

94 - THE INFLUENCE OF PHYSICAL EXERCISE IN DEPRESSIVE SYMPTOMS OF THE ELDERLY: A SYSTEMATIC REVIEW

MARIANE DOS SANTOS SILVA BRITO;
ANDREIA DE SOUSA COSTA;
ANTONIO CARLOS LEAL CORTEZ
antoniocarloscortez@hotmail.com

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INTRODUCTION

According to estimates of the United Nations report (2000), in 2050 one fifth of the world population will be 60 or older, and of these, 19% will have aged 80 years. From the point of view of health, this change in the age structure is directly related to the epidemiological transition, characterized by changing the morbidity and mortality profile before marked by the high prevalence of communicable diseases to the predominance of chronic degenerative diseases and caused by external factors, and its complications. What often means greater demand for the use of health services - drugs, doctor visits and hospital admissions for long, resulting thus in higher expenses (BERENSTEIN; WAJNMAN, 2008).

Among the several factors affected the elderly, mental health deserves special attention. Mental disorders have incapacitated elderly worldwide, for cause loss of independence and consequently autonomy. The most prevalent disorders are depression and dementia that affect 20% of the elderly population (ABBOTT et al., 2004). Depressive disorders and anxiety are changes that occur quite frequently in the elderly and is considered the major causes of emotional distress and diminished quality of life due to its morbidity and mortality, constituting a major problem for public health (MINGHELLI et al., 2013).

Physical activity should be maintained regularly throughout life for the individual to take advantage of the improved quality of life and increased longevity, thus rehabilitating interventions should be scheduled so as to meet the needs of each individual (CARDOSO, 1992; FRIES, CRAPO, 1981; MARIN-NETO, 1995; MCARDLE et al., 1992). In addition, exercise brings a good level of biopsicofísico welfare, because of a greater social contribution, contributing to an improvement in quality of life (BROGAN, 1981; CARDOSO 1992). The psychological benefits provided by physical activity are widespread by health professionals, researchers and others, demonstrating the social and academic importance of the topic. Thus this study aimed to investigate, through a systematic review, the influence of exercise on depressive symptoms among elderly people.

DEVELOPMENT

Articles have been researched that evaluated the influence of physical exercise on depressive symptoms among elderly people, physical activity and depressive symptoms in the elderly, being included in this work original studies and review, as well as monographs, published from 2003-2014 in Portuguese and English. The studies in children, adolescents and adults were excluded.

The search for articles was held in database SciELO, LILACS and BIREME using four sets of intersecting terms of bibliographic search: the elderly, physical activity, exercise and depression. They were also searched the reference lists of included articles, based on the titles and abstracts of articles and rejecting those that did not meet the inclusion criteria or had any of the exclusion criteria.

It was held narrative summary of selected studies showing the relationship of physical exercise on depressive symptoms of elderly physical activity and depressive symptoms in the elderly. The number of subjects in each study ranged 16-1656 seniors aged 60 to 80 years, with a predominance of females.

RESULTS AND DISCUSSION

The descriptive strategy enables locate 75 articles on the thematic studied, 10 of them revisions and 2 monographs. In the end, 14 articles of original studies were included in this study and analyzed according to the table (01).

In relation to the proposed objectives in the studies we see that (50%) evaluated the effect of Exercise in Depressive State of Elderly and (50%) have established an association between level of physical activity and depressive symptoms in elderly. The studies included in the review were mainly designs (type of study) (37.7%) Study Type Cross / longitudinal, with (28.6%) identified as intervention studies, it is noteworthy that the rest (37.7 %) did not address the type of study using the research. Regarding the results of the studies, we have identified 100% of the same positive responses as regards the influence of exercise in improving depressive state elderly, as shown in table (1).

Table 1 - Methodological characteristics of the selected studies on influence of physical activity on the state of depressed elderly, 2003-2014.

