

The third age: physical activity and culture over 65

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Abstract

The present research focuses on the delicate and complex process of senilization of the population, being one of the most important anthropological and social problems of our time. These considerations lead us to examine not so much the aging process itself, but the relationship between the third age and society, focusing on the factors that promote or inhibit well-being and the relative perceptions that emerged in the sample.

In this sense, an online questionnaire was administered, by email and by telephone message, over a period of approximately 10 months starting from March 2021 until December 2021. The questionnaire included multiple choice questions that produced clear data and simple analysis, arriving at an accurate analysis (qualitative and quantitative), on the topics of interest: the role of nutrition and sport in the over 65s, not only by the subjects in question, but also the considerations and perceptions of subjects belonging to different age groups with reference to the topics of interest relating to the third age.

The sample results, allow us to identify the appropriate intervention strategies and policies useful for eradicating the stereotype that accompanied the concept of old age until a few years ago, making it synonymous with illness, loneliness, fragility and uselessness. Finally, today, we have freed ourselves from the role of "sedentary elderly" and motor activity in the third age is increasingly widespread and relevant as can be seen from the data analysis.

This research is the result of a program that has been in place for several years now to combat the hypokinesia diseases, through physical movement and particularly by examples of appropriate lifestyles. This initiative was conceived and implemented by C.I.S.C.O.D. (Comitato Italiano Sport Contro Droga) and CO.NA.P.E.F.S. (Collegio Nazionale Professori Educazione Fisica e Laureati in Scienze Motorie), two C.O.N.I. well-deserving associations, and carried out as part of a larger "Survey on nutrition and culture over 65" project, proclaimed by Sport & Salute S.p.A. *Clin Ter 2022; 173 (6):557-564 doi: 10.7417/CT.2022.2482*

Key words: elderly, physical activity, knowledge, attitude

Introduction

Why do we age?

Talking about aging means talking about the meaning and perspectives of human existence. Since ancient times, many authors have been interested in this important issue with their texts, just think of Cicero's "De senectute" or the many rhetorical treatments of wisdom or the evils of old age which are present in the history of Western culture.

There are obviously reasons related to social transformations that explain the growing interest in the so-called third age. The complex transition from a static society to a dynamic society connected to industrialization and its effects on the conception of personal identity, family relationships and relationships between family and social institutions have determined the need to relocate culturally this period of existence. Old age has consequently become the subject of investigation, with an extraordinary intensification of studies in recent years, not only by the medical-biological sciences, geriatrics or psychology, but also to a massive extent by sociology (1)

Biological dimension

Wanting to analyze the slow, progressive and inevitable process that characterizes aging, first of all, the question is: why do we age? What are the biological reasons? (2)

Aging is a multidimensional phenomenon.

An international group of researchers through the study "The Hallmarks of Aging" (3), has identified nine key mechanisms of aging:

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The instability of the genome, that is, the progressive accumulation of damage (mutations) in the DNA caused by external agents, such as some harmful chemicals, pollutants, ionizing radiation, smoke and so on.

The shortening of telomeres, the final parts of the chromosomes which, like caps, protect the DNA (making it more stable) but which are “consumed” at each cell division.

Epigenetic alterations: biochemical reactions that control the “turning on” and “turning off” of genes, also, affecting the ability to repair DNA damage. These are reversible changes, in which the environment and lifestyle have a great weight.

The loss of healthy proteins (proteostasis). All cells have “quality control” mechanisms for the proteins that are made and that contribute to cell functions. If a protein, is altered and modified in some way until it loses its original function, the cells discard it.

The alterations of the mechanisms that allow the correct perception of the need for nutrients, due to changes in the metabolism. The best known example is the loss of response to insulin (insulin resistance), the antechamber of diabetes.

The dysfunctions of the mitochondria, the organelles that represent the cell’s powerhouse. Mitochondria contain their own DNA (which is inherited only through the mother) with a limited number of genes that, however, perform very important functions.

Cellular senescence independent of the mechanisms seen so far, with the consequent accumulation of “zombie cells” that inflame the tissues. Although they no longer work, in fact, these cells do not die because they have lost the ability to self-eliminate at the end of their life cycle, so the name “zombie”.

