

Perceptions and attitudes of the elderly population toward physical exercise

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Abstract:

Physical exercise is essential for the elderly, with abundant scientific evidence confirming its critical role in health. However, there is limited research on the elderly's perceptions of the effects of physical exercise on psychophysical well-being and the enjoyment they derive from physical activity. The aim of this study is to assess the impact of a basic protocol of adapted physical activity on the perceptions and opinions of both active and inactive elderly individuals. This exploratory experimental study involved a sample of 40 participants (20 males and 20 females, aged 60–75 years), consisting of 40% physically inactive and 60% physically active individuals. They followed a basic protocol of adapted physical activity for six months, with sessions held three times a week, based on the prescriptions of an external expert. Next, an ad hoc questionnaire was administered, and the data were processed to reveal any significance among the measured variables. Results show that 85% believed that physical activity had a positive influence on their quality of life and produced improvements for their lives. Significant relationships were found between regular physical activity and perceived benefits of physical exercise with $p=.046$ and between balance and muscle strength (improved) and social interactions (improved) with $p=.042$. The study reveals the perceived liking for the positive opinion of the effectiveness that adapted physical activity produces and, given the sample limitation of small numbers, could be repeated on a larger audience and recruited while also respecting the representativeness of sociocultural and lifestyle factors. In any case, this evidence suggests that structured and systematic physical activity is feasible and, therefore, immediately applicable to reduce the negative effects of sedentariness unanimously agreed by the scientific community.

Keywords: Questionnaire, kinesiologist, Movement

Introduction

The World Health Organization (WHO) introduces a new definition of health as a state of complete physical, mental and social well-being, overcoming the traditional view that considered it only as the absence of disease (Who, 2015). The social aspect then becomes extremely significant, as human relationships are fundamental to a person's overall well-being. Therefore, an approach is needed that considers the person as a whole, together with the social, relational and environmental contexts in which he or she lives (Raiola 2015). This requires a holistic view of health, where well-being is determined by a complex interaction of factors, making it essential to have a comprehensive approach of the person in order to achieve overall well-being, psychophysical recognized by the Italian Constitution (G.U., 2023) that provides for the educational and social dimension that combines well-being as an educational aspect connected to the social one in order to develop the fundamentals of health education and correct lifestyles to be contaminated for the whole society (Raiola, 2023).

Thus we move from health education, focused on the absence of disease, to wellness education, based on the bio-psychosocial model. Another important aspect of a healthy lifestyle is nutrition. combining exercise with healthy nutrition is the best strategy for living a healthy life. (Shalgumbayeva et al., 2023). Old age represents a stage of life characterized by significant physical, psychological and social changes (Damayanti et al., 2024). This stage, generally identified from the age of 65, sees the individual facing a progressive decline in physical abilities due to the reversal of the potential of physical abilities in developmental and adult age. This trend reversal reduces muscle strength, decreases muscle elasticity and general articularity, accompanied by the reduced major bodily functions such as breathing and cardiovascular.

These changes are not uniformly progressive for everyone but, nevertheless, are present in all elderly people. Physical decline also has inevitable psychological repercussions (D'Elia et al, 2022). The elderly may feel a sense of worthlessness or isolation, especially in the face of reduced social interactions and daily activities (D'Isanto et al, 2022). Promoting appropriate physical activities and creating social opportunities can greatly improve the quality of life of the elderly, helping them to live this stage with awareness of limitations and

highlighting residual potential (D'Isanto et al 2022). In this context, the use of adapted physical activity (APA) is essential to implement improved quality of life and to promote physical and psychological well-being through safe and effective activities (Esposito G. et al, 2024; Elena et al., 2024). For the purpose there are basic, preventive and adapted motor activities and sports kinesiologists with special provision in Article 32 of Legislative Decree No. 36/2021 (G.U. 2021).

The normative references recognize the kinesiologist as a professional able to design, conduct adapted physical exercise programs and evaluate them with the aim of preventing disease and improving people's well-being (Esposito G. et al, 2023).

Providing targeted physical exercises based on people's needs helps maintain and improve skills such as muscle flexibility and strength, jointness, balance, and physical endurance, reducing the risk of falls and injuries (Esposito et al., 2024).

Regular physical activity also helps prevent and manage chronic conditions such as hypertension, diabetes, osteoporosis, and cardiovascular disease (Chodzko-Zajko, W. J., 2009). Physical exercise is the main tool for the development, or in this case the maintenance, of major motor skills, fundamental in the early years of life to achieve adequate psychomotor development, and essential in later life to preserve acquired skills and be autonomous (Giardullo et al., 2024).