AUTHOR / YEAR	OBJECTIVE	TYPE OF STUDY	SAMPLE	PLACE AND TIME DURATION OF STUDY	RESULT
GROPPÓ et al., (2012)	The aim of the study was to analyze the effects of an exercise program on depressive symptoms and perception of quality of life (QOL) of patients with Alzheimer's disease (AD) and their caregivers.	Intervention Study	The final sample, therefore, had 12 participants with an average age of 79.25 ± 7.23 years and average schooling of 8.33 ± 2.99 years.	Rio Claro, SP, Brazil - (24 weeks)	The results showed that the proposed program can assist in reducing depressive symptoms in patients with AD, but did not promote significant improvement in the perception of QV of these patients nor their caregivers. However minor compromises the perception of quality of life were observed in patients and caregivers who were physically active
CHEIK et al., (2003)	The aim of the study was to investigate the influence of exercise and physical activity on psychological aspects (indicative rates for depression and anxiety) in the elderly.	Intervention Study	They selected 54 healthy elderly (66.85 ± 4.42 years) of both sexes.	-	The results revealed that the sports group achieved significant satisfactory rate of reduction in depression scores (Inventory Beck), from light to normal and on the indicative rates for anxiety (Idate, trait and state) and the data demonstrated low in all groups. The results suggest that regular physical exercise oriented to physiological parameters, can contribute to the reduction of the scores for depression and anxiety in people over 60 years.

DOMINGUES, NERI (2009)	Analyze relations between the types and level of physical activity in the last twelve months, somatic diseases and self-reported symptoms and depressive symptoms in elderly people of different age groups and income recruited from the community.	-	There were 144 elderly (M=71,2, SD = 6.65), 94.4% women, who go to a center of coexistence.	The state of São Paulo.	The prevalence of depressive symptoms was 33.3%; 49.3% of seniors reported having three or more diseases and 43.7% were active. The group of 60 to 69 years showed a higher frequency of active and total scores and higher sports. Seniors who scored above the cutoff score (> 11) for depressive symptoms had a higher number of diseases, the greater frequency of depression and more self-reported somatic symptoms. In multivariate analysis, be between 60 and 69 years, presenting intermediate or low score in sports activities and to report three or more diseases have proven to be predictive of depressive symptoms.
BENEDETTI et al., (2008)	To evaluate the association between physical activity level and mental health status of elderly people.		The sample consisted of 875 elderly people, 437 men and 438 women.	Florianópolis, Santa Catarina. Data collection was carried out from August to December 2002.	There was a statistically significant inverse associations between dementia and depression with total physical activity and leisure physical activity. The odds ratio adjusted for dementia among sedentary subjects for total physical activity compared to assets was 2.74 (95% CI: 1.85; 4.08), while the respective value for depression was 2.38 (CI 95%: 1.70; 3.33).
MACHADO et al., (2013)	This study aimed to investigate the association between trend and depressive state, level of physical activity (PA) and health perception in the elderly.	Correlational cross-sectional study	Sample not probabilistic for accessibility, was comprised of 352 elderly people (314 women and 38 men).	Care Center Senior Citizens (CATI) of St. Joseph -SC-Brazil. Data collection was in the period from March to July 2009.	The results reinforce the elderly, for the most part, are insufficiently active. Men perceive their health more positively than women and it seems that this perception of more positive health tends to decrease the tendency to depressive state.
REICHERT et al., (2011)	Evaluate the relationship between physical activity and depressive symptoms in community-dwelling elderly.	Transversal population-based study	379 elderly.	Novo Hamburgo-RS, Brazil.	A tendency to lower prevalence of depressive symptoms in individuals with higher levels of physical activity in the sample as a whole and among men but not among women was observed ($p = 0.04$, 0.03 and 0.36, respectively). The odds ratio for the presence of depressive symptoms in very active group compared to the insufficiently active group, was 0.32 (95% CI: 0.12 to 0.86) for men and 0.76 (95% CI: 0.39- 1.46) for women.
GABRIEL, POZZONBON (2013)	This study aimed to evaluate the effects of physical activity in relation to depression and quality of life in the elderly.	Explanatory and experimental research	The sample consisted of 40 individuals over 60 years of age, of both sexes.	-	For depression, the practitioner group has a lower index without depression than the group of non practitioners. The analysis of the quality of life showed that this was better in the group practitioners, being statistically significant in the environment areas ($p = 0.043$) and psychological ($p = 0.007$).
CORAZZA (2005)	To investigate the effect of a regular program of physical activity on depressive symptoms and level of physical activity in institutionalized elderly.	Intervention study	The study included 43 elderly of both sexes.	Rio Claro - SP (for 6 months)	Interaction was found between groups and movements also being observed moderate and significant correlation between the variables. Only the GAF and the GCS had a positive influence on depressive symptoms, while the GCT showed an increase of the same. For physical activity only the GAF showed an increase.
MELO et al., (2014)	Compare different interventions with physical exercises on QoL and depressive symptoms in depressed elderly.	Study with longitudinal design	They selected 52 elderly patients with major depression.	Rio de Janeiro - RJ, (for 3 months)	This study showed that both the TA and the TF with moderate intensity can contribute to the reduction of depression symptoms and improve quality of life, especially the physical aspects. And yet, that such changes may be dependent on physiological aspects caused by exercise, not only for social contact.
MAGALHÃES (2009)	Check the ratio of index levels of depression among elderly who practice physical exercises, participating in social gatherings and who do not do any of these activities.	With qualitative approach and is characterized as descriptive	The sample consisted of 30 elderly men and women were divided into three groups.	Porto Velho	These results suggest that the elderly should physical exercise to avoid depression, since among the studied population, what practical exercise was the one with lowest index to have depression.

