

# Self-perception on physical activity of elderly people

ILARIA LANZARA<sup>1</sup>, SARA ALIBERTI<sup>1</sup> ✉, FERDINANDO CEREDA<sup>2</sup>

<sup>1</sup>University of Salerno, Italy

<sup>2</sup>Catholic University of Milan, Italy

## ABSTRACT

**Problem statement.** Ageing consists of gradual deterioration of the organism and concerns changes that occurs over time to detriment of functions and structures at the level of organs, cells and systems, with consequent difficulty in dealing with the multiple environmental factors. Physical activity is the most effective way to counteract a sedentary lifestyle and other risk factors. The aim of the study was to investigate perceptions, knowledge and propensities towards physical activity by people over 50. **Methods.** The present study was designed to describe the characteristics of people aged between 50 and 80+, residing in the province of Salerno. A survey was prepared with Google Forms and administered to the participants by sharing it on WhatsApp. It is consisting of 12 items and aimed at knowledge and perceptions of the importance of physical activity in relation to the second (last), third and fourth age groups. Descriptive statistics were used to express the participants' responses as a percentage. Chi square or Fisher exact test were used as a statistical tool to analyse perceptions on the physical activity. **Results.** Most of respondents did not practice physical activity (54.4%) mainly because they did not feel like it (43.2%). About 70.3% of the total would accept a personalized training program based on needs to improve their physical condition (82.2%). No significant associations were found ( $p > .05$ ). **Conclusion.** The results of the present study showed us that only half of the elderly were physically active. For this reason, it was necessary to intervene with careful information, work regarding the benefits of sports and encouraging coaches and instructors to propose courses of adapted physical activity.

**Keywords:** Old age; Movements; Adapted physical activity; Involution; Maintenance.

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✉ **Corresponding author.** University of Salerno, Italy.

E-mail: [s.aliberti17@studenti.unisa.it](mailto:s.aliberti17@studenti.unisa.it)

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## INTRODUCTION

Ageing consists of gradual deterioration of the organism and concerns changes that occurs over time to detriment of functions and structures at the level of organs, cells and systems (Ahmed et al., 2017), with consequent difficulty in dealing with the multiple environmental factors. Physical activity is the most effective way to counteract a sedentary lifestyle and other risk factors closely related to age-dependent diseases (Dilling et al., 2014; Niccoli & Partridge, 2014). Aging can be:

- Physiological: that is, the reduction or loss of functions, such as metabolic or dynamic ones that occur with advancing age.
- Pathological: corresponds to the reduction or loss of functions that lead to pathological processes such as, for example, the degeneration or loss of cognitive functions that leads to dementia.

Over time, the elderly person suffers a series of limitations due to health problems that cause the loss of autonomy or disability that have led to the emergence of new requests for care and services that will accompany the elderly for the rest of his life. The growing diffusion of economic well-being and technologies is associated with an increase in the syndrome of lack or reduced physical activity called “*hypokinesia*”, responsible for mental and physical health problems such as hypertension, venous insufficiency, diabetes and obesity. Hypokinesia is caused by the body's inability to respond to requests for physical activities that go beyond normal daily activities, as the organs, under stress, have to face a job where they are not adequately prepared.

With aging, there is a reduction in the elasticity of muscle tissue with non-trivial difficulty in expelling air from the lungs to which is added a progressive stiffness of the chest walls. The major cause of weight gain is physical inactivity which leads to a decrease in lean mass and which is in turn replaced by adipose tissue. Overweight and obesity cause great health risks since excess weight involves orthopaedic problems, such as flat foot, or osteoarthritis that limit the mobility of the elderly (Rantakokko et al., 2013; Altavilla, 2016) and in addition to this, the accumulation of fat at the visceral level, it also causes fatigue in breathing. With age, the ability of organic tissues to respond to the action of insulin, which has the function of stimulating the uptake of glucose by cells (insulin resistance), decreases. In these cases, the primary objective of physical activity is to keep blood sugar under control and to prevent or slow down the onset of complications such as hypertension, coronary and arterial disease, cerebrovascular diseases, nephropathies, neuropathies and retinopathies. With advanced age, a major problem takes over: falls. There are several studies that show that 30% of people over 65 and almost double those over 80 falls at least once a year. The WHO (2007) estimates that in the world around 28-35% of people over 65 fall each year and the percentage rises to 32-42% in the over 70s and around 30-50% of falls cause minor injuries such as bruises and abrasions but about 10% cause severe head injuries or fractures. Regarding the prevention of falls in the elderly and maintenance postural skills, a treatment program may be advisable generic with balance and strengthening exercises of the lower limbs in addition to those concerning the maintenance of joint flexibility and resistance to effort (Stathokostas et al., 2012). The sports activities, trained in a better manner (D’Elia et al 2021ab), are important to prevent the injury and disease.

