efforts are made in the world in order to avoid problems occurring because of the population ageing, and also to use new opportunities that are revealed by the lengthened employable age of the population. The main demographical indicator that characterizes ageing process is a proportion of the older people in the society.

The concept of old ageing is multi-layered. It is based on the biological ageing of individual and is a development stage of human organism function abilities when in the mature organism degeneration processes begin to occur. Interpretations of this concept are relevant to the old age images determined by the different cultures. In one places status of the ageing person is increasing, and in other places social value significantly decreases. It is also influenced by past economical situation and state of the person. S. Mikulioniene marks three aspects of the human development: physical, social and psychological. But these aspects are not determined by some age. Both scientists and everymen still don't agree how precisely this stage of age should be named,

so different terms can be found in the literature and everyday life: pensioners, seniors, the aged, the elder, grandparents, etc. (Stankūnienė, 2003).

Increasing longevity, being an achievement of modern civilisation in itself, at the same time suggests new problems to the western society which does not keep up with the needs of its ageing population. Old age is seldom recognised as a developmental period of equal value with the others. Rather, it is considered as a time of preparation for death. Stereotypical images and ageist attitudes are supported and propagated by mass media. Misinterpretation of scientific research data may also enforce the discriminating attitude. The perspective of successful ageing is grounded on health education and training groups for the elderly, restoring or preserving some functions and health status. This is one of the ways to improve the quality of life and to destroy ageist prejudices in this as well as in other age groups (Sargautytė, 2000).

A healthy balance between an individual's capacity and his or her goals embraces the process of adaptation to and acceptance of changes in the life situation. Healthy ageing is also dependent to a large degree on autonomy, which essentially reflects the fact that older people have the right to self-determination. Older adults' autonomy can be promoted by challenging restrictions and limits imposed by the community, family and older people themselves, such as constraining freedom of choice by withholding information older people require making their own choices. Autonomy allows individuals the opportunity for self-realisation and development (Oloffson & Berensson, 2009).

By 2050, the number of people in the EU aged 65 and above is expected to grow by 70% and the number of people aged over 80 by 170%. This raises important challenges for the 21st century: meet the higher demand for healthcare; adapt health systems to the needs of an ageing population while keeping them sustainable in societies with smaller workforce. The rising costs of healthy and social support systems for an ageing population will become unsustainable without proactive steps to create individual and environmental changes that promote successful ageing. Unfortunately, many older adults do not currently have a healthy lifestyle and are at risk for poor health outcomes, including chronic illnesses and mortality (Chodzko-Zajko *et al.*, 2009). Therefore the key challenge will be to promote healthy and active ageing for European citizens. More years in good health will mean a better quality of life, more independence, and the possibility to remain active. An ageing population in good health will also mean less strain on health systems and fewer people retiring from work due to ill health. This would have a positive impact on Europe's economic growth.

A major factor behind global ageing and the increased life expectancy observed in most countries has been the impressive advances in public health practices and policies that have greatly reduced premature death through the control of previously fatal infection diseases. During the past century, the impact of infectious diseases has gradually declined, and Non-Communicable Diseases (NCDs) are rapidly becoming the leading causes of morbidity, and mortality in all regions of the world. This increased burden of NCDs is disproportionately born by older adults who experience an increased relative risk of developing and ultimately dying from numerous chronic conditions, including cardiovascular disease, type 2 diabetes, obesity, and certain cancers. Longitudes studies confirm that lifestyle and environmental risk factors explain approximately 75% of the occurrence of coronary hearth disease as well as numerous other chronic disease and conditions. It is now well documented that major NCDs share common preventable lifestyle – related risk factors that are both biological (unhealthy diet, physical activity, smoking, and alcohol abuse) and behavioural (hypertension, obesity, and dyslipidemia). Moreover, social, economic, and environmental determinants of health are additional factors that can be linked with NCDs; among these there are: education, availability, and affordability of healthy food; access to health services; policies and infrastructures supporting a healthy lifestyle (Chodzko-Zajko *et al.*, 2009).

The EU is actively supporting Member States in their efforts to promote healthy ageing with initiatives to improve the health of older people, the workforce, children and youth; and to prevent diseases throughout life. In addition, the EU takes action to improve the living conditions of elderly people (see Health – EU portal of European Commission, available from http://ec.europa.eu/health-eu/my_health/elderly/index_en.htm).

6.4. Socio-cultural scenario

The ageing problem that affects mainly the industrialised countries is linked with another important trend: the estimates provide, in fact, that, by 2025, approximately 54% of the population of developing countries will reside in urban areas (Osservatorio Terza Età, 2006). The rapid growth of urbanisation along with the massive immigration of large sections of the population towards the richer countries will result in an increasingly multicultural social context.

The identification of migration flows has radically changed and will change more and more the socio-cultural composition of the industrialised countries and this is mainly due to certain processes, in addition to those mentioned above including, for example:

- internationalisation of economies,
- technological change linked to the growing intensity and dynamism of the flow of information conveyed through the mass media,
- emergence of new social actors caused by international migration flows not only from the South, but in recent decades, from East;
- globalisation of problems related to the development of a new reality that becoming global.

There are many problems connected to the “elder immigrant”. The social and anthropological literature has emphasised the linkage between the symptoms of disease with his/her own culture and the respective symbolic-interpretative schemes. The same disease can manifest itself in different ethnic groups, with different symptoms. These are the so-called culture-bound syndromes that recently seem to occur in countries of recent migration, e.g. Italy and Spain (American Psychiatric Association, 1994).

Which are the conditions that facilitate the exchange with people from different cultural areas in order to avoid the inevitable misunderstandings and dissatisfaction?

From a socio-cultural context we must also consider that the processes of globalisation make the country more and more homogeneous determining, therefore, behaviour patterns, lifestyles and consumption poorly differentiated. Ethnic and cultural differences are often obstacles in a relationship, but in the case of elderly immigrants these problems become greater.

Another important factor related to urbanisation and migration is the abandon of countryside (or even of their country) for the younger subjects in order to seek employment, to go towards the large urban settlements. The elderly are left alone with all that can result in psychological consequences of such a socio-cultural change.

According to Organisation for Economic Co-operation and Development (OECD) and International Monetary Found (IMF) estimates, the progressive ageing of the population will have consequences on both the socio-economic structure and some areas of daily life. Among these, the increase of consumers, compared to the number of workers, will lead to a decline in living standards; there will be an increase in the tax burden by cutting expenditure. Health and welfare of older, therefore, will be at the heart of the debate and policies of prevention.

In this scenario, what are the most effective ways to advertise for an elderly healthier lifestyle, with exercise and proper diet given the limited economic wellbeing and any psychological problems?

In the international field, the proposed suggestion – drawing attention to the need for structural interventions in the sense of family support of older and larger social network, formal and informal – seems appropriate

A recent report of WHO (WHO, 2008a) demystifies some stereotypes (12 in all) on the ageing process. Most problems related to these can easily find a solution thanks to a change in lifestyles and correction of some factors of development of social, physical and professional (Ageing means sickness, disability and dementia; older people are a burden on society; people stop learning once they reach 60 years; older people do not understand new technologies; older people are isolated and lonely).

6.5. Structural indicators on health

The standardised mortality rates can be considered as a first structural indicator of health, which helps to identify the scenario of public health of countries.

This indicator is linked to other indicators already described, as life expectancy and is also linked to another indicator that we describe after (the years of expected life in good health).

In terms of standardised mortality rates, the situation is very different: we can observe the lowest rates in Switzerland (496 deaths per 100,000 inhabitants), Italy (517), Iceland (520) Spain (532) France (539) and Sweden (547). Mortality rates are highest in Latvia (1113 deaths per 100,000 inhabitants), Lithuania (1,091) Bulgaria (1,046), Romania (1,026) and Macedonia (1,007). These rates are on average twice of those of countries with lower mortality, which means that with the same demographic structure (i.e. neutralising the confounding effect of different composition of the population regarding age and sex), in this last group of countries, the mortality for all causes of death is twice that of the more “healthy” countries (see WHO Statistical Information System –WHOSIS, available from <http://www.who.int/whosis/en/>).

Table 4 reports some health indicators related to the 5 countries in the CHANGE project. In expected healthy years at 65, there are not clear gender differences among the countries if years are shown in absolute values. The proportion of healthy years in the total expected life is generally higher among males and on average is equal to 1/3 of total life expectancy to 65 years in Austria and Lithuania and over 50% in Italy, Spain and Poland.

Table 4. Selected health indicators in the 5 Member Countries of CHANGE*

Countries	Standardized mortality rates (per 100.000 inhab.)	Healthy life years at 65			
		Male		Female	
		n.	% of total life expectancy	n.	% of total life expectancy
Italy	516.7	9.4	62.3	9.7	54.9
Spain	532.3	9.9	53.6	9.4	41.4
Austria	581.3	7.0	38.7	7.5	31.9
Poland	841.3	7.2	57.2	8.1	53.7
Lithuania	1091.0	5.8	39.2	5.2	24.4

* for each country the figures of last year available are given

Mortality is internationally coded with the ICD (International Classification of Disease), arrived today at revision number 10. However not all countries used this revision and in those who have recently introduced the 10th revision the coding system shows some problems. In Italy, for example, the bridge coding between ICD9 and ICD10 for the same year of death in some cases, such as accidental falls, shows relevant differences.

To allow a homogeneous comparison was analysed mortality in some European countries, coded according to ICD9. This also allowed an easier aggregation of data because ICD10 uses a much more detailed classification, difficult to manage. Using ICD9 coding the negative aspect is related to the fact that the data of the countries are not very recent and relate to different years (from 1995 in Norway and Finland to 2006 in Greece and Ireland).

However, the pattern of mortality is not so changed during this period and this seems an unimportant issue that does not prevent comparisons between nations.

For all countries in the European region the principal causes of death for elder are circulatory diseases and malignant neoplasms, together accounting for two-thirds of all deaths, among both genders (WHO, 2008b). Within the group of circulatory diseases, ischaemic heart disease accounts for one in six of all deaths, and cerebrovascular disease for about one in ten.

In detail, in all countries the main cause of death are diseases of the circulatory system, ranging from 35% of all death in France to 75% in Romania. The second cause of death is neoplasms, ranging from 11% in Romania to 26% in Italy and Ireland. Italy (but also France with 24%), have a very high percentage of neoplasms also because life expectancy in these countries is particularly high and therefore neoplasms, chronic degenerative diseases, have more time to emerge (WHO, 2008b).

In all of the countries, the third cause of death for the persons over 65 are diseases of the respiratory system, ranging from 3% in Bulgaria to 19% in the United Kingdom. It is necessary to underline that a lot of these deaths, especially those of the circulatory system, are physiological because the mean age to death of these subjects is very high (typically more than 75-80 years old). For example, in Italy, where the main causes of death are diseases of the circulatory system, the median age at death is 79 years old (i.e., half of people dies before 79 years old, but half dies after this limit). Yet, these causes of death often simply hide “deaths for old age”.

Indeed, neither the ICD9 nor ICD10 provide a code of death “for ageing” and therefore in many cases is attributed the cause of death closer to reality: for example if because of old age the heart is stopped due to natural death will still be coded as diseases of the circulatory system. These deaths are often not easily preventable because physiological.

For injury the situation is different. Excluding the generic category “symptoms, signs and ill-defined conditions”, injuries are the fifth leading cause of death among people over 65 in all countries of Europe and even the fourth in Lithuania and Norway, with death rates ranging from 1.3 in Greece to 5.2 in France, where suicide is a very serious problem. Although people over 60 years of age make up 18.6% of the population, they account for 28.2% of injury deaths. The ageing population of Europe implies that the injury problem is likely to increase. People aged 65 years of age and over are more likely to be injured because of various medical problems and impairments of vision, gait and balance; their injuries are more likely to be severe because of osteoporosis and frailty, and once injured they are more susceptible to fatal complications and longer illness because of their diminished recovery capacity. Falls are a particular problem, and older people who experience them, as well as other injuries, have longer hospital stays and high mortality rates (see WHO Statistical Information System–WHOSIS, available from <http://www.who.int/whosis/en/>).

6.6. Nutrition

In Europe six out of the seven most important risk factors for premature death (blood pressure, cholesterol, body mass index, inadequate fruit and vegetable intake, physical inactivity, excessive alcohol consumption) relate to how we eat, drink and move. A balanced diet and regular physical activity, along with restraining from smoking, are important factors in the promotion and maintenance of good health. Moreover, it is those with lower incomes and education level that are most affected.

Overweight and obesity are increasing at an alarming rate in Europe. Obesity is one of the most serious public health problems in Europe because it increases significantly the risk of many chronic diseases such as cardiovascular disease, type 2 diabetes and certain cancers. Nowadays, these diseases represent the biggest burden of diseases and are the leading cause of mortality in Europe as well as world-wide. The increase of childhood obesity is particularly worrying. Lifestyle factors, including diet, eating habits, levels of physical activity as well as inactivity, are often adopted during the early years of life. As childhood obesity is also strongly linked to obesity in adulthood, the best time to address the problem is early in life.

Maintaining normal weight is challenging. There is an abundance of energy-rich food that is often poor in nutrients, and a decreasing of needs and opportunities for physical activity both at work and at leisure time. The food portion sizes grow year by year, even though people actually need less and less energy due to the shift towards sedentary lifestyles.

The European Commission is aware of the seriousness of this problem. Nutrition, physical activity and obesity are key priorities in the EU public health policy and are taken up by the public health action programme 2008-2013 (see Health – EU portal of European Commission, available from http://ec.europa.eu/health-eu/my_health/elderly/index_en.htm)

It is of utmost importance in nutrition requirements for elderly people that the energetic value of consumed food should correspond to energy level losses. It is very important not to eat much, to choose food products which can lower the level of cholesterol, to eat more fruits and vegetables, to avoid canned food, to limit the amount of salt, for it increases blood pressure. Food must look and smell good, because elderly people often lack appetite. They should eat slowly, in small amounts, regularly 4-5 times a day (Mereckas & Petkevičienė, 2000).

Ageing is generally associated with an increase in chronic diseases, such as cardiovascular disease, diabetes, cancer and osteoporosis. It is become clear that it is possible to prevent, slow or reverse the onset of many of these by modifying lifestyle factors such as diet. Studies on older adults in a range of countries have highlighted a number of areas in which dietary quality could be improved. It is important to identify dietary patterns in addition to specific dietary components that offer protection against chronic disease. The challenge in the area of diet and healthy ageing is twofold: first, there is a need to improve the diet of older adults; and second, as most chronic diseases begin earlier in life, there is a need to encourage other age groups to adapt their diet so they can enter old age in better health (McKecith, 2005).

6.7. Physical activity

For people of all ages, physical activity improves the quality of life in many ways. Physical benefits include improved and increased balance, strength, co-ordination, flexibility and endurance. Physical activity has also shown to improve mental health, motor control and cognitive function. Active lifestyles provide older persons with regular occasions to maintain social networks, and interact with other people of all ages. Improved flexibility, balance, and

muscle tone can help prevent falls – a major cause of disability among older people. It has been found that the prevalence of mental illness is lower among physically active people.

While analysing the beneficial effect of physical capacity and physical activity on human health it should be stressed that:

- active physical performance (in particular individually selected and methodically adjusted programmes of physical exercises);
- influence physical capacity – one of the main components of health – and thus mitigate health risk factors;
- exert a positive effect on the main specific components of physical capacity;
- slow down their age related decay;
- help to retain activity and self-efficiency in advanced age.

A dynamical deterioration on physical capacity, especially in advanced age, helps in solving more efficiently the health – related problems such as not only evaluating the functional possibilities of the organism, but also elucidating the degree of exposure of a subject to health – threatening factors, as well as in correcting these factors by means of physical activity and other elements of a healthy way of life. Therefore medical doctors should help the elderly to realise the importance of physical activity and health related physical capacity, to explain the meaning and use of these good health related dimension in advanced age and help them to remain active and healthy as long as possible. In this way not only the elderly could meet a number of everyday life and other problems, but also a rather considerable part of society could preserve better health and thus reduce the costs of treatment and care-taking (Gaigalienè, 2001).

The benefits of physical activity can be enjoyed even if regular practice starts late in life. Common diseases among older people are diabetes, cardiovascular disease, arthritis, osteoporosis, and hypertension. Physical activity can also contribute greatly to the management of some mental disorders such as depression and Alzheimer's disease. While being active from an early age can help to prevent many diseases, regular movement and activity can also help to relieve the disability and pain associated with these conditions. Organised exercise sessions, appropriately suited to an individual's fitness level, or simply casual walks can provide the opportunity for maintaining ties with the community, reducing feelings of loneliness and social exclusion. Physical activity improves self-confidence and self-sufficiency – qualities that are the foundation of psychological wellbeing. As for people of all ages, older persons should take part in physical activities they enjoy the most. Walking, swimming, stretching, gardening, hiking and cycling are all excellent activities for older persons (WHO, 2002).

According to WHO, optimal (good) health is not absence of the illness only, instead it is also well-rounded physical, mental and social health. From this point of view health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (Franklin & Tate, 2009). In 1990 European Council Sport Development Committee and Coordination Group of EUROFIT (Europe physical fitness test) have also emphasized an attitude that health should be determined not by absence of illness only, but also by other dimensions. It should be described as state providing opportunities for the person of any age to live in an active way and to sustain own functional independency after becoming old. Thus health is a state of individual and it is determined by the physical, social and psychical dimensions (Gaigalienè, 2001).

A particularly important component of health is physical fitness (i.e. an ability to perform physical work in a satisfactory way) and it can be traditionally associated with particular professions and sport activity. It shows performance of the muscles (in daily home tasks, during active leisure), and is especially associated with functional opportunities of the individual. So it can be described as a set of characteristics of the human organism functional fitness that enables to participate in physical and other activity in general.

As a person is ageing, proportion of the fatty tissue is gradually increasing, power of the muscles is weakening, mass of the muscle, density of the bones, water proportion in the organism are decreasing, flexibility, balance and reaction are becoming worse.

Intensity of the decline of muscle mass, muscle strength and sustaining power of the elder conditioned by age is also influenced by other factors, such as pathology of the skeletal muscle, chronic illnesses and their medical treatment and also by accumulation of medicaments in the organism, irrational, inadequate nutrition, physical inactivity etc. (Gaigalienè, 2001).

Although no amount of physical activity can stop the ageing process, a moderate amount of regular exercise can minimise the physiological effect of an otherwise sedentary lifestyle and increase active life expectancy by limiting the development and progression of chronic disease and disabling conditions. Ideally, exercise prescription for older adults should include aerobic, muscle strengthening, and flexibility exercises. Individuals at risk for falling or mobility impairment should also perform specific exercises to improve balance. The intensity and duration of physical activity should be low at the outset for those who are highly deconditioned, are functionally limited, or have chronic conditions affecting their ability to perform physical tasks. All older adults with and without disabilities should be encouraged to develop a personalised physical activity plan that meets their needs and personal preferences (Chodzko–Zajko *et al.*, 2009).

6.8. Relevance for CHANGE

The scenario described briefly shows a situation where the elderly people are in overall good health, with a long life expectancy and most of that expected in good health. However, the progressive ageing of the population urgently requires a comprehensive approach to the problem of older in modern society. The reduction of mortality and morbidity, including through improving the quality of life of the elderly person, will also help to lighten the workload of social and health services.

Action to reduce ageing problems may vary enormously, depending on the cultures and norms in a country, as well as the available information, economic factors, social developments and patterns of mobility and transport. Planning for a co-ordinated programme of action should take into account all of these factors.

A key public health principle is to take action based on the best available evidence. Taking action based on one particular type of research evidence could be ineffective: one must review many different types of evidence and select the best such as participation in physical activity and having a correct diet.

7. INTERACTION BETWEEN MEDIATORS AND ELDERLY PEOPLE

It is difficult to define what the variables affecting the interaction between mediators and elderly people are, since the nature of the interaction depends on who the mediators are (doctors, social workers, physiotherapists, nurses, volunteers, etc.); and under what circumstances they interact. This chapter is a general map which allows to know the state of the art in some central aspects and lines of work which can help to visualise areas of investigation as well as enhancing the CHANGE project. When we talk about the interaction between public health and elderly people, we are clearly entering the field of health communication.

Health communication is a type of human communication linked to the way in which people in society think about staying healthy. It focuses especially on the exchanges between professionals in healthcare and the users of the healthcare system. These can be verbal and non-verbal, oral or written, personal or impersonal, focused on uses or focused on relations, amongst many others (Juárez, 2009).

Northouse (Northouse & Northouse, 1985) propose that health communication is characterised by being transactional and multidimensional:

1. It is transactional because it implies that the communication between two individuals involves a reciprocal influence. Every individual is at the same time sender and receiver. Person A constructs a message for person B; A is receiving messages from B, which influences in how A formulates his or her message. This transactional approach demonstrates the simultaneous inter-game between the issuer and the receiver of the message.
2. It is multidimensional, as it happens on two levels. A level can be characterised as the dimension of content and the other as the dimension of the relation (Watzlawick *et al.*, 1971). In human communication these two dimensions go intrinsically together.

Another aspect to bear in mind is that the health communication happens not in one, but in diverse contexts of human communication: on the level of mass media, in public communication (Hornik *et al.*, 2002) in organizational contexts, with small working groups, in interpersonal contexts, including variable contexts which directly affect the professional-professional interaction, professional-client interaction, in intrapersonal contexts referring to the thoughts, beliefs, feelings and conversations about the uses of health which have a lot to do with behaviour.

Nowadays, one of the tendencies of health communication is the search for medical information on the Internet; the patients developing this practice are referred to as connected, Internet-positive, e-literate consuming, e-literate patients (McLellan, 2004). Some doctors are opposed to this tendency since they think that the information available on the network will make people believe they can solve their own health problems. Others, on the other hand, welcome this evolution, and believe the network can help them to provide education and emotional support, especially to patients with chronic illnesses.

McLellan (McLellan, 2004) proposes that many people consult a wide variety of sites before going to the doctor. They use the Internet to find basic information about their illness. More than 60% of Internet users believe that the information they find is as good or better than the information their own doctors offer them.

The phenomenon of the Internet use is not only interesting with regard to the change of culture of the patients, but also for its potentialities in the use for the training in gerontology (Majeski & Stover, 2007)

On many occasions, the interpersonal relation between doctor-patient or health worker-patient reveal certain psychological/social/cultural communication barriers which not only can make comprehension difficult, but also prevent the efficient implementation of recommendations of the specialists.

Some investigations carried out from quantitative and qualitative perspectives also reinforce these approaches:

- Jacobs (Jacobs *et al.*, 2004) carried out a study with the intention of overcoming the barriers of language in healthcare, taking into consideration the costs and benefits of the interpreters' services in a hospital of Chicago, USA. They used these services to treat patients with limited knowledge of English. They compared patients who spoke the language with those who used interpreters, and realised that those who used the interpreters' service received significantly more prevention recommendations, had more consultations, and completed their prescriptions. The authors conclude that providing an interpreters' service is a viable method to improve the healthcare of those patients with limitations in English. In that case we wonder about not only the influence of the contents of the language but also the influence of the personal and emotional closeness of the interpreter, probably mediator of the relationship.
- Hornberger (Hornberger *et al.*, 1997) carried out an exploratory study on a group of 495 first aid doctors from North Carolina, USA, and investigated the use of their language and the cultural barriers between them and their patients. They tried to find out how many patients they saw per week, how many of them were not English speakers, and with what frequency they used different communication methods. In their results, they found that 21% of the medical visits were to non-English speaking patients, 6% of the doctors were trained for this type of meeting, 20% of the interpretations were carried out by doctors without training and 36% by relatives, the latter provided better quality communication. The authors conclude that in areas with ethnic diversity, the interpreters' service offered better quality in patient – doctor communication.
- Bourhis (Bourhis *et al.*, 1989) carried out a study in Ontario, Canada, on everyday language in communication amongst patients, nurses and doctors. They noticed a complex interaction between medical and everyday language, language rules in favour of communication effectiveness as well as great differences between medical language and that of the patients. This triggered various hypotheses on strategies of communication in hospital environments. Doctors, patients and nurses agreed that is more advisable to share the same language rather than doctors sticking to medical language.
- O'Hair and McNeilis (O'Hair & McNeilis, 1993) studied the medical-patient relationship in elderly patients usually accompanied to their examinations. These accompaniments serve several functions, but basically they interfere in the context of the medical communication providing and requesting information. These have been named by the author "defenders", since their presence in the medical environment suggests a defence role for the patient. The originality of this perspective in health communication is that it implies triads, resulting in a doctor-patient relation with tendency to change when a third party, such as a "defender", enters the scene. Also they warn that while some healthcare professionals make use of this opportunity to improve information exchange, others perceive it as an intrusion of a meddling defender. However, the presence of "defenders" for elderly patients can increase the knowledge of this important triad in medical relations.

7.1. Intrapersonal level in the communication process: basic elements

In this paragraph we intend to approach the psychic world of the possible receiver and user of the information and training proposed by the CHANGE study.

For that reason some of the psychic subsystems of the individual will inspect so that it is possible refer to them as some possible successful psychological theoretical models which can be useful to organise the critical elements and elaborate a reasoned proposal of how to implement plans of prevention and optimisation of health.

- *Knowledge*

Knowledge, very much centred on the cognitive dimension of the person, can be of events, facts, procedures, methods, interpretations, etc. Applied to our study target, it would be all the knowledge or ideas that the elderly have on healthcare. This knowledge, nevertheless, does not often reach the routes or methods to preserve it, to prepare it or to optimise it.

CHANGE will have to provide the knowledge which has to be spread in a clear, precise and simple way.

- *Perception*

Perception is the process of registering sensory stimuli as meaningful experience. The differences between sensation and perception change according to how the terms are defined. A common distinction is that sensations are simple sensory experiences, while perceptions are complex constructions of simple elements joined through association. From another point of view perception is more subject to the influence of learning.

CHANGE will give special attention to the perceptive differences of every subject. Programmes should have some degree of freedom and personalization so it can fit every subject (see 2.13.7: Health Belief Model).

- *Beliefs*

Beliefs can be referred to values or knowledge which is believed to be true, firm and highly important for the subject. In general, people give a high value on health, which is something that we must bear in mind when carrying out proposals of a possible programme.

CHANGE will assume that for most of their receivers, health is very important and a basic element to activate motivation.

- *Behavioural belief*

Beliefs can also refer to the cognition that every subject has about its own behaviour. The concept is based on the subjective probability that the behaviour will produce a given outcome. These beliefs are of special importance for our study since they lead to the self-efficacy, or to the perceived behavioural control.

CHANGE will not have to assume that receivers already know the factors involved in health especially at the age of the elderly. Therefore it will have to indicate and explain in detail the habits of behaviours and facilitating strategies to achieve a satisfactory state of health. Furthermore, it will have to verify if the recipients have modified their beliefs in this matter.

- *Behavioural intention*

A belief in the behaviour can lead to an intention to enact it. This behavioural intention can be defined as an indication of the subject being ready to execute such behaviour.

Belief is assumed to be immediate antecedent of behaviour (Ajzen, 2002). An behavioural intention cannot be the exclusive determinant of behaviour where the individual's control over the behaviour is incomplete. By adding "perceived behavioural control," the theory of planned behaviour can explain relationship between behavioural intention and actual behaviour.

