Aa.Vv.

PROGRESS TOWARDS HEALTHY AGEING IN EUROPE
Tools

Aa.Vv.
Progress towards healthy ageing in Europe

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For more information see: http://ec.europa.eu/progress
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The well being of the Cooperation

The 2013 is the tenth year of the Administrative Structure of the International Cooperation for Development of the Molise Region.

Ten years within which, in short, one director, officers, employees, in other words a close-knit group of people motivated and enthusiastic, have fielded dozens of actions in support of health, welfare, marginalized people, children and the economic and social development in different areas of the world.

Specifically: Balkans (Albania, Serbia, Bosnia-Herzegovina, Croatia, FYROM); Africa (Egypt and Malawi), Latin America (Brazil).

Cooperation for Development represents, for a Region of just 300,000 inhabitants and despite many obstacles, difficulties and limits, a matter of “public” pride and of considerable personal gratification.

Pride and gratification, because each other marched side by side with the beneficiaries of the actions of the project, aiming at achieving the objectives of integration, cohesion and growth.

As technicians we can claim to have contributed at promoting and conciliating growth, social development and equity, for example, by equipping health facilities of sophisticated medical equipment and by organizing the respective training of doctors and nurses, in areas of extreme criticality in Albania.

Or, in a further example, by participating directly to land reclamation, renovation and by furnishing health facilities and a professional kitchen in Brazil. Moreover, by organizing in Brazil
training courses (Italian cuisine, English and Italian Languages, tennis course for Equal Opportunities of young people coming from the “bairro” and a scientific research of the University of Molise), only with volunteers.

All these activities have a quite relevant importance for us: they are not made for welfare dependency nor penetration in the concerned Countries in order to change, with aggressive actions, the nature of the them and their resources or to influence the freedom formation of personality and of conscience of the beneficiaries.

The Project Towards Healthy Ageing in Europe, under the European Progress program, is part of one of the many important initiatives of International Cooperation Administration carried out in recent years by the Cooperation and Development Service of the Presidency of the Molise Region and fully fits the general objective of the Progress (Programme for Employment and Social Solidarity), that support the development and coordination of EU policies with a focus on employment, integration and social protection, conditions of labor, anti-discrimination, gender equality, with the aim of achieving the strategy of “Europe 2020”.

The project has been realized through the synergistic action of prestigious partners such as: England (the Suffolk County as the lead partner of the project), as well as Denmark, Germany, Spain and, of course, Molise Region.

The project activities have found their strengths in a series of measures pivoted on psychological well-being to combat premature aging by helping older people to doing sport activities regularly with a specific target group, identifying specific programs of physical activity, producing special media or websites that act as synapses with the connective tissue to form social capital by improving both the physical and mental health of people of the target group.
So, in general, the Cooperation, as we mean, is cultural exchange and reciprocal social growth; it is mutual inner enrichment; selfless help that cultivate eternal and consubstantial values for the people at any latitude; it is the study of health and wellness.

Cooperation, ultimately, stands on a complementary and not on competitive manner in the areas of intervention.

We do not colonize anyone, we only aim at acting as a support to the developing areas and as a support to critical areas in order to ensure everyone a chance of improving and of getting self-conscious of the reality in which they live, by gaining decisive experiences with them.

The dove with outstretched hand is the symbol of the Italian Cooperation, and we often invoked it in our activities; it is the emblem of the spirit that moves the work of both our technicians of cooperation, working behind the scenes, and of cooperants involved, often at great risk, directly in these territories covered by our interventions.

Ultimately, in order to adopt a consistent and effective, approach to regional policy, based on the results, it takes consistent action from all institutional actors.

These initiatives coincide with an important challenge to the stability and sustainable development of the regions involved, as well as a big step in the process of promoting regional cooperation, and play a key role by providing a contribution to the cultural understanding, dialogue and the consolidation of confidence in regional institutions.

Avv. Alberta De Lisio
International Cooperation for Development of the Molise Region Director
Programme for employment and social solidarity

PROGRESS TOWARDS HEALTHY AGEING IN EUROPE

AIMS OF THE PROJECT

The project was carried out in cooperation with Molise Region, ASREM (Health Region of Molise), Comitato Provinciale CONI Campobasso (Italian Olympic Committee). The aim of the project was to prevent and/or counteract the age-related decline in physical and functional aspects of life and promotes an active and correct lifestyle. It has also created the conditions to encourage socialization and physical and mental wellness in adults and elderly.

The chosen age group has been identified with the working age and the early retirement. When the end of working cycle does not coincide with the development of new interests and
motivations, it can lead to a progressive decrease of social relations and personal care, with negative effects on health itself.

The increase life expectancy has to be associated with a similar increase of functional autonomy and wellness.

**Detail contextualized regional aim**

The project took place on the territory through a path of awareness, formation and education in order to promote a more active and healthy lifestyle of adult population. The target group was selected among the employees of the public administration in Campobasso, Bojano, Campomarino, Campochiaro, Guardiagregia, San Giuliano del Sannio and Sepino. The request from the participants has led to open the path to retired people too.

Molise is a small region located in the center-south of Italy; it has 312,000 inhabitants spread over an area of 4437 square km. 55.3 % of the area is made up of mountains, 44.7% of hills and of coastal areas. The combination of cold and snowy weather during most of the year and little smoother roads (steep and mountainous territory) does not help (especially in small towns) the displacement of people. The place of residence allows for few opportunities of meeting, debate, and socialization. This is particularly relevant for elderly, which represent a large, and quickly growing part of the whole population. Moreover the organizations that carry on well-structured programs of physical activities with trained coaches are lacking on the territory. For these reasons, free time is lived largely in the family.