By improving their overall physical condition in this way, the elderly can maintain a greater degree of independence in daily activities, retain their independence, and have optimal mental and physical well-being (Raiola, 2017). The development of inclusive environments for older people, such as community centers and associations, is a goal shared by public and private stakeholders. Local governments play an indispensable role in this process, as they are responsible for planning and allocating resources to create appropriate infrastructure (Di Domenico et al, 2024).

In collaboration with health care institutions and social services, sports associations and societies can deploy adapted physical activity as a trigger for older people's well-being (Smith et al, 2020). In addition, these associations can act as intermediaries between the elderly and local institutions, ensuring that the needs and concerns of the elderly population are adequately represented and addressed (D'Isanto et al, 2017).

However, many elderly people do not engage in physical activity probably due to the lack of physical exercise culture, the lack of organizations dedicated to the purpose, and the presence of professionals in the field of adapted physical activity. In addition, in the scientific literature, there is a paucity of data regarding the perception of elderly individuals regarding the importance of developing and maintaining mental and physical well-being through physical exercise in order to scientifically define its value and opinions about it, perhaps because it is believed that the elderly person objectively acquiesces to external impositions on the practice of physical exercise without any personal involvement (D'Elia et al, 2024).

The objective of this paper is to measure the impact of APA protocols through physical exercise, focusing on the perceptions of individuals of the elderly regarding the development and maintenance of psychophysical well-being.

Materials and Methods

The sample consisted of 40 people aged 60 to 75 years, equally distributed between men and women, of whom more than 60 percent were no longer engaged in physical activity, while the remaining percentage continued to do so. All participants underwent a pre-health check and functional assessment to verify that they were capable of moderate intensity physical activity without incurring health risks. With regard to pre-existing health conditions, the sample included people with a range of conditions common among the elderly; those with serious illnesses or conditions that might have compromised safe participation in the activities included in the study were excluded from the sample.

Participants were recruited as part of an APA program offered by the senior citizens' association to which they belonged. They were each given a detailed explanation of the objectives of the study and the planned activities, and they gave their informed consent before starting the program. A six-month gentle physical exercise class is implemented as part of an APA program, three times a week, within the municipal gymnasium. Participants are supervised by a kinesiologist of preventive and adapted motor activities.

Physical exercise protocols were tailored to meet the specific needs of each participant, ensuring that each exercise was tailored to his or her abilities and health condition. The exercise protocol is administered 2 days a week for 24 weeks (Table 1). In addition, the physical-motor interventions were designed to improve not only the participants' physical condition but also their interpersonal and social skills.

The goal of the APA course was to promote general well-being for the physical exercise protocol administered along with social interaction activities and mutual support within the group. Next, a specially developed questionnaire was administered to participants to collect detailed information on their physical exercise habits, perceptions of the benefits of physical exercise, and the usefulness of regular exercise activities. The questionnaire is shown in Table 2.

Table 1. Physical Exercise Protocol.

Day 1		
ACTIVATION		
Standing ileo stretch, standing calf stretch, standing hip flexor stretch, standing ham stretch, standing shoulder mobility, standing hip mobility		
MOVEMENT PREPARATION		
Linear March, Linear march straight leg, Lateral March, Heel-toe Walk.		
EXERCISE	SET x REPS	REST
STRENGTH/HYPERTROPHY		
B1. BOX SQUAT	3 X 8	2'
B2. BENCH 30° PLATE PRESS	3 X 8	
C1. SEATED CABLE ROW 1 ARM	3 X 8 ea.	2'
C2. SUITE CASE CARRY	3 X 10 STEPS ea	
CONDITIONING		
E1. LISS	10' BIKE	
Day 2		
ACTIVATION		
Standing ileo stretch, standing calf stretch, standing hip flexor stretch, standing ham stretch, standing shoulder mobility, standing hip mobility		
MOVEMENT PREPARATION		
Linear March, Linear march straight leg, Lateral March, Heel-toe Walk.		
B1. HINGE PATTERN	3 X 8	2'
B2. TRX ROW	3 X 8	
C1. BENCH 30° PLATE PRESS	3 X 8	2'
C2. STANDING PALLOF PRESS	3 X 8 ea	
CONDITIONING		
E1. LISS	10' BIKE	

Table2. Questionnaire submitted to the sample

Questions	Answers
1) How many hours per week do you dedicate to physical activity?	- (< of 1)- (1 to 3)- (3 to 6)- (> of 6)
2) Do you feel that exercising regularly positively influences your quality of life?	- Very-Fairly-Slightly-Not at all
3) Can you perceive benefits from regular physical exercise?	- Very-Fairly-Slightly-Not at all
4) After starting the soft gymnastics programme, have you noticed improvements in your mental well-being?	- Very-Fairly-Slightly-Not at all
5) How satisfied are you with the results of the soft gymnastics programme so far?	- Very-Fairly-Slightly-Not at all
6) How much do you think participating in the adapted physical activity programme has improved your social interactions and sense of community?	- Very-Fairly-Slightly-Not at all
7) How much do you think the soft gymnastics programme has improved your balance and muscle strength?	- Very-Fairly-Slightly-Not at all
8) Are you motivated to continue participating in the adapted physical activity programme?	- Very-Fairly-Slightly-Not at all

Data analysis was conducted using descriptive statistics and then the Chi-square test to identify any significant relationships between the qualitative variables represented by the questionnaire questions, using JASP statistical software.

