

# MOTIVES OF ADHERENCE AND DROPOUT OF ELDERLY TO PHYSICAL ACTIVITY PRACTICE

*Motivos de adesão e de desistência de idosos a prática de atividade física*

*Motivos de adhesión y desistimiento de las personas mayores de la práctica de actividad física*

Article for Review

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## ABSTRACT

**Objective:** To investigate factors that interfere on adherence of elderly to physical activity programs and reasons of dropping out of this kind of activity. **Methods:** To conduct the systematic review, the SciELO, LILACS, MEDLINE/PubMed and Cochrane databases were used, with search being conducted in years 2011 and 2012, using key-words in Portuguese: 'exercício físico', 'idoso', 'adesão' and 'desistência'; and in English: 'physical exercise', 'elderly', 'adherence' and 'dropout'. Articles available in full text version and published between 2000 and 2012 were included, reaching 17 articles, 13 of them having met the inclusion criteria. **Results:** Of the 13 articles, 7 were found in MEDLINE; 6, in LILACS; 3, in SciELO; and 1, in PubMed. Regarding the study design, 8 were characterized as cross-sectional studies; 3 were experimental studies; 1 was a cohort study and 1 was a case study. **Conclusion:** It was observed that there are several reasons that induce adherence, the main ones being related to physical activity itself and the improvement of health. As the major reasons for dropout are the health problems, lack of time, poor financial condition, the distance from places where activities are performed, absence of a partner, among others.

**Descriptors:** Exercise; Adherence; Dropout; Aged.

## RESUMO

**Objetivo:** Investigar os fatores que interferem na adesão de idosos a programas de atividade física e os motivos de desistência dessa prática. **Métodos:** Para a condução dessa revisão sistemática, pesquisaram-se as bases de dados SciELO, LILACS, MEDLINE/PubMed e Cochrane, com buscas realizadas nos anos 2011 e 2012, utilizando-se palavras-chaves em português ("exercício físico", "idoso", "adesão" e "desistência") e em inglês ("physical exercise", "elderly", "adherence" e "dropout"). Incluíram-se artigos disponíveis em texto completo e publicados entre os anos de 2000 e 2012, encontrando-se 17 artigos, dos quais 13 preencheram os critérios de inclusão. **Resultados:** Dos 13 artigos, 7 estavam no MEDLINE; 6, no LILACS; 3, no SciELO; e 1, no PubMed. Com relação ao delineamento dos estudos selecionados, 8 se caracterizavam como estudo transversal; 3, como estudo experimental; 1, como estudo de coorte; e 1, como estudo de caso. **Conclusão:** Verificou-se que vários são os motivos de adesão, mas os principais estão relacionados à própria prática de atividade física e à melhora da saúde. Dentre os motivos de desistência, estão os problemas de saúde, a falta de tempo, a baixa condição financeira, a distância do local das aulas, a falta de acompanhante, entre outros.

**Descritores:** Exercício Físico; Adesão; Desistência; Idosos.

## RESUMEN

**Objetivo:** Investigar los factores que influyen en la adhesión de mayores en programas de actividad física y los motivos de desistimiento de esa práctica. **Métodos:** Para la revisión sistemática se investigó las bases de datos SciELO, LILACS, MEDLINE/PubMed e Cochrane, con búsquedas realizadas en los años 2011 y 2012, utilizándose las palabras-clave en portugués ("exercício físico", "idoso", "adesão" e "desistência") y en inglés ("physical exercise", "elderly", "adherence" e "dropout").