CHANGE must dedicate a lot of attention in finding out to what extent the receivers are turning their beliefs into intentions for their behaviours. It should select or prepare forms of cognitive measurement of these possible and desirable changes.

- *Attitude towards behaviour*

To turn the beliefs into precise behavioural intentions, the subject also has to evaluate, positively or negatively, the execution of this behaviour. Therefore, a positive attitude is necessary to achieve such behaviour.

Investigating whether the subjects are forming a positive attitude towards the behaviours which are to be transformed into healthy habits will be one of the methodological targets for CHANGE.

- *Behaviour*

Behaviour is defined as an individual's observable response to a given situation in relation to a given target.

Questionnaires on the fulfilment of operative and real behaviours in the daily routines of the subjects will constitute necessary instruments for CHANGE to verify the achievement of the behavioural changes.

- *Motivation towards behaviour*

We can define this as the degree of strength and perseverance of a behavioural intention.

Also the above mentioned questionnaires will inform us about the degree of satisfaction and perseverance in the fulfilment and execution of healthy behaviours.

- *Social influence*

Social influence can take the form of normative belief or subjective norm:

- Normative belief

It is an individual's perception of a particular behaviour, which is influenced by the judgement of significant others (e.g., parents, spouse, friends, teachers).

CHANGE will offer involvement to third parties who live with the subjects to help to optimise the above mentioned cognitive processes.

- Subjective norm

It is an individual's perception of social normative pressures, or others' relevant beliefs that they either should or should not execute such behaviour.

CHANGE will try to verify to what extent the subjects accept and comply with health prescriptions.

- *Self efficacy*

It is the conviction that it can successfully execute the behaviour required to produce the desired outcome (Bandura, 1986). The concept of self-efficacy is used as a perceived behavioural control, (i.e. the perception of the ease or difficulty of the individual behaviour), and refers to beliefs about the presence of factors that may facilitate or impede performance of the behaviour. Self-efficacy is the most important precondition for behavioural change, since it determines the initiation of coping behaviour. Many authors have used this theory to predict the degree of possibility for certain behaviours to

reach functional results. For example Caprara (Caprara *et al.* 2000) has applied it as an important factor in the execution of prosocial actions.

CHANGE will try to verify the differences in self-efficacy perceived by the different subjects to obtain different results. (i.e. whether the individuals with high self-efficacy reach better results in the targets of the health programme). It could contribute to explain various relationships between beliefs, attitudes, intentions, and behaviours.

It is evident that the interest of the scientific community in studying the interpersonal dimension in the relation between health professionals and elderly people is considerable. A search centred on some key words related to the CHANGE project (geriatric assessment, geriatric patients, geriatric gerontology, elderly people, interpersonal intervention, interpersonal relationships, preventive medicine, prevention, Communications and ageing, respectful interactions) has allowed us to make a selection of some interesting investigations which will help to advance in this topic map and to design future lines of work that could give continuity to these investigations.

Following a review of the bibliography, we propose a selection of articles divided into three areas of interest for CHANGE:

1. Interpersonal communication process between health mediators and elderly people

- Devoe (Devoe *et al.*, 2009) researched the patient-age influences perceptions about health care communication. The objective of their study was to determine whether a patient's age is independently associated with how he or she perceives interactions with health care providers. Compared to patients ≥ 65 years, patients ages 18–64 were less likely to report that their provider “always” listened to them, “always” showed respect for what they had to say, and “always” spent enough time with them. This work shows that patient perceptions of health care interactions vary by age. This study could be useful to design practice-level interventions that enhance services and also to develop national policies that would improve health care delivery and health outcomes.
- Vaapio (Vaapio *et al.*, 2008) researched the quality of life as an outcome of fall prevention interventions among the aged. They carried out a systematic review. For the authors, measuring QoL is an important part in assessing the effects of treatments and health services on patients' wellbeing. They thought that this kind of an assessment should be included when assessing the effects of preventive programmes.
- Luchi (Luchi *et al.*, 2003) talk about the standards of care in geriatric practice. The authors propose a set of standards to aid the physician in the care of older patients. These standards are based on the practical experiences and others, with years of clinical practice in geriatric medicine. The proposed standards cover comprehensive care and assessment, especially of vulnerable elderly people and prevention of disease and disability. They also propose standards for facilitation of care across the health service continuum, care of the nursing home resident and palliative and hospice care.
- Adelman (Adelman *et al.*, 2000) carried out a study in communication between older patients and their physicians. The authors took up the challenge and the desire to understand better how a relationship develops, to unearth the multiple levels of meaning in the medical encounter. This article describes research that specifically examines interactions between physicians and their older patients as well as strategies for improving the physician-older patient relationships.

- Squier (Squier, 1990) worked on empathic understanding and adherence to treatment regimes in practitioner-patient relationships. In this research the author postulated the empathic understanding in practitioner relationships as necessary for adherence to therapeutic regimes. It is considered to be one of the most important practitioner relationship skills leading ultimately to patient health benefit.
- Another interesting study is that of Greene, Adelman, Charon & Hoffman (Green *et al.*, 1986) which investigated ageism in the medical encounter; it was an exploratory study of the doctor-elderly patient relationship. For the authors, there are some destructive false beliefs about the elderly, and they are pervasive in our society. Specific ageist assumptions about older people are legion: they can't hear, they can't remember, they can't think for themselves, they are depressing, they are non-productive, they are childish. In this research the language and behaviour of doctors are examined in an effort to test the hypothesis that doctors relate differently to their old and young patients.

2. Training in social skills for professionals

- Snyder (Snyder *et al.*, 2008) explored the potential for a four-week curriculum module in gerontological social work education to positively impact students' practice-related knowledge concerning older adults, as well as their attitudes toward elderly persons and interest in working with them. The module's design and content were reflective of its primary goal, which was to educate students about salient aspects of social work knowledge, skill, and practice with older adults using experimental methods.
- Shippee (Shippee *et al.*, 2008) presents a model of training called the Bridge programme, which is based on experiential learning and incorporates some of the broader goals of service-learning. Launched in 2003, the Bridge programme involves graduate students residing in a retirement community for at least one academic year. The main goals of the programme include: educating the students and the public about the ageing process, recruiting future gerontologists, providing research opportunities for the Bridge students, and contributing to the retirement community.
- Kluge (Kluge *et al.*, 2007) are working on how to 'communicate care' to older adults. This study evaluated baccalaureate nursing and Allied Health Care students' perceptions of a 5-week therapeutic communication module that was part of their foundation coursework. The module allowed students to practice communication skills using an innovative computer-based simulation of clinical encounters. This study raises the need and utility of incorporating communication skills in the training of the students of healthcare careers. The authors admit that although clarity exists with regard to the need to make the communication work, and to train this population in social skills, there is still only a small bibliography devoted to the topic.
- Williams (Williams *et al.*, 2002) develop improving nursing home communication. This was an intervention to reduce "elderspeak". In this study, the authors describe how nursing homes staff frequently communicate messages of dependence, incompetence, and control to residents. This study evaluated a brief educational programme designed to increase staff awareness of intergenerational speech modifications such as Elderspeak and strategies to enhance communication.

3. Interesting areas for CHANGE

- Celdrán and Villar (Celdrán & Villar 2007) worked on volunteering among older Spanish adults. This study in Spain explored three aspects of older adult

volunteering (motivations, satisfaction, and perceptions of benefits and drawbacks) and examined to what extent these aspects were influenced by the type of organization and other factors (sociodemographic variables and level of volunteering). The sample consisted of 88 older adults volunteering in 3 different organizations: management, cultural actions, and social care. Results showed that volunteering is a satisfying activity for older adults. Participants perceived more benefits than drawbacks and had diverse motivations for volunteering. Volunteering in a management organization predicted less satisfaction and perception of benefits, as well as greater drawbacks.

From the review of the literature, several interesting elements might be useful for CHANGE:

- The success of a preventive programme of health and progress in the quality of life does not have to be directed only to the elderly; it is interesting to consider the figure of the third parties or “defenders”, who might be allied to the mediators “to propose changes” to the elderly.
- The inclusion of aspects like volunteering could be important for CHANGE; in fact, interesting initiatives already exist in some administrations to encourage new work places for those who are retired. This is still an active and creative stage for people that in some places try to be channelled through these new work places full of needs, and with few resources to economically remunerate. Designing systematic programmes to provide the mediators and also the elderly people with more means so they can volunteer in an effective way, might constitute an outstanding element of CHANGE with regard to other existing programmes centred only on the training of social skills for health personnel. It would be a question of providing the healthcare professionals with the necessary tools to train as prosocial and not paternalistic leaders, and to be employed along with the elderly people in designing and implementing preventive programmes, generating a multiplier effect of the same programmes.
- The training in social skills for health professionals is a new topic of interest, which still has its shortfalls. It is an opportunity for CHANGE, precisely to make use of this gap to carry out a proposal that could affect in the curricula of those who are training to be professionals in health care.

7.2. Mediators’ approach today

Medicine aims mainly at making life longer and healthier. Scientific progress has favoured a variety of medical specialisations, making the study of the human being increasingly detailed. On the one hand, this has resulted in important discoveries to fight and prevent serious pathologies, but on the other hand, the medical doctor might tend to focus attention on his/her field rather than on the patient. This affects negatively the patient-doctor communication so much as to create a distance even in suggestions and therapeutic prescriptions on the part of the doctors.

Umberto Veronesi, in wishing luck to the newly elected of the National Association of Medical Doctors, underlines the importance of communication between the doctor and the patient:

“The communication between the doctor and the patient is not just a current topic: it is the most powerful instrument to treat a patient. Communication means to inform about the disease and therapeutic suggestions, about primary and secondary prevention, about the

evolution of the disease (or the condition of wellbeing), and also to be judged by patients (or potential patients) about our abilities as doctors. It is through the mirror of the patients' eyes that we can understand the way we are behaving diagnostically and therapeutically. Knowing how to communicate is part of the doctor's cultural heritage, at all levels. The development of informed agreement, the increasing attention to the patients' rights (and to the people in themselves even when healthy) should push the medical class, where I belong, to a reflection: scientific and clinical explanations must be clear so as to marginalia misunderstanding, which is the prelude to scarce agreement to possible therapies".
(personal communication)

7.3. Importance of non-verbal communication in the doctor-patient communication

The relationship between the doctor and the patient is not balanced in terms of "power". Medical doctors, in fact, control the interaction: they touch without being touched, they speak and interrupt more and they act less empathetically. Their authority is also underlined by other powerful non-verbal signals: the coat they wear is a symbol of a privileged status which represents visually their hierarchical position with respect to other health professionals, and it also shows the role of a stolid "judge" of the patient's physical condition. Even the doctor's study room is furnished so as to transmit superiority and distance (desk, pieces of furniture, pictures and diplomas on the wall).

Although persuasion is mainly a verbal function, in medical and scientific literature non-verbal communication, which can lead up to 90% of the patient-doctor interaction, may become increasingly effective. In particular, non verbal communication is crucial in affecting the patient's behaviour such as satisfaction, understanding and memorisation of the received instructions, the compliance to therapeutic prescriptions as well as the decision to come back in future, if necessary, to the same doctor.

The doctor's ability to pay attention and decode the non verbal messages is strictly connected to the patients' satisfaction: these, for example, tend to draw the attention and create eye contact with the doctor through the use of pauses and specific movements of their body before starting sentences. Even the way they look (height, face traits, clothes), touch and smell play an important role of information, determining a series of mutual impressions between the doctor and the patient. Elements such as poise and closeness/distance reveal intimacy, friendliness and availability in the roles; therefore, a nearly motionless poise might generate discomfort whereas a more relaxed but attentive poise indicates care and favours dialogue.

Contact (physical and instrumental) is definitely among the most powerful signals which determine the atmosphere of a doctor-patient interaction. Contact might generate empathy and trust: apart from the strictly professional forms of contact, there are also other forms which may as well affect the therapy such as shaking hands, patting on the shoulders and caressing.

Non verbal feedback signals such as nodding or smiling, accompanied by phrases like "sure", "yes" and "good", are other elements crucial to a positive relationship since they show interest and approval on the part of the doctor. The use of opposite signals (looking somewhere else, shaking the head, shrugging shoulders, sorting the desk out) is very often responsible for the negative influence on therapeutic prescriptions. Being able to read the non-verbal forms of communication, as well as behavioural response to these, are not simply instinctive abilities and experience, but they can be taught and learned.

7.4. Health approaches to diseases: comparing two models

Historically the “biomedical” model (disease focused) is the most widespread and implies a therapeutic intervention at the onset of symptoms, seen as consequences of an organic defect. The symptom is followed by a diagnosis of the disease which in turn will be followed by relevant therapy in order to eliminate the “defect”. The characteristics of the biomedical consultation are:

- oriented approach to the body-organ;
- focus on the doctor (the patient is the passive carrier of the disease, the doctor is the expert);
- clear-cut distinction of roles and functions (the patient is cured by the doctor who in turn acts on the basis of his/her knowledge);
- basis of the model (defect of the machine).

These characteristics make the doctor-patient relationship hierarchical, unidirectional and authoritarian.

Over the last few years, socio-economic and cultural transformations have changed people’s behaviour with respect to health and consequently to the relationship between the doctor and the patient. Patients, being more informed, have wider expectations from the doctor; the doctor feels the need to adapt to the patient.

Formally speaking, from a disease-centred model we are moving to a bio-psycho-social model. This approach does not focus only on the body-organ, but it takes into account the life and experiences of the person as well as psycho-social pathogenic factors (stress, psychological deficits, etc).

The principal elements of this model are:

- doctor-patient interaction;
- patient-centred approach (the doctor helps the patient to understand the problem so as to achieve a mutually-agreed-upon therapy);
- interactive and changing models;
- doctor-patient relationship (collaborative, bi-directional and dynamic).

The best communication model which seems to re-balance the doctor-patient relationship is the Bird and Cohen-Cole model (Bird & Cohen-Cole, 1990) where communication is intended as a circular process and is analysed in its fundamental aspects.

- transmission of information;
- attention to emotions;
- achievement of therapeutic objectives.

The importance of an effective exchange of information is determining in the definition of the problem in order to face the different stages of the disease. Active listening, the non interruption of the patient, the toleration of pauses of silence, the attention to non-properly asked questions are techniques which lay the foundations for an effective relationship.

The attention to emotions is necessary to make the patient feel at ease in order to tell his/her story and experiences related to the disease. This implies that the doctor is also able to recognise his/her emotions and give up the expert role so distant from this kind of relationship.

According to Cohen-Cole, medical counselling represents “the major medium of care” and constitutes the moment in which:

- the patient presents his/her discomfort to the doctor;
- a relationship between the doctor and the patient is built up;

- knowledge grows with respect to the disease, and it may give important indications for a proper therapeutic treatment;
- the patient's knowledge about the disease becomes wider both for the diagnosis and the treatment.

7.5. Classification of doctor-patient interaction styles

The way in which the relationship between the doctor and the patient develops is determined by the kind of role from both subjects and their mutual capacity to adapt. The doctor's role, which is usually predominant, may vary from strict behaviour to the understanding that people's wills cannot be cancelled or crushed, not even when the aim is their wellbeing.

Although in literature there are formally different classifications of the doctor's role towards the patients, it is possible to have four types which include the most recurrent kinds of verbal and non-verbal behaviour:

- *Condescending model*
The doctor acts as a guardian (traditional model), watching over the patient's wellbeing according to shared but static values. The doctor takes for granted what is good for the patient, considering him/her an objective entity, with treatments which the patient must only accept without debating the medical authority nor the validity of prescriptions.
- *Informative model*
The doctor, in this model, generally illustrates possible diagnoses, relative therapeutic prescriptions and its possible effects. However, the patient cannot express his/her emotional needs and must be a passive listener and an a-critical obedient, even though he/she receives detailed information about his/her condition.
- *Interpretative model*
The doctor acts as a counsellor, he/she helps the patient to understand priorities and to assist in decisions; thus, the doctor tries to interpret the patient's disposition in sight of therapeutic hypotheses, avoiding to show his/her own convictions a-priori. This is effective, for example, at the onset of a disease or during the critical stages of a treatment.
- *Deliberative model*
The doctor plays the role of a friendly teacher who favours the patient's moral independence and is effective in most stages of long-term treatment, while the patient plays the role of a collaborative pupil.
This model is characterised by a strongly communicative relationship, not limited to a one-way information, where the doctor does not want to persuade but to enlarge the patients' ability to take independent decisions and where the doctor poses himself/herself as a human being first rather than as a professional.
Although there is a common tendency to prefer the deliberative model, it is to be noted that the assumption of a role, if the therapist is able to assume more than one, depends on the situations (ordinary, emergency) and on the characteristics of the patient (which give place to several role of the patients). So, we can conclude that it is not always possible to recognise the predominance of a certain type of doctor's role over the others.

7.6. Mini-survey on health professionals

In complementation to this chapter, in 2009 an Italian mini-survey on health professionals' opinions and attitudes regarding the importance to pay attention to elderly patient's lifestyle has been carried out by Villa delle Magnolie (Caserta) and Comitato ASL CE (Caserta). This survey allowed a critical reflection on communication processes between health mediators and elderly patients considering, particularly, the importance of lifestyle assessment and motivation counselling. A short questionnaire of 7 items has been developed to investigate:

- importance given by health professionals to the change of elderly lifestyle;
- perception of self-efficacy in motivating elderly to change their lifestyle;
- strategies considered by doctors more efficient to change elderly people's lifestyle;
- importance given to the improvement of mediators' skills in motivation;
- amount of time available for each patient and the modifications occurring between the first and further visits;
- modification of the amount of time available for each patient between the first and further visits;
- estimation of available time for each patient to assess and modify her/his lifestyle.

The questionnaire was submitted during two sessions to 30 health professionals, most of whom were doctors (66%) or nurses (16%) (Figure 9).

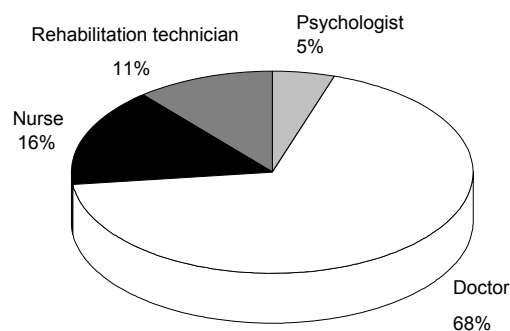


Figure 9. Health professionals participating in the survey (%)

The most of health professionals are engaged in general medicine (44%), in rehabilitation activity (17%) and cardiology (17%) (Figure 10).

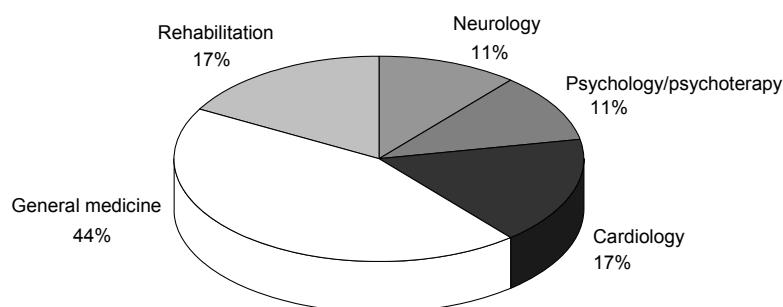


Figure 10. Health specialization of professionals participating in the survey (%)

According to most of health professionals, a change in physical activity is a moment of great importance for the elderly. For the disease prognosis they are dealing with, half considered very important that patients change their lifestyle regarding physical activity (daily walking) and diet, and only 11% considered little or no important this changing (Figure 11).

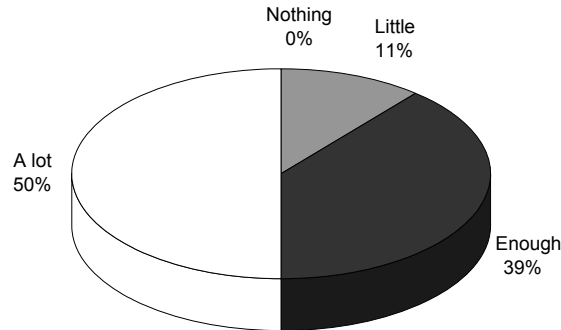


Figure 11. Levels of importance for health professionals that their patients change their own lifestyle

Although health professionals are convinced of the importance of physical activity and importance of improving the lifestyle of the elderly, the answers to the question “How efficient do you feel in helping your patients to change their habits regarding lifestyle?” were not so optimistic. Although 11% of respondents did not feel efficient (or just a little), 2/3 of interviewed considered themselves efficient enough (Figure 12).

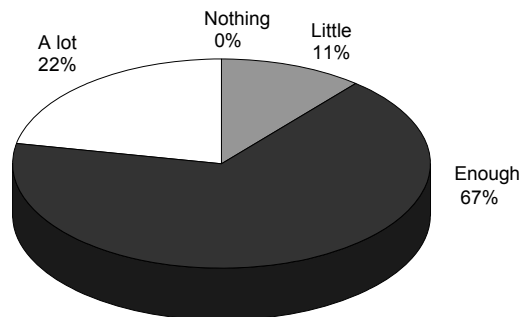


Figure 12. Perceived efficiency for health professionals in helping patients to change their own lifestyle

The best strategies considered as useful to introduce modifications into patients' lifestyle was belief and/or persuasiveness (26%), followed by explanation (25%) and cooperation with a family (18%) (Figure 13).

Improving communicative skills to change patient's lifestyle was considered “enough” important by 83% of the health professionals and “a lot” important by the rest. Nobody considered little or not important this issue (Figure 14).

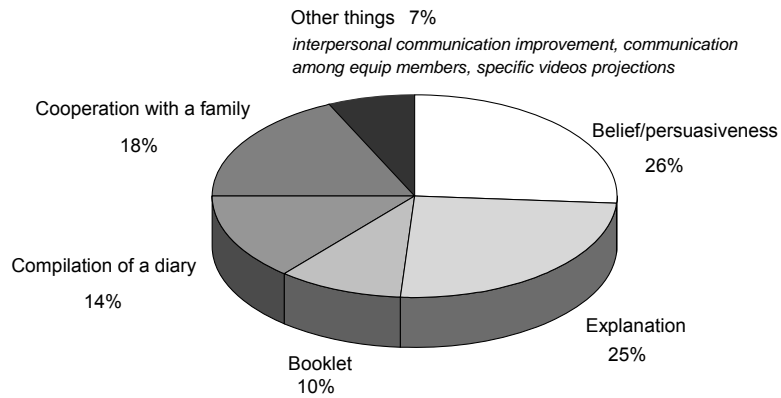


Figure 13. Health professionals' best strategies to introduce modifications into patients' lifestyle

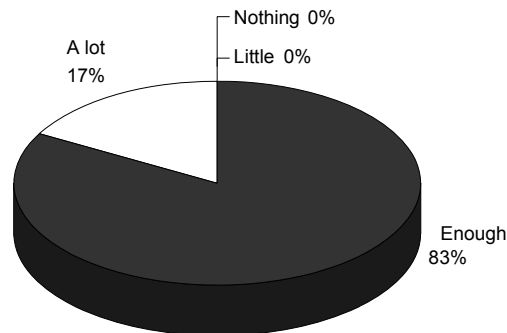


Figure 14. Perceived importance for health professionals to improve communicative skills in changing patients' lifestyle

An important issue is the amount of time that health care workers spent for their patients. Rarely spend more than 30 minutes for every single patient during different appointment (11%) and almost never less than 10. For 90% of patients the time devoted to them was between 11 and 30 minutes (Figure 15).

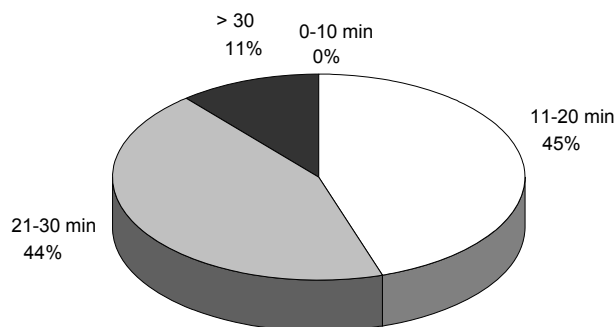


Figure 15. Time spent for every single patient during different appointment

Since the time available for each patient depends mostly on the specificity of the professional activity, a huge variability can be found (from 10 to 20 minutes). The time realistically available for each patient to assess and motivate changes in lifestyle vary from 5 to 10 minutes (Figure 16).

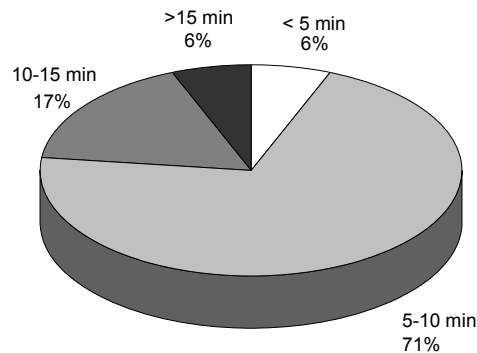


Figure 16. Time dedicated to each patient to assess and motivate changes in lifestyle

The data analysis reveals that all health professionals consider as important the improvement of their patient's' lifestyle in relation to the disease prognosis. They think also that it is important to be an effective communicator, able to motivate their clients' appropriately in lifestyle improvement. Moreover, they believe that communication skills, particularly persuasion, are the most effective strategy to help people changing their lifestyle.

Nonetheless the results are not representative for other health professionals, and following points can be highlighted:

- all participants appreciated the questions considering pertinent and focused on the problems they meet currently in their work with elderly;
- further studies are requested to analyse difficulties that health professional meet in relation to the necessity to improve their patients' lifestyle;

7.7. Relevance for CHANGE

In the review of studies presenting educational approaches to healthy behaviours of older adults different types of mediators were used. The most common were:

- general practitioner or family doctor or medical specialist (i.e. endocrinologist);
- family or community nurse, since both professionals according to their job description are obliged to educate in health promotion their patients.

The main obstacle for GP is a short average time devoted to patient visit (i.e. only 8 minutes on average in Poland). Therefore in practice patient education is mainly provided by nurses.

Several other professionals should be considered, too: dietician, physiotherapist, formal care-giver, family care-giver, social worker, and even priest, who plays important role in families life especially in country-side.

According to social marketing theories the decision about selection of mediator in our CHANGE model should be undertaken based on the results of focus group interviews with older, lower educated persons to find the best professional/person to motivate them to change of their behaviours.

No matter who will be chosen to be mediator the most important message from review of the studies is that keeping the regular contact with health professional involved in education seems to be crucial. The educational messages should be limited in number, simple, targeted, practical and reinforced. Older person should be involved in active way in determining goals of intervention. That makes goals more achievable (Sahyoun *et al.*, 2004).

8. ELDERLY PEOPLE, HEALTH AND HEALTH PROMOTION: COUNTRY REPORTS

This chapter sums up specific country reports of each participating country – Austria, Italy, Lithuania, Poland and Spain. Each report is subdivided into two parts: Demographics and health indicators, and Elderly lifestyle and health concerns.