Therefore, the topography and climate of the region facilitate a sedentary lifestyle. This fact is associated with inadequate diet (rich in animal fats and poor in fruit and vegetables) making the future of this part of the population rather worrying.
How the intervention or investigation will contribute to achieve the goal of the project

The formation of each participant will contribute to achieve the goal through his own health education. This intervention will push each participant to correct his wrong behaviors, replacing them with more positive and appropriate ones, encouraging the formation of new friendships and allowing the acquisition of social interactions. The acquired motivations, knowledge and skills will determine a positive attitude that will endure over time.

The institutions will be able promote and potentiate a “culture of wellness” in order to propose independently healthy policies for the well being of its citizens. The project will determine several advantages for the society:

- Reduced costs of health and social care
- Increased productivity of elderly
- Promotion of a positive and active idea of elderly.
MODEL OF INTERVENTION

Outline of the intervention

The path included two phases: sensitization and training on the basic aspects of the promotion of psychological well-being in specific areas such as Geriatrics, Clinical Nutrition, Psychology and Motor Activity. The seminars have been structured with lectures and interactive, followed by a physical activity program.

**First Step: publicizing the project** (through the public administration and the province of Campobasso and enrollment of participants).

**Second Step: training** (two meetings between experts and participants).

**First meeting:**
- Knowledge of the effects associated with aging and the benefits produced by an active lifestyle.
- Prevention and contrast of aging.
- Data collection and analysis (SF -36, the nutritional knowledge test, psychometric test).

**Second meeting** (in progress):
- Depth study of topics discussed
- Development of information concerning the objectives and purposes of the activities performed.

**Third Step:** Execution of physical activities
- Participation in a program of physical activity under the guidance of an expert in physical education and sport.
Promoting physical activity among older persons

Since 1996 the REPORT OF THE SURGEON GENERAL of the US Department of Health and Human Services has officially adopted the sedentary lifestyle as a threat to our health and, in the same year, the American Heart Association has announced to add the ‘physical inactivity to the list of preventable risk factors for cardiovascular disease.

Actually, the intuition that physical activity and nutrition are key elements for the maintenance of physical health dates back to the birth of modern medicine. Already Hippocrates pointed out that “...you can not maintain good health only with healthier nutrition, but you have to make some exercises”.

This type of approach has accompanied the medicine over the centuries developing a wide production of tips on healthy lifestyles to follow.

Scientific evidence

Therefore, the innovation of recent years does not consist in having identified this link, but in having documented with a great amount of researches in this field and in having begun to identify the biochemical mechanisms through which physical activity applies its beneficial effects on human health.

Dr. Cosimo Dentizzi
It also surprises the importance of the protective effect that a system of continuous motor activity has against the major causes of death in Molise Region (also in Italy and in all Western countries), which in 2010 were diseases of the circulatory system (34%), myocardial infarction (5%) and diabetes (6%).

A second important aspect is given by the evidence that it is actually possible (though not easy) to induce people to change established ways of life in favor of lifestyles more suitable to prevent the onset or aggravation of chronic degenerative diseases.

The edition “Clinical Evidence”, published periodically by the BMJ Publishing Group, has reviewed the available scientific production on the subject and has evaluated a good technical level, concluding that “the practice of physical activity reduces the risk of heart accidents, fatal and non-fatal. In the physically active population - who practices moderate physical activity every day or almost - there was a reduction of 30-50% in the relative risk of coronary heart disease compared to the sedentary population, equal to other risk factors. “What is striking about this conclusion is, in fact, the importance of the relative risk reduction with regard to the major cause of death in Molise.

Another evidence of great importance has emerged from a prospective study conducted for 14 years on 5125 women with type 2 diabetes. The relative risks for cardiovascular events were positively associated with weekly hours of physical activity thus providing evidence of causal hypothesis

<table>
<thead>
<tr>
<th>Relative risks</th>
<th>Duration of the weekly activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>&lt; 1 hour</td>
</tr>
<tr>
<td>0.93</td>
<td>between 1 and 2 hours</td>
</tr>
<tr>
<td>0.82</td>
<td>between 2 and 4 hours</td>
</tr>
<tr>
<td>0.54</td>
<td>between 4 and 7 hours</td>
</tr>
<tr>
<td>0.52</td>
<td>More than 7 hours</td>
</tr>
</tbody>
</table>
Women with diabetes who have spent at least 4 hours a week a moderate or intensive physical activity showed a reduction of total cardiovascular disease of 40%. The same reduction was observed for coronary coronary disease and cerebral stroke.


The data provide evidence that:
- obese adults can lose 0.5 pounds per week by reducing your caloric intake by 500/1000 calories;
- adding to the diet physical activity, the advantage is minimal for the weight loss, but important for the maintenance of weight loss over time gained from the diet;
- people who combine diet with exercise and behavioral treatment can lose 5-10 % of their weight within a range that varies from 4 to 6 months.

On an issue of the Archives of Internal Medicine has appeared an editorial titled “Superior physicians and the treatment of hypertension”, which states that “...the treatment of hypertension is not synonymous of drug therapy. Non-pharmacological approaches such as diet and moderate exercise can be very effective in reducing blood pressure in patients who cooperate, presenting low risk or no risk and low costs”.

The data gathered from the experience of Molise, in particular those relating to the European project of which we are partners, and which are illustrated in the following pages, confirm the scientific evidence on the benefits of physical activity.

**INDIVIDUAL BENEFITS OF PHYSICAL ACTIVITY FOR OLDER PERSONS**

Regular physical activity benefits the individuals throughout all the life frame. However, we resume the benefits listed in the
Guidelines of Heidelberg developed to promote physical activity in the second half of life.

Age 50 marks a point in middle age at which the benefits of regular physical activity can be most relevant in avoiding, minimizing, and/or reversing many of the physical, psychological, and social hazard that often accompany advancing age. These beneficial effects apply to most individuals regardless of health status and/or disease state.