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Luciana Botelho Ribeiro<sup>(1)</sup>  
Gustavo Puggina Rogatto<sup>(2)</sup>  
Afonso Antonio Machado<sup>(1)</sup>  
Priscila Carneiro Valim-Rogatto<sup>(2)</sup>

1) São Paulo State University (Universidade Estadual Paulista "Júlio de Mesquita Filho" – UNESP) - Rio Claro (SP) - Brazil

2) Federal University of Lavras (Universidade Federal de Lavras - UFLA – Lavras) - (MG) - Brazil

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exercise”, “elderly”, “adherence” e “dropout”). Se incluyeron artículos disponibles en texto completo y publicados entre los años 2000 y 2012, encontrándose 17 artículos de los cuales 13 cumplieron los criterios de inclusión. **Resultados:** De los 13 artículos, 7 eran del MEDLINE; 6 del LILACS; 3 del SciELO; y 1 del PubMed. Respecto al delineamiento de los estudios seleccionados, 8 se caracterizaban como estudio trasversal: 3 como experimental: 1 era estudio de cohorte y 1 era estudio de caso. **Conclusión:** Se verificó varios motivos para la adhesión pero los principales son relacionados a la propia práctica de actividad física y a la mejoría de la salud. Entre los motivos de desistimiento están los problemas de salud, la falta de tiempo, la baja condición financiera, la distancia al local de las clases, la ausencia de acompañante, entre otros.

**Descriptores:** Ejercicio; Adesão; Pacientes desistentes del tratamiento; Anciano

## INTRODUCTION

The practice of physical activity improves quality of life of elderly people through many different ways, including the reduction of health risk factors, favoring the maintenance of healthy bones, muscles and joints, and the prevention of chronic degenerative diseases such as diabetes, cardiomyopathies and some types of cancer. Besides contributing to the overall health of elders, regular physical activity lowers medical costs<sup>(1)</sup>.

In Brazil, the prevalence of insufficient physical activity during leisure time is more common in women, elders and people with low socioeconomic level<sup>(2)</sup>. In developed countries, nearly 60% of the adult population is insufficiently active and does not acquire the habit to use part of their daily time to practice some physical exercise<sup>(3)</sup>.

Adherence to physical activity is influenced by different factors: previous experiences in sports activities, family and partner’s support, low self-esteem, among others<sup>(3)</sup>. Elders adhere to physical activity programs to improve their health status and social contact, and prevent diseases<sup>(4)</sup>.

They seek programs due to medical recommendations and support from family or friends; however, these reasons may vary according to sex, age, etc. By practicing physical activity, the elder interacts better with society and becomes less dependent on family regarding house chores and environment<sup>(5,6)</sup>.

The most frequent barriers presented by elders are those related to personal and environmental aspects. More than half of elders stop exercising due to health problems and pain during exercises<sup>(7,8)</sup>. Social support, self-efficacy and satisfaction are variables that should be taken into account for both the adherence to and the maintenance of physical activity<sup>(7)</sup>. The influence of health care professionals is

highly important for encouraging and supporting the elders, so they can keep themselves constant and persistent<sup>(5,8)</sup>.

Several factors may influence the search for physical activity programs by the elderly population. On the other hand, some reasons for the interruption and dropouts of these programs have also been evidenced. However, a systematized search for studies on this issue is necessary since this information can help in the development of strategies for increasing the participation of elders in more appropriate physical activity programs, i.e., programs that meet the needs of people within this age group.

Thus, the aims of the present study were to investigate factors interfering in elders’ adherence to physical activity programs and the reasons for stopping exercising.

## METHODS

This is a systematic review of scientific studies focused on the investigation of the relation between elders’ reasons for adhering to and dropping out of physical activity programs. A systematic review is a type of investigation in which it is possible to provide a summary of evidences related to a specific intervention strategy using objective and systematized methods, critical appreciation and synthesis of the selected information<sup>(9)</sup>.

The present study used the Scielo (*Scientific Electronic Library Online*), Lilacs (*Latin America and Caribbean Health Sciences Literature*), Medline/Pubmed (*US National Library of Medicine/National Institutes of Health*), and Cochrane (*The Cochrane Library*) databases as a literature search method.

The keywords entered in the search were “*exercício físico*”, “*idoso*”, “*adesão*”, “*desistência*”, “*dropout*”, “*adherence*”, “*elderly*” and “*physical activity*”.

The research inclusion criteria were: a) articles published in journals referenced in the aforementioned databases in the period from 2000 to 2012; b) studies with different designs; c) study populations that included elderly groups; d) research on the issues “*adherence*”, “*elderly*” and “*physical activity*”; e) full-text articles in Portuguese and English.