According to articles studied were used five instruments that assessed the level of physical activity in the elderly, and (50%) of these studies used regular Physical Activity Programs; (21.4%) used the International Physical Activity Questionnaire (IPAQ); (14.4%) used the Baecke Questionnaire; (7.1%) Bruce Protocol; and the remaining (7.1%) used the SF-36 questionnaire - "The Medical Outcomes Study 36 - Item Short Form Health Survey", as shown in the table (2).

Table 2 - instruments used to assess the level of physical activity of the elderly.

Tools	N	%
Questionnaire of Baecke	2	14,4
International Physical Activity Questionnaire (IPAQ)	3	21,4
Bruce Protocol	1	7,1
Questionnaire SF-36 – "The Medical Outcomes Study 36 – Item Short Form Health Survey"	1	7,1
Physical activity program *	7	50

* We used that term for studies that did not specify the instrument used to assess the level of physical activity.

According to the instruments used to assess depressive state of elderly in the selected articles, we can point to 07 types of instruments, and one study used two different instruments it being the Scale Hamilton Depression. (33.1%) of these studies used the Geriatric Depression Scale Yesavage; (20%) of them used the Fitarone scale; (20%) Inventory Beck; (6.7%) Quiz Brazil Old Age Schedule (BOAS); (6.7%) a Adapted Depression Scale Stoppe and Louzã; and (6.7%) Scale for Depression in geriatrics; (6.7%) the Hamilton Depression Rating Scale, table (3).

Table 3 - Instruments used to assess depressive state of elderly.

Tools	N	%
Questionnaire Brazil Old Age Schedule (BOAS)	1	6,7
Geriatric Depression Scale of Yesavage	5	33,1
Scale to measure depression Fitarone	3	20
Adapted depression scale Stoppe and Louzã	1	6,7
Geriatric Depression Scale (GDS)	1	6,7
Hamilton Depression Rating Scale	1	6,7
Inventory Beck	3	20

According to the census of 2010 IBGE (2011), the Brazilian population today is 190,755,199 million inhabitants, of which 51% are equivalent to 97 million women and 49% are equivalent to 93 million men. The number of elderly people, which, according to the National Policy for the Elderly and the Elderly Statute, which has aged 60 years, is 20,590,599 million, or

approximately 10.8% of the total population. Of these, 55.5% (11,434,487) are women and 44.5% (9,156,112) are men. Aging brings as one of its consequences the gradual decrease in functional capacity, which is progressive and increases with age. Thus, functional disability and dependence, which lead to restriction / clumsiness or difficulty / inability to perform activities of daily living are the biggest health adversities associated with aging. These difficulties are caused by physical and cognitive limitations, and can be determined by a number of specific indicators, including the presence of physical and cognitive deficits (GUIMARÃES; CUNHA, 2004; FREITAS et al., 2006).