It is important to focus on this age group for other variety of reasons. The aging of the population is a continuously increasing process in today's society, accentuated by the current demographic and social dynamics in which there is a strong increase in survival, a better quality of life (D’Isanto, 2017), with a consequent increase in life expectancy. According to Istat data (2019), the average life span of an adult increased in 2018: the average life span of a woman is 85 years, although they have more health-related problems than men. While the average life span of men is about 80 years. Therefore, at 65 you are still young

because you age later. As life expectancy increases, chronic degenerative diseases also increase, often causing loss of autonomy and disability. This new situation has led to the emergence of new requests for care and services, with continuous requests for medical interventions that will accompany the elderly for the rest of his life. According to Istat data (2017) , in Italy, the serious reduction in personal autonomy affects more than 1 elderly out of 10 and the phenomenon is in line with EU countries for the 65-74 year-olds and higher among the over 75s, in particular for women. About 11.2% of seniors report severe difficulties in at least one personal care activity such as bathing / showering (10.3%), lying down and getting out of bed, or sitting / getting up from a chair (7.3 %), dressing / undressing (7.3%). About 30.3% encounter serious difficulties in carrying out daily household activities such as cooking, shopping, taking medicines, etc. The reduction of autonomy and self-sufficiency lead to a greater need for assistance from society. However, it is possible to act upstream of the problem, supporting prevention initiatives aimed at the conservation of essential activities. The aging person must be helped to maintain their physical, mental and social self-sufficiency for as long as possible, and in particular, to maintain their relationships with the environment, favoured by an active life.

Physical activity (Raiola 2020ab) is the most effective way to combat a sedentary lifestyle and other risk factors closely related to age-dependent diseases (McPhee et al., 2016). On the aging process, Istat (2019) notes there is an evolution: among the over 65s there is a greater diffusion of healthy lifestyles and habits. Sports practice increased, from 8.6% in 2008 to 12.4% in 2018. However, in 2020, the entire population was forced to become sedentary due to the lockdown, a consequence of the COVID-19 pandemic. During this period, people adapted to circumstances (D'Isanto & D'Elia, 2021; D'Elia & D'Isanto, 2021), and began to experience activities in virtual mode (Raiola et al., 2020a). For the elderly, an activity adapted to their needs was necessary, as with age there were a number of problems that limited the possibility of movement. Physical activity practiced regularly can bring health benefits, increases psychological well-being and plays an important role in the prevention of chronic degenerative diseases (Malm et al., 2019).

The aim of the study was to investigate perceptions, knowledge and propensities towards physical activity by people over 50. To cope with the inevitable aging, it is necessary to promote a lifestyle as active as possible with motivational intervention strategies that adapted to the physical and psychological state of each individual (Altavilla et al., 2018; Sannicandro et al., 2020).

## **METHODS**

### ***Design and participants***

The present study was designed to describe the characteristics of people aged between 50 and 80+, residing in the province of Salerno. Written informed consent was obtained from all participants. Data were stored and processed anonymously.