The search was initially performed by entering the keywords isolatedly, i.e., one at a time, in the following sequence: “*physical activity*”, “*elderly*”, “*adherence*”, “*dropout*” (and in Portuguese: “*exercício físico*”, “*adesão*”, “*idoso*”). Later, another search was performed using the following combinations of words: “*physical activity elderly dropout*”, “*physical activity elderly adherence*” (and in Portuguese: “*exercício físico idoso adesão*”, “*exercício físico idoso desistência*”).

The bibliographic search was first performed in the year 2011 and was later updated in 2012 by two of the authors of the present study who performed an independent and blind search following the inclusion criteria set in the research protocol. Disagreements were resolved by consensus-based discussion.

The analysis of data from the articles and the presentation of the results were initially systematized by grouping the studies according to: database where they were obtained, research design used, place where the research took place, type of sample, age group and sex of the study volunteers. Later, the objectives and main results of the studies were analyzed. Although it has been allowed the inclusion of different types of research designs in an attempt to expand

the view about the issue, the results of intervention studies (hereby defined as experimental studies) were highlighted in the present research.

## RESULTS

Considering the period researched, 17 articles were found in Scielo, Lilacs, Medline/Pubmed and Cochrane databases. Of the 13 articles that met inclusion criteria, seven were found in Medline; six in Lilacs; three in Scielo; and one in Pubmed.

Regarding the design of the selected studies, there were eight cross-sectional studies; three experimental studies; one cohort study; and one case study. Therefore, 62% of the

Chart I - Study designs and their characteristics regarding year, country of publication, type of sample, age and sex of participants.

Authors / Year	Country / Design	Sample / Participant Selection / Age Group / Sex
Andreotti e Okuma / 2003	Brazil / Cross-sectional study	44 elders / participants of a physical activity program / mean 69.6 years / both sexes
Stiggelbolt <i>et al.</i> / 2005	Netherlands / Cohort study	50 individuals / over age 50 who did not participate in physical activity programs / elders / both sexes
Caromano <i>et al.</i> / 2006	Brazil / Experimental study	20 volunteers / non-smokers, socially active in the community, who have not practiced physical activity in the past 5 years and who did not present psychomotor disorders/ mean 65 years / both sexes
Freitas <i>et al.</i> / 2007	Brazil / Cross-sectional study	120 people / started or kept a physical activity program for at least 6 months / over age 60 / both sexes
Siqueira <i>et al.</i> / 2008	Brazil / Cross-sectional study	4200 individuals in the Southern region and the same number in the Northeastern region / adults aged 30 to 60 years and elders aged 65 years and over /both sexes
Jancey <i>et al.</i> / 2008	Australia / Experimental study	260 elders / neighborhood / elders aged 65 to 74 years / both sexes
Resnick <i>et al.</i> / 2008	USA / Experimental study	166 elders / general population / mean 73 years / both sexes
Siqueira <i>et al.</i> / 2009	Brazil / Cross-sectional study	4060 adults and 4003 elders / living near the <i>Unidades Básicas de Saúde</i> (Basic Healthcare Units) of Southern and Northeastern regions / adults aged 30 to 60 years and elders aged 65 years / both sexes
Salvador <i>et al.</i> / 2009	Brazil / Cross-sectional study	385 elders /living in the municipality of Ermelino Matarazzo-SP / 60 years old and over / both sexes
Costa <i>et al.</i> / 2009	Brazil / Cross-sectional study	122 individuals / obese and hypertensive individuals attending physical activity programs / 58 to 70 years / both sexes
Nascimento <i>et al.</i> / 2010	Brazil / Case study	22 elders participating in institutional programs of physical activity in the city of Palmitos-SC / 53 to 80 years / both sexes
Moschny <i>et al.</i> / 2011	Germany / Cross-sectional study	1937 people aged 72 to 93 years / elders / both sexes
Sawchuk <i>et al.</i> / 2011	USA / Cross-sectional study	125 American Indians aged 50 to 74 years / elders / male sex

studies that met the inclusion criteria used a cross-sectional design.