The loss of tissue regenerative capacity linked to the depletion of stem cells from which adult cells are created that make up the architecture of the tissues and their function.

The alteration of communication between cells, with the production of inflammatory molecules, also called inflammaging, and is the one on which it is possible to intervene effectively with lifestyle interventions (moderate regular exercise and diet) and with targeted nutritional supplements (4).

Sociological dimension

Being old today is different from even more recent past. Until a few decades ago, people in their sixties were considered “elderly”, while today it is difficult to make them fall into this category, or in general to make any categorization of this type, given precisely the life expectancy in continuous and constant growth. A person who until ten years ago could be considered elderly, today can live in the fullest of his psycho-physical well-being, be inserted in the daily working reality of his own community and family.

Nowadays society is often referred to as a society of appearance and eternal youth, a society in which it is important to appear, in any way, whatever it costs. The obsession with appearance can be seen in all areas of daily life. The essence is lost, the envelope is built, to offer an impressive facade, rather than creating a balanced and harmonious interior space in which it is possible to live by showing and

welcoming the signs of time and the frailties connected to it without embarrassment.

The elderly are reinventing old age and we are witnessing an increase in patients who ask to undergo cosmetic surgery even after turning seventy years old. The famous phrase of Cartesio¹ “*cogito ergo sum*” (5) has been replaced by the “*appareo ergo sum*”. Everyone wishes to appear, in the sense of becoming visible: it makes the difference to be someone or remain nobody. The important thing is to appear in public, publish posts on social media, it doesn’t matter if they appear real or if they only appear to be ... (6).

But what is the real reason for this race against time and, above all, is it possible to win it? Under there are often wrong and to say the least unattainable models imposed by unrealistic beauty standards. But sometimes it’s also about wanting to give yourself a second chance, trying to start over somewhere, starting with yourself. These are people over seventy years old willing to take the risks of unnecessary surgery because they want to find lost youth (7).

For Zygmunt Bauman², the main feeling that afflicts postmodern man is to be uncomfortable. But where does this uncomfortable condition originate? From different factors, first of all from the problem of identity. Postmodern man “becomes his own overseer and teacher” and, while in the modern age he served as a procurer of goods, now his main function is that of a seeker of pleasures and sensations (8, 9).

Another source of postmodern upset is the body, consistently seen as a receptor of sensations. In order for him to perform his main task, he must be in good health: here is the concept of fitness, linked to a maniacal attention to health practices, entering the life of postmodern man.

Psychological dimension

Around the 60s Elaine Cumming and William Earle Henry, in “*Growing old: the process of disengagement*” (10) proposed a theory according to which the older people tend to believe that their well-being is consequent to the abandonment of aspirations and goals that they had set themselves in adulthood and turned towards their own interiority. This theory is known as the “*disengagement theory*”, it is characterized by some typical aspects:

- The idea that the elderly gradually restrict their living space, with fewer social relationships and, after retirement, there is a reduction in the possibility of filling new roles.
- Mainly self-reliance makes the elderly more individualistic, less inclined to observe rules.
- Retirement or becoming a widower is experienced by the elderly as a permission that society grants the elderly to “*disengage*” from social roles and expectations.

¹ René Descartes, in Latin language Renatus Cartesius (La Haye en Touraine, March 31, 1596 - Stockholm, February 11, 1650), was a French philosopher and mathematician, among the main founders of modern mathematics and philosophy.

² Zygmunt Bauman (Poznań, 19 novembre 1925 – Leeds, 9 gennaio 2017) was a Polish sociologist, philosopher and academic

Adherence to this theory by geriatricians has led to distortions on the level of intervention and management of services: this theory reflects a conception of man based on productivity and operations and of the relationship between man and society in which society takes charge of the needs of the elderly man, having been productive until retirement: work on the one hand, forced rest on the other hand. Robert Havighurst³, he believes that the well-being of the elderly person remains elevated to the extent that he manages to be active, despite the contraction of the roles he faces. A happy old age allows you to replace roles that can no longer be performed with compensatory activities. In this case, the operation extends over the entire life span.

