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INTERVENING FACTORS IN THE PRACTICE OF PHYSICAL ACTIVITIES BY INSTITUTIONALIZED ELDERLY

FATORES INTERVENIENTES NA PRÁTICA DE ATIVIDADE FÍSICA DE IDOSOS INSTITUCIONALIZADOS

FACTORES QUE INTERVIENEN EN LA PRÁCTICA DE ACTIVIDAD FÍSICA EN ANCIANOS INSTITUCIONALIZADOS

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ABSTRACT

Objective: to identify the perceived barriers to the adherence to physical activity among elderly residents of a long-term care facility. **Method:** this is a cross sectional, descriptive, exploratory and quantitative study. It was conducted at a long-term care facility for the elderly located in Fortaleza / CE, Brazil. 63 elders were interviewed using the Exercise Benefits/Barriers Scale (EBBS). The collected data were processed using the Statistical Package for Social Science (SPSS), version 17.0, and were analyzed using descriptive statistics. The results were presented in tables and discussed according to the literature. The research project was approved by the Research Ethics Committee, protocol No. 169/04. **Results:** 19 (44.2%) elders received information about the practice of physical activities from nurses who worked in the institution and 34 (59.6%) reported regularly practicing physical activity. Almost all elders, 61 (96.8%), did not consider the sites available for the practice of physical activity to be far away. 57 (90.5%) reported that the activity does not compromise the time to be with their families. 57 (90.5%) did not consider it as a difficult task. 38 (60.3%) were encouraged by their family members. **Conclusion:** nurses should work together with institutionalized elders, guiding them about the practice of physical activity in order to promote health. **Descriptors:** Health of the elderly; Motor activity; Long-term care facilities for elders; Nursing.

RESUMO

Objetivo: conhecer as barreiras que idosos residentes em uma instituição de longa permanência encontram para a adesão à atividade física. **Método:** estudo descritivo-exploratório, quantitativo, realizado em uma instituição de longa permanência em Fortaleza-CE, com 63 idosos entrevistados pelo *Exercise Benefits/Barriers Scale* (EBBS). Os dados foram processados no *Statistical Package for Social Science* (SPSS), versão 17.0, apresentados em tabelas, analisados por meio da estatística descritiva e discutidos de acordo com a literatura. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, protocolo 169/04. **Resultados:** a maioria, 19 (44,2%), recebeu informações por parte de enfermeiros da instituição sobre atividade física e 34 (59,6%) relataram praticar periodicamente. A quase totalidade, 61 (96,8%) não acreditava que os locais para praticar atividade física fossem distantes, 57 (90,5%) referiram que a atividade não compromete o tempo de estar com a família, 57 (90,5%) não a consideraram como uma tarefa difícil e 38 (60,3%) eram incentivados por membros da família. **Conclusão:** os enfermeiros precisam atuar junto aos idosos institucionalizados orientando-lhes quanto à atividade física, visando à promoção da saúde. **Descritores:** Saúde do Idoso; Atividade Motora; Instituição de Longa Permanência Para Idosos; Enfermagem.

RESUMEN

Objetivo: identificar las barreras que los ancianos residentes en una institución de larga estancia encuentran para la adhesión a la actividad física. **Método:** se trata de un estudio cuantitativo exploratorio descriptivo, realizado en una institución de larga estancia en Fortaleza (CE). 63 ancianos fueron entrevistados por medio del *Exercise Benefits/Barriers Scale* (EBBS). Los datos fueron procesados utilizando el *Statistical Package for Social Science* (SPSS), versión 17.0, presentados en tablas, analizados mediante estadística descriptiva y discutidos de acuerdo con la literatura. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, protocolo 169/04. **Resultados:** la mayoría de los ancianos (19 o 44,2%) recibió informaciones sobre la práctica de actividad física por parte de los enfermeros de la institución y 34 (59,6%) reportaron practicar regularmente actividad física. 61 (96,8%) ancianos no creían que los sitios designados para la práctica de actividad física estuvieran distantes. 57 (90,5%) reportaron que la práctica de actividad física no compromete el tiempo para estar con la familia. 57 (90,5%) no la consideraron como una tarea difícil. 38 (60,3%) eran incentivados por sus familiares. **Conclusión:** los enfermeros deben actuar junto a los ancianos institucionalizados para orientarles sobre la práctica de actividad física, con el fin de promover la salud. **Descriptores:** Salud del anciano; Actividad Motora; Institución de larga estadía para ancianos; Enfermería.