Primarily, these country reports shall provide a general overview about the situation of elderly people in each participating country. Demographics and health indicators give an idea of different parameters affecting the elderly persons (e.g., population development, age distribution, percentage of working people, life expectancy, educational level, illnesses, etc).

The simplest characteristic when describing the lifestyles of elderly is that elderly are never a homogenous group but a group with different needs, interests and lifestyles. This section attempts to capture these inhomogeneous groups in each participating country and to point out their dissimilarities (e.g., nutrition, physical activity, lifestyles, needs, interests, alcohol & tobacco use, perception of the state of health, morbidity, mortality, etc.).

Besides, the Appendix A is included to give good practice examples in health promotion for elderly people in each country. This Appendix has two main objectives. First, by pointing out examples for good practice models, ideas and programmes concerning physical, psychological and social wellbeing of the elderly population within different European countries are presented. Secondly, these programmes serve as examples for further campaigns. They play an active part in promoting active ageing and in motivating elderly to change their behaviour. But active ageing does not mean only actively performed activities but also the prevention of illness and/or promotion of health. Furthermore, such examples support the designing and implementing of a training model for social health mediators.

8.1. Austria

8.1.1. Demographics and health indicators

Accordingly to the prediction made by Statistik Austria about the population development in Austria up to the year 2075, the Austrian population will increase benefiting from a positive immigration boost (Statistik Austria, 2008). It is expected that the number of inhabitants will rise from 8.13 millions to approx. 9.69 millions. The age distribution will change in favour of a much older population. The percentage of the population of working age from 15 to 60 years will decrease from about 62% in 2007 to 53% in 2075. This will be followed by a decrease in numbers of children and young people from about 15% in the year 2009 down to 14% in 2075.

Till 2075 the number of people over 60 years will grow from 22% in 2007 (1.85 millions.) at 34% (3.3 millions.). Figure 17 shows the prediction for population development in Austria until 2075 compared with the population total in 2007 (Statistik Austria, 2008).

However, it is important to understand that such changes occur not suddenly but rather in a mid- or long-term process; this gives society the chance to react appropriately. Nevertheless the demographic change and its relation to various social phenomena can not be underestimated.

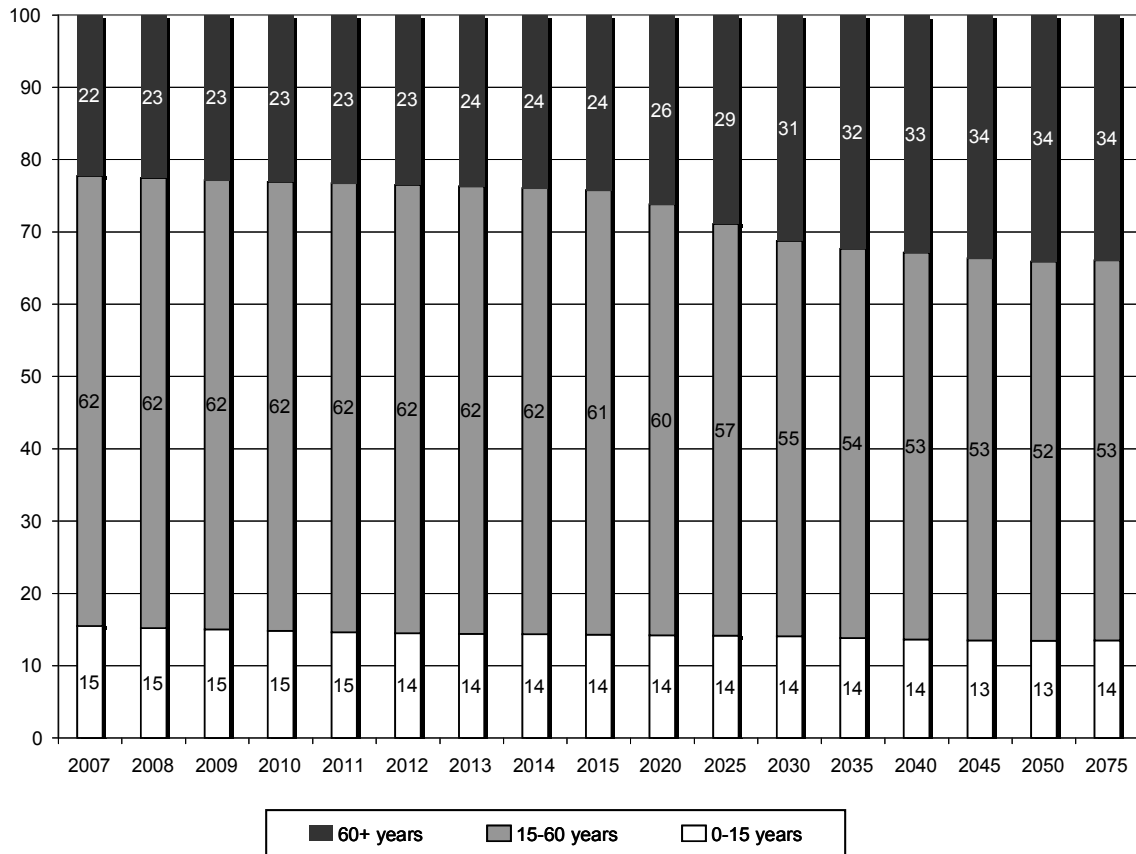


Figure 17. Population prediction for Austria till 2075

8.1.1.1. Socially disadvantaged elderly

In Austria the life expectancy is increasing steadily and there exist a widely income-independent possibility for all to access the health care system. Despite this health inequities have not diminished but even still having enlarged within the last few years (Mackebach, 2006).

The study of Doblhammer-Reiter (Doblhammer-Reiter, 1996) deals with the socio-economic differences in mortality. The analysis of combined data of died persons and the national census data of 1981/82 shows significant differences in the mortality between various educational groups. The mortality of male at working age with the highest education of obligatory school (35-64 years) is 2.09 times higher than of men who graduate at the university.

However, people who graduated “only” obligatory school have not only a less life expectancy than persons with university degree but also have to expect less healthy years without handicap. Men and women who do not have education going beyond the obligatory school are on average 2.2 and 2.8 years physically handicapped to such an extent, that they are dependent on help in their vital activities (Doblhammer & Kytir, 1998).

In expert interviews about the topic “health promotion for older people” (Hackl, 2007) the interviewed experts see people above 60 years as increasingly important target group for health

promotion and prevention programmes. There is still need for action for the group of less educated seniors, since there are only few projects addressing especially their needs. The experts primarily suggest a shift from the present “coming structure” to a “bringing structure” to reach this target group. New methods like outreach work and outreach activation, closer co-operation with organizations and native language offers for migrants are seen as central success factors for reaching the group of less educated older people.

8.1.1.2. The Austrian Health Promotion Act

In 1998 the ‘Federal Law on Measures and Initiatives for Health Promotion and Information (Health Promotion Act – GfG)’ was passed. It contains measures and initiatives for promoting and improving the health of the population. Information about avoidable diseases and the social, mental and spiritual factors affecting health fall under this law. The main objectives are:

1. maintain, promote and improve the public’s health in a holistic sense and at all stages of life;
2. provide education and information on avoidable diseases and on the emotional, mental and social factors influencing health.

Training programmes for persons who are dealing with these issues are also supported. Furthermore scientific programmes for the development of health promotion, prevention of illness and epidemiology are financed, as well as evaluation and quality assurance processes within these fields. The non-profit organization “Fonds Gesundes Österreich” (FGÖ, Fund for a Healthy Austria, see www.fgoe.org) is responsible for carrying out these tasks and co-ordinating the measures and initiatives with already existing activities. Since 2006 the FGÖ is a subsidiary of the “Gesundheit Österreich GmbH” (Health Austria Ltd). The FGÖ is the national centre of competence in the field of health promotion and prevention. It is a service provider who finances projects and develops activities and campaigns with the aim to make healthy life styles and healthy life settings attainable for as many people in Austria as possible. Currently the FGÖ has six priority areas in which it conducts activities to enhance health awareness in Austria:

- exercise
- nutrition
- mental and emotional health
- children and young people in non-school settings
- employees in small and medium-sized enterprises
- older people in regional settings (urban vs rural).

8.1.2. Elderly lifestyle and health behaviour

On closer examination, “the Elderly” appear as a very inhomogeneous group with different needs, which requires target group-specific approaches. The market research institute GfK (Gesundheitsförderungsgesetz, 1998) carried out a representative survey of 1.000 Austrian inhabitants above 50 years and identified four lifestyle-types:

- *The active*
They are the “youngest” (90% younger than 65 years), frequently still working, mainly healthy and having a socially active life. They are wealthy, interested in technology, up-to-date and they form the segment with the highest education and usually live in urban areas.
- *The satisfied*
They are mainly family-oriented persons to whom children and grandchildren are important. They are focused on the private sphere, are familial and safety-conscious and

they orient themselves on others and their wellbeing. This segment is found mostly in rural areas, consists predominantly of persons who are not working anymore, are married and have children, housewives, farmers and workers with a rather low income and a lower level of education.

- *The curious*

The persons of this group are mainly living in urban areas, individualistic, well-educated, self-confident and usually come from the middle class. The majority is older than 60 years and no longer working. Persons who are living apart or are divorced are over-represented in this group. Finally they are active and positive and treat themselves something.

- *The isolated*

They come closest to the stereotypical image of an “old person”. They are the oldest (mainly over 70 years), mostly widowed or unmarried and come from the lower income-group. Often they are living lonely, are isolated, passive and immobile with few social connections. Activities and interests lost their meaning to them; physical problems go in hand with an often precarious financial situation.

These results suggest a picture which differs significantly from the usual stereotype of old, frail, ill and isolated seniors (Fessel-GFK, 2006). About 8 out of 10 people above 50 years in Austria can be characterised more accurately as active, curious, positive, pleasure loving, mobile, responsible and socially committed (Figure 18).

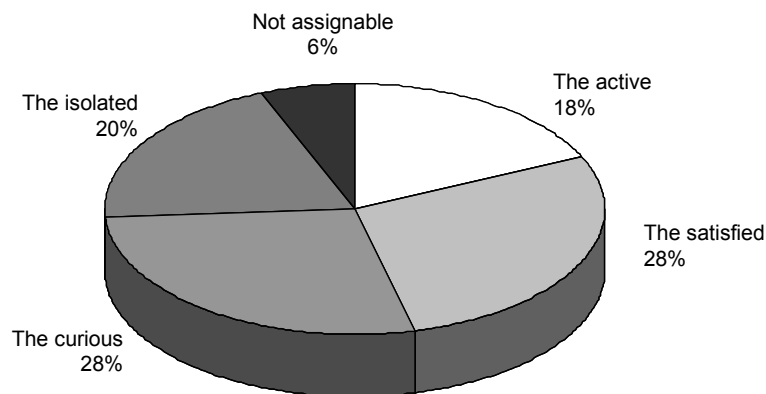


Figure 18. Lifestyle typology generation 50+ in Austria

8.1.2.1. Fields of interest, leisure time and physical activity

According to the results of the lifestyle research also the fields of interest and leisure activities of the over 50-year-old appears variegated and differentiated. The results from the Austrian Media Analyse (Media Analyze, 2003) regarding the fields of interest and leisure activities of the generation 50+ points out that the image of the boring, passive and disinterested senior” is already outdated (Figure 19): topics of a healthy and responsible lifestyle are found at the top in the hierarchy of the fields of interest. Healthy diet, healthy lifestyle in general and medical topics are the most important themes for the Austrian 50+ generation. This is connected with the CHANGE project and therefore should be used.

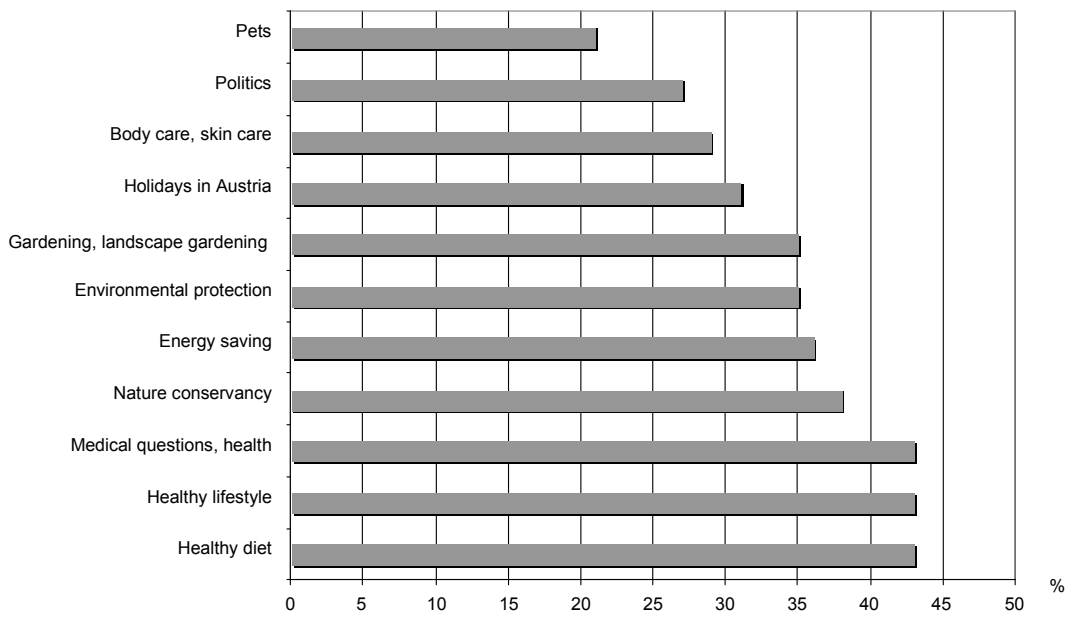


Figure 19. Fields of interest among Austrian persons aged 50 years and older

Regarding activities in leisure time the Austrians of above 50 years old spend it mainly watching television, reading newspapers and listening to the radio, followed by walking and short hikes as physical activities (Media Analyze, 2003). Also other activities like gardening, meetings with friends, cycling and do it yourself were named and can be used as pleasure-orientated approach for promoting physical activity in everyday life (Figure 20).

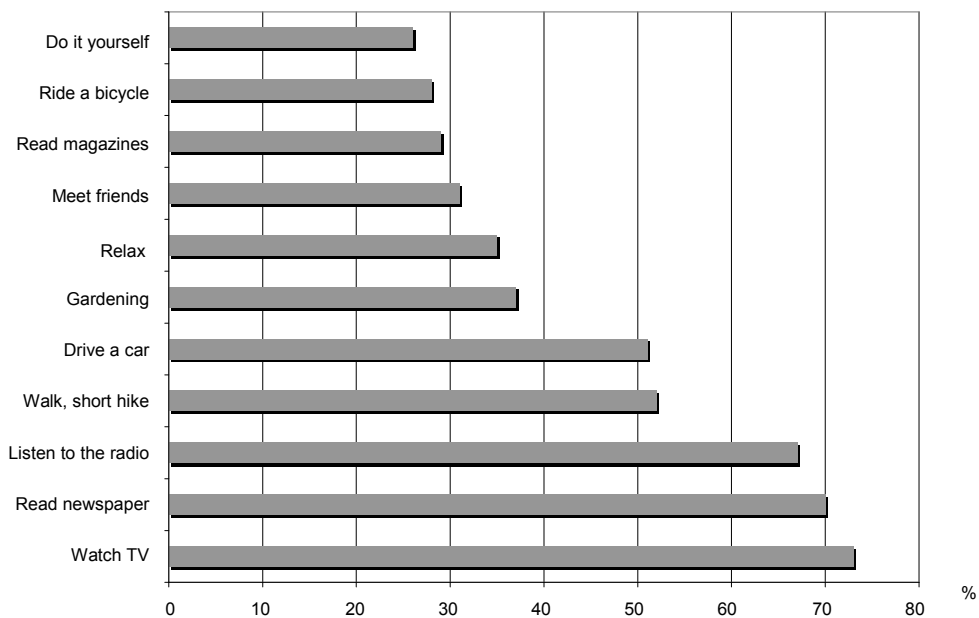


Figure 20. Leisure time activities of Austrian persons aged 50 years and older

Looking only at the physical activities in the leisure time which are done consciously to the retention of the physical fitness, results from the current Austrian health interview 2006/2007 (Statistik Austria, 2007) can be stated. The WHO defines those persons as “physically active” who start sweating by fast running, cycling or aerobics at least on three days per week. According to this definition about one quarter of the interviewed persons between 60 and 75 years are physically active – a little more men than women (Figure 21). On average the interviewed persons start sweating 3.1 days per week. 44% of the 60-75 years old start sweating at least once per week due to physical exercises like running fast, cycling, aerobics, etc.

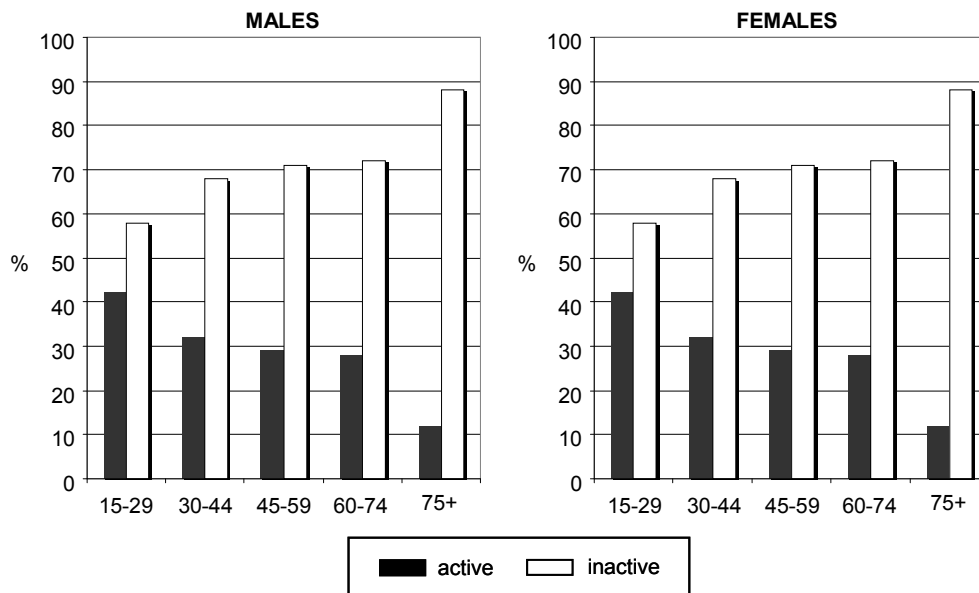


Figure 21. Physical activity in the leisure time in Austria

8.1.2.2. Fears and restrictions

In accordance with the great interest in topics of healthy lifestyle and preservation of health the greatest fear of the Austrian 50+generation is getting ill or being handicapped (Figure 22) (Fessel-GFK, 2003).

This greatest fear is followed by worries about social loneliness, partially linked with worries about the death or illness of friends and family members. These topics of health preservation of both themselves and the nearer social environment still stands long ahead of worries about poverty, recession, unemployment or the feeling to fall into disuse. Therefore the preservation of the health and the social contacts in this age group shall be taken into consideration in the CHANGE project as fundamental motivational bases (see Figure 22).

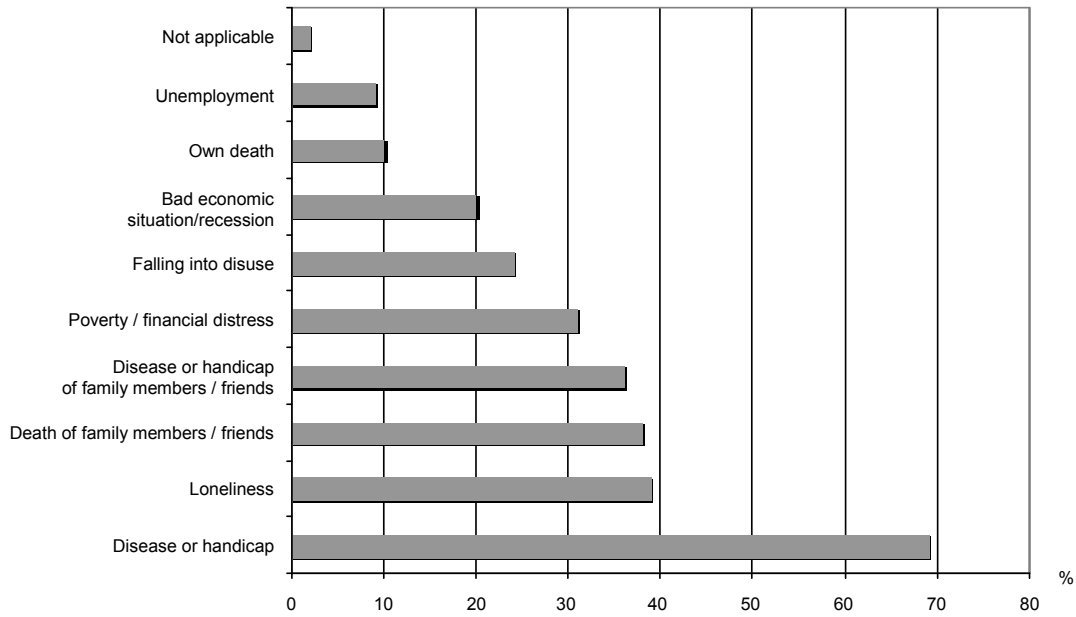


Figure 22. Fears and worries of Austrian generation 50+

The reported restrictions in everyday life among persons above 60 years are represented in Figure 23. These “instrumental activities of daily living” consist of preparing meals, using the telephone, shopping for groceries or clothes, light housework as well as managing money. Two thirds of women and almost the half of men older than 75 years have difficulties with at least one of the activities mentioned below (Statistik Austria, 2007).

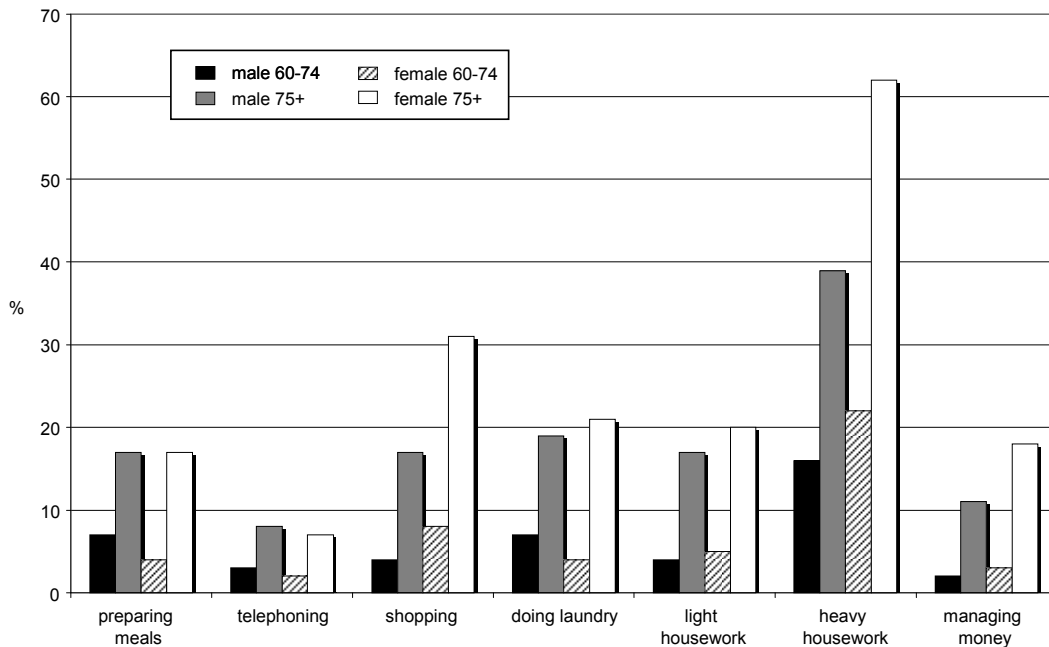


Figure 23. Restrictions in instrumental activities of daily living among Austrian elderly

In the age group between 60 and 74 years every fourth woman and every fifth man have difficulties. About 4% of the over 75-year-old have problems at all activities which have been asked. The biggest problems are doing heavier housework like spring-cleaning, moving heavy furniture and scrubbing the floor. Every third woman over 75 years has difficulties in doing her shopping and about one quarter in washing the laundry, doing light housework, preparing meals and managing money. Within men of the same age there are hardly any differences to women, unless that the financial matters are often less problematic for men.

8.1.2.3. Nutrition and weight

According to the results of the actual Austrian health survey (Statistik Austria, 2007), a mixed diet with few meat is preferred by men as well as woman, which is increasing with age. Men consume considerably more meat than women. 40% of men but only 14% of women indicate a mixed diet with much meat as their preferred diet. However, meat consumption decreases considerably with the age and especially men eat less meat. While half of the 15 to 29-year-old men prefer a mixed diet with much meat, it is only a quarter of the over 60-year-old men. Altogether, meat consumption decreases from 35% (15 to 29-year-old) to 19% (60 to 74-year-old) and 11% in the in the age group of the 75 years and older. A mixed diet with much fruit and vegetables is indicated by 30% of women and 17% of men and all in all the amount of persons preferring this diet form remains relatively constantly at 24%. For men, an increasing percentage can be observed with increasing age. For woman the appearance of this diet form does not change over the age groups. The most vegetarians are found in the youngest age group (5%) with a declining trend in the older groups (Figure 24).

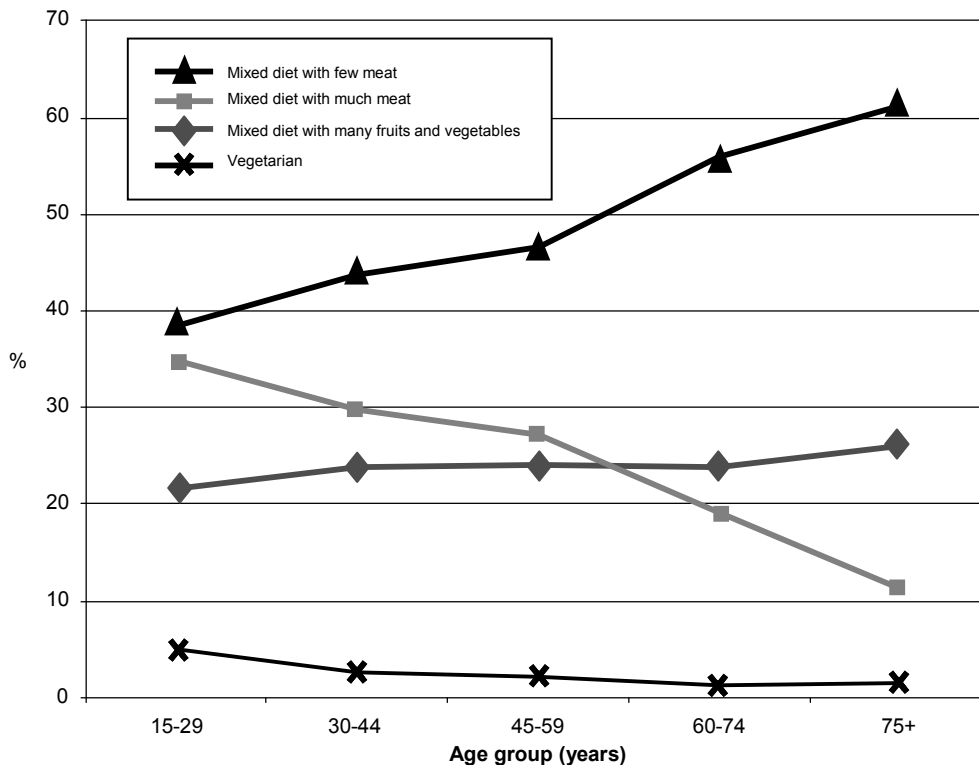


Figure 24. Eating habits in Austria

In order to categorise the degree of overweight and obesity the classification table of the WHO based on the BMI (Body Mass Index) is being used. These limits are valid since 1998 and define a BMI between 18.5 and 24.9 as a normal weight, between 25.0 and 29.9 as overweight and a BMI of 30.0 and more as obesity. Regarding the body weight 44% of men and 55% of women in Austria have a normal weight. Therefore more than half of the male population has to be described as overweight (43%) or as adipose (12%).