Often the elderly have to deal with a series of negative stereotypes and social prejudices that affect the concept of self and self-esteem, they affect the possibility of the elderly to seek a new identity: if the people around him refer to him an image of "sick", "ugly", "incapable", he will tend to adapt to it. The termination of work with the consequent loss of status is certainly a moment of crisis for the person who can no longer use the work done to recognize himself socially. Retirement can be difficult, associated with feelings of emptiness and loneliness.

It is comparable to a sort of mourning to be processed, a profound change that modifies the lifestyle, implies an economic loss and a status of lesser social prestige, associated with changes at the family level resulting from loss of role within the family. Other changes concern those elderly couples who are unable to build a new way of being together. Couples who see their children very distant from their models of life, who are denied a role even as grandparents, find themselves in situations of isolation and in some cases even abandonment.

Can we think of a project for the elderly and with the elderly? Often the elderly find playful aspects, in games, in dancing, in travel, the pleasure of living. Physical activity, associated with a healthy diet, helps to maintain or achieve the ideal weight, favoring weight loss also improves self-esteem and resilience, as well as a powerful strong means of socialization (11-13).

Regular and constant physical activity plays a primary role, being an independent factor for human health: it means that physical activity, alone, is able to decrease the risk of mortality from any disease. Thus, for example, a smoker who engages in physical activity is much less likely to die than a smoker who doesn't engage in any physical activity.

It becomes therefore, more and more urgent, not only to know the phenomenon of old age, but to learn to age well, freeing oneself from prejudices and stereotyped models, taking the opportunities that life offers with imagination, guaranteeing a psychophysical well-being as long as possible, through rethinking social policies adapted to new needs (14).

³ Robert James Havighurst (Hurlock, 5 giugno 1900 - 31 gennaio 1991), was a chemist and physicist, educator and expert on human development and aging. Havighurst also worked and published in the 1980s. He died of Alzheimer's disease in January 1991 in Richmond, Indiana, at the age of 90

Physical - motor dimension

According to the World Health Organization (WHO), people over 65, like all adults, should have at least 150 minutes of moderate-intensity aerobic physical activity, or at least 75 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination of activity with moderate and vigorous intensity. Aerobic activity should be performed in sessions lasting at least 10 continuous minutes. Additional health benefits can be obtained by increasing moderate weekly physical activity up to 300 minutes (therefore about 40 minutes a day) or vigorous intensity up to 150 minutes, or an equivalent combination thereof. In addition, two or more days a week should be practiced to strengthen the main muscle groups, and 3 or more times a week to improve balance and prevent falls, especially for those with reduced mobility (15).

Whatever sport or physical activity practiced, if practiced with reasoning, it can only positively affect a person's health.

For example, the American College of Sports Medicine recommends rowing, as well as other sports that use many muscles of the body in a cyclical and continuous manner, as a tool to stay healthy after the age of 50. A sport such as rowing, which requires high levels of strength, especially in the lower limbs, but at the same time a high oxygen consumption, can be an excellent ally for maintaining good health. Training with seriousness also leads to following a healthier lifestyle (at 65 you cannot go too far at the table if you want to do well on the boat) and to undergo more routine medical checks, either for scruple, you want to obtain eligibility for competitive sports, as required by Italian law (fortunately!) for membership as an athlete. Strength and maximum oxygen consumption are parameters that decline with age, if you don't undergo an adequate training regime. This is mainly for one reason: as you get older, you try to move less, to make less effort because you strain more easily and recover more slowly than when you are young. This can be partially avoided or at least significantly slowed down if you follow a training regimen in addition to a more active lifestyle and rowing can be a good ally (16).

But in addition at rowing, there are many sports activities recommended for this specific age group. Water sports, for example, from swimming to water fitness but also water biking (aquabike) are recommended activities for over 65 years because water sports protects the joints, doesn't overload the back and is good for the heart and lungs. The therapeutic effects of water and swimming on elderly people are therefore manifold. Swimming regularly for at least 30-45 minutes promotes an increase in heart rate and improves heart health, reducing the risk of heart attack and stroke. In addition, after a few minutes of entering the water, blood pressure is reduced, while the surrounding temperature and the position, prone or supine, promote blood circulation through peripheral vasodilation. Finally, thanks to the buoyancy thrust, the water also makes large movements of the extremities possible, particularly beneficial for counteracting the effects of arthrosis.