### ***Data collection***

A survey was prepared with Google Forms and administered to the participants by sharing it on WhatsApp. The survey, consisting of 12 items, aimed at knowledge and perceptions of the importance of physical activity in relation to the second (last), third and fourth age groups. The questions are:

1. Gender? Male / female
2. Age? 50-59 / 60 -69 / 70 -79 / 80+
3. Do you practice physical activity? Yes / no
4. If yes, why? To relax / for relief / for health / to feel good physically / other
5. If no, why? Lack of time / fear of injury / lack of desire / for health reasons / other

6. How many times a week do you practice physical activity? Once a week / 2 times a week / 3 or more times a week / never
7. How long? Half an hour / an hour / two or more hours
8. What type of physical activity do you practice? Short answer
9. Do you notice improvements with physical practice? Yes / no
10. If I were to offer you a personalized program of exercises to improve your physical condition, would you accept? Yes / no
11. If yes, why? I want to find out my limits / I want to be comfortable with myself / I want to be independent / To feel better on a healthy level / If personalized, I will have more results
12. If no, why? I don't want to try / For the same reasons for which I do not practice physical activity

### **Statistical analyses**

Descriptive statistics were used to express the participants' responses as a percentage. Chi square or Fisher exact test were used as a statistical tool to analyse the perceptions of physical activity by the respondents. Significance was set at  $p < .05$ . Data analyses were performed using Statistical Package for Social Science software (IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY).

### **RESULTS**

About 70 people, from the province of Salerno, replied to the survey. Most of the respondents were female (64.8%) aged between 50 - 59 (42.6%) and 60 - 69 (44.1%). Most of them did not practice physical activity (54.4%) mainly because they did not feel like it (43.2%), due to lack of time (37.8%) and a precarious state of health (13.5%).

About 45.6 % of respondents practiced physical activity mainly to feel good (60.6%), for health and relax (12.1%). They practiced physical activity with a frequency of two times a week (35%), three or more times a week (32.5%) and one a week (20%). The duration of a session was about an hour (56.8%), half an hour (27%) and more of two hours (16.2%). The type of activity practiced was mainly walking (51.1%) and gym (19.1%). Almost all (93.3%) noticed improvements due to the practice of physical activity.

About 70.3% of the total would accept a personalized training program based on needs to improve their physical condition (82.2%). Those who would not accept, it was because they didn't feel like it (55%), while the remaining reasons were the same for not practicing physical activity. No significant associations were found ( $p > .05$ ).

### **DISCUSSION**

The results showed us that only half of the participants did not practice physical activity (54.4%) mainly because they did not feel like it (43.2%), Most of the respondents were female (64.8%) aged between 50 - 59 (42.6%) and 60 - 69 (44.1%). About 45.6 % of respondents practiced physical activity mainly to feel good (60.6%), with a frequency of two times a week (35%) or three or more times a week (32.5%) and the type of activity practiced was mainly walking (51.1%). Almost all (93.3%) noticed improvements due to physical activity's practice. This data is very important because most of elderly have a positive perception of the benefits experienced by physical activity. In addition, the frequency and duration of a training session are perfectly in accordance with WHO guidelines. However, walking is an incomplete activity as it lacks mobility, strength and balance exercises, which are essential for the elderly. The sessions in fact must be include exercises to increase endurance, joint mobility, core stability, muscle flexibility, strength, (D'Elia et al., 2020a;