For men the quota of the overweight (BMI 25 to below 30) has declined by almost ten percentage points in the period from 1999 to 2006-07. The reduction of overweight could be found at all age groups, in particular in the group of 20 to 29-year-old (minus 18 percentage points). A shift to a normal weight is observable mainly in this age group (increase by 17 percentage points). Altogether the quota of adipose men has increased around 3%. The strongest rise of five percentage points appears in the age group between 60 and 75-years. For women both the quota of the overweight (by seven percentage points) and the quota of the adipose have increased (by four percentage points) in the same period. This negative trend is apparent in all age groups, most evident in the age group over 75 years. In this group the quota of overweight increased from 27% (1999) to 41% (2006-07), the adipose from 8% (1999) to 15% (2006-07) (Table 5) (Statistik Austria, 2007).

Table 5. BMI in Austria by sex and age, comparison between 1999 and 2006-07

Sex, age (years)	Underweight BMI <18.5		Normal weight BMI 18.5≤25		Overweight BMI 25≤30		Obesity BMI 30 and more	
	1999	2006-07	1999	2006-07	1999	2006-07	1999	2006-07
Male (%)								
20-29	1.5	0.7	52.2	69.5	42.2	24.0	3.9	5.7
30-44	0.7	0.5	38.5	44.6	53.4	44.0	7.4	10.8
45-59	0.6	0.4	26.6	30.2	59.9	52.2	12.9	17.2
60-74	0.7	0.5	25.7	28.1	60.1	52.9	13.5	18.6
75+	1.8	2.4	35.4	37.9	56.1	51.5	6.7	8.1
Total	0.9	0.6	35.6	41.6	54.4	44.9	9.1	12.8
Female (%)								
20-29	6.7	7.6	66.1	53.8	21.5	29.9	9.1	13.4
30-44	3.7	3.1	74.2	64.0	15.8	23.4	6.3	9.4
45-59	1.7	1.7	59.5	48.5	26.9	33.3	11.9	16.5
60-74	1.5	1.0	50.9	36.8	32.0	41.3	15.6	20.9
75+	3.8	1.6	61.2	42.7	26.9	40.7	8.2	15.0
Total	3.3	2.9	66.1	53.8	21.5	29.9	9.1	13.4

8.2. Italy

The following facts about the Italian elderly and their lifestyle refers to the publications of ISTAT (ISTAT 2008b, ISTAT, 2009), and Brinchi (Brinchi, 2009).

8.2.1. Demographics and health indicators

In Italy, the elderly are growing in number and so are poverty and dissatisfaction. As for the average age trend, Italy surpassed, three years ago, the ratio of 130 elderly every 100 young people (to 14 years old). No other state of the European Union boasts such a high “ageing peak”, although Germany, Greece, Spain, Portugal, Latvia and Slovenia go over the old/young ratio by 100%.

In January 2004, the ageing process reached a peak of 135.9%. The trend involves all regions of the country, and in the South the threshold tie of the elderly/young was surpassed for the first time last year: in 2005 the value of ageing peak was of 106.6%. The only regions where the situation is different are Campania and the independent province of Bolzano.

Altogether, at the end of 2004, Italian population was 58,462,375 with an increase with respect to the previous year of 574,130 residents, due mainly to migration (+ 558,189 people). This is because “little Italians are growing up”, even though slowly: women fertility shows a slight increase with 1.33 child for each woman, against 1.29 of the previous year, the highest level over the last 15 years. Also, with the joining of ten new countries to the European Union, we are no longer second to last in the births list: Greece, Bohemia, Slovakia, Slovenia, Poland and Hungary have by far surpassed us. Marriage rate is falling (from 260,000 in 2003 to 250,764) and the religious ones are even collapsing (68% compared to 75.3% five years ago).

Therefore, the number of elderly people is growing and so is dissatisfaction for one’s economic situation: 47.8% this year compared to 44% of two years ago, with an evident increase particularly in the South and in the Centre. In three years, the number of people who is dissatisfied with their own situation has grown by 7%, mainly in the Centre and even more in the South, whereas in the North the growth is less evident.

The scenario does not change if we pass from the individual’s perception to the families’: between 2003 and 2005, ISTAT highlights, the opinion expressed by families about money resources has worsened (ISTAT, 2008b). Compared to 2003, the percentage of the families who consider money resources insufficient passed from 39.9% to 41.6%, while the opinion of those who consider them adequate diminished from 58.8% to 56.4%. The negative peak is in the South.

Apart from economic resources, employment is another factor which makes the Italians unhappy. According to recent data (this year), one worker out of 5 is dissatisfied with his/her own job. 76.3% is gratified but it is diminishing compared to 2003 (77.5%). The difference between North-South is evident: the employed are 79% in the North and 72.6% in the South.

8.2.2. Elderly lifestyle and health behaviour

Free time and adult education are connotatively different between men and women. The feminine approach to free time is different and determined by the care of the house and family, unlike men who tend to identify themselves in their job and social relations. The data from ISTAT (ISTAT, 2008b) about free time, introduced in the analysis “The themes of daily life” 2007, prove what has been said.

The differences in the familiar workload appear very soon, they sharpen in the adult age and do not change in old age.

Compared to a previous ISTAT surveys, significant changes in the behaviour and lifestyle of the population are emerging, although gender differences persist. For example, women over 65 tend to dedicate themselves to familiar work three hours more with respect to men who have more free time (one hour and a half) and move along the territory more. Apart from the amount of time, the ISTAT survey shows a different qualitative approach to free time between men and women.

The time for social integration and participation is less even after 65, and it is higher in men than in women (7.3% for men, 6.5% for women). Then, the two genders clearly differentiate in the way they devote their time to social integration and participation, particularly among the over65: women concentrate their time on religion (18% of women, a higher amount among the less educated and in the South, with respect to 6.6% of men) and in volunteering (22% women and 14% men respectively). Men are more active in organised volunteering, in outdoor social life and sport participation.

Even data about solitude are significant for women: 31.4% against 28.8% of men. This condition increases with ageing and it reaches a particular high tip for women over 65: 42.2%. Moreover, solitude and education are correlated only for women, in the sense that the lower the education, the higher the level of solitude. ISTAT surveys need to be extended; however, they show that elder women should be offered an active life beyond the house walls which would allow opportunities for socialisation and social participation.

Especially in urban contexts, there are no social and aggregation places for women, whereas the social centres present in the cities are characterised by strong cultural male models. It is necessary to check the existence of social places for women and free time activities open to friendly relationships and inter-gender/cultural relationships, which might strengthen the community bonds, promote social activities and volunteering, and highlight the value of women behaviour as enrichment for the social territorial context.

It is also necessary to make some interventions on adult education. The elderly condition in education is an absolute downfall: two thirds of the over 65 have no education, and with women we reach 75%. It is a social emergency, which is being neglected: no education and illiteracy are widespread among the elder women. Research also shows that educational interventions are being requested by subjects who are already literate.

Even in this range women prevail, and the motivations of the questions need to be expanded to give more precise answers. The fact remains that most elderly people are not able to express their education needs. There is a risk of social marginalisation in a complex society where culture, communication, and technology (mobile phones, automatic ticket machines, ATMs, booking services, remote controls) change rapidly.

People might feel inferior and underestimated, and this might also affect their independence and their free will. Therefore, it is necessary to promote learning policies, offer education opportunities to develop and strengthen competencies and abilities and valorise memory in order to master reality, to achieve a conscious participation and social cohesion. The main effort should be addressed to what is called the “silent questions”, favouring the most disadvantaged people who cannot express their need to refresh their competencies, even if they represent the reality which needs most interventions.

Unlike the young, adult education may take place only if the addressees choose to join the activity, perceiving the usefulness of the intervention and the subsequent participation.

The “legge quadro” will be responsible for the fulfilment of these needs about the permanent education of adults (it is therefore necessary to emend the bill suggested by the government), as well as build the institutional frame for the creation of a national system favouring a cultural growth of the population, including the most disadvantaged subjects, and promoting citizenship.

8.3. Lithuania

8.3.1. Demographics and health indicators

The age structure of the Lithuanian population is also changing in the direction of demographic ageing (Juozulynas, 2001). In Lithuania, the number of the elderly kept constantly increasing for the last 100 years (Lesauskaitė, 2001). The percentage of subjects aged 60 and over becomes larger every year. Lithuania has already crossed the limit of high demographic old age. This problem receives gerontologists’ attention both in this country and in the world. On 18 September 1998, the Copenhagen Regional WHO Committee has announced the World Health Care Declaration “Health to the 21st century”. The fifth task pointed out in the Declaration is health preservation in the elderly. The WHO proclaims that by 2020 all people aged 65 and over

should be provided with the possibility to live a healthy life and to take an active part in social activities (Juozulynas, 2001).

In 2003 there were 693.000 people aged 60 years and more in Lithuania, i.e. this limit is already overstepped by 20% of the country; in 1990 the number of such people decreased by 100.000 and they reached 16% of all population (Lesauskaitė & Macijauskienė, 2003). In 2008 there were 690,800 of 60 years old and more. It is predicted that in 2060, two fifths (40.9%) of Lithuanian population shall be older people (in EU 35.7%). The number of elderly (80 years and older) shall increase almost three times. It is possible that in 2060 there shall be one person of employable age for each elderly person, when at present there are three (Table 6) (Ambrozaitienė, 2008).

Table 6. Elderly people by age group and sex in Lithuania (year 2008)

Age groups	N. (thousands)			Percentage		
	male	female	total	male	female	total
60-69 years	129.8	192.0	321.8	52.5	43.3	46.6
70-79 years	89.2	169.6	258.8	36.1	38.2	37.5
80-89 years	25.7	74.7	100.4	10.4	16.8	14.5
90-99 years	2.3	7.1	9.4	0.9	1.6	1.4
100 years and older	0.1	0.3	0.4	0.0	0.1	0.1
Total	247.1	443.7	690.8	100.0	100.0	100.0

The elderly people in Lithuania makes about 1/5 (19%) of the urban population and 1/4 (23%) of the rural population. Territorial distribution of older people is not homogeneous. The following districts are the “oldest” municipalities: Ignalina, Anyksciai, Alytus, Lazdijai, Zarasai, Varena and Moletai. In these districts, people more than 60 years old are about 27-30% (Ambrozaitienė, 2008).

During ageing chronic and long lasting diseases occur – diseases of heart-vessels and joints, osteoporosis, diabetes, oncological illnesses and chronic diseases of the breathing system, cataract, glaucoma, deafness, mental and linguistic disorders, traumas and etc. The leading causes of death of aged people are heart and vessels diseases, malignant tumours, diseases of the breathing organs (Table 7).

Table 7. Morbidity in Lithuania (2007)

Name of diagnosis	ICD 10 code	18 years and older	
		n.	rates for 100000 adults
Injury, poisoning and certain other consequences of external causes	S00-T98	252,721	93.9
Diseases of the musculoskeletal system and connective tissue	M00-M99	388,346	144.3
Diseases of the respiratory system	J00-J99	570,260	211.9
Diseases of the circulatory system	I00-I99	565,403	210.1
Diseases of the ear and mastoid process	H60-H95	107,917	40.1
Diseases of the eye and adnexia	H00-H59	267,638	99.5
Diseases of the nervous system	G00-G99	232,785	86.5
Mental and behavioural disorders	F00-F99	144,566	53.7
Endocrine, nutritional and metabolic diseases	E00-E99	183,617	68.2
Neoplasms	C00-D48	120,816	44.9

Accordingly to the data of Lithuanian health information centre, the number of hospitalizations is much higher in the group aged 65 and older in compare to other age groups, and after evaluation of dynamics of the last years it can be said that hospitalization number in the before mentioned group is increasing. The average length of the stay in the stationary care of the group aged 65 and older is longer than in general population (in 2003 13.2 and 10.3 days respectively). In 2002 hospital morbidity of older than 65 individuals was 428 cases for 1000 occupants. Diseases of the blood circulation system, tumours and diseases of the breathing system were the most frequent diagnosis of these patients. Polipathology is typical for the older people, although available statistical analysis does not allow evaluate parallel diseases (Lesauskaitė & Macijauskienė, 2003). Accordingly to the data of Health Information Centre, 248.000 persons aged 65 years and more were treated in the stationary care institution in 2007. The most frequent diseases of the older people are diseases of the blood circulation system (40%), tumours (11%), and diseases of the breathing system (8%).

After worsening of the health state, caring and medical rehabilitation services become particularly topical. In 2007 caring and supportive treatment services paid from the assets of budget of the compulsory health insurance fund were received by 18,6% of persons aged 65 years and more (in 2006 they were 17.9%). Also medical rehabilitation services were provided and they were received by 20,700 of this age population (i.e. 1,300 more than in 2006).

The number of the persons who receive social services at home and day centres has also increased. In 2007 social help and care at home was provided for 7,300 people of the retirement age, i.e. 200 more than in 2006. Moreover, 500 of this age people who organized services of their own because of the objective reasons, received support money. It was mostly occupants of the rural territory. In 2007 day centres were attended by a 15,200 people of the retirement age (in 2006 they were 14,400) and 19,500 people of the retirement age with disabilities (18,900 in 2006).

The older people who can not take care of themselves on their own are staying in the care institutions. 4,400 of 60 years old and older persons were living in the aged care houses in 2007 and in 2006, and 2,000 in the care houses for the disabled adults (in 2006 they were 2,100). Approximately one third of the aged living in the care houses were lonely – had no children and relatives (Ambrozaitienė, 2008).

Protuberances of the diagram show the periods with high fertility: 1958-1962, 1970-1972 and 1985-1987 (Figure 25). The bottom of the diagram shows the changes in fertility in the previous years, while the upper part the intensification of ageing of the population (i.e. the increase in the number of elderly people, aged 60 and older. In 2008, the population aged 60 and older amounted to 690,800 (i.e. 20.5% of whole population), while in 2000 it was 668.300 (i.e. 19.0% of whole population). The number of men aged 60 and older in Lithuania amounted to 247,100, while women amounted to 443,700, i.e. one sixth of male and one fourth of female were elderly. In the same year (2008) the number of children aged under 15 was by one-fourth lower than that of elderly people, while in 2000 it was by 6.2% higher. At the beginning of 2008, there were 134 elderly persons per 100 children – at the beginning of 2001 only 94 (Statistikos Departamentas, 2008).

Life expectancy at birth is one of the most important health indicators of the population, most precisely reflecting mortality changes. In 2007, life expectancy at birth for men was 64.9 years (i.e., 1.9 years less than in 2000); that for women was 77.2 years, 0.3 years less than 2000. The decrease in this indicator was determined by the increase in mortality. A quite significant difference between the life expectancy at birth for men and women remained: in 2007, life expectancy at birth for men was by 12.3 years lower than that for women, in 2000 – by 10.7 years respectively. In 2007, life expectancy at birth for men and women in urban areas was higher than that in the rural ones: for men – by 3 years, for women – by 1.8 years (Statistikos Departamentas, 2008) (Figure 26).



Figure 25. Population by sex and age in Lithuania

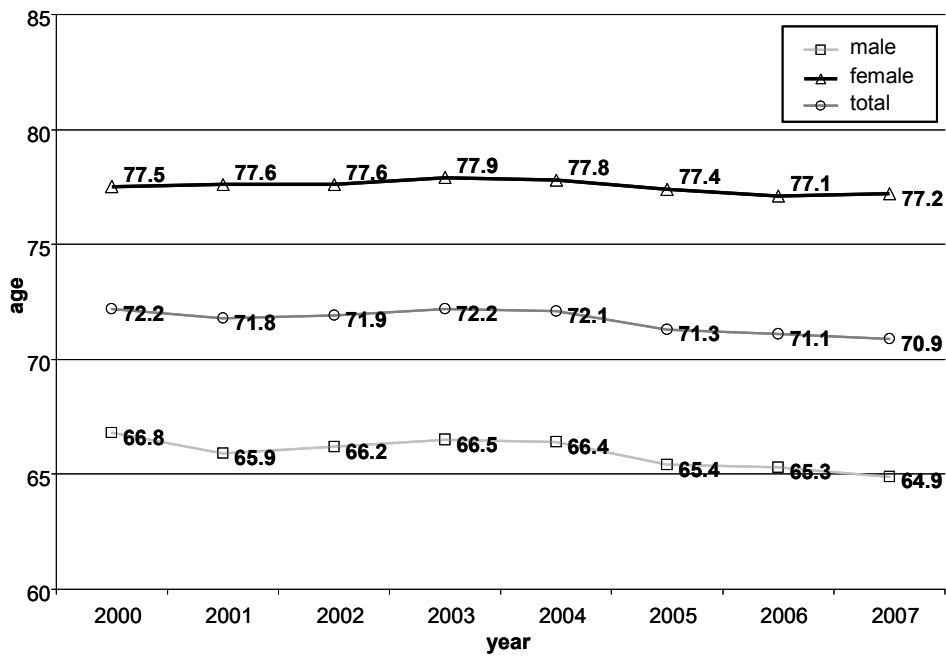


Figure 26. Life expectancy at birth in Lithuania

In 2003 the percentage of population aged 50-64, 65-79, 80 and more was respectively 16.1%, 12.2% and 2.8%. The average life expectancy at 50, 60 and 70 years old was respectively 22.2 years (male) and 30.1 years (female), 13.3 years (male) and 17.0 years (female), 6.2 years (male) and 7.2 years (female).

According to Healthy Ageing project (Oloffson & Berensson, 2009), 2/3 of male and more than 50% of female aged 50-64 was employed during 2004, most of whom working full time (Tables 8).

Table 8. Employment rate in Lithuania

Group	Employment 2004	Working full time 2004
Male	66.2%	91%
Female	5.9%	86%

Among persons working at the end of 2007, about 92.000 (13%) were 60 and more years old (i.e. about 1/5 of man and 1/11 of woman of this age was working). The highest number (52.000) of 60 and more years old occupants were working in the field of services. Moreover, about 24,000 of such age population was working in the industry and constructions, 15,000 – in the fields of agriculture, hunting, forestry and fishery (Statistikos Départementas, 2008).

In a survey conducted in Vilnius, 145 residents (47 males and 98 females) were randomly selected from the very elderly database, for questioning and examination at their homes. Most frequent diseases in them were chronic bronchitis (46.9%), pneumonia (33.8%), hypertension (47.6%), bone fractures (38%). The chronic diseases present at the time of questioning could be grouped as follows:

- most frequent diseases such as vascular (64.1%), chronic ocular (59.3%) and locomotor (30.3%) diseases;
- comparatively rare diseases of nerves (21.4%), digestive (19.3%), urogenital (17.2%) and respiratory (14.5%) systems;
- most rare diseases such as oncological (3.4%) and endocrine (5.5%). All respondents that complained of joint diseases during questioning had osteoarthritis.

A large number of individuals showed specific geriatric syndromes, i.e. obstipation (62.8%), insomnia, (55.2%), incontinence (44.1%). Of all respondents, 10.3% had no diseases and took no medicines; 46.9% were ill with one or two and the minority (18.8%) with five and more chronic diseases. On the average, one respondent had 2.5 chronic diseases (2.1 for male and 2.7 for female) (Gaigalienė *et al.*, 2004).

8.3.2. Elderly lifestyle and health behaviour

8.3.2.1. Nutrition

Accordingly to the data of the science papers, metabolism processes of the older people are also changing: they become slower, organism is using much less energy, some hormones are not such productive as before, level of the cholesterol in blood increases, secretion of the different digestive glands becomes slower, other signs of the deceleration of organism physiological and biochemical processes occur. One of the most important factors that determine etiopathogenesis of these before mentioned processes and diseases is rational nutrition (Lietuvos gerontologų ir geriatrų draugija, 1999).

The calorie value of old people’s ration is recommended to be lowered to 2000-2400 kcal and 1800-2200 kcal for middle-aged and elderly people, respectively. The content of proteins in the ration should remain the same. Also, the amount of many vitamins that are necessary for the organism should not be lowered. Of particular importance are vegetables and fruit, especially for subjects inclined to obesity. However, the state of dentition and the ability to chew should be considered before recommending them to people of advanced age (Kadžiauskienė *et al.*, 2000).

After studies of residents of the aged care houses, received results have shown that average nutritional composition and energetic value of the daily product portion is different than recommended (Figure 27 and Table 9) (Kadžiauskienė *et al.*, 2000). During ageing, physical activity of the person decrease even despite good physical shape. Individuals become less mobile and that means that less energy is used.

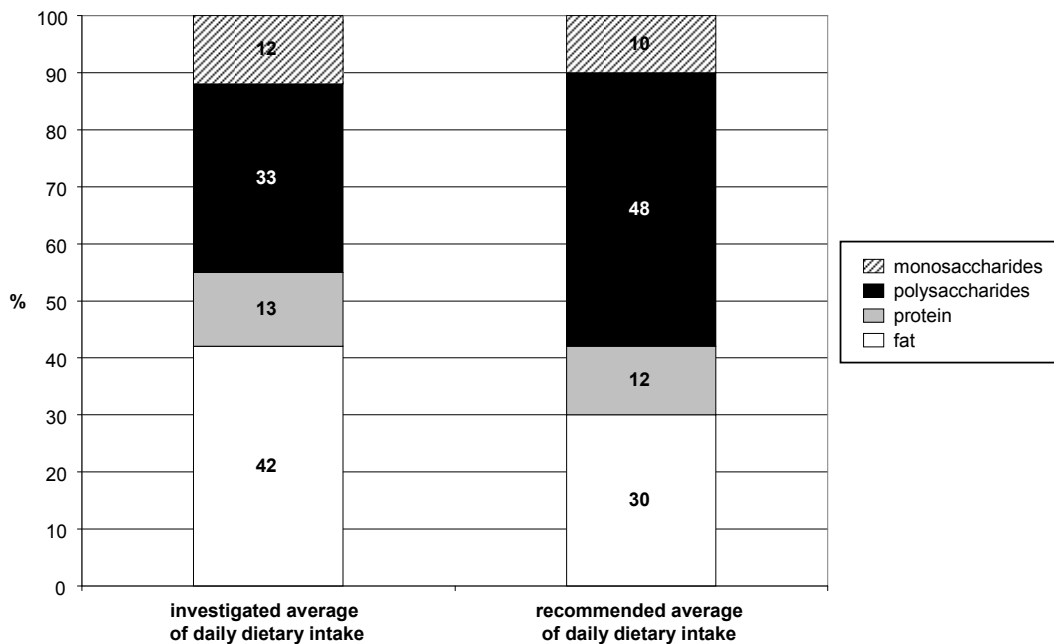


Figure 27. Residents of the aged care houses in Lithuania: daily dietary composition (% from ration of the energy value)

Table 9. Elderly people in foster homes in Lithuania: daily dietary composition and the energy value

Nutrition composition	Physiological standard*	Factual consumption	% of physiological standard
Protein (g)	45.0-60.0	101.4	195
<i>Animal of them</i>	15.0-21.0	56.2	312
Fat (g)	61.0-75.0	150.6	221
<i>Animal of them</i>	20.0	36.5	182
Carbohydrate (g)	279.0-372.0	101.4	195
Total energy value (Kcal)	1,800-2,400	3,252.0	155

* Recommended norms of daily energy and nutritional materials for the adults, confirmed by Health care minister in 1999, 25th of November, by decision No. 510 (Zin., 1999, No. 102 – 2936).

Aged people use more fats, more monosaccharides, but insufficient amount of polysaccharides is used, when energetic value of these materials is calculated from the energetic value of daily food portion. In the evaluation of used amount of some food products it should be mentioned that two times higher amount than recommended of rye bread is used (205 g instead of 100 g), four times higher amount than recommended of the pasta (38 g instead of 10 g), too high amount of used butter and sour cream. Still two times less amount than recommended of vegetables is used (174 g instead of 375 g), the same situation is in the case of milk and especially of kefir (only 21.6% of recommended amount), also oil (only 41% of recommended amount), because there is no chance to use fresh fruits and berries, although they are partly replaced by dried fruits (89% of recommended amount) (Table 10) (Kadžiauskienė *et al.*, 2000).

Table 10. Daily dietary intake of residents of the aged care houses in Lithuania

Produce	Recommended intake (g/day)	Factual intake (g/day)	% of recommended daily quantity
Rye-bread	100	204.9	204.9
Graham bread	120-150	155.0	115.0
Graham	10-20	19.4	129.6
Pasta	10	32.7	326.7
Grits and beans	25-30	47.6	173.2
Potatoes	150-250	297.2	148.6
Vegetables	350-400	174.2	46.4
Fresh fruit, berries	250-300	-	-
Dessiccated fruit	25	22.2	88.8
Sugar	50	39.4	78.8
Meat with no fat	75-100	81.5	93.1
Fish with no fat	60-75	18.2	26.9
Milk	150	126.4	84.3
Kefir	150	32.4	21.6
Curd with no fat	100	59.9	59.8
Cheese	10	8.3	83.4
Eggs	19.3	13.4	69.6
Oil	20-30	10.2	40.7
Butter	10	37.9	379.5
Sur Cream	10	36.9	369.5
Jam	-	24.9	-
Juice	-	13.9	-
Pork	-	172.2	-

Too high amounts of the used products (bread, sour cream, butter, pasta) of the high energetic value determine significantly higher than recommended energetic value of the daily food portion. In the evaluation of used amounts of vitamins and mineral materials it should be marked that there is lack of vitamin D and C and also calcium in the daily food portions of the living residents in aged care.

Excess of B group vitamins, phosphorus and iron in the daily food portion is associated with plenty use of rye bread, mealy foods and potatoes houses (Table 11).

Table 11. Residents of the aged care houses in Lithuania: vitamins and minerals in daily food ration

Chemical composition	Physiological standards*	Average of daily food ration	% of physiological standard
Vitamins			
B1 (mg)	1.3	2.3	177.0
B2 (mg)	1.5	2.1	140.0
M12 (µkg)	3.0	4.2	140.0
C (mg)	60.0	60.0	100.0
A (µkg)	800.0	628.0	78.5
D (µkg)	5.0	1.4	28.0
Mineral substances (mg)			
Ca	1,200	696	58
Mg	300	368	123
P	900	1,604	178
Fe	10	27	270

* Recommended norms of daily energy and nutritional materials for the adults, confirmed by Health care minister in 1999, 25th of November, by decision No. 510 (Zin., 1999, No. 102 – 2936).