But there is another good reason to practice swimming in old age and it is related to the decrease in muscle function, a phenomenon known as sarcopenia. The problem

isn't insignificant, it concerns 5-13% of people between 60 and 70 years, reaching 11-50% of the over 80s. To contract the phenomenon it's advisable to practice physical activities called "resistance", capable of strengthening the muscles. Exactly like swimming, based precisely on the contrast of the force exerted by the water (17).

Typical physical activities for those who are living the third age can also be dancing and running. The dance is a discipline of ancient origins that contains symbols and status in various declinations, from classical dance to Argentine Tango. Dancing is also one of the most complete physical activities: for this reason it's an excellent physical exercise for both the youngest and the over 65. To be practiced alone, in organized groups or in pairs, dancing helps the elderly to stay active, helping them to interact with other people and changing the daily habits that become more and more monotonous over the years.

The benefits of dancing in the Over 65s are many:

Muscle control

The elderly who dance have greater muscle control given by the effort to constantly control their movements during the choreography. By developing greater mobility, the elderly who dance frequently are led to prevent injuries and falls, such as falls, often due to loss of balance or difficulty in managing their movements well.

Elastic joints, stronger bones

Muscle control in turn allows for smoother movements, and this causes the joints - particularly ankles, shoulders, knees and hips - to remain more elastic. In addition, thanks to dancing, the bones are kept stronger by preventing osteoporosis. An elderly person with strong bones has a much faster recovery from broken bones, which is one more reason to keep their physique in exercise.

Cardiovascular health

The constant and repeated movement oxygenates the blood, which in turn keeps the muscles supplied, fluid and active, helping to prevent some diseases of the cardiovascular system such as atherosclerosis.

Psychological benefits

Dancing is also an excellent opportunity to socialize and meet new people. In this way, the risk of isolation and depressive phenomena frequent in the elderly is avoided (18).

When we talk about running for the elderly, the doubt is always that the benefits are lower than the risks. After all, it is now well established that sport is good for everyone, regardless of age, even if there are still some resistances in the fear that doing sport is risky.

The benefits of running are numerous, which is why it is good for your health:

- Prevents osteoporosis;
- Strengthens the heart muscles;
- It accelerates the metabolism and makes you lose weight;
- Lowers cholesterol levels;
- Lowers blood sugar levels.

Those who start running or are already used to running, if there are situations that may not recommend it, in principle can run even after the age of 65.

However, some rules must be observed (19), which make it possible to reduce the risks.

- Warm up well before starting physical activity, for example by taking a walk of about ten minutes.
- Maintain a constant rhythm trying to never go out of breath: in this way, your heartbeat will dictate the rhythm and allow the regulation of your breath.
- The duration should not exceed half an hour, for a maximum distance of 3-4 km.
- Also pay attention to the temperature, humidity and insolation: in winter it is better to avoid too cold days and, while, in the hot season you must protect yourself from the sun.
- Pay attention to hydration: older people have a greater risk of dehydration therefore, even when they don't feel thirsty, they should integrate fluids correctly.
- Undergo periodic checks by your doctor, which may indicate further information on the cardiovascular system and the musculoskeletal system (20).

Objective of the study

Based on these premises, the purpose of the study was to evaluate the knowledge and attitudes towards the subject of physical activity in the third age.

Materials and methods

The questionnaire was created with Google modules and therefore the administration was online.

Google form - The third age. The relative link has been placed on the Cisco website and on social networks (Facebook, LinkedIn and Twitter). The subsequent recruitment followed the rules of snowball sampling.

The period of online administration of the online questionnaire was from March 2021 to December 2021.

Statistical analysis involved the use of the chi-square test to evaluate group differences for categorical variables.

The EpiInfo software was used. Statistical significance was set at <0.05.

Results

431 people participated in the study (Table 1), of which 212 were females (49.2%). The prevailing age group is that between 14 and 24, which includes 112 people (26%), followed by the age group between 25 and 34, which includes 71 people (16.5%). Among the people who participated 109 were students (25.3%). The distribution between the Center-North and South is balanced, 217 people (50.3%) are resident in a province in the Center-North, the other 214 in a province in the South. 149 people (34.6%) declared that they practice physical activity in their free time.