The cross-sectional studies analyzed a great number of variables such as quality of life, physical activity level, motivation, adherence and dropout, practice of specific exercises, anthropometric measures, among others.

The samples of the selected studies consisted of elders (people aged 60 years and over), or elders and adults with the aim of comparing the populations.

In the selected articles, individuals reported several reasons for adhering to and dropping out of physical activity programs. Of the 13 articles that assessed adherence reasons, 61% pointed health improvement; 30% the search for social coexistence; 23% the acquisition of a healthy lifestyle; 15% the promotion of well-being; 7.6% the stress reduction; and 7.6% the aid in the recovery of pre-existing injuries. Four articles, besides assessing adherence reasons, also assessed dropout reasons. The reasons reported by the elders were the perception of security (75%), social support (50%) and the lack of family support for the practice (25%).

Chart I shows, in addition to the study designs, the country where the research took place, the type of sample,

methods of selection of participants and their age group and sex. Chart II presents the objectives and instruments used in the studies.

The results of two of the cross-sectional studies<sup>(10,11)</sup> showed that the elders who sought physical activity programs were mainly retired women with low education and socioeconomic levels. These characteristics were evident in certain regions of Brazil like the Northeast.

Still with respect to the cross-sectional studies<sup>(12-14)</sup>, elders presented several reasons for adherence, maintenance and barriers. The main reasons for adhering to physical activity programs were quality of life and health improvement, acquisition of a healthy lifestyle, stress reduction and the aid in the recovery of pre-existing injuries. The reasons for maintaining the participation were the well-being, the maintenance of posture, the feeling of pleasure, increased strength and encouragement given by teachers. The poor health, the unwillingness to exercise (widely reported), not having a companion to exercise, the lack of interest and opportunities, as well as the lack of transportation, were pointed as barriers to doing physical activity.

Chart II - Characteristics of the studies regarding objectives and measurement instruments used.

Authors / Year	Objective(s)	Measurement Instrument (s)
Andreotti e Okuma / 2003	To describe the socio-demographic profile of elders and the adherence reasons.	Questionnaire containing questions about socio-demographic aspects and the investigation about the reasons for entering the program, asking the subjects why they entered the program.
Stiggelbalt <i>et al.</i> / 2005	To assess the incidence, the moment of the dropout and the behavior change in the physical activity program.	RAND 36-item multidimensional health survey.
Caromano <i>et al.</i> / 2006	To investigate the effects of two training programs (walking and general physical exercises) on the maintenance of physical activity in elders.	Physical performance assessment using physical tests (flexibility, upper and lower limb muscle strength, posture, walking, balance, manual motor performance, cardiopulmonary function and body composition). Interview, after sixteen weeks of training, concerning information about the maintenance or dropout of the activity.
Freitas <i>et al.</i> / 2007	To investigate, identify and classify sociocultural and educative aspects relating to health and quality of life of elders associated with the reasons for adhering to and maintaining regular physical activity in public places.	Adapted questionnaire on the motivation for regular physical activity. Questionnaire on the motivation for practicing sports adapted and used by the <i>Laboratório de Estudos em Práticas Esportivas e Lazer – LAPEL</i> (Laboratory for Studies on Sports Activities and Leisure) of the <i>ESEF/UPE</i> , which groups variables of adherence and maintenance according to priority with the first part of the instrument relating to adherence and the second to the maintenance of physical activity.