Amounts of vitamins in the daily food portions are not balanced and it can be relevant to insufficient use of fruits and vegetables. In the most of analyzed daily food portions there is a lack of A and D vitamins. Insufficient A vitamin amount in the food can be in general associated with a lack of milk and milk products, and insufficient D vitamin amount – with a lack of used oil. It is also obviously that there is a lack of calcium.

Results have also shown that average daily food portion of some aged people is unbalanced, there is too high amount of fats. Such insufficiently balanced daily food portion of the studied persons can be one of the risk factors that induce etiopathogenesis of the chronic non-infectious diseases.

During the study following conclusions were revealed:

- Too high amount of the meat is used.
- Larger amount of the used meat is pork.
- Insufficient amount of fish products (four times less than recommended).
- Insufficient amount of used milk and milk products.
- Too high amounts of mealy foods.
- Insufficient use of fresh fruits, vegetables (Kadžiauskienė *et al.*, 2000).

After study of the long lived (816 respondents were surveyed) it was revealed that the biggest part of their lives they had lived with a use of average material means and almost every fifth of the respondents had lived quite poorly. 61.2% of respondents have marked that they had sufficient food, and 2.9% - that there was plenty of food. Despite this, 13.2% of respondents stated that there was a lack for food, and 22.7% - experienced starvation.

During analysis of the characteristics of the employable age nutrition (Table 12) it should be noted that absolute majority (97.8%) liked and ate meat everyday (19.2%) or 2-3 times a week (75.9%). Number of people who didn't use meat product was small – only 1.2. Men more statistically reliably were eating meat ($p < 0.05$) (Čiobota *et al.*, 2003).

The milk products were also preferred during employable age. Often, i.e. every day, milk products were eaten by 85.5% of respondents, and milk products were not liked and used only by some respondents. Milk products were more often used by women (87.3%) than men (80.3%), but date is statistically unreliable ($p > 0.05$).

Table 12. Nutrition of long-lived persons in Lithuania

Meals	Male		Female		Total	
	n.	%	n.	%	n.	%
Preferred during working age						
Meat						
<i>every day</i>	54	26.0*	103	16.9*	157	19.2
<i>2-3 times per week</i>	151	72.6	498	81.9	649	79.5
<i>not used</i>	3	1.4	7	1.2	10	1.2
<i>total</i>	208		608		816	
Milk products						
<i>often</i>	167	80.3	531	87.3	698	85.5
<i>rarely</i>	39	18.8	72	11.8	111	13.6
<i>not used</i>	2	0.9	5	0.8	7	0.9
<i>total</i>	208		608		816	
Vegetarian food						
<i>used</i>	6	2.9	28	4.6	34	4.2
<i>not used</i>	200	97.1	577	95.4	777	95.8
<i>total</i>	206		605		811	
Preferred now						
Meat*	11	14.4*	16	6.8*	27	8.7
Milk products	12	20.4	74	23.3	86	22.6
Vegetables	1	15.8	9	12.2	10	13.1
Miscellaneous food	148	76.1	431	72.8	579	73.7

* The difference between men and women statistically significant ($p < 0.05$)

Vegetarian food was not popular. Absolute majority of the long lived (95.8%) have not liked and use this sort of food. There was no essential difference between men (97.1%) and women (95.4%) who didn't like vegetarian food. Most of the respondents who have reached older age (during the study): about equal proportion of men (76.1%) and women (72.8%) give preference for different food. Only minority likes more milk sort (22.6%) or meat type (8.7%) products. Studied men reliably more often choose meat ($p < 0.05$) (Čiobota *et al.*, 2003; Čeremnyc *et al.*, 2002; Alekna *et al.*, 2001).

8.3.2.2. Physical activity

Supposing that health has three dimensions (physical, social and spiritual), physical efficiency (fitness) is one of those most important. However, the performed study shows that most (75.8%) of elderly people 55-89 years of age, especially those living in the country, are not well aware of its importance for health. They feel no urge for exercises, give little importance to physical culture in everyday life and activities (professional including) and do not understand that physical inactivity exposes a person to an increased tempo of physical decline causes by age. The study has shown that elderly people are rather active in everyday life, set high standards (especially urban inhabitants with higher education) for cultural needs. Urban inhabitants find it more difficult to integrate into community life. Daily demands of the elderly are not satisfied: they lack money for living, medications, stomatological aid, cultural and other needs. Compared with other European countries, their contacts with children, grandchildren and close relations are rather rare (Gaigalienė, 1999). According to the survey on 608 aged urban (71%) and rural (29%) respondents, data showed that majority (72%) of individuals become more seriously concerned about own health only when:

- long-termed treatment and leisure do not help anymore;
- inconveniences are often occurring because of health state;
- it is impossible to perform some necessary actions.

Most of respondents are sure that any more physical activity would not only worsen health but also anticipate death. The survey has shown that there was much less people who live in an active way (only 20.1%). Absolute majority of these respondents (82.8%) lived in the urban territory. Residents of the rural territory of this group were participators of the folkloric companies and chorus and also liked to reach rehearsals by bicycle, also worked physical work, but haven't do sports or physical culture. More than a half of the active citizens liked to run, individually do sports and exercises, and only one third of them didn't do (31.1%) sports. Those respondents who are doing physical culture and especially exercising persons are rating their health as better than those who do not like active movement. Besides, performed studies have shown that most aged people do not feel need for physical culture or other types of physical activity and they also do not understand a meaning of the exercising in their daily life. Only one fifth of 608 respondents has associated good health with physical activity. The others (75.8%) were convinced on the contrary: they thought that in the case of good health a good physical activity is needed, and in the case of bad health physical activity declines. In the opinion these respondents health should be improved only with medicines and leisure.

Survey has also analyzed factual physical activity and abilities subject to lifestyle (living in family, alone or in the care house). 94 respondents (aged 70-84) were surveyed by simple random sampling. The respondents were divided in three groups:

- group I (30 individuals) living in family,
- group II (20 individuals) living separately (do not have or conditionally do not have a family)
- group III (44 individuals) living in care houses.

Characteristics of the surveyed persons accordingly to age, sex and lifestyle presented in the Table 13. We can see that 84% were made by woman. 50% of all respondents were of age 70-74.

Table 13. Characteristics of investigated persons in a survey in Lithuania

Age group (years)	Sex			Live condition		
	male	female	total	in family	alone	in foster homes
70-74	8	39	47	15	11	21
75-79	4	22	26	6	6	14
80-84	3	18	21	9	3	9
Total	15	79	94	30	20	44

Table 14 shows that surveyed individuals do not go in for sport. According to willingness to take exercise individually, in each group the following percentages were found: 43.3% (group I); 45% (group II); 47.7% (group III). The other respondents, especially those living in care houses, were convinced that exercising and physical activity are absolutely unnecessary. Despite this, individuals living in care houses (group III) liked to go for a walk in the evenings in a slow pace for 15-20 minutes, but avoided daily house works and working in the garden or vegetable garden. Persons of the III group evaluated their health in a quite modest way (2.8 points in system of the five points). 53.3% of respondents were constantly taking medicines. Meanwhile respondents living in the family (group I) were working at home every day. 93.3% of them didn't avoid physical works that were appropriate for their fitness (relatively intensive work in the garden or vegetables garden), and only 19.3% were taking medicines (Table 14).

Table 14. Physical activity of elderly persons

Rates	Group			Total
	I (n.=30)	II (n.=20)	III (n.=44)	
Taking exercise individually	13 (43.3%)	9 (45%)	21 (47.7%)	43 (45.7%)
Physical work in the past	23 (76.6%)	14 (70.0%)	25 (56.8%)	62 (66.0%)
Physical work now:				
<i>housework</i>	30 (100.0%)	20 (100.0%)	10 (22.7%)	60 (63.8%)
<i>in the garden or backyard</i>	28 (93.3%)	12 (60.0%)	5 (11.4%)	45 (47.9%)
Walking in the evenings about 15 min				
<i>everyday</i>	-	18 (90.0%)	40 (90.0%)	58 (61.7%)
<i>rarely</i>	26 (86.7%)	2 (10.0%)	4 (9.1%)	32 (34.1%)

Respondents of the group II worked everyday at home and 60% worked in the garden or vegetable garden. 90% liked to go for a walk in the evenings, but they were troubled by occupational inaction. Majority (75%) of the respondents could not face the thought that their stored professional knowledge was not needed to anyone; if it could be possible 60% of them would agree to continue occupational practice. The survey has shown that the highest physical activity was typical to the persons who were living in families, and the lowest for those who were living in the care houses (Gaigalienè 1999).

8.3.2.3. Needs

The needs and hygiene difficulties of aged people can be interpreted as the factors and indicators of their quality of life. The most urgent needs as life quality factors are living (money, authorities' attention) and medical services, followed by social needs (friends and relations) and those providing for spiritual comfort. The most important needs indicators are money (97%), authorities' attention (90%), truth and justice (55%), health (53%), medical aid (50%) (Table 15).

Table 15. Needs of elderly persons

Needs	Total (%)	Age group (years)				
		55-59	60-64	65-69	70-74	>75
Money	97.0	24.2	23.2	19.6	12.4	20.0
Attention from government	90.5	24.9	24.3	18.8	12.1	19.0
Concerts, theatre and other cultural measures	55.5	30.6	27.9	21.6	10.8	9.0
Truth, justice	55.0	33.6	23.6	18.2	10.9	13.6
Health	53.0	22.6	22.6	15.1	8.5	31.1
Medical help	50.5	23.8	22.8	18.8	14.8	19.8
Good medicines	29.0	17.2	22.4	25.9	17.2	17.2
Newspapers, books	17.5	25.7	37.1	20.0	11.4	5.7
Food	13.5	3.7	11.1	18.5	7.4	59.3
Clothes	11.5	26.1	39.1	17.4	4.3	13.0
Help from close persons	11.5	8.7	4.3	8.7	17.4	60.9
Friends	2.5	20.0	20.0	20.0	20.0	20.0

The most significant difficulties in sanitation are presented by teeth cure (99%), trust in medical professionals (95%), treatment quality (96%), extra pay for medical services (88%), lack of attention of medical staff to patients (63%), as well as various difficulties encountered when trying to be accepted to hospital (56%) (Gaigalienè, 1999).

8.3.2.4. Alcohol and tobacco use

After survey on 775 very old persons, it was revealed that about half of them (47.4%) have never consumed alcohol. Men were consuming alcohol more often (79.0%) than women (38.5%), ($p < 0.01$). And now, when they have reached long live, a bigger part of the respondents (68.1%) do not consume alcohol, and from those who are consuming, drink more rarely than once per month. Only in single cases male respondents stated that they were drinking alcohol every day (1.5%), and 1-2 times a week only 3.9% of all respondents (agreeably 18.0% men and 2.4% women). The rest part of respondents (11.0% men and 3.0% women) consumed alcohol every two weeks (Čiobota *et al.*, 2003; Čeremnyc *et al.*, 2002; Alekna *et al.*, 2001) (Table 16).

Table 16. Frequency of alcohol using of very old persons living in the community

Alcohol use	Previously						Currently					
	male (n=200)		female (n=575)		total (n=775)		male (n=200)		female (n=575)		total (n=775)	
	n.	%	n.	%	n.	%	n.	%	n.	%	n.	%
Everyday	9	4.5	2	0.3	11	1.4	3	1.5	0	0.0	3	0.4
1-2 times per week	42	21.0	18	3.1	60	7.7	16	8.0	14	2.4	30	3.9
1-2 times per month	62	31.0	63	11.0	125	16.1	22	11.0	17	3.0	39	5.0
<1 time per month	45	22.5	167	29.0	212	27.4	58	29.0	117	20.3	175	22.6
Never	42	21.0	325	56.5	367	47.4	101	50.5	427	74.3	528	68.1

In the analysis of smoking habits among the very old persons it was determined that 15.5 of them were smoking. On average they began smoking at age of 23-34 (23.6 ± 1.3). In compare to men, women began smoking at older age (36.5 ± 3.3). In most cases (97.9%) respondents were smoking cigarettes, and only small amount of them (2.1%) a pipe. Average amount of cigarettes per day was about 10.85 (9.7 ± 1.2). Majority of the smokers were men (74.1%, $p < 0.05$). Smoking period was 34 years on average. 9 respondents (6 men and 3 women) were still smoking to the moment of the study (Čiobota *et al.*, 2003; Čeremnyc *et al.*, 2002; Alekna *et al.*, 2001) (Table 17).

Table 17. Long-lived persons living in the community: tobacco smoking

Tobacco smoking	Male (Mean±SD)	Female (Mean±SD)	Total (Mean±SD)
How long smoking (years)	36.8 ± 22.7	28.7 ± 20.2	34.9 ± 22.3
Time of non-smoking (how many years ago)	33.1 ± 18.9	33.1 ± 17.3	33.1 ± 18.6
Smoking cigarettes per day	12.4 ± 8.5	6.0 ± 8.8	10.8 ± 8.9
Smokers: n. (%)	83 (74.1)	29 (25.9)	112 (100.0)

8.4. Poland

8.4.1. Demographics and health indicators⁵

According to Główny Urząd Statystyczny (GUS-Central Statistical Office), in 1990, people aged at least 65 years made up 10.2% of the overall Polish population (GUS, 2001). The number of elderly people grew by almost one million during the following 10 years while the overall population increased at the same time by less than half a million (up to 38.6 millions) (GUS, 2001), which meant that the percentage of elderly people increased by approx. 12.3% (GUS, 2001). Since the beginning of the 21st century, a drop in the overall population of Poland can be observed with a simultaneous growing trend in the number of elderly people (GUS, 2003). A further decrease of the Polish population and its accelerated ageing is projected in the coming years (Bolesławski & Marciniak, 1997; Bolesławski 2004; Marciniak 1999) (Table 18).

Table 18. People aged over 60 and over 65 in Poland (1950-2007)

Year	>= 60 years of age (%)	>=65 years of age (%)
1950	8.2	5.2
1960	9.6	6.0
1970	12.9	8.4
1980	13.3	10.1
1990	15.0	10.2
2000	16.7	12.3
2004	17.1	13.1
2007	17.8	13.4

According to the 1998 projection of GUS the overall population in Poland was expected to decrease until 2005 and increase afterwards to approx. 39 million people in 2017 and then decrease again down to approx. 38 million people in 2030. In the same period, the urban population increased vs the residents of rural areas until 2022 (from 61.9% in 1998 up to 64.1% in 2030) (Jelonek, 2004). The latest GUS studies are less favourable as they assume a continuous drop in the population of Poland down to 35.7 million (with an inaccuracy between 34.5 million and 37.0 million) in 2030. The number of elderly people will grow continuously in the meantime from 4.9 millions people aged 65 and over in 2002 up to 7.1 millions in 2020 and 8.5 millions in 2030 (reaching 12.8%, 19.1% and 23.8% respectively) (Bolesławski, 2004).

Simultaneously, it is projected that mortality will decrease further and the average life expectancy will grow systematically reaching (according to the basic scenario) 76.9 years in 2010, 78.7 years in 2020 and 80.0 years in 2030, including extension to approx. 77.6 years for males and to 83.3 years for females.

The percentage of elderly people in the Polish population indicates considerable geographical differences. In 1995, provinces in central and eastern Poland had the highest percentages of elderly people (over) 65 years of age. The fewest elderly people lived in the northern and western provinces. The situation had not changed much by 2001, except for the fact that the area of the Sudety Mountains (Kurek, 2004) joined the demographically old regions (Figure 28).

⁵ The main body of this chapter is based on Szczerbińska K.: Problemy zdrowotne starzejącego się społeczeństwa. [Health problems of ageing society] In: K. Szczerbińska (Ed.) Accessibility of health and social care for older people in Poland. WUJ Krakow 2006, p.29-43.

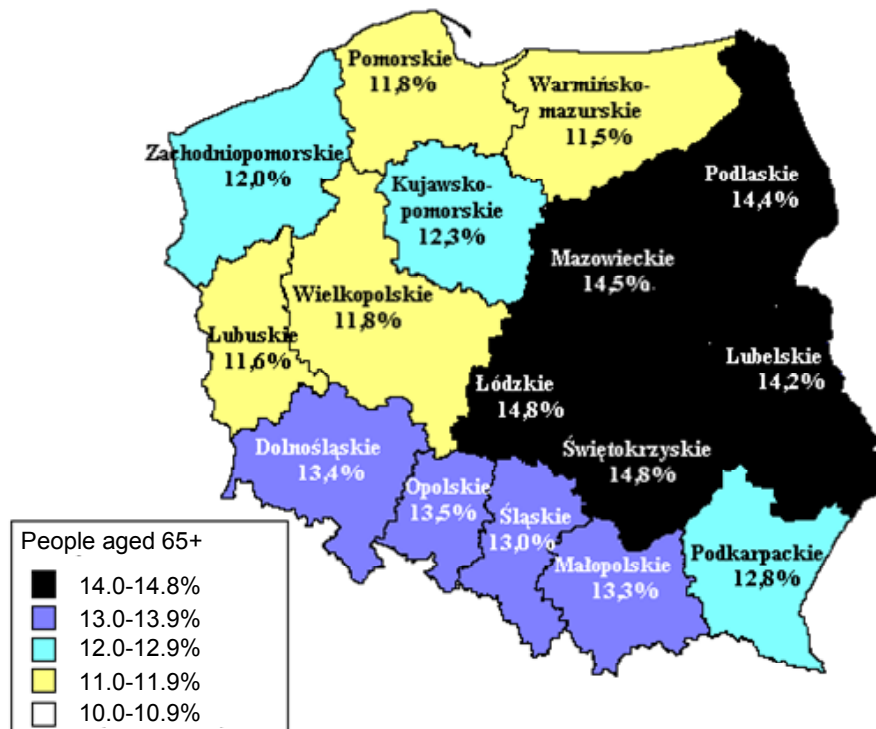


Figure 28. Elderly people aged 65+ by provinces in Poland in 2005

In general, the process of population ageing in the seaside provinces is slower than in other regions of Poland. Comparing years 1990 and 2000, the number of people aged 65 and over in the present Pomorskie and Zachodniopomorskie provinces have grown from 8.5% to 10.7% and from 7.9% to 10.8% respectively (*vs* the national average of 12.3%). while the increase of elderly people was more noticeable in urban *vs* rural areas (Guzińska *et al.*, 2004). In 2005 the rural population was still higher and reached 11.8% and 12.0% respectively in the Pomorskie and Zachodniopomorskie provinces.

At present, the percentage of elderly people in the rural population is still higher *vs* the urban population (13.5% *vs* 12.2% in 2002) (Kowaleski, 2004). However, it is projected that due to a lower birth rate in urban *vs* rural areas in the coming years and increased migration from towns and cities to their outskirts the total number of residents in towns and cities will decrease continuously from 61.7% in 2002 down to 57.4% in 2030 (Bolesławski, 2004). Simultaneously, the number of elderly people will grow faster in urban *vs* rural areas. By 2030, the percentage of elderly people in the urban population will grow to 26.5% while people aged 65 and over will constitute 20.3% of rural area residents (Bolesławski, 2004).

The projection stresses that demographic changes will have a significant impact on the development of various types of services to satisfy the various needs of the elderly people in the future. Most likely, a demand will increase for both medical and social care services and various forms of leisure time activities and health promotion services. It will be necessary to prepare urban infrastructures to accept a higher number of elderly people (Figure 29) (GUS, 2004).

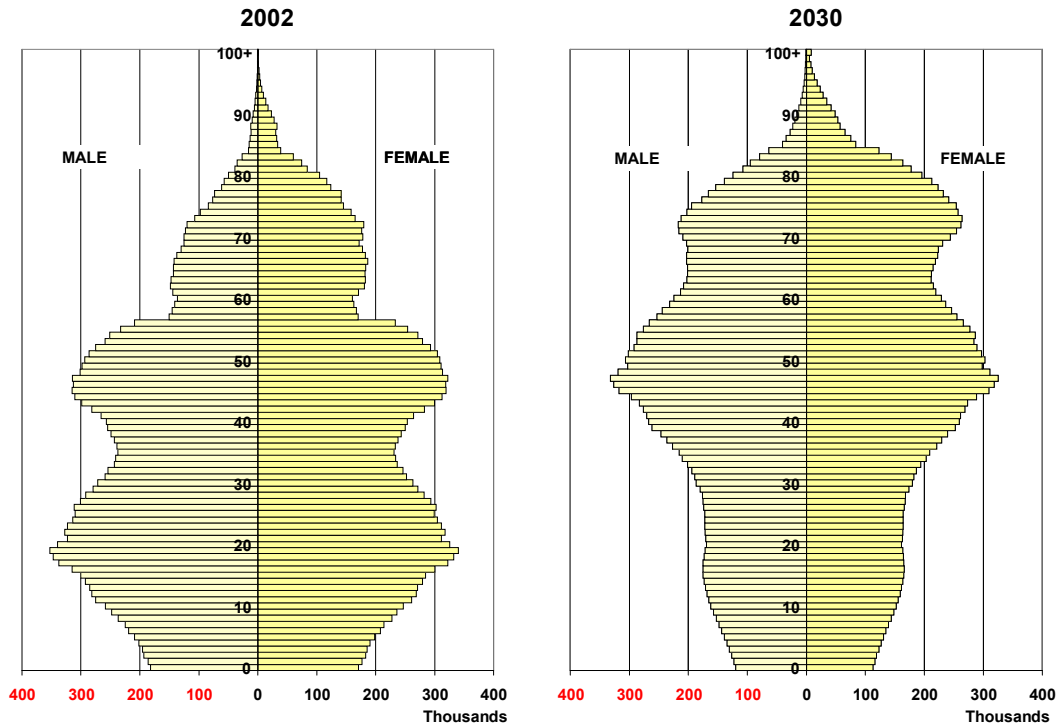


Figure 29. Population by sex and age in 2002 and 2030 in Poland

By 2030, the average age of a resident of Poland who was about 37 years old in 2004 will grow to over 45 with the trend of further growth (GUS, 2004)

The presented data demonstrate high change dynamics and show a considerable advancement of the ageing process in the Polish society. Simultaneously, they indicate an unexpected acceleration of demographic processes that are characterised, inter alia, by a considerable growth of people aged over 80, levelling of differences in this respect between provinces and the faster ageing of urban populations. It should be expected that observed demographic changes will be linked with the need for the development of various forms of care under the health care system and social protection for elderly people.

8.4.2. Epidemiology of disability among older people

On the basis of census data, the number of disabled people reached 5.5 millions in 2002 which was 14.3% of overall population of Poland. This means that one in seven residents of Poland was disabled (in 1988, one in ten; in 1978, one in fourteen).

The results of the 2002 National Census have confirmed frequent incidence of disabilities at the elderly. Approx. 2.05 million people aged 65 and over have reported disabilities. Simultaneously, it has been demonstrated that the percentage of disabled people in the population of elderly people grows in the subsequent age groups (Table 19) (Skřętownicz *et al.*, 2004).

Table 19. Older people disabled by age in 2002 in Poland

Age	65-69	70-74	75-79	>=80	total
Elderly population by individual age group (in millions)	1.6	1.40	1.00	0.83	4.8
Elderly disabled (in millions)	0.6	0.59	0.47	0.42	2.0
% of disabled in individual age groups of elderly people	35.7	41.70	46.50	50.60	42.2

This allows the thesis of the growing dependency and the disability in the last phases of life to be confirmed (Szukalski, 2004a).

Men entering old age demonstrate a fitness deficiency more often than women do. This has been confirmed by both the National Census statistics concerning biological and legal disabilities (Skrętowicz *et al.* 2004) and surveys concerning independence in performing everyday life activities (Tobiasz-Adamczyk, 2004). Women, however, report a higher risk of losing fitness in this respect. It has been observed that the percentage of the disabled in a male group aged over 65 drops gradually in subsequent age groups, and the percentage of the disabled among women grows continuously. Therefore, the disabled female majority grows in the subsequent age groups of elderly people. According to the same source, a disability rate (percentage of disabled people in the elderly population) was higher for residents of rural vs urban areas in all the analysed groups of the elderly (Skrętowicz *et al.*, 2004).

Similar results were obtained in the next survey of health condition of the Polish population in 2004. It was demonstrated that though an overall disability rate is higher for women vs men (17.1% vs 15.4%), disability affects men more frequently than women in every age group until the age of 69 which can be the consequence of higher exposure of men to injuries or accidents connected often, inter alia, with dangerous work (jobs) and more risky behaviour (lifestyle). The prevalence of women in the group of disabled people increases in the group aged 70 and over and concerns biological disability firstly. The residents of rural areas suffer from disabilities slightly more often than the residents of urban areas, except for children and young people aged less than or 20, in case of which disabilities occur less frequently in rural versus urban areas (GUS, 2006) (Table 20).

Table 20. Disabled people by age in 2004 (on the basis of data from Central Statistical Office - GUS. 2006)

Age	15-19	20-29	30-39	40-49	50-59	60-69	>=70	total
Population of individual age groups (in million)	3.0	6.4	5.0	5.7	5.2	3.1	3.4	31.8
Disabled people (in millions)	0.12	0.27	0.30	0.76	1.53	1.21	1.80	5.99
% of the disabled in individual age groups (%)	4.0	4.3	5.9	13.4	29.3	39.5	52.2	18.9

As mentioned before, the disability evaluated at the National Census was divided into three categories: legal disability (i.e. supported by relevant certification), biological disability (connected with difficulties in everyday functioning) as well as both legal and biological disability.

The number of people reporting a biological disability increased significantly in the older age groups (from approx. 20% in urban areas and 22% in rural areas in age group 65–69 to approx. 43% and 46% respectively in the group aged 80 and over), while the number of people with a legally certified disability decreased (from 27% in urban areas and 26% in rural areas in age group of 65 to 12% and 10% respectively in the group aged 80 and over) (Skreńtowitz *et al.*, 2004) (Table 21).

Table 21. Growth of disability proportionally to age in subsequent years in Poland (1988-2004)

Age	Disabled in subsequent years (in thousand)			
	1988	1996	2002	2004
0-14	47.9	288.1	202.4	208.9
15-19	30.7	59.3	84.0	118.3
20-29	92.4	141.3	202.7	272.1
30-39	236.9	338.5	250.7	299.2
40-49	402.6	939.3	775.4	762.1
50-59	1035.0	1192.4	1326.7	1526.1
60-69	998.8	1354.6	1130.6	1214.9
≥ 70	887.4	1117.2	1484.0	1804.4
Total	3731.7	5430.7	5456.5	6206.0

Disability leading to the limitation of independent movement grows clearly in proportion to age (Ostrowska & Sikorska, 1996; Bień, 2000; Tobiasz-Adamczyk & Brzyski, 2002a). This has been confirmed by the previous surveys between the years 1960-2003 (Piotrowski, 1973; GUS, 1997; GUS, 1997a; GUS, 1998; GUS, 1999; Szczerbińska & Hubalewska, 2004). The physical disabilities of elderly people result first of all from diseases of the cardiovascular system (Tobiasz-Adamczyk & Brzyski, 2002b), motor system diseases (including degenerative osteoarthritis as well as osteoporosis and its complications), neurological diseases (e.g., paresis after stroke) and ear or eye diseases (Car *et al.*, 2004). It was determined in the population health condition survey carried out by the GUS in 1996 that the group of people aged over 60 included:

- 2.1% people permanently bedridden;
- 5.8% people not able to leave their home on their own;
- 17.1% people retaining mobility limited only to their home surroundings;
- about 12% of people not able to perform basic activities such as washing oneself, dressing, etc. on their own (Kuciarska-Ciesielska, 1999b).