**Physiological Benefits**

Immediate benefits:

- **Glucose levels:** Physical activity helps regulate blood glucose levels.
- **Catecholamine activity:** Both adrenalin and noradrenalin levels are stimulated by physical activity.
- **Improved sleep:** Physical activity has been shown to enhance sleep quality and quantity in individuals of all ages.

Long-term effects:

- **Aerobic/cardiovascular endurance:** Substantial improvements in almost all aspects of cardiovascular functioning have been observed following appropriate physical training.
- **Resistive training/muscle strengthening:** Individuals of all ages can benefit from muscle strengthening exercises. Resistance training can have a significant impact on the maintenance of independence in old age.
- **Flexibility:** Exercise that stimulates movement throughout the range of motion assists in the preservation and restoration of flexibility.
- **Balance/coordination:** Regular activity helps prevent and/or postpone the age-associated declines in balance and coordination, which are major risk factors for falls.
• **Velocity of movement:** Behavioral slowing is a characteristic of advancing age. Individuals who are regularly active can often postpone these age-related declines.

**Psychological Benefits**

Immediate benefits:

• **Relaxation:** Appropriate physical activity enhances relaxation.

• **Reduces stress and anxiety:** There is evidence that regular physical activity can reduce stress and anxiety.

• **Enhanced mood state:** Numerous people report elevations in mood state following appropriate physical activity.

Long-term effects:

• **General well-being:** Improvements in almost all aspects of psychological functioning have been observed following periods of extended physical activity.

• **Improved mental health:** Regular exercise can make an important contribution in the treatment of several mental illnesses, including depression and anxiety neuroses.

• **Cognitive improvements:** Regular physical activity may help postpone age-related declines in central nervous system processing speed and improve reaction time.

• **Motor control and performance:** Regular activity helps prevent and/or postpone the age-associated declines in both fine and gross motor performance.

• **Skill acquisition:** New skills can be learned and existing skills refined by all individuals regardless of age.
Social Benefits

Immediate benefits:

- **Empowering older individuals:** A large proportion of the older adult population voluntarily adopts a sedentary lifestyle, which eventually threatens to reduce independence and self-sufficiency. Participation in appropriate physical activity can help empower older individuals and assist them in playing a more active role in society.

- **Enhanced social and cultural integration:** Physical activity programs, particularly when carried out in small groups and/or in social environments, enhance social and intercultural interactions for many older adults.

Long-term effects:

- **Enhanced integration:** Regularly active individuals are less likely to withdraw from society and more likely to actively contribute to the social milieu.

- **Formation of new friendships:** Participation in physical activity, particularly in small groups and other social environments, stimulates new friendships and acquaintances.

- **Widened social and cultural networks:** Physical activity frequently provides individuals with an opportunity to widen available social networks.

- **Role maintenance and new role acquisition:** A physically active lifestyle helps foster the stimulating environments necessary for maintaining an active role in society, as well as for acquiring positive new roles.

- **Enhanced intergenerational activity:** In many societies, physical activity is a shared activity that provides opportunities for intergenerational contact thereby diminishing stereotypic perceptions about aging and the elderly.
Purpose of a regular physical practice

Objectives on diet:

All subjects over 65 years should adopt a lifestyle that includes:

- 20-60 minutes of aerobic exercise every day or at least 3 times a week;
- daily strength exercises for the lower limbs and, at least twice a week, for the upper limbs and abdominal muscles;
- daily exercises of articular mobility;
- spontaneous movements to stress daily equilibrium;
- frequent movements, exercises or activities so as to urge the control and motor learning.

Intermediate objectives:

For the construction of an active lifestyle, characterized by the behavior described above, you may consider the following objectives:

- know the benefits of regular motor activity;
- provide daily physical activities, whether or not related to daily activities;
- make regular aerobic spontaneous activity of the subject (walk, out shopping, etc...);
- attend classes regularly, at least twice a week, motor activity body weight for the elderly;
- learn new motor skills or return to practice them (swimming, walking trails, dancing, etc...);
- learning exercises joint mobilization and stretching to be performed independently;
- learn how to lift and move heavy objects correctly;
- promote activities with their grandchildren and friends to create stimulous situations diversified motor.
Criticalities

If the results of a change in lifestyle are so positive (and as we have seen they are), why is it so hard to put in act a comprehensive program of prevention on a large scale?

Actually, to introduce permanent changes in the lifestyles of the people is notoriously difficult. It is an arduous task that must be addressed and managed with determination and without improvisation on the part of health care workers with organizational support and training which is usually the National Health Service does not provide.

Some aspects adversely affect in this area:

- overestimation by physicians of the risk (refuted from the available data) that their patients may suffer acute cardiovascular events (acute cardiovascular accidents) during the sessions of physical activity;

- a lack of preparation of the doctors to cut tailored to individual patients the concrete proposals for change in lifestyle. In fact, the needs and the means of intervention to increase physical activity and correct any nutritional imbalances in the general population are very diverse. On the other hand examination of the literature shows that it is possible to achieve the goals only when sedentary subjects, from start to motor activity and a dietary balance, are not the subject of general recommendations, but specific advice, tailored their needs;

- lack of opportunities in organized exercise classes, outdoors and in gyms, from which to target their users. To highlight this difficulty, it’s sufficient to consider that in Molise Region of about 310,000 inhabitants, 70,000 people have already turned 65. Fix the only goal of organizing opportunities that can increase physical activity by 50% of this population means tackling a task of vast dimensions against which there is not yet an established pattern of intervention.
Prescription

Therefore, the prescription of exercise operational demands to consider in a unified way both types of users/patients and the appropriateness and satisfaction of exercise proposed.