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INTRODUCTION

In Latin America, and particularly in Brazil, economic inequalities, illiteracy, poor education, poor housing and environmental conditions are challenging realities for the promotion of health and quality of life of the population in general, and especially for the elderly population. Currently, in Brazil there are about 20 million people aged 60 years or older, accounting for at least 10% of the country's population. According to statistical projections for the period 1950-2025, the group of Brazilian elders will increase fifteen times, while the overall population will grow fivefold. Thus, Brazil will rank sixth worldwide in the number of elderly citizens.¹

The situation of the elderly has been influenced by changes in the family's structure and cultural values. These changes had direct repercussions for the care of the elderly, given that, nowadays, families are becoming smaller, mostly nuclear, leaving no room for elders.²⁻³ Consequently, those elders who are not supported by their family members have no choice but to live in nursing homes or long-term care facilities, often against their will.

According to Decree No. 1,948 of July 3, 1996, Article 3, long-term care facilities for elders should "meet their needs for housing, food, health and social life".⁴ The Elderly Statute states that the promotion of educational, sporting, cultural and leisure activities are an obligation of those facilities which provide care for the elderly population.⁵ The National Policy for the Promotion of Health ratifies these assertions through its implementation strategy. It aims at identifying and supporting initiatives focusing on physical activities/exercises for the community as a whole and for vulnerable groups.¹

Not all institutions fulfill these requirements, some due to lack of resources, and some due to unjustified reasons. Among the losses caused by the devaluation of physical activity in these facilities, there is the association between institutionalization and cognitive decline of elderly people, early dependency, loss of autonomy and reduced self-esteem.⁶

The benefits of physical activity to health - even when initiated at a late stage of life - are well documented. Such practice helps to mitigate the deleterious effects caused by physical changes and reduced social contact. It improves the physical and psychological state of the elder.⁷⁻⁸

The fact that a large number of institutionalized elders do not practice any physical activity may contribute to a decreased functional capacity and a restricted social life due to age and everyday life in long-term care facilities. According to the Model of Health Promotion, physical activity is any bodily movement produced by skeletal muscles that results in energy expenditure and includes a wide range of occupations, leisure, and routine daily activities. However, people may perceive barriers that hinder their commitment to a health promotion action. Thus, they may keep their current behavior or adopt healthier behaviors. The lower the number of barriers perceived, the better the chances of adopting a healthier behavior.⁹

Given the increasing longevity of people, evidenced in the Brazilian population pyramid, and the relevance of the analysis about the difficulties faced by elderly population for practicing physical activities, this study aims to:

- identify the perceived barriers to the adherence to physical activity among elderly residents of a long-term care facility

METHOD

This is a cross sectional, descriptive, exploratory and quantitative study. It was conducted at a long-term care facility for the elderly located in Fortaleza / CE, Brazil. The facility is a non-profit institution, which intends to provide social assistance and human health promotion. It has a multidisciplinary team that cares for the elderly and consists of physicians, nurses, nursing assistants, a nutritionist, an occupational therapist, physiotherapists, pharmacists and social workers. The institution has a wide structure with spaces intended for the practice of sports and leisure activities, rooms for the accommodation of the elderly and rooms adapted to minimize the limitations of movement of some residents.

240 seniors resided in the institution. Of these, 101 had low dependence, lived in private or shared rooms and only needed supervision for performing all their tasks and activities of daily living.

Inclusion criteria were: not having dementia, not being bedridden and not having severe hearing deficit. Out of 101 seniors who met the previously listed criteria, 63 agreed to participate in the study.