Results

I risultati sono illustrati nella Tabella 3.

Table 3. Questionnaire results

Questions:	Answer 1	Answer 2	Answer 3	Answer 4
1. How many hours per week do you dedicate to physical activity?	< of 1	1 to 3	3 to 6	>of 6
Frequency	0	10	27	3
Percentage	0%	25%	67.5%	7.5%
2. Do you feel that exercising regularly positively influences your quality of life?	Very	Fairy	Slightly	Not at all
Frequency	34	5	1	0
Percentage	85%	12.5%	2.5%	0%
3. Can you perceive benefits from regular physical exercise?	Very	Fairy	Slightly	Not at all
Frequency	25	10	5	0
Percentage	62.5%	25%	12.5%	0%
4. After starting the soft gymnastics programme, have you noticed improvements in your mental well-being?	Very	Fairy	Slightly	Not at all
Frequency	34	5	1	0
Percentage	85%	12.5%	2.5%	0%
5. How satisfied are you with the results of the soft gymnastics programme so far?	Very	Fairy	Slightly	Not at all
Frequency	33	6	1	0
Percentage	82.5%	15%	2.5%	0%
6. How much do you think participating in the adapted physical activity programme has improved your social interactions and sense of community?	Very	Fairy	Slightly	Not at all
Frequency	18	17	5	0
Percentage	45%	42.5%	12.5%	0%
7. How much do you think the soft gymnastics programme has improved your balance and muscle strength?	Very	Fairy	Slightly	Not at all
Frequency	14	25	1	0
Percentage	35%	62.5%	2.5%	0%
8. Are you motivated to continue participating in the adapted physical activity programme?	Very	Fairy	Slightly	Not at all
Frequency	33	6	1	0
Percentage	82.5%	15%	2.5%	0%

In the first question “How many hours a week do you devote to physical activity?” no one answered less than 1; 25% answered 1 to 3; 67.5% answered 3 to 6; and 7.5 answered more than 6. In the second question “Do you feel that regular physical exercise positively affects your quality of life?” 85% answered a lot; 12.5% answered enough; 2.5 answered slightly; and zero answered not at all. In the third question “Can you perceive benefits from regular physical exercise?” 62.5% answered a lot; 25% quite a lot; 12.5% slightly; and zero answered not at all. In the fourth question “After starting the soft physical exercise program, have you noticed improvements in your mental well-being?” 85% answered very much; 12.5% fairly; 2.5% slightly; and zero answered not at all. In the fifth question “How satisfied are you with the results of the soft physical exercise program so far?” 82.5% answered a lot; 12.5% answered “easy,” 2.5% answered “gently,” and none answered at all. In the sixth question “How much do you think participation in the adapted physical activity program has improved your social interactions and sense of community?” 45% answered a lot; 42.5% fairly; 12.5% slightly; zero answered not at all.. To the seventh question “How much do you think the soft physical exercise program has improved your balance and muscle strength?” 35% answered a lot; 62.5% answered enough; 2.5% answered

slightly; and zero answered not at all. On the eighth question “Are you motivated to continue participating in the adapted physical activity program?” 82.5% answered a lot; 15% answered enough; 2.5% answered slightly and not at all. Following Chi-square analysis, two significant relationships were found among the qualitative variables. The first relationship involves question 2, “Do you feel that regular physical exercise positively affects your quality of life?” and question 3, “Can you perceive benefits from regular physical exercise?” with ($p=.046$). This is shown in contingency tables 4 and 5.

Table 4. Contingency table between question 2 and question 3.

Contingency Tables

2) Do you feel that exercising regularly positively influences your quality of life?	3) Can you perceive benefits from regular physical exercise?			Total
	Slightly	Fairly	Very	
Slightly	1	0	0	1
Fairly	0	3	3	6
Very	4	7	22	33
Total	5	10	25	40

Table 5. Chi-Squared analysis

Chi-Squared Tests

	Value	df	p
X ²	9.685	4	.046

The second significant relationship is between question 7, “How much do you think the gentle physical exercise program has improved your balance and muscle strength?” and question 3, “Can you perceive benefits from regular physical exercise?” where it was found ($p=.042$). This can be observed in contingency tables 6 and 7.

Table 6. Contingency table between question 7 and question 3.