Prescribe or advise on the precise physical activity is not equivalent to the application of a therapy adopted in response to a certain disease, but rather is to suggest and promote a lifestyle that takes place in anticipation and in prevention of a pathological form, and how this must also meet criteria of pleasantness, meeting in a state of mind and a willingness staff, as well as essential criteria of effectiveness.

The strategy for addressing the role of prevention can be set to three elements:
1. define the objectives as a function of different types of patients;
2. identify and assess the factors specific to each patient can help to define the starting point and measure results;
3. propose a subdivision of a clinical functional that takes into account the characteristics of the patients and the goals you want to achieve.

There are a series of resistances and obstacles that patients allege to resist a change of lifestyle. Resistances and obstacles that partly derived from real situations and concrete, some of which are expressions of concerns and attitudes typical of old age. Motivation to change comes through the exploitation positive family environment and territorial cohesion, the operator must know, striving to reduce the barriers that exist really.

There is a strategic advantage, finally, to provide a comprehensive proposal for modification of lifestyle. It is apparent from the literature that a proposed therapeutic modification of lifestyle is much more likely to succeed and to stand the test of time as much as the overall proposal. And, in other words, more effective action on motor activity and nutrition rather than on
only one of these two different behaviors. It is therefore necessary to articulate on both these parameters an overall strategy and customized for users.

**Monitoring and evaluation of results**

A speech deserve special testing and evaluation of results, passages often ignored or neglected (the patient is not cured back to tell their own experience). These steps, however, are of paramount importance to get the most benefit from a program of physical activity. Even in the evaluation of the results we can consider two strategies implemented according to the type of physical activity practiced and the objectives/expectations related to motor practice recommended.

The two strategies consist in the objective measurement of progress and evaluation of the perception of improvements.

**Societal Benefits**

So far we have talked about the benefits that the individual power of attorney motor practice, but there are also benefits for the whole society, which are:

- **Reduced health and social care costs:** Physical inactivity and sedentary living contribute to a decrease in independence and the onset of many chronic diseases. Physically active lifestyles can help postpone the onset of physical frailty and disease thereby significantly reducing health and social care costs.

- **Enhancing the productivity of older adults:** Older individuals have much to contribute to society. Physically active lifestyles help older adults maintain functional independence and optimize the extent to which they are able to actively participate in society.
• **Promoting a positive and active image of older persons:** A society that promotes a physically active lifestyle for older adults is more likely to reap the benefits of the wealth of experience and wisdom possessed by the older individuals in the community. A large proportion of the older adult population voluntarily adopts a sedentary lifestyle, which eventually threatens to reduce independence and self-sufficiency.

**REFERENCES:**


Nutritional problems
of elderly

Abstract

Nutrition has a special role in the elderly to maintain good health. In older people an appropriate nutrition status is influenced by several cultural, social and economic factors. Among these one must take into consideration the changes occurring with age in body composition, in body’s metabolism and in the physiology of many organs. Changes in body composition mostly consist of loss in lean body mass (skeletal muscle, bone, body water and minerals) and an increase in fat mass with dramatic reduction of physical function.

There are many evidence, in scientific literature, showing that age-related changes can be countered by a combination of physical activity and a proper nutrition. Therefore as part of the project: “PROGRESS - Towards Healthy Ageing in Europe”, it was started a program of nutrition education and monitoring of eating habits of 200 adults resident within the territory of the Molise region, to lead to an improvement in their psychophysical state.

Prof. Pastò S,
Dr. Del Grosso F,
Dr. Gramazio S
Introduction

“Health status is closely related to the ageing process, and nutrition is one factor that has beneficial or negative effects on the rate of the ageing process” (British Nutrition Foundation 2009).

Nutrition has a special role in the elderly, because in older age good nutrition is essential for good health. To achieve healthy ageing is required proper adaptation to many physiological, social and lifestyle changes that influence dietary intakes and than nutritional status. The possibility of an appropriate nutrition in older people is influenced by several cultural, social and economic factors.

Among the factors that affect the nutritional status of older adults, but at the same they themselves depend on the individual eating habits, are the changes in body composition, in body’s metabolism and in the physiology of many organs (Fig. 1).

![Intrinsic factor and Extrinsic factor](image)

Dramatic changes in body composition are seen with age, with an inevitable loss in lean body mass (skeletal muscle, bone, body water and minerals), with reduction of the protein pool especially at the expense of muscle mass, and a relative increase in fat mass (Fig. 2).
The term “sarcopenia” describes an age-related decline in muscle mass. There is currently no worldwide consensus on a clinical meaning of sarcopenia, but it now seems certain to be different from other conditions in which there is a loss of muscle mass, such as wasting due to malnutrition or cancer cachexia. It is likely to be a result of both genetic and environmental factors as the lifestyle (British Nutrition Foundation 2009).

Skeletal muscle mass tends to decrease with age, this process accelerates after the age of 80 years (WHO 2002). Muscle mass declines approximately by 1-2 percent a year after the age of 50 years (Rolland et al. 2008) and at 5 percent each decade from the age of 40 years (Greenlund and Nair 2003). Men have a gradual decline in muscle mass and women have a sudden drop particularly following menopause (Rolland et al. 2008) (Fig. 3 & Fig. 4).
Figure 3: Reduction of muscle mass with age

Figure 4: Reduction of muscle mass with age
The main effect of a loss of muscle mass is a reduction in muscle strength, which results in a decline in physical function, fatigue, impaired mobility and progressively loss of ability to perform the activities of daily living autonomously.

Sarcopenia is a paraphysiological process present, in various ways, in all the elderly people, but its prevalence, as a clinical condition, is difficult to estimate, ranging from 6 to 40 percent of older people, with a greater prevalence in those aged 75-80 years and over (Rolland et al. 2008). The loss of muscle mass, with reduction of physical function, caused by sarcopenia is the main cause of frailty.