Data were collected through a form designed for the characterization of the study subjects, as well as through a structured interview using the Exercise Benefits/Barriers

Scale (EBBS), which was developed based on the Model of Health Promotion¹⁰ and validated for the Brazilian reality.¹¹

The EBBS has 43 items. In this study, we only adopted the 14 items related to the Barriers Scale, which were distributed in 4 areas (exercise and environment; time for practicing physical activity; physical effort; and family encouragement). The benefits and barriers scales can be applied together or separately, without compromising the data. When used together, the Exercise Benefits scale presents reverse score to the items of the Barriers Scale, with scores ranging from 43 to 172. When used alone, the Barriers Scale has scores ranging from 14 to 56.⁹

Thus, the main variables investigated in this study were barriers to the practice of physical activity related to the environment, time availability, physical effort and family encouragement. Elders were asked questions using a Likert scale, which was rated as: strongly agree, agree, disagree and strongly disagree.

The collected data were processed using the Statistical Package for Social Science (SPSS), version 17.0, and were analyzed using descriptive statistics. The results are

presented in tables and discussed according to the literature.

The research project was approved by the Research Ethics Committee of the Federal University of Ceará/ UFC, protocol No. 169/04. All ethical standards related to research involving human subjects were followed.

RESULTS

According to the information presented in Table 1, most elders who participated in this study belonged to the age group 70-79 years (31-54.4%), were male (36-63.2%) , could read and write (32-56.1%), had a per capita income of one minimum wage (39-68.4%) and were single (24-42.1%). Furthermore, 54 (94.7%) were able to walk independently, without using walking-aid devices and 30 (52.6%) had not experienced recent falls.

With regard to physical activity, most participants received information at the institution about its benefits. Nurses were cited by the elders as the main professional responsible for providing such information (19-44.2%). We also found that 34 (59.6%) of the elders in the study reported practicing physical activity at a regular basis.

Table 1. Distribution of the elderly population according to social, demographic and economic variables. Fortaleza/CE, 2007.

Variables	n	%
Age group (n=57)		
60-69	23	40.3
70-79	31	54.4
≥80	3	5.3
Gender (n=57)		
Male	36	63.2
Female	21	36.8
Schooling (n=57)		
Can't read/can't write	25	43.9
Can read/can write	32	56.1
Per capita income (n=57) (number of minimum wages)		
1	39	68.4
2	2	3.5
≥3	2	3.5
No income	14	24.6
Marital status (n=57)		
Single	24	42.1
Married/consensual union	3	5.3
Divorced	17	29.8
Widow/widower	13	22.8
Locomotion (n=57)		
Can walk without help of another person or devices*	54	94.7
Can walk with help of a device*	3	5.3
Experienced recent falls (n=57)		
No	30	52.6
Yes	One	9 15.8
	Two	7 12.3
	More than two	11 19.3
Received information about the importance of practicing physical activities (n=66)**		
No	23	40.4
Yes	34	59.6
Source of information (n=43)**		
Nurse	19	44.2
Physician	16	37.2
Physical therapist	4	9.3
Occupational therapist	4	9.3
Practices physical activity (n=57)		
Yes	34	59.6
No	23	40.4

*Walking-aid devices: cane, walker, crutch.
**Percentage was calculated based on the number of answers.

According to table 2, regarding elders' perception of barriers to the practice of physical activities, we found that most elders did not perceive impeding factors for the practice of physical activity.

Thus, most elders mentioned that the places for practicing physical activity were not far (61 - 96.8%) and that they did not feel ashamed of doing exercises (58-92.1%). In addition, 59 (93.7%) said such activity is not costly and 58 (92.1%) reported that the clothes worn for such goal do not overexpose the body.

The elderly respondents disagreed that: there are few places for practicing physical activity (54 to 85.7%); this practice requires too much time (54-85.7%), because they are done during convenient hours (55-87.3%); physical activity compromises the time allocated to being with their families (57-90.5%) or to fulfilling their family responsibilities (55-87.3%).