According to Avila (2012) one of the most common psychiatric disorders in the elderly it is depression, note that it is a disease to be present more often in the elderly, should not be confused with sadness and is sometimes inserted chronic degenerative diseases . Depression is not the natural aging process, is a chronic disease that should be treated accordingly. Among the elderly, this can be considered for clinical aspects, an example of atypical and specific illness. Bottino (2003) adds that depression in the elderly is considered a multifactorial process that is triggered by different aspects: social, psychological, cognitive and physical.

Thus become difficult diagnosis and treatment of these patients, which suggests the association of different character pharmacological treatments and non-pharmacological. Zanini (2010) defines depression as a disease of high incidence among the elderly, due to their own perception of their increasing physical disability, in addition to the weakening of their cognitive powers (especially the memory) and concrete losses, as friends, relatives, economic status and work opportunities). In this context, the National Statistics Institute (2011) adds that between the years 2005 and 2006, 183,428 elderly had or had already presented levels of depression.

Regular physical activity should be considered as an alternative non-pharmacological treatment of depressive disorder, for representing low cost, be accessible and prevent functional decline in the elderly. Exercise has important contributions, especially when associated with psychopharmacological treatment of depression, aiding in the recovery of self-esteem and self-confidence (Matsudo, 2001). Physical activity can be conducted in a fun and enjoyable way; encouraging friendship and solidarity; contributing to a better control of its own existence; may be practiced throughout life; improving the health and well-being (PINTO, 2009).

FINAL CONSIDERATIONS

Given the above, we can conclude according to the results shown in this review that physical exercise contributes significantly in reducing depressive symptoms in the elderly and in reducing scores for depression (from light to normal) and anxiety as the scores for depression. It is noteworthy also that regular physical exercise helps in significant reduction in depressive symptoms in patients with symptoms of Alzheimer's. It is emphasized positive and inverse statistical association with regard to the state of dementia and depression in regular exercise practitioners. In addition it was found that strength training and aerobic training, enabled significantly improved physical and mental well-being, increasing the self-esteem of individuals over 60 years.

Thus is public knowledge that the regular practice of physical exercises, contributes significantly in preserving the mental health of older people, therefore, it is important to create strategies within health programs, aimed at raising the level people's activity, in order to contribute directly and indirectly in vital sectors gains for human development and economic progress, given a state of healthy aging, concerned with the promotion and maintenance of health and quality of life this population, in favor of physical and mental functionality.

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MARIANE DOS SANTOS SILVABRITO - Endereço: RUA SÃO SEBASTIÃO, 4281 Bairro: PARQUE ALVORADA
Cidade: TERESINA/PI País: BRASIL - CEP: 64004400

THE INFLUENCE OF PHYSICAL EXERCISE IN DEPRESSIVE SYMPTOMS OF THE ELDERLY: A SYSTEMATIC REVIEW

ABSTRACT

This study aimed to investigate through a systematic review, the influence of exercise on depressive symptoms among elderly people. Original and review articles related to the topic, published in English and Portuguese, published between 2003 and 2014 selected in the databases SciELO, PubMed, Science Direct and BIREME, using four sets of intersecting terms of bibliographic search, elderly, physical activity, exercise and depression. The results found through research made it possible to locate 75 articles on the thematic studied, 10 of them revisions and 2 monographs. In the end, 14 articles of original studies were included in this study, analyzed and entered into a table. The results found in studies found that 100% of the studies had positive responses regarding the influence of physical exercise on the improvement of the depressive state of elderly. We can conclude according to the results shown in this review, that physical exercise contributes significantly in reducing depressive

symptoms in the elderly and in reducing scores for depression, and the regular physical exercises helps in preserving mental health the elderly.

KEYWORDS: Elderly. Physical exercise. Depression.