The changes in body composition are not limited to a loss in lean body mass but also include an increase in fat mass (Greenlund and Nair 2003). Therefore, the body weight not only can remain unchanged, but rather may increase. It has been estimated that the body fat doubles between the ages of 20 and 60 years (WHO 2002).

The fat not only increases in overall, bat changes its distribution in the body. Infact tends to raise more in the abdomen than in subcutaneous tissue (Phillips 2003).

When the increase in fat mass is such as to cause obesity, you will configure a clinical condition defined “sarcopenic obesity”, in which the typical metabolic disorders of obesity will add up to the reduced physical functions of sarcopenia.

Energy requirements can vary widely according to gender, body size and physical activity. In the elderly the loss of muscle mass leads to a fall in basal energetic expenditure or metabolic rate (BMR), it declines progressively with age of approximately 1-2 percent every ten years, due in part to the change in body composition (Greenlund and Nair 2003). Consequently energy requirements decrease with advancing age (Roberts and Dallal 2005) (Fig. 5).

Total energy expenditure is further reduced by the physical inactivity. In other words, the energy requirements, and, therefore, the daily amount of energetic foods, is lower in elderly than
in the young, bat requirements of micronutrients and proteins are not reduced at all.

Moreover ageing is associated with a loss of total body calcium and bone mass.

As a rule, bone loss usually begins to occur at around 50 years of age in women and 65 years of age in men, due to the loss of calcium and bone matrix. It is estimated that in the first five years following menopause women lose about half of the total of skeletal calcium that they lose over their lifetime (WHO 2002).
The loss of bone mass that occurs in older people is known as “osteoporosis” (Fig. 6) and increases risk of fractures. Preventive supplementation with calcium and vitamin D may be required.

Water accounts for 50 to 80 percent of body weight, the amount of water decreases with age, and the risk of dehydration is greater in this age bracket due to a number of predisposing factors such as: the use of diuretics and laxatives, decrease of thirst, deterioration of renal function.

There are many evidence in scientific literature showing that age-related sarcopenia can be improved through a combination of physical activity and a proper nutrition.

Actually the Mediterranean diet is the most recommended diet in the world. Research has shown that the traditional Mediterranean diet was associated with a reduced risk of death from heart disease and cancer, as well as a reduced incidence of Parkinson's and Alzheimer's diseases. Therefore, the Mediterranean diet has to be considered the reference diet for older people. Among the foods that are recommended in this diet, some appear to be particularly important to counteract age-related sarcopenia; that is, the ones that contain omega 3 fatty acids, such
as oily fish (Gordon 2011) and those that contain whey protein, like cottage cheese (Biolo 2006).

**Subjects and Methods**

200 subjects of both sexes and aged over 45 years have been enrolled (Table n. 1) and divided into 10 groups of listening. After administering a questionnaire, to know what were the eating habits in progress, experts in the field of nutrition have taught to each group, two interactive lessons: the first at project start, the second after three months, in order to highlight the problems associated with senility and to initiate a training program to correct the most common dietary errors. The results are shown in the diagrams below.

<table>
<thead>
<tr>
<th>Number of participants: 200</th>
</tr>
</thead>
</table>
| 75% women  
75% between 45-68 years old | 25% men  
25% over 68 years old |

Table n. 1 - Subjects Participating to the Project
Results

Data collected from the question are shown in the diagrams below.

Diagram n. 1
FIRST ITEM: Have Breakfast?

Diagram n. 2
ITEM: Type of Breakfast
Diagram n. 3
ITEM: Weekly Consumption of Red Meat

Diagram n. 4
ITEM: Weekly Consumption of White Meat
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Diagram n. 5
ITEM: Weekly Consumption of Fish

Diagram n. 6
ITEM: Weekly Consumption of Dairy Product
Diagram n. 7
ITEM: Types Dairy Foods Consumed

Diagram n. 8
ITEM: Dairy Consumption of Fruit
Diagram n. 9
ITEM: Dairy Consumption of Vegetables

Diagram n. 10
ITEM: Use of Cooking Fats and Olive Oil
Diagram n. 11
ITEM: Weekly Consumption of Carbohydrates

Diagram n. 12
ITEM: Weekly Consumption of Legumes
Conclusions

The collected data show that some of the declared eating habits can be considered optimal and compliant to the Mediterranean diet. In fact, most of the sample have a breakfast, have regular consumption of red and white meat, the consumption of vegetables is adequate and uses more olive oil than animal fats for seasoning foods.

But in the daily feeding behavior, it is possible to detect some significant errors, for example the insufficient consumption of fish and fruit, the excessive consumption of carbohydrates and certain types of cheeses that are high in saturated fat.

The correction of those bad eating habits is one of the means required to lead to an improvement in the psychophysical state of the population examined.
REFERENCES


The role of physical activity in older adults: experience in Molise

Introduction

Daily life is carried out through a series of movements and actions whose implementation is guaranteed by the interaction of structures and functions of organs and systems. The degree of integrity and efficiency of the osteoarticular, muscular and nervous systems appear to be important in the execution of a performance. The progressive reduction in lean body mass, the increase in the adipose tissue, the decrease in bone mass resulting in a decrease in muscle strength, endurance, flexibility, balance and motor skills. Its leads to a less degree of independence and to a decrease in the quality of life.

Proprioception

“A set of feelings that they recognize as their own body” (Sherrington, 1906).

The decline of proprioception with over the years is a contributing factor to falls in the elderly and may be influenced by regular exercise.