Table 1. Characteristics of the sample

Variable	N° (%)
Gender	
F	212 (49,2%)
M	219(50,8%)
Age	
14-24	112 (26%)
25-34	71 (16,5%)
35-44	33 (7,7%)
45-54	69 (16%)
55-64	56 (13%)
65-74	55 (12,8%)
>74	35 (8,1%)
Employment status	
Employee	104 (24,1%)
Self employed	50 (11,6%)
Housewife	35 (8,1%)
Student	109 (25,3%)
Retired	76 (17,6%)
Unemployed / looking for work	54 (12,5%)
Unable to work	2 (0,5%)
Macroregion	
Center-North	217 (50,3%)
South	214 (49,7%)
D7 – how do you spend your free time?	
I'm going to visit my relatives	
I practice physical activity	55 (12,8%)
I relax by reading or watching television	149 (34,6%)
I have special hobbies	108 (25,1%)
None of these	65 (15,1%)
	54 (12,5%)

The results of the univariate analysis are presented below (Table 2).

Regarding the question “How do you spend your free time?” 40.2% of males respond that they practice physical activity ($p = 0,000$), the same answer is given by 57.4% of people aged between 14 and 34 years ($p = 0,000$) and by 60.6% of students ($p = 0,000$).

According to 222 people (51.5%), third age includes people aged 65 and over. Regarding this question (What is third age for you?) 65.7% of people in the age group > 74 replied that third age includes people aged 65 and over ($p = 0,001$), the same answer was given by 56.2% of people residing in a province in the Center-North ($p = 0,033$) and by 67.1% of pensioners ($p = 0,000$).

Regarding the question “How important is it for you from 1 to 5, in old age, to follow a correct diet?” respond mainly (185 people or 42.9%) that it is extremely important (5), the same answer is given by 56.8% of people aged between 14 and 34 years ($p = 0,000$) and by 61, 5% of students ($p = 0,000$).

As far as concerns “How important is it for you from 1 to 5, for the third age, to carry out regular physical activity?”

137 people (31.8%) believe it to be extremely important (5), the same answer is given by 42.6% of people aged between 14 and 34 years ($p = 0,000$), by 38.3% of people residing in a southern province ($p = 0,040$) and 43.3% of employees ($p = 0,000$).

Regarding the question “How important is it for you from 1 to 5, in old age, to spend more time in the company of other people?” the people who participated in the survey mainly believe (241 people or 55.9%) that it is extremely important (5), the same answer is given by 64% of the people residing in a southern province ($p = 0,019$).

As far as concerns “How important is it for you from 1 to 5, in old age, to do a right physical activity?” respond mainly (163 people 37.8%) that it is extremely important (5), the same answer is given by 52.5% of people aged between 14 and 34 years ($p = 0,000$), by 44.9% of people residing in a southern province ($p = 0,039$) and 53.2% of students ($p = 0,000$).

Regarding the question “How important is disease prevention for you from 1 to 5 in old age?” 260 people (60.3%) believe it to be extremely important (5), the same answer is given by 76% of people aged 14 to 34 ($p = 0,000$) and by 72.5% of students ($p = 0,000$).

According to the majority of people (182 or 42.2%), physical activity is equivalent to taking a walk. Regarding the question “What do you mean by physical activity?” 47.9% of people over the age of 55 ($p = 0,007$) also respond to taking a walk, the same answer is given by 48.6% of housewives ($p = 0,005$).

As far as concerns “How many hours a week are needed to have a good standard of living?” most people (147 or 34.1%) believe that 4 hours of physical activity per week are necessary. The same answer is given by 39.3% of people between the ages of 14 and 34 ($p = 0,000$), while 46.1% of retirees believe that 2 hours a week are needed ($p = 0,000$).

154 people (35.7%) declared that their municipality does not take initiatives towards elderly residents, another 154 do not know if the municipality takes initiatives. 43.2% of people aged between 14 and 34 declared that their municipality does not take initiatives ($p = 0,001$), the same answer is given by 42.5% of people residing in a southern province ($p = 0,014$) and 50% of the unemployed and job seekers ($p = 0,004$).