L'INFLUENCE DE L'EXERCICE PHYSIQUE DES SYMPTÔMES DÉPRESSIFS DES PERSONNES ÂGÉES: UNE REVUE SYSTÉMATIQUE

RÉSUMÉ

Cette étude visait à étudier par un examen systématique, l'influence de l'exercice sur les symptômes dépressifs chez les personnes âgées. Les articles originaux et d'examen relatifs au sujet, publié en anglais et en portugais, publiés entre 2003 et 2014 sélectionné dans les bases de données SciELO, PubMed, Science Direct et BIREME, en utilisant l'aide de quatre ensembles de intersection termes de recherche bibliographique, personnes âgées, l'activité physique, l'exercice et la dépression. Les résultats trouvés par la recherche ont permis de localiser 75 des articles sur la thématique étudiés, 10 d'entre eux révisions et 2 monographies. En fin de compte, 14 articles d'études originales ont été inclus dans cette étude, analysés et entrés dans une table. Les résultats observés dans les études a constaté que 100% des études avait des réponses positives quant à l'influence de l'exercice physique sur l'amélioration de l'état dépressif des personnes âgées. Nous pouvons en conclure, selon les résultats présentés dans cette étude, que l'exercice physique contribue de manière significative à réduire les symptômes dépressifs chez les personnes âgées et dans la réduction des scores de dépression, et les exercices physiques réguliers contribue à la préservation de la santé mentale les personnes âgées.

MOTS-CLÉS: personnes âgées. Exercice. Dépression.

LA INFLUENCIA DE EJERCICIO FÍSICO EN SÍNTOMAS DEPRESIVOS DE LAS PERSONAS MAYORES: UNA REVISIÓN SISTEMÁTICA

RESUMEN

Este estudio tuvo como objetivo investigar a través de una revisión sistemática, la influencia del ejercicio sobre los síntomas depresivos entre las personas mayores. Artículos originales y de revisión relacionados con el tema, publicado en Inglés y Portugués, publicados entre 2003 y 2014 seleccionada en las bases de datos SciELO, PubMed, Science Direct y BIREME, mediante el uso de cuatro conjuntos de intersección términos de búsqueda bibliográfica, ancianos, la actividad física, el ejercicio y la depresión. Los resultados encontrados a través de la investigación han permitido localizar 75 artículos sobre la temática estudiada, 10 de ellas revisiones y 2 monografías. Al final, 14 artículos de los estudios originales fueron incluidos en este estudio, analizaron y entraron en una mesa. Los resultados encontrados en los estudios encontró que el 100% de los estudios tuvo respuestas positivas con respecto a la influencia del ejercicio físico en la mejora del estado depresivo de la tercera edad. Podemos concluir de acuerdo a los resultados que se muestran en esta revisión, que el ejercicio físico contribuye significativamente en la reducción de los síntomas depresivos en los ancianos y en la reducción de las puntuaciones para la depresión, y los ejercicios físicos regulares ayuda en la preservación de la salud mental los ancianos.

PALABRAS CLAVE: Ancianos. Ejercicio físico. Depresión.

A INFLUÊNCIA DO EXERCÍCIO FÍSICO NOS SINTOMAS DEPRESSIVOS DE IDOSOS: UMA REVISÃO SISTEMÁTICA

RESUMO

O referido estudo teve como objetivo principal investigar através de uma revisão sistemática, a influência do exercício físico nos sintomas depressivos de idosos. Artigos originais e de revisão relacionados com o tema, publicados em inglês e português, publicados entre 2003 e 2014, selecionados nas bases de dados SciELO, PubMed, Science Direct e BIREME, utilizando-se quatro conjuntos de intersecção de termos de busca bibliográfica, idosos, atividade física, exercício físico e depressão. Os resultados encontrados através da pesquisa, possibilitou localizar 75 artigos sobre a temática estudada, sendo 10 deles revisões e 2 monografias. Ao final, 14 artigos de estudos originais foram incluídos neste trabalho, analisados e inseridos em uma tabela. Os resultados encontrados nos estudos identificaram que 100% dos estudos tiveram respostas positivas no que se refere à influência do exercício físico na melhora do estado depressivo de idosos. Podemos concluir de acordo com os resultados evidenciados nessa revisão, que o exercício físico contribui de forma significativa na redução dos sintomas depressivos em idosos, bem como na redução dos escores para depressão, sendo que a prática regular de exercícios físico contribui na preservação da saúde mental dos idosos.

PALAVRAS-CHAVE: Idosos. Exercício físico. Depressão.