According to later studies, around 30% of people aged 65 and older experienced some degree of impaired mobility while from 1% to 11% of older people did not leave house or were bedridden. The loss of mobility increases with age, applying from 20% of people aged 65-69 to 44% of people aged over 75 (Synak, 2001) (Table 22).

Table 22. Mobility indicator (%) in Poland

Mobility level	Age 65-69	Age 70-74	Age 75+
Full mobility	78.6	74.1	55.0
Impaired mobility	20.3	25.5	43.8
Bedridden	1.5	1.0	6.0
Mobility at home only	4.6	5.6	11.4
Mobility near the home only	14.3	18.9	26.4

The deterioration of physical fitness in elderly people carries serious social consequences; since they must, for obvious reasons, use various forms of health care, social care services and permanent family assistance. A considerable growth of the number of elderly disabled people observed between 1988 and 1996 (Iwanek, 1999), the results of the 2002 National Census (Skreutowicz *et al.*, 2004) and health condition survey in 2004 (GUS, 2006a) as well as the 2003-2030 projection (Szukalski, 2004b) convince us about a set growing trend of disability, especially in this group of people. Attempts made to project the number of disabled senior residents show, however, that an expected high increase of the number of disabled people is caused by the impact of the demographic factor. An attempted continuous annual reduction of the disability ratio by 1% leads to the compensation of the demographic factor (Szukalski, 2004b). It can be assumed therefore that taking actions to promote health, the development of services targeted at general improvement of fitness under various forms of rehabilitation as well as an improved access to medical services could provide opportunities for the reduction of a projected disability growth in population in the future.

8.4.3. Epidemiology of the most common diseases in older population

The latest Polish population health condition survey has shown the incidence of chronic diseases (in the respondents' opinion) (GUS, 2006a). Table 23 shows chronic diseases, part of which prevail with age and cause the need for use of medical care, nurse services and social care services.

Table 23. Incidence of selected chronic diseases

Disease	Patients (thousands)	Incidence rates by age (rate per 100.000)						
		15-19	20-29	30-39	40-49	50-59	60-69	≥70
Population (in thousands)		2981	6369	5031	5679	5207	3073	3457
Chronic hypertension disease	5428.5	0.5	1.2	4.2	13.3	29.2	42.1	45.2
Ischaemic heart disease with past myocardial infarction	912.4	0.0	0.0	0.1	0.7	4.0	9.0	11.0
Ischaemic heart disease without myocardial infarction	1805.9	0.0	0.1	0.3	2.0	8.2	16.7	21.1
Other heart diseases	1840.1	1.5	0.9	2.0	3.5	8.2	12.3	18.5
Arteriosclerosis	1299.1	0.0	0.0	0.0	1.0	4.7	10.7	19.4
Cerebral stroke at present and in the past	289.5	0.0	0.0	0.1	0.4	0.9	2.5	4.0
Spine diseases or discopathy	4913.7	2.6	3.8	7.8	16.6	27.4	29.4	27.0
Osteoporosis	928.3	0.0	0.1	0.2	0.8	4.1	7.7	12.1
Chronic arthritis or arthrosis	2635.4	0.4	0.9	2.2	5.0	12.8	19.1	26.6
Other degenerative arthritic diseases	1755.2	0.5	0.8	1.3	3.7	8.3	13.8	16.2
MS (overestimated data)	89.1	0.0	0.1	0.2	0.3	0.5	0.6	0.3
Cataract	772.6	0.0	0.0	0.1	0.5	1.5	5.7	13.9
Glaucoma	417.1	0.1	0.1	0.1	0.6	1.9	2.9	5.2
Dementia (undestimated data)	84.9	0.0	0.0	0.0	0.0	0.1	0.2	2.1
Parkinson's disease	89.8	0.0	0.0	0.0	0.0	0.2	0.6	1.8
Neurosis, depression, anxiety states and mood disturbances	2349.0	2.2	3.4	5.3	8.1	11.6	10.7	11.8
Diabetes	1296.1	0.1	0.5	0.5	1.5	5.7	11.3	14.8
Chronic bronchitis, pulmonary emphysema or COPD	651.2	0.7	0.9	0.7	1.5	2.6	4.0	5.5
Allergic asthma	641.0	2.4	1.7	1.4	1.5	2.3	2.8	2.9
Neoplasm	272.3	0.1	0.1	0.1	0.5	1.5	2.0	2.5

Considering the demographic factor of society ageing, the fact that the frequency of incidence of diseases mentioned can grow in the population and so can the need for care necessary in such cases, must be taken into account.

The extension of the average life expectancy is connected with the increase of human exposure to chronic diseases and diseases specifically related to the old age. On average the number of chronic diseases for a single person grows with age (incidence of multi-disease phenomenon) (Golinowska, 1999). Previous surveys show that approximately 41% of elderly people (aged over 60) in Poland suffer from 4 and more chronic diseases (Kuciarska-Ciesielska, 1999b). The average number of such diseases per person aged over 60 is 3.8 (Kuciarska-Ciesielska 1999b). Most often, elderly people suffer from chronic cardiac diseases (hypertension disease is the most common among them), osteoarthritic diseases and diabetes (GUS 1997; Woźniak, 1997; Kuciarska-Ciesielska, 1999a). The health problems are connected slightly less frequently with other systems. Elderly women usually report more diseases than men of the same age and complain of some diseases e.g. related to the motor system, more frequently than men do (Tobiasz-Adamczyk *et al.*, 2004; Kuciarska-Ciesielska, 1999a)

There are several diseases typical for older people such as: dementia, osteoporosis and related bone fractures, stroke etc. The frequency of dementia incidence grows with age. Epidemiological survey results in Poland differ considerably depending on the research procedure adopted. The frequency of dementia incidence in Poland fluctuates from 6% to about a 12% in the population of people who are 65 years of age, and people reporting symptoms of heavy dementia make not more than 3%. Dementia is suspected to be a growing problem that will increase the needs for care of such ill people, yet the awareness of this problem is still very low in Poland. Osteoporosis and its complications is another serious health problem with prevalence growing with age.

According to the National Osteoporosis Foundation (NOF) and the National Institutes of Health (NIH) in the US, osteoporosis is a skeleton disease characterised by reduced bone strength that increases the risk of fracture (Badurski, 2004). Bone susceptibility to fracture depends on many factors with one of the most important being the loss of bone mass growing with age. A relative risk of bone fractures increases 1.6-2.0 times per each 5 years after turning 65. This means that the risk grows 1.6 times in the age bracket 65-69 in comparison to the risk for younger people, and is 6.4 times higher at people aged 80-84 (Badurski, 2004). Falls are the most frequent reason of fractures resulting from osteoporosis. According to the project EUNESE (EUropean NETwork for Safety among Elderly), approximately 66 per 100 000 people in Poland aged at least 65 die from injuries resulting from falls (see http://ec.europa.eu/health/ph_projects/2003/action3/action3_2003_13_en.htm). Spine vertebrae in the section closer to thighbone and radius are most susceptible to fracture. Most serious bone fractures, as far as consequences are concerned, are those related to the thighbone, since this is accountable for a high death rate estimated at approx. 20-30% within a year (Bajaj & Saag, 2003; Cooper *et al.*, 1993) and a number of complications (such as urinary tract infections, sepsis, cardiovascular complications). Such a type of fracture occurs in only 0.2% of women aged 35 and definitely more frequently in elderly women – relating to as much as 30% of women aged over 85 (Cooper & Melton, 1992). Its consequence is fixed disability that requires permanent third party assistance in the case of approx. 1/3 of the convalescents. About 50% of people never recover fully (Czerwiński *et al.*, 2004).

Cerebral stroke also plays an important role among the reasons of elderly people's disabilities. Stroke is, according WHO definition, a sudden focal or general brain function disorder lasting 24 hours or more (possibly leading to death) without any other cause of such symptoms but vascular event.

The frequency of stroke incidence grows with age from one case per 30.000 people in their forties per year to 30 cases for people aged over 80 (Chalmers *et al.*, 1997). This one thousandfold increase of cases (in the age bracket of 50) makes cerebral stroke an especially important geriatric issue. It is stressed that cerebral stroke risk is highest in East European countries *vs* other countries (Staessen *et al.*, 2003). In Poland, incidence remains on the level of 160 strokes per every 100.000 people of the overall population per year, and it affects men to a greater extent than women. For comparison, the same ratio in the US reaches 26 strokes/ 100 000 people/ year (acc. to 1996 data) (Bednarz *et al.*, 2003). The social importance of the disease results from high early mortality (reaching not less than 40% in Poland) and the prevalence of invalidity as a stroke complication that affects approximately 50% of patients (Bednarz *et al.*, 2003). These are only examples of health problems in the population of older people which might be prevented through healthy diet and regular physical activity.

8.4.4. Health promotion needs

The population of older people might be divided into 3 groups:

1. healthy older persons;
2. older persons at temporary need (due to acute illness, recent discharge from hospital, sudden widowhood, etc.);
3. disabled or chronically ill older persons who need permanent care.

The health promotion strategies should be adjusted (tailored) and addressed to each of those groups. They will differ in content and the way of implementation.

Focusing on fitness: healthy older people may be offered gymnastics (tai-chi, pilates, etc.), everyday walks, recreation activities, some sports, dance, gardening etc. Older persons who fell suddenly became weak due to acute illness, were recently discharged from hospital may need physiotherapy to recover their ability to move and be independent. In case of chronically ill older people type of gymnastics and activities should be always considered with respect to the disease and specific recommendations (different for diabetic patients and patients with cardiac diseases or musculo-skeletal impairments). When older people became severely disabled or ill they may be offered only medical physiotherapy, and effective organization of providing appropriate services seems to be the most important for them.

Considering healthy diet we also have to remember about those three groups. Healthy older people may attend to classes on how to cook/prepare health meals. Older persons who suffer from certain diseases need special diet adjusted to type of diseases (for example patients with diabetes, hypercholesterolemia, osteoporosis, liver or pancreas diseases). The chronically ill bedridden persons often have problems with chewing, swallowing, therefore they special preparation of the meals (mixing solid food, thickening liquids, providing food by tube etc.). The healthy diet education in this case should be offered to care-givers to teach them how to prepare appropriate food to older persons.

8.4.5. Elderly lifestyle and health behaviour

Cardiovascular disorders are the greatest threat to older and middle-aged people's health and life. They cause death in one in every two persons living in Poland. About 24.5% patients die of malignant tumours. Almost 2 millions of Polish people suffer diabetes, half of them not aware of their condition and not treating it. Factors favourable to evolution of civilisation-related diseases are linked to the lifestyle characteristic for highly developed societies. It includes, above all, sedentary life and unhealthy diet, smoking, alcohol abuse and an elevated stress level.

Polish society is highly exposed to factors favourable to civilisation-related diseases. A multicentric survey by on people's health state was performed in a representative group of people aged 20-70 and was part of a Ministry of Health programme Polkard 2003-2005. Basing on the research results it was estimated that: 42% of males and 25% of females in Poland smoke; 61.6% of males and 50.3% females in our country are overweight or obese (BMI /Body Mass Index/ ≥ 25 kg/m²); over 50% of adult Polish people have little physical exercise. The research confirmed that 33% of women and 42% of men suffer arterial hypertension (Biela *et al.*, 2005).

Various exercise programmes aimed at a healthy life style of elderly people are promoted all over the world. However those programmes cannot be directly applied to Polish population of aged people due to differences in conditions needs possibilities and expectances. In the result of review of Polish literature from period of the last 10 years we tried to identify typical lifestyles of older people referred to physical activity and healthy eating.

8.4.5.1. Typical lifestyles in fitness profile of older people

The epidemiological investigation (conducted in 1998-2001) of the characteristics of lifestyle of people over 35 living in the former Lubelskie Province showed some differences between: 1973 inhabitants of Lublin town and 1809 inhabitants of the country-side. Labour activity was declared by 47% persons in the town and 33% from the countryside. More persons living in the country-side qualified their physical effort during work as heavy (45% in rural area vs 8% in town). Statistically sports were declared more frequently by inhabitants of the town (19% vs 4% respectively; $p < 0.001$), by men (15% vs 10%. $p < 0.001$) and persons with higher education. They spent less time gardening (43% town inhabitants vs 49% of rural subjects), working on the farm (3% vs 22% respectively), walked at least one hour every day (63% vs 78% respectively) (Szcześniak *et al.*, 2007). In the other study conducted among 341 patients of GP's showed that only 21.1% of GP's patients declared that they found time for physical exercise not related to their everyday household chores (Buczowski *et al.*, 2005).

The results of the national WOBASZ survey (2003-2005) revealed that nearly 35% of Polish adults (37% of women, 32% of men) are not active during their leisure time, do not do any physical exercise lasting at least 30 minutes on a regular daily basis, while about 17% are only occasionally engaged in any exercise. Over 42% of children up to 14 years old spend above 3 hours a day watching TV or computer monitor. Over 50% of Polish teenagers aged 15-19 years do not participate in any kind of recreational physical activity (Drygas *et al.*, 2008). Physical inactivity is more prevalent in women, persons over 65 years old (both in women and men) and persons with low levels of education. The analysis of the reasons for sedentary lifestyle revealed that the main factors of inactivity are lack of time (26.7%), poor health (24.3%) and no interest in exercises (24%). Age seems to have a significant influence, especially with regard to LTPA. The relative risk of physical inactivity is significantly higher in persons aged over 65 years, which is much higher than among some European or American seniors (Varo *et al.*, 2003; MMWR, 2005). Because inactive seniors are at increased risk for disability, progressive reduction in cardiopulmonary capacity and muscular strength, public health messages should focus on raising awareness of physical activity opportunities for the elderly. People representing the lowest educational and socio-economic level should be a group of special concern while elaborating and realising new intervention actions against physical inactivity (Drygas *et al.*, 2008).

According to Duda (Duda, 2008) women lead more active life style than men at the age 60-69. Walking, gymnastics (49% of women) and riding a bike (28.6% of men) are preferred forms of physical activity. Both men and women undertake physical activity to improve their health

and physical conditions. The majority of women (51.8%) presents average endurance level, whereas in men (48.6%) this level is below average (Duda, 2008).

In women participating in the other research, physical activity drops with the rising age. In men, on the other hand, no statistically significant change between age categories was found. Average energy expenditures in the 60-69 years old and 70-79 years old categories do not differ much. It is only in the last age category: 80 years old and older, that the level of physical activity drops slightly (Król-Zielińska *et al.*, 2005).

Another epidemiological research was performed on 1102 people (57.7%) aged 65-74, 755 persons (39.5%) aged 75-89, and 53 persons aged 90 and older (2.8%). The research group included 65.9% women, 42.4% with elementary education. It was revealed 47% of the research group had correct Body Mass Index, 45% were obese or overweight and 8% were underweight. The percent rate of underweight people was close in males and females (F-8% and M-7%). The majority of obese and overweight persons were females (49% and 38%). In the country the percentage of obese and overweight persons was higher than in the city (48% and 44%), while the percentage of the underweight was lower (7% and 9%). With age rising, the percentage of underweight persons rose and the percentage of overweight and obese persons dropped. Among the research group 1679 persons (88%) performed various physical activities. Light activity (partially performing the house chores, shopping, tidying, preparing meals, walking) was performed by 110 persons (6%). Moderately intensive activity (fully performing house chores, occasionally performing physical exercise, gardening) was performed by 747 persons (39%), and intensive activity (sport, regular physical exercises, e.g. gymnastics) by 822 persons (43%) (Gębska-Kuczerowska, 2002).

The study of 300 community-dwelling persons (66-79 years old) randomly chosen from all inhabitants of one district of the city of Lodz showed that the excess body fatness and sedentary lifestyle have, together with several functional and medical co-morbidities, an independent contribution to inferior health-related quality of life of community dwelling older subjects (Kostka, 2007).

Comparison of functional physical fitness of 274 older persons in Poland and 6144 in USA showed no difference between them. It concerns both women and men analysed separately. Strength of lower and upper body, aerobic endurance, flexibility of the lower and upper body and dynamic balance agility were tested. Polish women over 80 obtained better results in the balance test than Americans. Polish men aged 70-79 performed tests of flexibility of upper with better results. Moreover dynamic balance/agility was better among Polish 60-79 old men (Król-Zielińska *et al.*, 2006).

Some healthy lifestyle issues were addressed in epidemiological study of people aged 75-80 years living in Warsaw region proving information on higher incidence of obesity, total cholesterol and LDL and heart diseases among females aged 75-80 (Sicińska *et al.*, 2003).

The other reviewed studies showed coincidence of low activity and different health problems such as: obesity (Sobolewska *et al.*, 2007) and low education (Wojtowicz, 2008). Several of them highlighted advantages of undertaking physical activities (Nowak, 2006), for example improvement of cognitive functions (Rezner & Janiszewski, 2004a; 2004b). The other provided information about factors influencing the adherence to physical activity of older persons (Głowacka *et al.*, 2006).

Wojtowicz found that regression models indicate that men's chances for obesity is six times higher than women's (OR=6.16): it is bigger for subjects with elementary or basic vocational education (OR=2.03) and evaluating their health state as bad or fair (OR=1.89). The probability of obesity increases with every next year (OR=0.93). Differences between men and women regarding probability of obesity are related to education level and awareness of ageing process

(Wojtowicz, 2008). In the other study of older patients in hospitals in Lublin and Kielce showed the obese persons were the least active (Sobolewska *et al.*, 2007).

An anonymous survey from 1003 women (residents of cities located in western Poland) who had been exercising for at least one year provided evidence on meaning of duration of exercising. There were 289 subjects who had been exercising for 1 year, 274 subjects for 2-3 years, 196 subjects for 4-6 years and 244 subjects for 7 or more years. Subjects with 4-6 and 7 plus years of exercise history more often evaluated their physical fitness level as high (28% and 40.8% respectively) and their health as very good (23.7% and 29.9%). Those who had previously participated in out-of-class or out-of-school sporting activities and been involved in sports at competition level reported high physical fitness self-evaluation (57.5% and 22.3%). 'Very good' self-evaluation of health was associated with previous participation in out-of-class and out-of-school sporting activities (52.3%). Physically active women under 50 years of age with a post-secondary education and a very good material situation rated their physical fitness level as high and their health as very good (Nowak, 2006).

Physical activity and daily energy expenditure in 100 inhabitants of residential home and 100 living in the city of Łódź aged more than 65 years was assessed. In the result of this study it was found that advancing age, number of medicines taken and institutionalisation significantly decreased daily physical activity. Diabetes, chronic heart failure and coronary heart disease had the most important impact on physical activity and daily energy expenditure among chronic diseases (Borowiak & Kostka, 2003).

Twelve-month programme of moderately intensive, therapeutic physical exercises brought the improvement of working memory parameters in people aged 60-68 years. The training programme with the impact of aerobic exercises, conducted 3 times a week, lasting 45-60 min., may induce gradual, significant improvement of physical capacity in elderly people (Rezner & Janiszewski, 2004a). Moreover, the study conducted on a group of previously little active, healthy elderly men and women aged 60-68 years showed that systematic, 12-month, moderately intensive exercise training programme brought gradual increase in physical capacity and resistance to psycho-emotional stress after three months of training, its stabilisation after months and increase of mental capacity after a year (Rezner & Janiszewski, 2004b).

The study of positive and negative health behaviours in type 1 and 2 of 53 diabetic patients of provincial diabetic outpatient department in Biała Podlaska showed that the majority of diabetic patients of the studied population led a fairly healthy life-style: they were physically active, used a suitable diabetic diet, did not smoke, regularly controlled weight, plasma glucose concentration and blood pressure, declared systematically ophthalmologist control and they took special care about their feet. Type 1 diabetic patients were more careful about diabetes management than type 2 diabetic subjects (Opalińska *et al.*, 2003).

Based on the other study of diabetic older patients done by Głowacka there is evidence that providing knowledge about diabetes and its consequences ($p=0.009$, $OR=2.77$), concomitant diseases ($p=0.025$, $OR=0.06$), daily number of drugs used ($(0.01, OR=0.21)$), total daily number of antidiabetic drugs used ($0.032, OR=0.35$), medical care provided by diabetologist ($p=0.008$, $OR=0.32$) have significant influence on adherence to physical activity as a form of therapy (Głowacka *et al.*, 2006).

The results of the research conducted in the clinic of Geriatrics of Independent Public Hospital in Bydgoszcz proved that health education of older persons is difficult. Patients with primary arterial hypertension required persistent health education which aimed at arousing awareness of the disease, its treatment and motivated them to introduce necessary changes into their lives (Zielińska-Więczkowska, 2003).

As follows from this review, older people in Poland present low physical activity, insufficient knowledge about its advantages and lack of motivation to undertake recreational

activities or sports. Moreover, the readiness for exercising decreases with age. This raises question as to how to promote motor activities among older persons, and how to encourage them to undertake regular recreational activities?

8.4.5.2. Typical lifestyles concerning eating profile of older people

Unhealthy diet is one of the major factors favourable to the growing number of overweight persons. One of the diet problems in a large group of older people in Poland is eating more fat than recommended (mostly animal fat and monosaccharides). Excessive consumption of meat and meat preparations with simultaneous reduced consumption of starch products and products containing larger amounts of dietary fibre is also frequently observed. Too low consumption of fruit and vegetables – the main source of anti-oxidant vitamins and dietary fibre – is a common mistake. Average daily provision of Poland's older people, in comparison to other European countries participating in the SENECA programme contained extensive amounts of energy, protein, fat, cholesterol, carbohydrates, iron, vitamin A and some vitamins of the B group; it also contained small amounts of calcium and vitamin C (Roszkowski & Brzozowska, 1994). A significant percentage of Polish people consume salt excessively (up to 3 times more than recommended), which encourages development of hypertension.

As a result of the growing life expectancy and the rising percentage of older people (mainly females) in the population, the problem of osteoporosis will expand. According to the epidemiological data, more than 25% of people over 50 years old in Poland are threatened by osteoporotic fractures (Grabowska & Sporadyk, 2006). A research conducted among 1012 females and 740 males aged 25-65 living in the province of Wielkopolska has proved that their eating habits and lifestyle did contribute to development of osteoporosis. The main risk factors concerning nutrition were: lack of calcium accompanied by excessive amounts of phosphorus in diet, too high intake of animal protein, low intake of magnesium and D, C, B6 vitamins combined with little physical activity (Bolesławska *et al.*, 2006). Another study conducted in a group of retired citizens of Wielkopolska has confirmed that their daily menu did not satisfy the demands for magnesium and calcium, whereas the quota for phosphorus intake was exceeded. The women who participated in the research consumed half of the quantity of calcium proportional to the energy content of their daily diet (Szajkowski, 2001).

In the study conducted among 341 adult patients of GP's showed that 70.4% considered their nutrition to be appropriate. More than half of patients (57.3%) had 3 meals a day. 28.8% had 4-6 meals. 9% had 2 meals daily and only 2.6% a big meal daily. Most of them had fruit and vegetable once a day, whereas 14% did not eat them every day. More than half (56.3%) of patients made an attempt to limit the amount of animal fat in their diets. On the other hand, 64.8% of the patients admitted eating snacks such as crisps and sweets between meals. Among the respondents, 38.7% claimed that they had never discussed healthy nutrition with their GP (Buczowski *et al.*, 2005). In the other study patients with obesity and atherosclerosis had irregular meals and they explained that fact by lack of time for preparation more (Sobolewska *et al.*, 2007). According to another study the degree of adherence older diabetic persons to diet is influenced only by knowledge about diabetes and its consequences ($p=0.0001$; $OR=3.62$) (Głowacka *et al.*, 2006).

In 1999, a study was conducted in a random group of 206 people aged 75-80 living in the region of Warszawa city. The research concerned nutrition habits, state of nutrition and means of diet supplementation. Low intake of C, B1 and B2 vitamins, calcium and copper was noticed. No deficiency of vitamin E, iron and zinc was observed. 40% of participants practised supplementation of diet using medical preparations. 37% did it for a year or longer. However, the specimen were not always adequate to the age. The supplementation did not satisfy the

deficiencies of calcium, vitamin C and magnesium (Kałuza *et al.*, 2004, Brzozowska *et al.*, 2004).

Quite different results were acquired in a research conducted in nursing homes which provided collective eating. The study concerning 7 nursing homes in Mazowieckie province showed that the provided nutrition was adequate and in accordance with the law. The only reservations made by the residents were not satisfactory diversity of meals and low incidence and variety of fruit and vegetables. None of examined nursing homes did employ a qualified dietician (Szczecińska *et al.*, 2003). A study conducted in the 80s among residents of random chosen nursing homes aged 63-93 stated that about 50% of them were at risk of vitamin B1 and B2 deficiency, and 80% were threatened with lack for vitamin B6 (Ziemiański & Budzyńska-Topolowska, 1998). In 2005 a research was conducted in a group of 40 residents of a nursing home in the city of Kraków. The majority of participants were females. Their mean age was 74.6+10.68 years old and their average BMI value was 26.1+5.2 kg/m² (that indicates overweight). 33% of female participants were recognised as obese (BMI > 30 kg/m²). One should also take into account the risk of undernutrition among elderly people that applied to 15.4% of participants (Piórecka *et al.*, 2006).

During study in 2008, 422 older patients of primary care outpatient clinic (146 men, 276 women) were examined by family nurses. They suffered most often from hypertension (53.4%), other cardiovascular diseases (11.8%) and diabetes (10.7%). Mean value of BMI was significantly higher among male than female (26.95kg/m vs 26.16kg/m). Obesity (BMI > 30kg/m) was diagnosed in 20.62% of all participants. The prevalence of central type of obesity (63.1%) was significantly higher among men (p<0.03). However, about 48.8% patients according to MNA pre-test were at risk of undernutrition. Assessment of frequency of intake of selected products and meals proved significantly better healthy eating behaviours among women, while men more often preferred red meat, alcohol beverages and snacks. Moreover, some demographic factors like higher education, income and younger age were related to better health status perception, lower BMI and healthy eating style (Piórecka *et al.*, 2009).

Our study on the nutritional habits of 100 older persons (of mean age 75) living in a mountain village community also proved high incidence of obesity and overweight and unhealthy eating habits. According to BMI values, 14% of patients had obesity, 46% were overweighted, only 22% were well nourished and 18% were at risk of undernutrition with indication of special treatment. More than one third persons had chewing problems (39%), mouth dryness (30%), broken teeth (20%), used denture (57%). Only one third had more than 3 meals a day. The most frequent snacks were cakes, sweets and fresh fruits, dairy products and sandwiches. The composition of meals was not appropriate: too high frequency of intake of white bread, sugar and butter and too low intake of wholemeal bread, row vegetables and fish. Those eating habits lead to obesity when accompanied with low physical activity.