Regarding physical effort necessary to perform this task, 54 (85.7%) elders disagreed

that physical activity causes fatigue, because they do not feel tired during this practice (55 to 87.3%). Moreover, 57 (90.5%) did not consider such activity as difficult.

Many respondents reported being encouraged to engage in physical activities, both by their spouses or another important person to them (31-49.2%), and by other family members (38-60.3%).

Table 2. Distribution of the main barriers perceived by institutionalized elders to the practice of physical activities, according to the EBBS. Fortaleza-CE, 2007.

	Strongly agree		Agree		Disagree		Strongly disagree	
	n	%	N	%	n	%	n	%
Domain “exercise and environment”								
9. Places for practicing physical activity are far away	01	1.6	01	1.6	29	46	32	50.8
12 I feel ashamed to practice physical activity	02	3.2	03	4.8	11	17.5	47	74.6
14. Practicing physical activity is costly	02	3.2	02	3.2	17	27	42	66.7
27. I think that the clothes worn for practicing physical activities overexpose the body (n=62)	03	4.8	01	1.6	25	39.7	33	52.4
41. There are only few places for practicing physical activity	04	6.3	05	7.9	36	57.1	18	28.6
Domain “time for practicing physical activity”								
4. Practicing physical activity requires too much time	05	7.9	04	6.3	24	38.1	30	47.6
16. There are no convenient times for practicing physical activity	03	4.8	05	7.9	19	30.2	36	57.1
23. Practicing physical activity compromises the time allocated to being with the family	05	7.9	01	1.6	19	30.2	38	60.3
36. Practicing physical activity compromises the time allocated to fulfilling family responsibilities	07	11.1	01	1.6	18	28.6	37	58.7
Domain “physical effort”								
6. Physical activity causes fatigue	05	7.9	04	6.3	24	38.1	30	47.6
19. Practicing physical activity makes me feel tired	03	4.8	05	7.9	19	30.2	36	57.1
39. Practicing physical activity is difficult	05	7.9	01	1.6	19	30.2	38	60.3
Domain “family encouragement”								
21. My spouse or those persons important to me do not encourage me to practice physical activities (n=61)	12	19	18	28.6	15	23.8	16	25.4
32. My family does not encourage me to practice physical activities (n=62)	08	12.7	16	25.4	22	34.9	16	25.4

DISCUSSION

The quest for a healthy lifestyle behavior, especially with regard to physical activity, is influenced by many aspects. Thus, it should be considered in its multidimensionality, since it experiences interferences related to gender, education, age, self-concept, socioeconomic status, time availability and culture.¹² Therefore, it is important to analyze these aspects in order to identify the views of a certain population.

The analysis of the first variable showed a higher proportion of elders belonging to the age group 70-79 years, followed by those in the age group 60-69 years. These findings stand in opposition to an epidemiological study conducted in the city of Fortaleza, in which they found a higher number of elders belonging to the age group 60-69 years (53%).¹³ This is similar to the situation found in Brazil (55.1%).¹

Population aging is a natural, irreversible, worldwide phenomenon. The elderly population is growing rapidly and in proportional terms. Within this group, “older elders” (over 80 years of age) are also increasing proportionately and in a more accelerated manner. They constitute the fastest growing population segment in recent years.¹

In Fortaleza, elders aged 80 and over account for 13% of the population. The female population is nearly three times bigger (74.6%) than the male one (25.4%), which confirms the information that women live longer than men.

The male life expectancy is 69.4 years and the female is 77 years.^{13,14}

Although there is a greater number of female elders in Brazil, the institutionalized elders in the investigated sample were predominantly males. Contrary to reality exposed in this study, nationwide, there are 3549 institutions for the elderly population and most of their residents are women.¹⁵

The investigation of the social, demographic and economic variables also showed a high percentage (43.9%) of elders who reported not knowing how to read and write. According to the National Household Sample Survey, there are still high rates of illiteracy among the Brazilian population aged 60 years or over: 32.2% cannot read and write, and 51.7% are functionally illiterate (they have less than 4 years of schooling). The national average of schooling years for the elderly population is 4.2 years. The average for the Northeastern population is the lowest (2.7 years) and it is the highest (6.6 years) for the population living in the Federal District.¹⁴