Siqueira <i>et al.</i> / 2008	To describe the prevalence of sedentariness and associated factors in populations of areas covered by <i>Unidades Básicas de Saúde</i> (Basic Healthcare Units) in municipalities of Southern and Northeastern Brazil.	The International Physical Activity Questionnaire (IPAQ) – short form. Socioeconomic and physical characteristics assessment. Besides health perception (excellent, very good, good, regular, poor), the identification of physical activity as one of the three most important factors for health maintenance. Prescription of physical activity in <i>Unidade Básica de Saúde</i> in the past year.
Jancey <i>et al.</i> / 2008	To evaluate a six-month-walking program developed based on the Social Cognitive Theory.	Open-ended questionnaires. International Physical Activity Questionnaire (IPAQ).
Resnick <i>et al.</i> / 2008	To assess the level of self-efficacy for exercises.	Self-Efficacy for Exercise (SEE) scale.
Siqueira <i>et al.</i> / 2009	To assess factors that adults and elders consider important for health maintenance.	Factors like cigarette consumption, alcohol use, among others, were assessed using a card with sentences and pictures related to health maintenance.
Salvador <i>et al.</i> / 2009	To analyze the association of regular physical activity in leisure time with elders' perceived environment.	International Physical Activity Questionnaire (IPAQ) – long version. Neighborhood Environment Walkability Scale (NEWS) – to assess perceived environment.
Costa <i>et al.</i> / 2009	To verify the adherence and time of permanence of participants in a “Physical Activity Program for People with Diabetes, Hypertension and Obesity”, as well as the potential association between adherence and some physical parameters.	Anthropometric measurement. Assessment of general functional fitness index through the fitness test battery of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD). Adherence was assessed using the attendance registration of a training program.
Nascimento <i>et al.</i> / 2010	To assess and explore the reasons for adhering to and dropping out of physical activity among groups of elders of structured programs.	Semi-structured questionnaire with categories within the following themes: Health Status History, Personal and Family History of Physical Activity; Perception of Physical Activity, Appreciation of Physical Exercise and Evaluation of the Structured Program; Personal History and Family's Influence on Physical Activity; Self-assessment of Motor Capacity; Perception of Body Mass and Self-image; Financial Self-reliance; Motivation for Regular Physical Activity; Perception of Time for Regular Physical Activity; Self-efficacy for Regular Physical Activity and Subjective Control of Stress and Anxiety.
Moschny <i>et al.</i> / 2011	To analyze the barriers to doing physical activity.	Individuals who answered “no” to the question “Based on your point of view, are you physically active enough?” were questioned about the reasons for not being active enough (lack of time, fear of falling or getting hurt, lack of a companion, poor health, lack of opportunity, lack of transportation or interest).
Sawchuk <i>et al.</i> / 2011	To assess the barriers to walking and doing physical activity.	Assessment of demographic characteristics; health-related quality measured through The 12-item Short Form Medical Outcomes Survey (SF- 12), CHAMPS Questionnaire, and the Barriers to Being Physically Active Quiz.

In a cohort study<sup>(15)</sup>, researchers followed up elders in 10 different activities during 15 months; however, not all the activities had a constant follow-up performed by a professional. Elders presented dropout lapses concerning the activities and changed physical activity programs due to dissatisfaction. Dropout rates (31%) were lower in programs in which professionals were present.

A case study<sup>(16)</sup> presented a result similar to those of cross-sectional studies<sup>(12-14)</sup> regarding elders' reasons for adhering to or dropping out of physical activity programs.

Two out of the three experimental studies found in the present review showed the effect of elders' participation in physical activity programs on the adherence to physical activity behavior. Researchers<sup>(17)</sup> found that both the participation in a walking program and general physical activities can influence the maintenance of physical exercise among elders. Other authors<sup>(18)</sup> also found that the participation in a six-month-walking program increases the weekly overall time spent on this activity and contributes to its continuation (although less frequent on the week) after the conclusion of the program.

In another study<sup>(19)</sup>, after the participation in a 12-week specific program of physical activity based on self-efficacy, only the psychological variables such as result expectation and depressive symptoms were influenced – although there was a great participation (77%) of elders in the program. Furthermore, corroborating with the results of another study<sup>(18)</sup>, the participation in the program increased the overall time spent on physical activity.