Prof. Calcagnile G., Dr. Corona K., Dr. De Gregorio G., Dr. Ruccolo A., Dr. D’Angona F., Dr. Romano G., Dr. Colagiovanni C.
STRENGTH
Strength is the capacity of man to overcome or to oppose an external resistance through muscular effort (V. Zaciorsky, 1986).
Strength ability is one of the most important determinant in preventing loss of mobility and maintaining a basic efficiency. Along with strength improvement, it is possible to prevent sarcopenia, falls, loss of basic and general motor skills like standing up from sitting, quick walking, raising up stairs and limiting osteoporosis, both in men and women.
The reduction in muscle mass associated with a decreased ability to produce force will be contrasted training the muscles with exercises in series and repetition, bodyweight or with the appropriate overload (1 to 3 sets of 8-12 reps).

AEROBIC ENDURANCE
Aerobic endurance is the ability to resist to a training stimulus for as long as possible.
Endurance training can help maintain and improve various aspects of cardiovascular function. Importantly, reductions in risk factors associated with disease state (heart disease, diabetes..) improve health status and contribute to an increase in life expectancy.
One way to check the intensity of the work proper is... be able to speak... but not sing!

FLEXIBILITY
“Joint mobility is the ability of a subject to move one or more joints with maximum articular excursion possible, without limit and pain“.
From the point of view of fitness joint mobility, is an important quality for an active subject. It helps to maintain physical fitness, good posture, to economize a gestures, increased performance, build muscle strength and prevent injuries-tendon-
PROGRESS TOWARDS HEALTHY AGEING IN EUROPE

A reduced joint mobility affects everyday life in the possibility to wear, close a zipper, turn the head, take an object on a shelf, combing hair, putting shoes and socks, cut their nails.

**BALANCE**

“Ability to move from one place to another independently and in safety” (Patla & Shumway-Cook, 1999).

The balance in daily life allows you to quickly adapt to changing situations, avoid sudden obstacles, take a dog for a walk. Its alteration is one of the major risk factors for falling.

Therefore, assessing these components of fitness can detect weaknesses which can be treated before causing serious functional limitation.

**Material and method**

The exercise program was carried out in the sports facilities of the town of Campobasso, Bojano, San Giuliano del Sannio, Guardiaregia, Sepino and Campomarino. For every coach has been appointed to the guidelines (Table 1) to be followed for the selection of activities to be offered to the group. The proposed activities have been customized according to characteristics of the group and the individual participant and the availability of facilities and tools. The participants agreed to participate in a 32 weeks exercise program based on improvement of aerobic fitness, range of motion, muscle strength and stretching. Exercise program differs in dosage (frequency, intensity and duration).
## General objective | Specific objective | Content
--- | --- | ---
**Improvement or Consolidation of the sense-percetive skill** | **Proprioception** | Exercises that stimulate the tactile afferents / pressor with sensory deprivation, looking after arrests stable linear or rotary.

**Improvement or Consolidation of the Conditional Skill**

### Endurance
- Low-impact aerobic activity that interests the large muscle
- Exercises with natural load and small overload (weights, elastic and anklets) involving the major muscle groups.

### Strength
- Stretching exercises of the major muscle groups
- Exercises with natural load and small overload (weights, elastic and anklets) involving the major muscle groups.

### Flexibility
- Exercises of active mobilization of the joints of the spine, shoulder, hip, knee, ankle, etc..

### Balance
- Static exercises in a situation of stability and progressively with reduction of the support base.
- Exercises in dynamic situations multivariate static-dynamic (translocations with the transport of objects maintained in stable equilibrium)
- Exercises with sensory deprivation

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**Tab. 1: Guidelines**

The physical condition is monitored through:

1. **Questionnaires, such as:**
   - subjective questionnaires to indagate co-morbidities of
the participants (major, osteoarticular, neurological and psychological diseases);
- SF - 36.

2. Specific motor tests (The Fitness Senior Test):
that are performed at the beginning and at the end of the physical activity period.

SF-36

It's a multi-purpose, short-form health survey with only 36 questions. It consists of eight scaled scores, which are the weighted sums of the questions in their section. Each scale is directly transformed into a 0 - 100 scale on the assumption that each question carries equal weight: higher score corresponds to a higher quality of life.

The 8 sections are:
PF: physical functioning,
RP: role limitations due to physical health
BP: bodily pain,
GH: general health perceptions,
VT: vitality;
SF: social functioning
RE: role limitations due to emotional problems
MH: mental health.

The senior fitness test
(Rikli e Jones, 1999. Journal of Aging and Physical Activity)

It is a simple, easy-to-use battery of test items that assess the functional fitness of older adults. It is describes easy to under-
stand and effective tests to measure aerobic fitness, strength and flexibility using minimal and inexpensive equipment.

It is safe and enjoyable for older adults, it meets scientific standards for reliability and validity.

It includes:

- Chair Stand Test
- Arm Curl Test
- 6 Minute Walking test
- Back Scratch test
- Sit and Reach test
- Eight feet up and go test

1. CHAIR STAND TEST

**Purpose:** assesses leg strength and endurance.

**Equipment:** a straight back or folding chair without arm rests (seat 17 inches/44 cm high), stopwatch.

**Procedure:** the subject sits in the middle of the seat; the arms are to be crossed at the wrists and held close to the chest. From the sitting position, he stands completely up, then completely back down, and this is repeated for 30 seconds.

**Scoring:** the score is the number of completed chair stands in 30 seconds.
2. ARM CURL TEST

**Purpose:** testing upper body strength and endurance.

**Equipment:** 5 pound weight (women), 8 pound weight (man), a chair without arm rests, stopwatch.

**Procedure:** This test is conducted on the dominant arm side. The subject sits on the chair, holding the weight in the hand using a suitcase grip with the arm in a vertically down position beside the chair. Brace the upper arm against the body so that only the lower arm is moving. Curl the arm up through.