It is noteworthy that low education levels may represent a risk factor for dementia, suggesting some sort of cognitive reserve for those groups who have a higher educational and occupational history.¹⁶

Low educational levels also limits the enjoyment of cultural goods and prevents the achievement of a good professional career, reduces wages and the capability of defending one’s rights. This constitutes one of the main causes of social exclusion. Therefore, the analysis of the low per capita income of the

elderly population can be understood as a reflection of low educational levels and consequent economic constraints. In Brazil, about 45% of elders have a per capita income of up to 1 minimum wage, and 11% have a household income lower than half minimum wage.¹⁴

The discussion of the marital status of institutionalized persons is another important aspect to be considered, because it may be related with an increased demand for these facilities as well as a higher incidence of depression. The data found depict this situation, since only 3 (5.3%) elders in this study were married. Residents of long-term care facilities are expected to be widow/er or divorced. They are usually sent to these institutions because they are no longer able to continue living alone after the death of or separation from their companion. This also occurs with unmarried elders, who often have no children to help in their care.¹⁷

Regarding the independence of the elderly population, the preservation of the ability to ambulate gains physical and mental representations resulting in the ability to care of oneself and perform one's daily activities. Given this statement and the data previously presented, we found that most elders (54 or 94.7%) were able to walk independently and without using walking-aid devices. Despite this positive finding, the occurrence of falls represented a serious problem, given the fact that nearly 50% of elderly patients experienced at least one fall recently.

The prevalence of falls found in this study was high when compared to the findings of the national literature. In Brazil, approximately 28% to 35% of people over 65 years of age suffer falls each year, and this proportion reaches 32% to 42% among people over 70 years of age. The frequency of falls increases with age and higher levels of fragility. Elders who live in nursing homes usually fall more often than those who live in the community. Approximately 30% to 50% of people who live in long-term care facilities suffer falls each year and 40% of them experience recurrent falls.¹⁸

A study conducted in Pelotas found, for the same outcome, a value of 33.5% among institutionalized elders. It is known that falls can be fatal in this age group, because normal physiological changes associated with aging impair recovery. A fall can mean a global deterioration point in the health status of elders and increase the risk of death from secondary complications.¹⁹

Besides causing a significant loss of autonomy and quality of life of the elderly

population, falls may also result in the need for special care. The routine of the elder is thus entirely changed due to recovery or readaptation.²⁰ A sedentary lifestyle is highlighted as one of the main behavioral risk factors for the high frequency of falls. The practice of physical activity may help elders stay independent for a larger period of time and contribute to reducing the risk of falls.^{18,21}

Although health professionals working in the studied institution are aware of the many benefits of active aging, 23 (40.4%) elders reported never having received any information about the practice of physical exercises. Nurses and physicians were cited by those elders who have benefited from such guidance as the main sources of information.

Long-term care facilities need to have a trained, multidisciplinary team, capable of providing proper care and assuring a satisfactory quality of life to elderly residents. In this context of care, the assistance especially provided by the gerontological nursing staff, integrates efforts in order to limit the development of chronic diseases, including the promotion of physical activity, the control of co-morbidities and the maintenance or recovery of functional independence through the performance of self-care during daily living activities. All this should be done with the aim of achieving an active and independent aging process, with well-being and quality of life.²²

Although most institutionalized elders in our study practiced physical activity (34-59.6%), a study conducted with 30 institutionalized elders found that more than half of them did not practice regular physical activity and had no intention to start practicing it within 6 months.⁶ In this case, it is likely that institutionalization is related to cognitive decline and low levels of physical activity.²³

A study conducted with 79 non-institutionalized elders in a midsize city of São Paulo found that 64.6% of them did not practice physical exercises and only 22.8% performed this practice regularly for more than 6 months.²⁴