## DISCUSSION

The main reasons for adhering to physical activity verified by the studies analyzed in this research relate to health maintenance and quality of life, as it can be observed in the cross-sectional studies<sup>(12-14)</sup>. However, although elders are aware of these benefits and the importance of regular physical activity to health, they still do not participate in physical activity programs as they should. Thus, the population, generally speaking, is aging and becoming more and more sedentary and with less time to devote to health care<sup>(11)</sup>. On the other hand, a study<sup>(20)</sup> verified that people are more physically active and see their health with more optimism when compared to inactive people who are the same age.

Research results evidenced that the decrease in physical activity related to age is common in the literature when it comes to both general physical activities<sup>(21)</sup> and activities performed during free time or leisure time<sup>(22)</sup>. The reason for this physical inactivity is explained by the “vicious circle”<sup>(23)</sup>. Among the several reasons that can be pointed as

factors contributing to physical inactivity, the expectation of decreased physical performance due to age by both the individual and the support group can be considered the most harmful factor<sup>(23)</sup>.

People get older, become less active and, consequently, reduce their physical capacities and resistances. When one assumes that incapacity and dependence are inevitable consequences of old age, it becomes easy to give up and become inactive and dependent.

A study<sup>(24)</sup> identified that most of elderly people adhering to physical activity programs was not obese and presented a satisfactory physical fitness – a fact that should also occur in people who need to participate more in such programs. Another study<sup>(25)</sup> showed that elderly women with regular attendance associated the greater adherence to the physical activity program with weight loss and improvement of sleep quality.

The barriers pointed by the investigated studies do not only relate to personal aspects, but also to the proper infrastructure for doing physical activity<sup>(12,14)</sup>. A study showed that the availability of places for leisure is a significant influence<sup>(26)</sup>. Furthermore, the perceived environment for walking – for instance, the ways to get around – may be favored by the existence of squares and soccer fields and the absence of open sewage, i.e., structured environments<sup>(27)</sup>. Additionally, according to another study<sup>(14)</sup>, the proximity of the place where the physical activity is performed was pointed as a factor contributing to the practice.

This result is corroborated by another finding<sup>(16)</sup> that verified that the distance of the place where the exercises are performed as well as other variables like the lack of time or a companion and pain after the activity are among the reasons for dropping out of physical activity programs. Other types of barriers have been found in the literature including climate changes and lack of a companion<sup>(28)</sup>.

The barriers interfere with both the adherence and the dropouts of physical activity programs due to elders' dissatisfaction. However, lower dropout rates are observed in structured programs where professionals pay more “attention” to elders' follow-up<sup>(15)</sup>. Authors<sup>(15)</sup> have verified that higher dropout rates generally occur in the first six months. They also noticed that the type of program and exercise performed influence individual's attendance to classes.

One thing that could be done to solve dropout problems would be the investment in cultural and socio-demographic factors to improve the adherence to physical activity programs<sup>(17)</sup>. Structured programs are already being deployed in both large and small cities and should be consolidated with good professionals, appropriate places and activities for each group and also appropriate number of specialized professionals to conduct the activities<sup>(29)</sup>.

Regarding experimental studies<sup>(17,18)</sup>, they have verified a positive influence of structured physical activity program on elders' adherence to regular physical activity. A recent study conducted with physically active elders<sup>(30)</sup> identified high levels of physical activity in the daily life of those who participated in physical activity programs provided to the community.

## CONCLUSION

The results of the present study showed several reasons for adhering to physical activity with the main reasons relating to the physical activity itself and health improvement. The reasons for dropping out of programs found in the investigated studies were: health problems, lack of time, financial status, distance of the place where activities took place, lack of a companion, among others. The reported reasons were related to one another in some studies; however, other studies did not present any relations among the reasons. Thus, by gathering all the studies it could be noticed that there is a need to implement incentives for programs and classes in order to reduce the number of dropout cases. Additionally, there is a need for a detailed assessment of the target population including the profile and favorite activities in order to better intervene in this specific group.

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**Mailing address:**

Luciana Botelho Ribeiro  
Rua Gustavo Pena, 56  
Bairro: Horto  
CEP: 31015-060 – Belo Horizonte – MG - Brazil  
e-mail: lulu\_bribeiro@hotmail.com