3. SIX MINUTE WALKING TEST

**Purpose:** measures aerobic fitness.

**Equipment:** measuring tape to mark out the track distances, stopwatch, chairs positioned for resting.

**Procedure:** the walking course is laid out in a 50 yard (45 - 72 m) rectangular area (45 x 5 yards), with cones placed at regular intervals to indicate distance walked. The aim of this test is to walk as much ground as possible.
**Scoring**: measure the distance walked in 6 minutes to the nearest meter.

### 4. SIT AND REACH TEST

**Purpose**: measures the flexibility of the lower back and hamstring muscles.

**Equipment**: sit and reach box.

**Procedure**: this test involves sitting on the floor with legs stretched out straight ahead. Shoes should be removed. The soles of the feet are placed flat against the box. Both knees should be locked and pressed flat to the floor. The subject reaches forward along the measuring line as far as possible and holds that position for at 1 or 2 seconds while the distance is recorded.

### 5. BACK SCRATCH TEST

**Purpose**: measures the upper body flexibility (shoulder).

**Equipment**: a ruler or a yardstick.

**Procedure**: with one hand reaching over the shoulder and one up the middle of the back, the number of inches (cm) between extended middle fingers (+ or -).
6. EIGHT FEET UP AND GO TEST

**Purpose:** measure aerobic fitness.

**Equipment:** measuring tape to mark out the track distances, stopwatch, chairs positioned for resting.

**Procedure:** the walking course is laid out in a 50 yard (45 - 72 m) rectangular area (45 X 5 yards), with cones placed at regular intervals to indicate distance walked. The aim of this test is to walk as quickly as possible for 6 minutes to cover as much ground as possible.

**Scoring:** measure the distance walked in 6 minutes to the nearest meter.

**Results**

At the beginning of the project were recruited about 200 people of which the majority (75%) are women and the rest (25%) men. The project was targeted at a population aged 45-68 years (75%), but also extended to people over sixty-eight (25%).

Of the 200 participants who completed the protocol of physical activity established only 53 participants (11 men and 42 women). This is due to the exclusion of those over 68, and the onset of chronic diseases related to aging and family issues (bereavement, care for nephews etc...)
The subjective questionnaires indicate that the participants have a very high number of comorbidities including cardiovascular, osteoarticular, neurological and psychological diseases. Data collected are shown in the diagrams below.

Diagram 1.
Major diseases

Diagram 2.
Osteoarticular diseases

Diagram 3.
Neurological diseases
The results of the SF-36 that affect men show a slight improvement in all items, unlike in women is an improvement only in the sections that relate to FP, BP and GH. Data collected are shown in the diagrams below:
In general, the data of motor test show improvement in both man and woman. In particular, in women improves the data in the sit and reach test. Data collected are shown in the diagrams below:
CONCLUSION

A high priority for many older adults is to remain as independent as possible in their daily activities for as long as possible. Participation in a regular exercise program is an effective intervention/modality to reduce/prevent a number of functional declines associated with aging.

**Endurance training** can help maintain and improve various aspects of cardiovascular function. Importantly, reductions in risk factors associated with disease state (heart disease, diabetes..) improve health status and contribute to an increase in life expectancy.

**Strength training** helps offset the loss in muscle mass and strength typically associated with normal aging.

Additional benefits from regular exercise include:
- improved bone health and, thus, reduction in risk for osteoporosis;
- improved postural stability, thereby reducing the risk of falling and associated injuries and fractures;
- and increased flexibility and range of motion.

The evidence also suggests that involvement in regular exercise can also provide a number of psychological benefits related to preserved cognitive function, alleviation of depression symptoms and behavior, and an improved concept of personal control and self-efficacy.

The final outcomes define the real progresses that participants have made during their pathway.

Physical activity is considered to be an important non-pharmacological approach in the prevention and management of diseases associated with aging.

Despite our target group was characterized by a large number of co-morbidities, we had an improvement.

In order to guarantee a long-term effect the physical activity
should be regular, continuative and promoted before the age of retirement.

Following a healthy diet, along with physical activity to preserving good health and to prevent diseases.

It would be interesting, in a future perspective, a project to increase the involvement of people with lower self-efficacy.

REFERENCES

2. *Linee guida per un invecchiamento in salute*, Carta di Heidelberg, 1996 OMS.
Sport and Psychology

“Sport do not build character. They reveal it”
Heywood Broun

Self-efficacy

Over the last few years, the main reason why people might choose to practise sport or why they don’t, has been one of the major subject of researchers, and it has been measured through the use of rating scales of self-efficacy.

People’s beliefs about their capabilities to organize and execute the sequence of actions required to produce certain desired results.

The Self efficacy has an effect both on how you deal with the stressors and with preventive behaviors and care.

They influence:

• intentions to change behavior;
• the choice of aims;
• the amount of effort expended in achievement;
• perseverance in continuing to go on after obstacles and failures.

Self-efficacy is “the belief in one’s capabilities to organize and execute the courses of action required to...”

Dr. De Felice S.,
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manage prospective situations.” In other words, self-efficacy is a person’s belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people think, behave, and feel (Bandura, 1994).

Through the rating scale of self-efficacy we tried to understand if innate personality traits, social barriers (environment), or self-perception of learned physical activities (self-efficacy) affect participation in sport.

Sport is one of the many contexts where the self-efficacy beliefs for the prediction and explanation of behavior are significant and play a critical role in the regulation of athletic skills development and improvement.

Objectives

1. To evaluate the motivation and perception of self-efficacy of the participants at “Project 2wards Healthy Ageing in Europe - PROGRESS Programme”.

2. To measure the importance that these two dimensions (motivation and self-efficacy) play in the choice and abandonment of sport activity.