According to most of the people (238 or 55.2%) in their municipality (neighborhood) motor activity is not favored for the elderly.

As far as concerns “In your opinion, what could be done to improve the lifestyle in old age?” most people (124 or 28.8%) believe that ad hoc programs of physical activity and proper nutrition should be created. The same answer is given by 32.4% of people aged between 35 and 54 ($p = 0,000$) and by 40% of self-employed workers ($p = 0,006$).

Table 2. Sample responses to questionnaire questions

Variable	N° (%)	Significant differences
D1 – What is third age for you? People aged 50 and over People aged 60 and over People aged 65 and over People over the age of 70 I don't know	6 (1,4%) 54 (12,5%) 222 (51,5%) 139 (32,3%) 10 (2,3%)	Age Macro area Employment status
D2 – How important is it for you from 1 to 5, in old age, to follow a correct diet? 1 2 3 4 5	8 (1,9%) 28 (6,5%) 47 (10,9%) 163 (37,8%) 185 (42,9%)	Age classes Employment status
D3 – How important is it for you from 1 to 5, for the third age, to carry out regular physical activity? 1 2 3 4 5	21 (4,9%) 48 (11,1%) 82 (19%) 143 (33,2%) 137 (31,8%)	Class age Macro area Employment status
D4- How important is it for you from 1 to 5, in old age, to spend more time in the company of other people? 1 2 3 4 5	2 (0,5%) 12 (2,8%) 44 (10,2%) 132 (30,6%) 241 (55,9%)	Macro area
D5 – How important is it for you from 1 to 5, in old age, to do a right physical activity? 1 2 3 4 5	19 (4,4%) 57 (13,2%) 82 (19%) 110 (25,5%) 163 (37,8%)	Class age Macro zone Employment status
D6 – How important is disease prevention for you from 1 to 5, in old age? 1 2 3 4 5	2 (0,5%) 20 (4,6%) 55 (12,8%) 94 (21,8%) 260 (60,3%)	Class age Employment status
D8 – What do you mean by physical activity? Also take a walk Go to the gym Run regularly Prepare for competitions None of these	182 (42,2%) 103 (23,9%) 56 (13%) 54 (12,5%) 36 (8,4%)	Class age Employment status
D9 – How many hours a week does it take to have a good standard of living? 2 hours / week 4 hours / week 6 hours / week More than 6 hours / week None of these	113 (26,2%) 147 (34,1%) 106 (24,6%) 39 (9%) 26 (6%)	Class age Employment status
D10 – Does your municipality take initiatives towards elderly residents? Yes No I don't know	123 (28,5%) 154 (35,7%) 154 (35,7%)	Class age Macro area Employment status

continued

D11 – In your municipality (neighborhood) is physical activity favored for the elderly?		
Yes	64 (14,8%)	
No	238 (55,2%)	
I don't know	129 (29,9%)	
D12 – In your opinion, what could be done to improve the lifestyle in old age?		Class age Employment status
Create social and recreational associations	99 (23%)	
Create ad hoc programs of physical activity and proper nutrition	124 (28,8%)	
Greater assistance from local institutions	100 (23,2%)	
You are satisfied with the situation	48 (11,1%)	
I don't know	60 (13,9%)	

Conclusions

From this survey it emerges that the respondents are very aware that correct and regular physical activity, as well as correct nutrition, are important factors to consider in old age (15, 19, 20).

Prevention of degenerative diseases in the elderly, and above all Alzheimer Disease, can be faced with the practical of regular physical activity (21,22). However, it is necessary to consider that to achieve these objectives it is necessary to change policies towards the elderly, favoring the establishment of social and recreational associations, the creation of ad hoc programs of physical activity and proper nutrition, with greater assistance from local institutions (23).

Author contribution:

Study conceptualization and design: T.I., D.M., A.M., A.N., G.LaT; Data analysis and interpretation: T.I., G.LaT, D.M; Literature research: T.I. D.M.; Iconography: Refision first draft: A.M., A.N., G. LaT; Visualization: T.I., A.M.; Supervision: T.I., D.M., G.LaT; Revision and approval of final draft by all the authors

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