Contingency Tables

How much do you think the gentle physical exercise programme has improved your balance and muscle strength?	Can you perceive benefits from regular physical exercise?			Total
	Slightly	Fairly	Very	
Slightly	1	0	0	1
Fairly	4	5	16	25
Very	0	5	9	14
Total	5	10	25	40

Table 7. Chi-Squared analysis

Chi-Squared Tests

	Value	df	p
X ²	9.904	4	.042

Discussion

The study on physical exercise in old age showed several very positive feedback, showing relevant participation and perceived benefits among participants. None of the sample members responded that they devote less than one hour per week to physical activity, indicating a shift toward an physical exercise culture. Specifically, 67.5 percent of participants devote between 3 and 6 hours per week to physical activity, suggesting that a significant proportion of older adults recognize the importance of regular engagement to maintain physical well-being as also found in some studies in the literature (Raiola, 2015).

There is a nearly unanimous belief among the elderly regarding the benefits of physical exercise, as evidenced by the results, where 85 percent of participants believe that physical activity has a very positive influence on their quality of life. Perception of the benefits of physical exercise is given by 62.5%. Another important aspect is the impact of physical exercise on psychophysical wellbeing: 85% of participants noticed significant improvements after starting a gentle physical exercise program. This result indicates that physical

exercise not only improves physical health, but also has a positive effect on the psychological aspect, a decisive factor in the overall well-being of older people (D'Elia, 2021). Participant satisfaction is high, with statements of high satisfaction with the results of the program. This result could be a motivating factor for continuation and long-term adherence to the physical exercise program. In addition, improvement in balance and muscle strength was perceived by many participants, who indicated significant or noticeable improvements, reinforcing the idea that regular physical exercise is essential for maintaining physical function in old age (Araujo et al., 2024). Chi-square analysis revealed two significant relationships that deserve further investigation. The first relationship concerns the influence of physical activity on quality of life and the perceived benefits of regular physical exercise ($p=.046$).

This suggests that those who see a positive impact of physical activity on their quality of life also tend to perceive greater benefits from the physical exercise itself, indicating possible positive feedback between these two variables. The second significant relationship is between improved balance and muscle strength and perceived benefits of regular physical exercise ($p=.042$). This result shows that the perception of tangible physical benefits, such as improved balance and strength, is closely related to the overall perception of the benefits of physical exercise. In other words, those who perceive tangible physical improvement also tend to recognize an overall benefit from physical exercise. It can be established that these results demonstrate the importance and positive impact of regular physical exercise on quality of life, mental well-being, social interaction and physical strength in old age (Raiola et al, 2021).

Conclusions

It is clear from the study that APA has a significant impact on the psychophysical well-being of the elderly. The WHO proposed definition of health, which includes well-being based on the bio-psychosocial model, is confirmed in the results obtained, emphasizing the importance of a holistic approach. The participants, all aged between 60 and 75 years, demonstrated a strong commitment to the gentle physical exercise program, devoting a significant portion of their weekly time to it. This commitment led to an overall improvement in their quality of life, perceived through physical, mental, and social benefits. Adapted physical-motor activity not only improved the participants' physical condition, but also had a positive impact on their mood and perceived psychological well-being. Social interactions were also positively affected, demonstrating the importance of this component in group activities. In addition, the improved conditional skills showed how adapted physical activity can contribute substantially to the lives of the elderly. Statistical analyses showed that APA offers an integrated and sustainable wellness model.

The high motivation to continue the program suggests that APA effectively meets the needs of the elderly. Collaboration between the municipal entity, which as a stakeholder provided the facility, and the association of the elderly was key to creating inclusive and supportive environments, demonstrating that a collaborative and integrated approach is critical to the overall well-being of this group of people. In conclusion, the study demonstrates that the implementation of adapted physical activity programs is critical to improving the quality of life of the elderly by promoting an ecosystemic view of well-being that integrates physical, psychological, and social dimensions.

The stated goals have been largely achieved: the impact of APA protocols through physical exercise has been considerable and has enabled the elderly to perceive the development and maintenance of mental and physical well-being (Balogh et al., 2025). Despite the positive results that emerged, the study has some limitations that need to be considered. The sample of participants, all aged 60 to 75 years, may not be representative of the entire elderly population, especially considering different health conditions and preexisting levels of physical activity. In addition, a longer duration of the study would be desirable to provide a more thoughtful assessment of long-term effects. To address these limitations, future research could adopt a more rigorous experimental design, including a larger sample size, tighter controls on the environmental context, and more rigorous standardization of the protocols adopted, with the inclusion of objective assessment methods, such as physiological measurements (e.g., heart rate monitoring, muscle strength testing, body balance analysis) and the use of wearable technologies, in order to provide more accurate and less biased data.

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