Most of the studies conducted in Poland to assess eating habits of older people concern diabetic and obese patients. They provide information on content of typical diet, number of meals and the way it is administered. Many of older people do not apply to or do not know the rules of rational nutrition. Meals often are prepared irregularly. Sometimes there are too few of them and often with no hot meal during entire day nutrition. Meals vary little one from another, what may result from the lacks in dentition or ill-suited dentures. In extreme cases an older person does not eat hot meals because she or he is not capable of cooking them – which most often applies to lonely males. The nutritional behaviours described above may encourage deficits of nutritional ingredients. Although one should keep in mind the genetic factors responsible for healthy or not healthy ageing, however environmental and behavioural factors retain important modulating meaning for process of ageing. Analysis of previous mode of nutrition of the long-lived persons in Poland revealed a simple diet, lack of overeating and

simultaneously a physically and mentally active lifestyle. This finding should encourage us to develop effective strategy form health promotion among older people, assuming that health education on diet or eating performed through education occurred to be effective among diabetic patients (Głowacka *et al.*, 2006).

8.5. Spain

8.5.1. Demographics and health indicators

According to the information from the National Institute of Statistics (Instituto Nacional de Estadística) in Spain the population of 65 years and over, at the beginning of 2006, represented 16.8% of the entire population, with 7,477,761 people of 65 years and over.

Apart from this increase in the number of elderly people, there also a clear ageing of the elderly. In the last decade the group of people aged 80 and over has grown more than any other age group, while young people of up to 20 years represent the group whose number has decreased the most. Between 1991 and 2005 the number of people aged 80 years increased by 66%.

In Spain, elderly people have big family networks, composed of one or two siblings, more than two children and approximately five or six grandchildren. The physical distance that separates parents and children also is more limited than in other countries. On the other hand, family contact is sometimes once a day and once a week in most cases.

According to the survey “Población Activa” (see: <http://www.eurofound.europa.eu/emire/SPAIN/SURVEYOFTHWORKINGPOPULATIONEPA-ES.htm>), 7.6% of the Spanish population aged 65 or over is still illiterate (more than half a million people) and 32.4% have not completed primary education; only 11.4% have secondary education and 6.6% higher education.

Following a brief description of some of key indicators or arguments concerning the public health is given:

- *Life expectancy*

Spanish women have a life expectancy of 83.0 years, whereas that of men is 76.4 years. The main factor of this increase in years of life expectancy is the decrease in infant mortality.

- *Nutrition*

The results of the National Health Survey 2006 (see: <http://www.ine.es/jaxi/menu.do?type=pcaxis&path=%2Ft15/p419&file=inebase&L=1>) show that the diet of the Spanish elderly is more balanced than that of the rest of the population. 84.2% of the elderly eat fresh fruit every day. They consume more vegetables and much less embedded and cold meats, which are usually high in fats and salt. In 2003, almost 70% of the population aged between 65 and 74 had a Body Mass Index (BMI) higher than 25 kg/m² (excess weight). For those aged up to 75 years, we observe how the percentage of obese people or those with a BMI of 30 or more is increasing; but in people of 75, obesity decreases and the underweight category slightly increases.

- *Tobacco*

A few years ago smoking was fundamentally a male habit; 92% of women of 55 and over had never smoked, compared with 23% of males of the same age. That explains why the differences in gender are remarkable: 14.8% of males aged 65 or over smoke every day (19% of those aged 65-74, 8,6 of those aged 75 and over), as opposed to less than two

women of every hundred (1.7%). But this probably will change given the index of 30-55-year-old smoking women

- *Alcohol*

Amongst the elderly people, the number of teetotallers has increased by 18 percentage points (58.5%), but also the number of persons who drink alcohol four or more days a week, up to stand at 16%. Occasional (or less than one day a month) consumption is less significant amongst the people over 65 than amongst the young (16.3%).

- *Perception of the state of health*

Almost 40% of the elderly population is in a good or very good state of health, with light tendency to increase. One in five (21.2%) claim to be in bad or very bad health, although with a light downward trend. Regarding the experience of ageing, 77.9% of people over the age of 60 are very or quite satisfied with their life.

- *Morbidity*

As age increases, the percentage of people who suffer from debilitating illnesses increases, and from the age of 75 this figure increases to 30% with regard to the previous cohort, which means that three in every seven people aged 75 or over were sick (43.3%). With ageing, chronic and degenerative diseases increase and many of them lead to functional problems. The predominant type of illness suffered is osteomuscular, followed by heart disease, 21.2%. The most diagnosed illness amongst the elderly population is arthrosis or rheumatic problems, which interested almost half of the people aged 65 and over (57.1% of women, 31.3% of men). This is followed by the arterial hypertension (41.3%), and with less elevated percentages, bad circulation (29.3%) and high cholesterol (23.4%).

Regarding the most frequent diseases, 23.3% of people aged 65 and over were hospitalised for circulatory diseases (it is also the first cause of death), 13.5% for digestive and/or respiratory causes, 12.5% for treatment of cancer (the second cause of death)

- *Mortality*

Deaths in Spain continue to be fundamentally those of elderly people. In 2004 306,965 elderly people died, i.e. 82.5% of all deaths. The main cause of death in the elderly continues to be circulatory related diseases (vascular brain illness, 31,933 deaths; acute myocardium infarction, 19,655; heart failure, 18,243; other diseases of the heart, 14,825; other ischemic diseases of the heart, 13,965; hypertension diseases, 5,924; arteriosclerosis, 3,090, and others)

8.5.2. Elderly lifestyle and health behaviour

According to the Survey of Living Conditions of the Elderly of 2004, carried out by the Observatory of the Elderly of Instituto de Mayores y Servicios Sociales (IMSERSO) (see: <http://www.seg-social.es/nuevaweb/index.html>), 26.5% of people aged 65 years and over cannot do one or several activities of the daily life independently. In the age range from 65 to 74, this percentage does not reach 15%; between 75 and 84 more than one third of the elderly population (35.5%) suffers limitations in their functional capacity, but amongst people of 85 and over the proportion rises to five out of eight.

Reduced mobility problems restricts daily activity since many do not leave the house (12.3% cannot or need help to go out to the street), neither can they take the bus, nor go shopping (since

this involves mobility), and are therefore limited on their own life space at home, and unable to benefit from life in society.

The elderly use the health services with assiduity and are usually satisfied enough with them. 46% of people aged 65 and over consulted a doctor, for some problem, inconvenience or illness, in the two previous weeks at the moment of the poll (excluding appointment requests, analysis or radiography).

Elderly people of Europe dedicate half of the day to the personal care (this includes hours of sleep); of the twelve remaining hours, approximately six and an half hours are spent on social life and leisure, approximately four on housework and three quarters of an hour on journeys from one place to another; the rest of the time (14 min), is spent on informal help and voluntary work. In Spain, six and a half hours of social life is spent on care of the grandchildren, reading, watching TV, listening to the radio.

In Spain the differences according to sex are much more pronounced: women spend almost five hours a day on housework, men two, and free time is spent by men on all other activities, including rest and personal care.

In a comparison by countries, elderly people in Spain do more physical exercise than those in the rest of the countries: women do 48 minutes and men do almost an hour more (99 minutes). It should be emphasised that the differences do not rest fundamentally on the specialist exercise. The most common exercise is walking.

APPENDIX A
Good practice examples
in health promotion for elderly people

A.1. Austria

The EUNAAPA Project on Physical Activity Programmes and Physical Activity Promotion Strategies for Older People (Kolb, Diketmüller & Steininger, 2008) identified and described Austrian examples of physical activity programmes and physical activity promotion strategies for older people. Criteria for best practice examples were defined by 11 national physical activity experts. In most cases group exercise is considered being the best setting in which the promotion strategy could encourage physical activity. The messages in the successful programmes were mainly conveyed by media or during events. In a few cases the message was transmitted via Internet or email, which will presumably become more important in the future. Sometimes it was done with the help of intermediaries. As intermediaries used for the purpose to reach the intended population, three groups of people were nominated: the medical practitioners, sport coaches and volunteers. Apart from this the experts also named chaplains, experts and co-operating partners as well as workers in residential homes as intermediaries in order to get in touch with the targeted population.

The following information about good practice examples in health promotion activities for elderly is taken from the database of the "Health pro Elderly" project (<http://www.healthproelderly.com>) and the National Evaluation Report – Austria (Resch & Lang, 2008).

LIMA – Lebensqualität im Alter

("Life Quality in old age")

Contacts, information sources

Organizations Katholisches Bildungswerk der Diözese St. Pölten, Katholisches Bildungswerk der Diözese Wien (<http://www.bildungswerk.at>)

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Link to the project <http://www.bildungswerk.at/lima/0>

Date and duration: From 2001 ongoing

Level: Regional (Vienna, Lower Austria, Styria and Burgenland)

Target audience: Older workers, older men and women in the age of 56 to 90 years.

The target groups of LIMA are older people (55+) who on the one hand want to be trained as LIMA trainers and on the other hand those who participate in the LIMA training courses. Trainers are educated and equipped with material in order to offer a four module course to older people in the community. Trainers are people from visible groups (mostly female) – gatekeepers and people who work at interfaces in senior centres, in mobile care institutions, or who are responsible for older people in e.g. a day-care-centre. The groups of participants in the LIMA courses are people from invisible groups (remote areas, small villages, very old age). The groups are described as very diverse. Participants are reached through the LIMA trainers who go to a certain place, church or community and start a LIMA course there or directly through people from the community who call at the LIMA office and ask for a course in a certain town or village.

Focus

Nutrition and physical activity: In the project health determinants were addressed on all levels. The physical variable is taken into account in the psychomotor trainings and some consideration is taken of healthy nutrition. Still, the psychological variable is more crucially covered in the LIMA courses: quality of life, wellbeing, motivation, happiness, independence and autonomy. Cognitive issues and life-long learning play a major role in LIMA, since trainers (60+) are being motivated to stay mentally fit and also participants are trained in mental health with the help of the training of everyday competencies and the memory training. Additionally spiritual questions are addressed in terms of meaning of life, religious questions, death and illness. Some social determinants of health are also addressed: socio-economic differences between the participants. Geographical factors also play a major role: older people from urban areas are easier to activate than people from remote areas who have worked their whole life without indulging in anything for themselves. Through this project support in general questions of life and know-how in the field of memory training, psycho-motor functions, abilities and competencies are supposed to be circulated in Lower Austria and Vienna in 6 different seminar series.

Intended aims

- A training programme for those who want to stay fit, mobile and healthy when getting older.
- To combine memory training and fitness training.
- To address body, mind and soul.
- To be scientifically well-grounded in theory.
- Enables older people to stay autonomous.
- Is open for everybody.

Theories reported

The project follows a clear theoretical approach. The LIMA study carried out at the University of Erlangen in Germany, (Oswald *et al.*, 2007). The project is based on these results.

Activities, measures, products

- Memory training (concentration, Mnemo-techniques, attentiveness),
- Fitness training (bodily fitness, breathing exercises, dancing, games and fun, perseverance and stamina),
- Training of everyday competencies (living situation, healthy nutrition, social contacts, information on support networks),
- Questions of meaning and beliefs (Anxieties and doubts, hopes and wishes, meaningful structuring of life, partnership, sickness and death, loneliness)

Distribution / communication channels

The general setting of LIMA is the community setting. Older people from the community (rural or urban areas) are to be reached with LIMA. Since the project is co-ordinated by a subdivision of the Catholic Church, churches and locations rented by or dedicated to churches (monasteries, Don-Bosco Houses, Hippolyt Houses) are the explicit setting of the LIMA courses. These settings were chosen because of the practical benefit (no rents) to LIMA and because there are many churches, even in remote areas. This way LIMA was able to be close to people's homes (in their towns, in their districts etc.) and therefore accessible. There is also the possibility for institutions of (higher) education to integrate a LIMA course into their existing course programmes, e.g. adult education centres (Volkshochschulen).

Description of the campaign

The LIMA Project deals with quality of life, life-long learning and cognitive issues in old age. It involves people who are over the age of 55 years in four Federal States of Austria – Vienna, Styria (Steiermark), Lower Austria (Niederösterreich), and Burgenland – and older people who themselves work with older people (multiplicators). It offers training courses for older people involving four modules: memory training, psychomotor training, training of everyday competencies and spiritual questions. The courses are offered in local churches. The project is considered evidence-based since in-depth interviews were carried out with the participants of the training courses, well-grounded since it has a clear theoretical approach and holistic due to the fact that it involves all features of health (physical, mental, social and spiritual health).

Evaluation

Five in-depth interviews (40 minutes) were carried out seminar attendees. In these interviews there were questions about the lecturers, the seminar contents, the seminar room and the time period and the transferability and the satisfaction. In addition after each seminar block a questionnaire was filled out by the participants. At the end of the seminars there was also a structured feedback, trainers and participants together.

Main Results: The participants were satisfied with the transferability and practical of the gained knowledge. Also the ratio of theory and practical seminar parts was balanced. But the seminar methods were not balanced well (too much one-way communication by the lecturers). However, participants were satisfied with the lecturers and the group climate was also good. All participants would also recommend the seminar for other interested.

Aktiv ins Alter

("Active ageing!")

Contacts, information sources

Organization Institute of Sociology of the University of Vienna (<http://www.soz.univie.ac.at/>)

Project manager Ass.-Prof. Dr. Christoph Reinprecht (Project Manager)
(christoph.reinprecht@univie.ac.at),
Dr. Karin Kienzl-Plochberger (Project co-ordinator)

Link to the project <http://www.soz.univie.ac.at/chr-details/>

Date and duration: From 2002 to 2005

Level: Regional (City of Vienna)

Target audience

The target group of the health promotion project "Active Ageing" consists of older people between the age of 55 to 80 years who live in three distinct areas of Vienna. These older people were Austrians but also (socio-economically disadvantaged) migrants, especially people from Turkey or countries from former Yugoslavia who represent the two largest migration groups in Austria. It was also intended to concentrate on older people who experienced a critical life-event, the loss of one's partner or retirement recently. All groups are in danger of social withdrawal and social isolation.

Focus

Determined by the approach of healthy and active ageing health determinants were addressed to the fact that "activity" – can be physical, mental or social – fosters wellbeing and this supports different perceptions and promotes health and quality of life of individuals and older people. Following the logic of the project this simultaneously includes two aspects: "activation" on the individual level (e.g., by information) as well as on the local level by networking activities.

Intended aim

Main objective is to offer health promotion to socially isolated groups among the elderly population through their residential area by different means (e.g., visiting and activating in their homes).

Based on the structural foundation of the project stated above, two main goals with several sub-goals of the project can be described. The aims of the project were

1. *Strengthening older individuals and improving their quality of life*
 - to activate older people through home visits ("aufsuchende Aktivierung")
 - to evaluate the social and health needs of older people and to make individual resources visible by means of a standardised interview (including quality of life and active lifestyle)
 - to support and to empower individuals by regular professional counselling so that older people can use their resources on their own
 - to bridge individual needs with local services and initiatives.
2. *Enhancement of the social and health infrastructures and improvement of their accessibility*
 - to make the concept of active ageing (better) known and to show the benefits of the concept
 - to network and to improve the accessibility of already existing regional social and health services and initiatives.

Theories reported

The background of the project was two-fold: firstly the concept of active and healthy ageing was central. Secondly the problem of local intersectional exchange as a practical phenomenon was dominant. Therefore the theoretical foundation was based on a model which respects two action contexts, the behavioural level of the actor (i.e. of older people) as well as the environmental (i.e. networking of already existing social and health institutions) on the local level. The theoretical premises for the implementation of the project were based on four central principles: activation approach, holistic approach, diversity approach and the social-environment approach.

All in all, the theoretical design of the project was to activate older people (who have experienced a critical life-event recently) by home visits (so called "aufsuchende Aktivierung") by professionals, to survey individual resources of the aged and to bridge their specific health needs with local institutions.

Activities, measures, products

- Activation through home visits, interviews about Quality of life and active living.
- Holding up contact over one year and accompanying the activation process.
- Health Markers” were developed for older migrants with information on health services and they were also translated into Turkish and Serbo-Croatian (i.e. brochures).
- Regulars’ table in Meidling was established.

Distribution / communication channels

The special health promotion strategy here is called “outreach activation” (“aufsuchende Aktivierung”), where older people are visited at home, contact is established with them, so then as a final step they are less shy to take part in health promoting activities.

Description of the campaign

“Aktiv ins Alter” is a WHO demonstration project (project duration was from December 2002 to June 2005) which combines the active and healthy ageing concept on the individual level with the idea of intersectional exchange of already existing services in the local context (environmental, network) in three significant living areas for older people (Austrians and major migrant groups) in the capital city of Austria (Vienna). By the method of visiting older people between an age of 55 and 80 (with critical life-events) at home, needs and resources of the older individuals were figured out and were linked to accessible health and social services by professionals.

The project has a strong theoretical foundation and also covers deprived and socially excluded “invisible” groups of older people (i.e. economic, social and cultural). These groups are very isolated and not easy to access for health promotion. The project tries to re-activate these older people with a very low threshold approach through personal home visits (aufsuchende Aktivierung”) which is a very innovative strategy and also very effective. An extensive quantitative scientific evaluation was also applied.

Furthermore the project has advantages from a multi-agency perspective and it was aimed at improving local social and health services which have turned out to be sustainable. Interview partners also stated that the project idea is transferable to other urban and rural areas which was another justification for the selection of the project.

Evaluation

The project was evaluated by a group of researchers from the University Department of Sociology in Vienna. There was a quantitative survey at the beginning of the project (baseline, about 350 responses) and a second survey at the end of the project. The evaluation result was (i) a raised information awareness which is the basis for a more active life, (ii) more contacts to other people and (iii) a slightly improved life quality.

The project response was very positive and older people reacted very friendly to the project. It was very helpful for them. Especially for older people with a migration background (about 40% of total population in the three investigated areas) the project was helpful for an activation. But there are differences between the different migrant populations (Turkish, Croatians, Serbs etc.). The development of a multi-lingual brochure was also very effective for an orientation and activation of their daily life. Public Information days also helped to reach the aim to activate people in a healthy way.

A.2. Italy

Promotion of physical activity in elderly population

Contacts, information sources:

Link to the project <http://www.epicentro.iss.it/focus/anziati/anzia-sport-progetto.pdf>

Date and duration: 2000-2002

Level: Local (Verona)

Target audience: Elderly people

Description of the campaign, aims:

The programme, carried out by the Department of Prevention AULSS 20 of Verona (Public Health Agency), promotes physical activity among the elderly with different projects.

- *Project 1: "Health In Movement"*
It is a training course of physical activity for over 55 people realised through a network of integrated services for the promotion of physical activity. Carried out in the municipality of Verona in collaboration with AULSS 20 and CeBiSM (Inter-university Centre for Motoring Science).
- *Project 2: "Physical Activity for People with Diabetes"*
It consists of courses of physical activity targeting exclusively people between 55 and 75 with type 2 diabetes
- *Project 3: "Physical Activity & food counselling"*
It is an integrated intervention aiming at the improvement of quality of life through modification of nutrition habits offered by diet counselling, increase of daily physical activity and fitness training.

Progetto "Invecchiare bene in salute"

Project "Aging well and in health"

Contacts, information sources:

Link to the project <http://www.provincia.ra.it/Argomenti/Sociale/Anziani/Progetto-Invecchiare-bene-in-salute>

Date and duration: 2004-2005

Level: Local (Ravenna and provinces)

Target audience: Elderly people

Intended aim

To enhance physical, psychological and social wellbeing of the elderly population carrying out actions to support healthy lifestyle, correct use of drugs and, in particular, active and full social life.

Description of the campaign:

The project aiming at the promotion of healthy lifestyle for the elderly was born as a proposal made by Trade Union Of Retired People of the province of Ravenna that was carried out by the Sector of Social and Health politics of the Province, Public Territorial Health Agency (AUSL) and municipalities. Multidisciplinary teams have been established to tackle 4 different themes:

- solitude and society
- healthy lifestyle
- healthy food
- correct use of drugs

Courses of physical activity for elderly

Contacts, information sources:

Link to the project <http://prevenzione.ulss20.verona.it/com/file/upload/9-rel%20san%202005.doc>

Date and duration: 2005

Level: Local (Municipalities of Verona, San Martino Buon Albergo and Castel D’Azzano, Grezzana, Soave, Caldiero and S. Giovanni Lupatoto).

Target audience: Elderly people

Description of the campaign, aims:

The ULSS20 (territory public health agency) in collaboration with municipalities of Verona developed the project “The Health is in Movement” which included 1,716 elderly people. The following courses have been carried out with the purpose of enhancing the elderly’ healthy lifestyle.

- Courses of fitness for diabetics
- Promotion of walking – the organization of this activity promotes not only regular movement but also socialisation, which seems to be particularly appreciated by men. Walking is easy to be integrated into the current habits and allows to train a “walking leader” so as to have an autonomous co-ordination and management of the activity. The project has obtained a huge success and has been replicated in other areas of Italy (Rome). The advantage of this project is that it is sustainable and eco-compatible because of the diminishing use of individual motorisation mobility.

Recently, in Italy there have been many initiatives for health professionals on communication. These actions – promoted mainly by private companies specializing in effective communication, techniques and strategies in the field of health, strategic interaction and handling of the role – were held mainly at universities and local health units. Below a summary of these actions is given (Table A1).

Table A1. Vocational training courses for health professionals (2002-2009)

Year	Vocational training courses for health professionals	Location
2003	Effectiveness of the communication doctor-patience	Viterbo
2004	VT course in health communication for hospital doctors: relationship doctor-patience-family	AO Arcispedale S. Anna (FE)
2004	Course for health assistants in effective communication	AUSL 9 Grosseto
2004	VT course in health communication	Veneto
2003-2004	VT permanent course of high education in communication techniques and strategies in the field of health <i>Duration:</i> 200 hours <i>Participants:</i> min 10/max20 <i>Proponent:</i> Inter-Departmental Centre of Research “Population, Environment, Health”; Faculty of the Science of Education; Faculty of Medicine and Surgery <i>Aim:</i> To transfer on the participants appropriate skills both to assess patient’s needs and to communicate properly. The aim is to render health professionals able to apply communicative competencies in different context of their current activities.	Bari (University)
2006	Communication in public health: a cost, not a resource (Comunicazione pubblica sanitaria: spesa, non risorsa)	Catania University
2006	Communication online in health services <i>Duration:</i> 12 hours <i>Target:</i> The course targets all health professionals who are involved in direct relationship with clients like social workers, as well as administrative employees, psychologists, professionals of prevention, vets, sociologists etc. <i>Aim:</i> To experiment and to acquire effective mode of communication to enhance the sense of responsibility and cohesion.	ASL Benevento

to be followed

continues

Year	Vocational training courses for health professionals	Location
2007	Marketing and communication in the field of food <i>Duration: 10 hours</i> Under the patron of the Ministry of Health, Italian Association of Hygiene, Preventive Medicine (Sitl) session Triveneto; Padua University; Region of Venice	Padova
2007	Communication techniques and educative relation in the field of health <i>Duration: 48 hours</i>	Perugia
2002 – 2008	Effective communication in the health environment: strategic interaction and handling of the role (30 editions) <i>Aim: To acquire theoretic knowledge in effective communication, strategic communication and neuro-linguistic programming; to acquire practical knowledge in empathy, active listening and understanding, compliance, motivation to change, management of conflicts, resistances and emotional dynamics</i>	Cagliari
2008	VT course in communication	ASL 4 Matera
2008	Efficient communication in the field of health <i>Duration: 10 hours</i>	Reggio Calabria
2009	ABC of Communication in health field – basic rules to improve communication of hospital professionals <i>Duration: 10 hours</i> <i>Target: all Health-social professionals</i> <i>Participants: min10/max20</i> <i>Aim: 1) to increase awareness regarding the strategic importance of efficient communication; 2) to enhance responsibility in the process of communication; 3) to increase communicative inter-exchange and development of synergies; 4) to acquire awareness of all principal modes of communication (non verbal, verbal, paralinguistic etc.)</i> Following arguments have been tackled: psychology of communication, “learn to communicate”, efficient communication, empathy, active hearing, voice as calming and reassuring instrument	Verona

A.3. Lithuania

Third Age University (TAU)

Contacts, information sources:

Link to the project <http://www.3au.lt>

Date and duration: Long term campaign

Level: National

Target audience: Elderly people

Focus

Focus in nutrition, activity, lifestyle, culture and art, foreign language and etc.

Intended aim

Increasing knowledge, changing attitudes:

Aim and main tasks are to support the older people in a better social integration into society. Their opportunities and active participation in the realisation of the public opinion formation and decision-making processes are: to investigate and promote older people's cultural and social experience; to promote co-operation between the generations to organise lectures, conferences, seminars, meetings with Lithuanian and foreign experts

Public figures:

Doctors organise some measures to allow spending their time according to the ability and possibility.

Main tasks:

- Ensuring a better social integration of older people into society, to promote the efficient, productive and meaningful life, to support their efficiency, physical activity and the deepen one's a knowledge and level of culture
- Promoting intercommunication and collaboration is to allow the people to self-expressions and distribution of experience.
- Developing the ability of communicate between generations, to try for a life harmony and harmony between elderly person and environment.
- Creating conditions of good emotional state and atmosphere, where the individuals and surrounding environment would become the main developing process.
- Collaborating with the Third Age University (TAU) in Lithuania and with the other foreign universities related to public organization

Activities, measures, products: Training

Distribution / communication channels: Schools, colleges and Universities

Description of the campaign:

In Lithuania we have TAU sacred to the elderly people. The TAU is a voluntary public organization, which surely makes a better social integration of elderly people into society to promote activity in to productive living. Support their efficiency and physical activity to deepen knowledge and level of culture, also exchange experience of life and maintain health.

In the University operates the following faculties: Healthy lifestyles and spiritual development; Psychology; Culture and Art; Household and the Environment; Foreign Language; Information Technology; Music; Physical Activity and kinesiotherapy; Political Discussion; Arts.

Members of TAU may be all citizens of the Lithuanian Republic. Everyone who wants to learn are accepted (from the primary education to scientists, creative people, and public figures. All students must to fill form and select the faculty then they can participate in one or several faculty actions. When they finished their studies, they get certificates.

Branches of TAU University: In Vilnius, Kaunas, Klaipėda, Marijampolė, Panevėžys, Šiauliai, Prienai, Ukmergė, Telšiai, Visaginas and etc.

A.4. Poland

Programme of Recreational Activity for Elderly /PRROS/

Contacts, information sources:

Programme author Ewa Kozdron (Academy of Physical Education, Department of Recreation, Warsaw, Poland).

Programme organisers Department of Recreation at the Academy of Physical Education in Warsaw, in co-operation with the Warsaw Third Age University, Senior Clubs and the Association of Physical Culture Promotion

Date and duration

The first edition of the PRROS was organised for 50 participants in 2000. In 2005/2006 the second edition of the PRROS was provided in 20 cities all over Poland for approximately 300 participants. The PRROS lasts 6 months and composes of 3 stages: stage I – introduction (qualification and information), stage II – practical course (regular exercises and activities), stage III – education, prevention, tourism and recreation.