Tools and methodology


The questionnaire consists of 22 items, with answers from 1
to 6 (Likert scale) ranging from “strongly agree” (1) to “strongly disagree” (6). The questionnaire is divided into two sub-scales, any of them analyzes a different factor: the perception of the physical ability (PPA), composed of 10 items, and the physics of self-confidence (PSPC), consisting of 12 items. The questionnaire was completed by participants following the information sessions organized before the physical activity.

**Results**

Approximately 70% of the sample showed a positive assessment of self-efficacy. It is 195 of the 210 people who completed the questionnaire, while only 15 cases have a negative score (<3).

In particular, the items related to the perception of physical activity (PPA) have found the highest scores.

Within the Items of the scale the perception of physical activity (PPA) we can see that in item 1 “I have good reflexes” and 2 “I’m not agile” we found the answers that show a positive perception of their physical abilities.
Only the item 5 on the subscale on body perception “Sometimes I have a good resistance under stress” reported negative scores.

This result shows that Unlike we found lower scores in the physical item related to the self presentation.
In particular, most of the answers was “strongly disagree in item 17 (“I am not influenced by my body’s first impression”), which concerns the lack of security in their physical.

These results demonstrate a correlation between self-efficacy and sport. These findings have led to the second part of our work, where we suggested a series of exercises and experiences, to allow a greater body relaxation and a greater awareness of their moods.

For example, deep breathing exercises and exercises to energize the body. The aim was to give practical tools to prevent anxiety or depression on the assumption that physical activity itself is a tool to enhance psychological well-being.

Participants with more self-efficacy have shown an increased ability to focus, especially through the control of intrusive thoughts and proper management of environmental stressors; tending to accept the hazards of the competition, showing ready to face the inevitable moments of crisis. The beliefs of personal efficacy appear to be the decisive factors for success in a variety of life contexts, strongly influencing the decisions about the types of activities to be undertaken and the nature of the environments to attend.
Conclusions and future prospects

THE BAD NEWS IS THAT TIME FLIES,
THE GOOD NEWS IS THAT YOU ARE THE PILOT

OUR EGO IS A BODY’S EGO

Our body communicates our emotions without the filters of the mind. The individual is a unit and it is not divided into mind and body.

The body reflects what we are, our strengths and our “character”.

It is important to pay attention to what our body tells us, neck pain, heartburn, headaches all of these have an emotional consideration that, if we not pay attention to it, it will “scream” even more.

The integration allows the mind to perceive the whole body, one unit that lives and not two separate units one in front of the mirror and the other reflected in the mirror.

The body’s rigidity correspond to the expression of their own limitations, which should instead be more full and free.

Starting from the vital movements of the body as the breath and movement helps to feel alive and to reorganize the thoughts.

The group showed good levels of self-efficacy, this may be explained by
the fact that people with low levels of self-efficacy do not choose sports activities. And it is possible to assume that people willingly continue practicing sport with a good motivation, triggering the paths of psychological and physical health. It would be interesting, in a future perspective, a project to increase the involvement of people with lower self-efficacy.

**Suggestion:**

Six health habits:

- **Healthy Habit #1 - Regular Exercise**
- **Healthy Habit #2 - Do not smoke**
- **Healthy Habit #3 - Not Overeating**
- **Healthy Habit #4 - Do not use alcohol**
- **Healthy Habit #5 - Eating Healthy food Instead of Junk Food**
- **Healthy Habit #6 - Getting Enough Sleep**

The Centers for Disease Control and Prevention and the American College of Sports Medicine (CDC-ACSM) have recommended the accumulation of 30 minutes or more of moderate intensity physical activity on most, and preferably all, days of the week.
Proposal for an Organizational Model

Proceeding from on the ten-years experience of promotion of physical activity performed by the ASL, by CONI, by voluntary associations and taking into account this last experience, where we also had the opportunity to deal with other European, we propose an organizational model for the motor activity that Molise Region should adopt to put doctors (especially the basic ones) in terms of addressing the issue with their patients.

There are some basic assumptions for this organizational model:

1. Clearly define the target of interventions

   The target should be at least three, including their differentiated:

   • the general population against which they must be organized initiatives to promote general and undifferentiated: the order of magnitude of this target can be estimated (referring to the regional population of about 310,000 inhabitants) in the tens of thousands of people;
   • the population that is attached to programs organized and monitored, the order of magnitude of this target can be estimated thousand people;
   • people suffering from chronic diseases-degenerative, the order of magnitude of this target can be estimated at hundreds of people.
For each of these targets is necessary to establish a logistics structure and organizational differentiated.

It's clear that in fact work on the first target the health facility should be limited to a function of stimulus and consultancy in relation to local realities that must play the role of main actor in promoting the conditions for a healthy lifestyle of its citizens.

For the second target on the role of consulting and audit of health outcomes of the initiatives becomes more stringent and, finally, for the third target commitment of health facilities must be greater, because it is a particularly sensitive target and the individuals who belong to this group are the ones that most of the others can take advantage of the major health benefits of a successful changes in their lifestyles.

2. Define the network of external collaborations that should be activated for each of the three targets

A comprehensive project of this scale comes from the specific health care and requires a strong involvement of local communities for support cultural, organizational and logistical.

Some local realities Molise (actually a few) have begun to incorporate this type of orientation es have to take into account in their land use decisions, the need to encourage the creation of structures and spaces are intended to motor activity.

An important role should be assigned, in this type of design, or associations of citizens and / or sick (eg associations of diabetic patients) that go directly stimulated to take the initiative to organize physical activities specifically suited to their needs. Also in this case the role of the health care facility must be to consulting and verification of the results and, as far as possible, not the direct management.
3. Define and describe the involvement of primary care physicians

Preliminary respect to any intervention program is to provide organic and updating the involvement of family doctors through training courses and programs for specific intervention.
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