Raiola et al., 2020b; Taleb et al., 2021). Training balance is also very important for a correct posture (Aliberti et al., 2020) specially to prevent the risk of fall, which is considered the first cause of disability in the third age. Finally, 70.3% are willing to take part in a personalized program to improve their physical condition. Most of those who responded positively are mainly to improve their physical condition (82.2%). This data is also very positive, because the elderly would like to take part in personalized activities, and to do this, the figure of a graduate in physical education is required (D'Elia et al., 2018; Raiola & Tafuri, 2015; Invernizzi et al., 2020). Especially in this pandemic period, outdoor physical activity is ideal to satisfy the movement needs of the elderly (Pisano et al., 2019). Outdoor training allows you to breathe oxygen, get vitamin D from the sun's rays, and is more stimulating than indoor activities (Raiola & Aliberti, 2021). Also thanks to a home-fitness program, new friendships could arise with the attribution of a role in a changed social context (Federici & Palanca, 2019). It was important to work on the movement needs of the elderly, planning physical activity adapted to their demands and problems. The physical education graduate should organize outdoor courses in summer and indoor in winter, following the guidelines of the World Health Organization, working on mobility, strength and balance and following the principle of gradualness. The important thing is to also work on the social aspect and make them have fun, for example through music and cooperation. For the third age, activities with socio-educational and relational values of great importance should be proposed (Raiola et al., 2020c; D'Elia et al., 2020b; Di Domenico et al., 2020). The potential benefits deriving from physical activities-provided for free to maximize participation-are of significant social and health value (Imparato et al., 2021; Sannicandro, 2021). In this way, the activity will be stimulating and not boring, so the elderly will have more desire to do activities and will not abandon this healthy habit. In fact, those who would not accept to follow a personalized program it was because they didn't feel like it (55%). The importance of a motor activity program for the elderly appears to be fundamental in several respects. It is not just aging that causes decadence of the human being, but the loss of interest: motor activity, in addition to physical benefits to which it is customary to refer, has the characteristic of being associative, socializing and as such, can solve problems such as loneliness, the sense of uselessness and marginalization. The practice of motor activity allows therefore to the individual to increase human contacts even outside the session gymnastics, also increasing confidence in one's abilities. By banishing intense, violent, rapid and prolonged resistance movements, the activity motor must be pleasant, educational, antidepressant, playful, rewarding, satisfactory and the muscular work must be done progressively, with regularly and with a certain rhythm.

To combat the isolation and social exclusion of the elderly, it would be useful to work on safer streets, pedestrian crossings and public transport that allow the elderly to leave the house to run errands or to visit loved ones. So work to build a facilitating environment. It is also interesting to take advantage of new technologies to train the motor skills of elderly subjects and help them in everyday life like the Silver Fit. They are a kind of video games that include personalized exercises based on the cognitive and motor skills of the individual and for people who are no longer ambulatory. They can be useful, for example, for controlling the torso and upper limbs. The peculiarity is the presence of a camera that records the movements that allows you to observe them on the screen and document the results and progress of each participant. In this context considered by the subjects as "*playful*", it is the person who is motivated to use this tool to achieve new goals, distracting and having fun and finally yet importantly, favours socialization by creating a group and sharing atmosphere. Before the administration a physical activity program, it is important to do a few assessments such as physical fitness by measuring some fundamental parameters for planning the activity to be carried out and the objectives to reach (Ceruso et al., 2019; Esposito et al., 2019). The parameters to be evaluated can be identified in the measurement of maximum aerobic capacity, static and dynamic balance, flexibility joint and muscle strength.

The limit of the present study is the small sample. Coaches are encouraged to collect perceptions of elderly people and to propose personalized courses of adapted physical activity to meet the needs and problems of each one. The results of the present study showed us that only half of the elderly are physically active. For this reason, it is necessary to intervene with careful information work, regarding the benefits of sports, and encouraging coaches and instructors to propose courses of adapted physical activity. According to World Health Organization guidelines, the recommended physical activity levels from the third age onwards are at least 150 minutes of moderate to vigorous aerobic physical activity to week. Sessions must predict:

- At least, ten minutes of aerobic activity;
- Joint mobility exercises, in order to improve balance and prevent the risk of falls, three or more times a week;
- Muscle strengthening, at least twice a week;
- If you are unable to meet the recommended amounts due to health problems, remember that little is better than nothing.

## CONCLUSION

The results of the present study showed us that only half of the elderly are physically active. For this reason, it is necessary to intervene with careful information work, regarding the benefits of sports, and encouraging coaches and instructors to propose courses of adapted physical activity. The importance of an adapted physical activity program for the elderly appears to be fundamental in several respects. The practice of motor activity allows the individual to increase human contacts even outside the gymnastic session, also increasing the confidence in their abilities. For this reason, it is also important to work on the social aspect and personalize training according to their needs.

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