Level (national/local)

The first edition of the PRROS was organised in one of sixteen provinces in Poland by the Department of Recreation at the Academy of Physical Education in Warsaw, in co-operation with the Warsaw Third Age University, Senior Clubs and the Association of Physical Culture Promotion for 50 participants in 2000. In 2005/2006 the second edition of the PRROS was provided in 20 cities all over Poland for approximately 300 participants.

Target audience

Participants are older, inactive individuals, sedentary persons aged 60-74 years and over, without previous experiences in regular physical activity. Persons with disabilities are included in programme. They were most likely residents in the cities and had not previously experienced the positive effects of regular physical activity and, hence, did not feel the need to participate in such a programme. The programme was mainly geared towards women because, in this age group, they typically express more interest than men. Therefore, as women constituted the majority of participants (i.e., 95%), the exercise programme was chiefly tailored to their needs. The target group included only mobile individuals, excluding the disabled persons. It is worth noting that "individuals aged less than 60 years and over 74 were not excluded from the programme. Individuals aged 55-60 years and those over 74 could also participate, provided they were in good physical condition. All participants had to be qualified by physician for PRROS.

Focus

Nutrition, physical activity, changing a lifestyle.

The goal of this programme was to change the lifestyle of older people through achieving physical fitness, simultaneously improving their psychomotor functioning. By encouraging physical exercises and teaching different exercise techniques, attempts were made to influence individual approaches to physical activity and develop health-promoting habits. Healthy eating habits constituted an additional lifestyle aspect incorporated by the authors of this programme. An additional aspect taken into consideration was the prevention of selected diseases as well as preventing falls and the effects of falls (i.e., improving co-ordination, balance, mobility). The educational element of the programme also underlined the role of healthy dietary habits in relation to general health, quality of life in older age, and the prevention of disease. Practical information was provided, such as which ingredients should be added to one's diet to prevent osteoporosis.

Intended aim

The aim of the PRROS is to encourage elderly people for regular physical activities. The PRROS provides a complex service in promotion and implementation of a health-oriented life style among elderly people. Since low motivation and interest in recreation of aged people results mainly from lack of knowledge or information about beneficial effects of physical exercise on health, participation in PRROS is the first step towards changing life style. Participants are motivated to change a life style and to make use of recommendations and advises provided by medical doctors, instructors of recreation, psychologists, physiotherapists, dieticians and nutritionists involved in PRROS. During the PRROS the various forms of physical activity are introduced to participants with regard to their individual preferences.

Theories reported

The Older People's Programme for Active Recreation was based on theoretical and methodological indicators for active recreation and medical recommendations concerning the form, substance, and means of such recreation (Jaworowska *et al.*, 2000). The creation of this programme was preceded by a number of studies, in co-operation with different research institutions, chiefly those dealing with medicine, rehabilitation, and psychology. Study were undertaken concerning motor ability, cardiovascular and respiratory efficiency, musculoskeletal agility, joint function of older people, immunological studies, and dietary investigations, especially concerning knowledge of healthy dietary habits among seniors.

The Programme is based on theoretical-methodological indicators concerning active recreation and medical recommendations. Moving from theory to practice took place through applying scientific methods at each stage, from the moment of designing the Programme using the results of scientific research from sports medicine and rehabilitation sciences, to rating the influence of the Programme on the functionality and motor agility of participants using statistical methods (Jaworowska, *et al.*, 2000). Exercises were chosen based on the physical tolerance of participants, which was systematically measured using objective (e.g., heart rate, blood pressure) and subjective (e.g., Borg's work burden scale) tools.

Activities, measures, products

Physical activities: group and individual general exercises, water exercises, dance, bicycling, walking and tourism activities, a two-week stay at a sanatorium centre

Educational activities: educational and informational meetings, consultation with instructor of recreation, dieticians and nutritionists, workshops about unconventional treatments, lectures, a two-week stay at a sanatorium centre

Treatment sessions: hydrotherapy, massage, cryotherapy, balneotherapy, a two-week stay at a sanatorium centre etc.

Distribution / communication channels

Informational-advertising efforts concerning recruitment took place 3-4 weeks before the beginning of the programme and took the form of informational meetings organised for participants of the Third Age University, Society for Promoting Physical Activity, and senior clubs located throughout the city. Information was also published in the local press and posters were hung-up in public places. Advertising by word-of-mouth was equally effective.

Description of the campaign

The PRROS lasts 6 months and composes of 3 stages: stage I – introduction (qualification and information), stage II – practical course (regular exercises and activities), stage III – education, prevention, tourism and recreation. Participation in the PRROS is free of charge (Table A.2).

Table A2. Description of consecutive stages of PRROS project

STAGE I	Introduction
<i>Aim:</i>	to motivate potential candidates and to convince of the importance of physical activity
<i>Leaders:</i>	instructors of recreation, medical doctors (gerontologists), psychologists, dieticians and nutritionists
<i>Duration:</i>	2 – 4 weeks (4 educational and informational meetings)
<i>Meetings content:</i>	<ol style="list-style-type: none"> 1. Positive aspects of physical activity. 2. Psychological aspects of active life style. 3. Nutrition – the most important element of healthy life style. 4. Introduction to PRROS: <ul style="list-style-type: none"> code of PRROS participant, information about self-control and self-esteem questionnaire about life style, physical activity preferences, expected benefits from PRROS.

to be followed

continues

STAGE II Physician qualify participants to the stage II of PRROS	
<i>Aim:</i>	to participate in systematic physical activity
<i>Leaders:</i>	instructors of recreation, medical doctors (gerontologists)
<i>Duration:</i>	22 weeks, 44 exercise classes, consists of 3 phases
<i>Stage content:</i>	<ol style="list-style-type: none"> 1. phase of adaptation (2-4 weeks) 2. phase of compensatory (4 weeks) 3. phase of training (14-16 weeks) Physical activity frequency: - exercise classes (twice a week for 1h) - walking (minimum once a week for 20-60 minutes)
<p>One new exercise to perform at home is introduced to participants every week of the stage II. Participants are given printed materials (descriptions or drawings). At the end of stage II participants suppose to acknowledge 22 exercises.</p>	
STAGE III Education, prevention, tourism and recreation	
<i>Aim:</i>	a two-week stay at a sanatorium centre
<i>Leaders:</i>	instructors of recreation, medical doctors (gerontologists), psychologists, physiotherapists, dieticians and nutritionists
<i>Duration:</i>	2 weeks
<i>Stage content:</i>	<ol style="list-style-type: none"> 1. Physical activities and tourism activities. <ul style="list-style-type: none"> - Various individualised treatment sessions (hydrotherapy, massage, cryotherapy, balneotherapy etc.) - Individual consultation with instructor of recreation in order to prepare individual programme of home exercises and physical activity after the PRROS termination. 2. Lectures and workshops about unconventional treatments e.g. aromatherapy, music therapy, relaxation, psychotherapy, ergotherapy, herbal therapy (6 afternoon sessions) 3. Nutrition during the camp is provided according to food records prepared by the National Food and Nutrition Institute. 4. Making use of specific conditions (nature, climatic, therapeutic, etc.) 5. Medical examinations, exercise tests, fitness tests, etc., are performed on the first and last days of stay. 6. Every participant receives certificate of having completed the PRROS course and information about further group activities according to individual preferences. Physical activity frequency: - morning exercises (everyday 15-20 minutes) - water exercises, dance, bicycling, walking etc. (three times a week for 1.5h)

Mediators (expertise of the service providers)

Service providers are instructors of recreation, medical doctors (gerontologists), psychologists, physiotherapists, dieticians and nutritionists with legal practice in a profession.

Evaluation

Programme efficacy was confirmed in many studies on the assessment of motor and physical fitness, movement ranges, body composition, bone texture, postural features, immunity, nutrition, anxiety state, intelligence (Glinkowski *et al.*, 1998; Kozdroń *et al.*, 1998; Kozdroń *et al.*, 2002). The follow up study showed a high level of participation in physical activity among graduates of PRROS. Detailed description of PRROS (stages, phases and exercise examples) is presented in Manual for PRROS (Kozdroń, 2004).

Regionalny Program Aktywności Fizycznej Seniorów

Regional Programme of Physical Activity for Seniors in Bydgoszcz

Contacts, information sources

Program co-ordinator Dr Gabriel Chęsy (Institute of Physiology of Ludwik Rydygier Collegium Medicum in Bydgoszcz of the Mikołaj Kopernik University in Toruń).

Link to the project www.kujawsko-pomorskie.pl/files/wiadomosci/20081219_seniorzy/program.pdf

This programme has been prepared by the Health Department of The Office of The Marshall in Bydgoszcz in co-operation with the Faculty and the Institute of Physiology of Ludwik Rydygier Collegium Medicum in Bydgoszcz and with Province Sport Medical Clinic in Bydgoszcz on the basis of the regulation referring to medical services financed from public funds.

The programme was carried out in co-operation with the local self-governments. The subsidy from the province's budget amounted to 24,950 PLN in 2007 and the purpose of it was to teach trainers (2,200 PLN), educate participants (6,900 PLN), conduct the qualifying tests for the programme and the control tests (15,850 PLN). The self-governments carrying out the programme were financing the cost of a trainer's work and of the gym's lease. The subsidy from the province's budget amounted to 141,815 PLN in 2008 while for this year's edition (2009), The Office of The Marshall appropriated almost 160,000 PLN.

Date and duration

The programme is a long-term programme. It is going to be implemented in the years 2007-2011 with the possibility of continuation.

Level: Local (Kujawsko-Pomorskie province)

The communes, the poviats and the representatives of the self-governments were consulted regarding the programme and declared their support of the programme implementation. The programme is a long-term one and it is open to all self-governments, which will declare their will to the programme's implementation.

1. In 2007 the programme was carried out on the basis of the partnership contract by the Self-government of the Kujawsko-Pomorskie Province and 6 local self-governments, as well as by the Province Sport Medical Clinic in Bydgoszcz, The Institute of Human Physiology and The Institute of Organization and Management of Health Protection of Ludwik Rydygier Collegium Medicum in Bydgoszcz of the Mikołaj Kopernik University in Toruń.
2. In 2008 there were 12 self-governments involved in the project's implementation.
3. Presently (2009) there are 22 towns, communes and poviats participating in the project's implementation.

The task for self-governments is to prepare the rooms and the equipment as well as to recruit the participants. In the following years the next self-governments will be invited to the programme.

Target audience

Participants are sedentary people aged 50 and over as well as trainers (mediators) of the elderly. In 2007 in the Regional Programme of Physical Activity for Seniors 231 people took part, a year later there were 519 people training in the 33 groups and 28 trainers whereas in this year (2009) the amount of seniors increased to the record-breaking 1365 trainees in the 90 groups.

Focus

Main areas of the Programme: physical activity, physical exercises, walking, healthy lifestyle, healthy diet, nutrition, teaching trainers

Different aspects are focused on as the programme is directed at two target groups:

Seniors group:

- The aim of the programme is mostly to improve the physical fitness of the seniors but also to encourage the habit of regular exercising.
- The aim of the programme is to broadly inform about safe training, physical activity, balanced diet, and a healthy and active lifestyle.

Trainers group:

- The aim of the programme is to educate how physical exercises should be performed with elderly people.

Intended aim

1. Physical fitness improvement and encouragement of regular exercise among the programme participants.
2. Broadening the knowledge of the programme participants regarding the influence of physical activity on health.
3. Preparation of the trainers to work with people over 50.

Social and economical results:

1. Decrease of morbidity and mortality from diseases.
2. Reduction of social costs in the aftermath of disease.
3. Increase of health awareness of residents.
4. Development of health-friendly lifestyle of both the material and social environment.

Activities, measures, products

Within the framework of the programme "Regional Program of Physical Activity for Seniors" physical classes with the seniors took place (the exercises of physical capacity, muscular strength, balance and stretching) in the gyms, swimming pool trainings and Nordic walking. Apart from the practical part (physical classes) the seniors who qualified for the programme took part in lectures for additional training. The programme also incorporated teaching the trainers who performed the exercises with the seniors.

Distribution / communication channels

Outpatient Clinics, Town/Commune Offices, websites of the offices, senior clubs, regional newspapers, town/commune informative bulletins, notice boards, radio.

Description of the campaign

Within the framework of the programme "Regional Program of Physical Activity for Seniors" training was organised separately for seniors and trainers (in the form of lectures – approx. 6h) within the scope of:

1. Healthy lifestyle.
2. Change of habits.
3. Influence of physical activity on the wellbeing of health and spirit.
4. Safe exercising.
5. Physical activity.
6. Balanced diet.

The training programme for the trainers included the following topics (approx. 5 h):

1. Physiological basis of the physical effort of the seniors.
2. Results of the lack of the seniors physical activity.
3. The programming rules of the seniors health training.
4. Modern rules of training.
5. The exercises recommended for the improvement of circulatory-respiratory capacity and muscular strength.
6. The scope of the exemplary exercises and the physical activity programmes for seniors.
7. A basic physical evaluation of seniors.
8. The rules of healthy diet of active seniors.
9. The rules of qualification to the seniors activity groups.
10. The basics of first aid during the seniors training.
11. The threats occurring during the physical training of the seniors.

Apart from training, the group of seniors selected on the basis of a medical test took part in motor exercises. The exercises included the exercises of capacity, muscular strength, balance and stretching, as well as swimming pool classes. Except for gym exercises and body building classes the programme participants trained the marches with Nordic walking sticks in the last year (2009). Those participants trained with trainers 3 times a week in the town sport centres or in gyms at primary and secondary schools. The classes took place 3 times a week 45-60 min each and were conducted by qualified trainers. All candidates for physical exercises undertook a general medical test in order to exclude people medically unfit as otherwise they could potentially jeopardise their health. Exercising was allowed only for people who passed the aforementioned medical tests (the state of circulatory system and the motor organs were tested, all underwent an EKG, blood pressure, efficiency tests such as a functional test of capacity and anthropometric tests). The participants also filled out a questionnaire regarding previous diseases and injuries. After the 3-month period the trainees were subjected to medical control tests to evaluate the training results.

The medial tests were repeated after finishing the programme. It determined if the exercise results were efficient and if the participants improved their capacity and frame of mind. The people included in the tests were diagnosed with the excessive fatty tissue – even up to 30% of the total body weight. The most significant problem with people tested was keeping balance, lack of which might result in an aggravated risk of falls, breaks and motor organ injuries. Lack of muscular strength, particularly the bottom limbs is a cause of senility observed in a significant number of programme participants. The physical training, which the trainees underwent visibly, improved the fitness parameters. Thanks to the motor exercises the programme participants had an opportunity to keep fitness and self-efficiency up to old age.

Evaluation

Monitoring and content-related supervision was implemented on the current basis (all year round) by the programme co-ordinator. However, the evaluation of the programme implementation and effectiveness took place once a year by the Health Department on the basis of the appointed indicators:

1. The amount of people actively participating in the programme.
2. The amount of people participating in the educational classes.
3. The amount of educated (trained) trainers.
4. The results referring to physical fitness of programme participants.

Programme related to the education of the care assistants for elderly people

Contacts, information sources

Programme author Katarzyna Szczerbińska (medical doctor, geriatrician).
Co-ordinator Training Department Supervisor

Training for care-assistants of older persons conducted by Medycyna Praktyczna – Trainings funded by the European Union from the funds of European Social Fund (ESF) and the state budget within the framework of The Integrated Regional Operated Programme (IROP).

Practical Medicine – The Trainings (civil law partnership) is the biggest private centre in Poland, which trains the doctors, the nurses and the paramedics. Starting from the year 2006 the company executed 5 editions of a project referring to the education of the care assistants for elderly people. There were jointly 540 people trained.

Date and duration

The programme began in June 2006 and it is going to be continued. However, the start of the next editions of the training is related to acquiring the funds.

Level: Local (Małopolskie Province, Podkarpackie Province, Świętokrzyskie Province)

Target audience

Participants are trainers (mediators) of the elderly.

1st edition

Care assistant – a new profession at the labour market – the trainings preparing for taking care of elderly people and chronic patients

Implementation time: the 6th of June 2006 till the 30th of September 2007. The project was financed by European Union from the funds of European Social Fund (ESF) and the state budget within the framework of The Integrated Regional Operated Programme (IROP), Priority 2 – Enhancement of human resources development in the regions. Activity 2.4 “ Professional reorientation of people at risk due to the restructuring processes”.

To participate in the project one should have been of age, with permanent or temporary residency at the Małopolskie Province’s area. One should have freely express the will of changing or expanding the professional qualifications. The support was aimed at the people:

- who work in the industry, which is undergoing restructuring processes. People who are planning a change of an employment or a profession and who want to improve their professional state and the state at the labour market,
- who are at direct or indirect risk of being dismissed due to the conditions of a factory or the conditions of a sector/a trade,
- who are loosing the jobs as a result of the employment reduction, liquidation of a place of work or other cause not being on a worker’s part,

- who are during the notice period and the termination of the employment contract is on the employer's part.
- who work for an employer, which is declared a bankrupt or is in the state of liquidation,
- who lost the job for a reason lying at the employer's part, who are unemployed, registered as unemployed for a period not longer than 3 months or looking for a job for a period not longer than 3 months.

2nd edition

Care assistant for elderly people

Implementation time: since September 2006 until March 2008. The project was financed by European Union from the funds of European Social Fund (ESF) and the state budget within the framework of The Integrated Regional Operated Programme (IROP), Priority 2 – Enhancement of human resources development in the regions. Activity 2.4 “ Professional reorientation of people at risk due to the restructuring processes”.

The training's participants were the employees of the industries and sectors, which are under restructuring process and the other people, who are at risk of losing a job, living within Małopolskie Province.

3d and 4th edition

The profession of the elderly people care assistant as a chance for people leaving the farming business.

Duration of the project: the 1st of October 2006 until the 31st of March 2008. The project took place in Podkarpackie Province (Rzeszów, Tarnobrzeg, Zbydniów, Krosno) and Świętokrzyskie Province (Skarżysko-Kamienna, Busko-Zdrój, Strawczyn). The project was financed by European Union from the funds of European Social Fund (ESF) and the state budget within the framework of The Integrated Regional Operated Programme (IROP), Priority 2 – Enhancement of human resources development in the regions. Activity 2.3 “Professional reorientation of people leaving the farming business”.

To participate in the project one should be an inhabitant of the country area or the towns up to 20 thousand of inhabitants in Podkarpackie or Świętokrzyskie Province. One should declare the will to start the employment in non-agriculture business. One should belong to one of the group:

- the farmers and the farms' inhabitants, excluding the pensioners, people, who are registered as the unemployed and the students of full-time study.
- the other persons employed in the farming business.

5th edition

Care assistant for elderly people III

Implementation time: since May 2008 until the end of April 2009. The project was financed with the funds from the European Social Fund (ESF) and the state budget within the framework of Operational Programme Human Capital (OPHC) Priority 8 – Regional personnel of economics, Activity 8.1 “Development of the employees and the businesses in a region”, Subactivity 8.1.1 “Support of the professional qualification development and counselling for the businesses”. The participants of the project were the persons:

- above 45 years,
- working,
- educated no higher than the secondary level,
- inhabiting the Małopolski Province area.

Focus

Main areas of the Programme: trainers' training on introduction to caregiving in case of elderly or chronically ill patients with following topics: physiology of ageing including health promotion; nursing for elderly patients and chronically ill as well as patients with special needs (stomy, catheters); Basic Life Support course, with elements of most common life threatening emergencies; trauma prevention and trauma care; basic elements of physiotherapy, occupational therapy and palliative care; nutrition; management of conflicts, elements of communication. Additionally, rules of job search, preparation of application, qualification meetings and problem solving were presented to providing basic steps toward becoming employee. Moreover, legal aspects of self-employment, tax and security issues and financial analysis and risk management were taught to encourage students to self-employment. Students participated in the lectures and workshops on prophylactic screenings, sports, recreational activities and healthy diet planning recommended for older adults.

Intended aim

The aim of the project was the change of professional qualifications of the workers of the industries and the sectors being under restructuring process and other people at risk of losing a job, including people leaving the farming business. Thanks to the project the participants obtained the qualifications, enabling them to perform a new market profession. They were introduced to the rules of job searching in the country and abroad and how to run a business. The 5th edition of the training programme had an aim of obtaining and/ or increasing the qualifications as well as the development of the skills corresponding to the labour market needs by the working persons above 45 years with the education no higher than secondary level.

Theories reported

The trainings resulted as the answer to the labour market needs. They were developed based on accreditation rules for this type of trainings submitted at Ministry of Labour and Social Policy. The training content was elaborated based on practical experience of professionals providing care for older persons. The consecutive trainings were improved one after the other in the result of continuous evaluation rendered by organisers and feed-back from students.

Activities, measures, products

The training content with goals (in terms of expected knowledge growth and skills achieved by students), outline of classes, type of evaluation, time schedule, list of trainers. The educational materials such as power point presentations and written manual were developed by the trainer/teachers, who conducted the classes. The students underwent written theoretical exam and evaluation of their practical skills.

Distribution / communication channels

The Labour Offices, The Internet advertisements, press advertisements, mailing to the institutions, informative leaflets directed to the Social Nursing Homes, the posters at the places of the trainings and in the rural areas the information was delivered to the interested people via the parishes.

Description of the campaign

The courses' participants received the instructional materials and food during the trainings free of charge. The group of participants from outside Krakow were provided with the accommodation and they received the reimbursement of the trip from the place of residency.

Within the framework of the project were carried out the particular courses:

1. The training within the scope of care assistance for the chronic patients at their homes. Duration time: 18 days.
 - Getting older – physiology or disease. Organization of health and social care.
 - First aid in the conditions of a sudden threat to life.
 - The rules of how to come into the proper relationships with the people in care and their families. Professional burnout.
 - Nursing of the elderly people and the chronic patients.
 - Chronic diseases typical for older people and selected procedures in those health problems.
 - The basis of the occupational therapy and physiotherapy.

The training programme was in accordance with the directives included in The Ordinance of Ministry of Labour and Social Policy within the scope of the qualifications required at the position of an environmental care assistant and social assistance home workers. The trainings were conducted by the lecturers as well as the workers of the hospices and social nursing homes.

The course was ended with an exam. The persons, who succeeded with the exam, received a certificate in Polish and English confirming the obtained qualifications.
2. The training "How to orientate at the labour market", Duration time: 2 days.

The scope of the training:

 - Job searching methods in the country and abroad
 - How to write an application
 - How to prepare and conduct an interview
 - Overcoming the difficulties
3. The training within the scope of establishing and running a business activity (for the volunteers)

The scope of the training:

 - Accountancy

- Forms of settlement
- Filling in the declarations of taxes and Social Insurance Institution (ZUS)
- Calculating the costs of running a business as well as the potential incomes

The experienced instructors from the professional companies, which have got the practice in the training subject area, conducted the trainings. The classes have a form of workshops, which allowed the participants gaining of the practical skills within the scope of the labour market orientation as well as the establishing and running one's own business.

Evaluation

Internal monitoring and content-related supervision was carried out on the current basis by the content-related supervisor. The participants evaluated the trainers conducting the classes and the content of the classes. The questionnaire assessing growth of chances of employment among students was executed by an outside company "House of training and counselling" ("Dom Szkoleń i Doradztwa") at the beginning and at the end of each course. Moreover, the trainings' organiser conducted the telephone poll with the participants after the training end. The trainings were finished with the testing exam and the presentation of the participation certificate. Additionally external audit was carried on by The Labour Offices to evaluate the way of organization of training according to contract rules.

A.5. Spain

Programa d'esports + Plus Vida

Contacts, information sources:

Federació d'Associacions de Gent Gran de Catalunya (FATEC), la Fundació Catalana per a l'Esport i La Generalitat de Catalunya. FATEC. Tel: 93.215.02.33

Link to the project

<http://www.gentgran.org/forum/viewtopic.php?f=5&t=68&sid=3304673461002cb3f2358a15bf6cc5b3>

Date and duration: January 2005, 4 courses / 4 years

Level: local (Catalonia, Spain)

Target audience: Over 60s.

Focus, intended aim:

To show the physical, psychological and social benefits of doing exercise, related to the health and quality of life of the people over the age of 60.

To offer people the equipment and spaces they need for independent exercise (individual and group) to prevent diseases.

Description of the campaign, activities, distribution:

The programme contemplates in parallel to the promotion of the physical activity, conferences on specific topics of health and feeding. This programme is not a gym programme for the elderly, but an integral experience of physical and mental exercise, under technical control and medical guidance. Also information is gathered to evaluate the process and the health of the participants.

Evaluation:

Social Impact: Good opinion of the public and the authorities. There are different groups in Barcelona, Girona, Tarragona and Lleida. Approximately, 2,600 people took part in the 2005-2006 course, under the guidance of monitors

Achievements:

- Physical level: e.g. people who previously used a walking stick no longer need to.
- Social relations: the people that have done these courses now have a lot more social relations than before.

Programa Vida Activa

Contacts, information sources:

Centro para personas Mayores de Usera, Asuntos Sociales, Tel: 91.392.03.20

Link to the project

http://www.madrid.org/cs/Satellite?c=CM_Agrupador_FP&cid=1109266227690&idConsejeria=1109266187278&idListConsj=1109265444710&idOrganismo=1109266227690&language=es&pageName=ComunidadMadrid%2FEstructura

Date and duration: 2005

Level: local (Madrid, Spain)

Description of the campaign, activities, distribution:

In this programme there are very gentle exercises where offering rehabilitation movements for the bones and the muscles of the body. At first sight, improvement is already evident, because they walk better and are more agile since they have been doing the exercise routines. There are constant activities in a programme with many courses to do (painting, relaxation, music therapy, etc.). There is a database with the information of each participant regarding the activities, to see the evolution of their health since the beginning of the course. In the café of the centre they have healthy and very reasonably priced menus, that encourage them to eat well.

Evaluation: The people noted an improvement in their state of health

Programas universitarios para mayores (PUM)

Contacts, information sources:

Federación Andaluza de Asociaciones de Aulas Universitarias de Mayores (FADAUM, fadum@fadum.org). Juan Rafael de la Torre Fabre

Date and duration: from 1976, ongoing

Level: national (Spain)

Description of the campaign, activities, distribution:

University Programmes for elderly people promoting personal development, quality of life and interpersonal relations. They facilitate the promotion of the personal autonomy and they prevent dependence as a fundamental characteristic of the active elderly. They should promote significant learning but, at the same time, they should respect the characteristics of the elderly people themselves, adapting the forms of teaching, resources, material, spaces... to the limitations of secondary ageing.

This kind of programme was started in 1973 in Toulouse (France) by Pierre Fences. In 1980 fifty French universities had established these programmes. Currently they are offered in all developed countries.

In 1996, in the first Meeting of these Programmes, held in Granada, 14 universities participated and the name was changed to "University Programmes for the Elderly"

In 2007, 70 Spanish universities offered these programmes in 170 headquarters and with over 35,000 students

In Andalusia, 9 universities offered the programmes in 45 headquarters and they involved more than 7,000 students.

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