With regard to the EBBS domain "physical exercise and environment", most elders did not consider distance, shyness, costs or clothing used in practice as barriers to the practice of physical activity. However, in a study conducted with 30 institutionalized elders in Rio Claro, the most perceived barriers were: illness, safety in the environment and money. The less perceived barriers were: shyness, time, clothing/equipment, abandonment, being too

fat or too thin, energy and the belief that physical activity is unhealthy.⁶

The elderly respondents disagreed that there are few places for practicing physical activity. This may be due to the existence of a project called “Health, Firefighters and Society”,^[66] developed by the Firefighters Department of Ceará since 2003, serving more than 60 million people in 317 offices across the state. This project offers physico-occupational, socio-cultural and enlightenment activities related to health and well-being.²⁵ Moreover, due to the fact that the elders practice physical activity in the own facility, most of them agreed that this practice does not require much of their time and thus do not compromise the time needed for fulfilling family responsibilities. This fact may also be related to the dynamic involved in the decision of sending and keeping elders to and at long-term care facilities, since many families look for a nursing home for their elders to live because they consider it as a place that provides care, companionship, where elders can live together with and socialize other residents. However, family and emotional ties are not always maintained only through visits.²⁶

The current family dynamics often excludes elders due to nucleated families, to ever smaller physical spaces, to the entrance of women in the labor market - which led to their leaving their children in childcare and their elders in long-term care facilities. These factors contribute to making the elder who lives in these institutions become an unmotivated person who does not wish to live, and has no expectations and hopes of returning to the family environment.²⁷

Study conducted in Curitiba (PR) with 17 elders revealed that perceived barriers to the practice of physical activity may vary with respect to various factors, including gender, socioeconomic status and age. Furthermore, it was revealed that demographic and biological (33.9%) and psychological, cognitive and emotional (29.7%) barriers are more pressing among those with higher socioeconomic status, whereas among those who have lower socioeconomic status the most prevalent barriers were related to environmental aspects (45.6%).²⁸

In Rio Claro (SP), the most perceived barriers to physical activity among the 129 participants were: disease (52%), need for rest (47%), lack of persistence (46%), and finding themselves sufficiently active (41%).²⁹

In a medium-sized city in São Paulo state, a study conducted with 79 elders found that 64.6% of them did not practice physical

activities and only 22.8% regularly performed this practice for more than 6 months. The authors emphasized the need to develop specific strategies for the elderly population and for different stages of behavior change, in order to minimize barriers. This may help find the most effective ways to encourage behavior change, encouraging an active lifestyle among elders.²⁴

The elderly population, like populations of other age groups can greatly benefit from physical activity. Practicing physical activities improves bone mineral density, strength, joint flexibility, blood glucose, lipid profile, self-esteem and self-confidence of elders. It also helps control body weight, blood pressure, lung function, equilibrium and gait. Moreover, it allows them to be less dependent for the performance of activities of daily living and helps to reduce the incidence of falls, anxiety and depression.⁶

It is suggested that morbidity and mortality associated with chronic diseases could be reduced with prevention, including changes in lifestyle, especially with regards to diet and physical activity. Thus, this has been widely used as a strategy to improve the quality of life of the elderly population, reducing physical, social and psychological changes. It is essential that elders are encouraged to practice physical activity by health professionals and family members, especially if they live in long-term care facilities.³⁰

CONCLUSION

Among the majority of the elderly, aspects related to exercise and environment, time for physical activity, physical effort and family encouragement did not represent barriers to the daily performance of this practice. This may be due to the fact that regular physical activity is practiced in a place next to the institution as well as in the institution, which functions as a training field for various courses and universities, including for courses related to physical activity.

We found that, among the aspects investigated, the items which were perceived as the greatest barriers by the elderly population were those related to the encouragement received from their spouses or people important to them to engage in physical activities, possibly due to the weakening of family ties, commonly associated with institutionalization.

Furthermore, being aware of the possible existence of barriers to the practice of physical activity among institutionalized elders, it is fundamental that nurses encourage the elderly population to

periodically perform such practice. Educational interventions can be implemented in order to sensitize these population about the importance of physical activity due to social as well as physical and psychological aspects.

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