49 - MOTOR DEVELOPMENT LEVEL EVALUATION IN ELDERS WHO ATTEND THE UNIVERSITY UNIEVANGELICA

JAIRO TEIXEIRA JÚNIOR[1,2,3]
PAULO JORGE DE SOUZA FILHO[1,3]
FELIPE SILVA PAINS PAMPLONA[1,3]
CRISTINA GOMES DE OLIVEIRA TEIXEIRA[1,2,3,4]
WILLIAN ALVES LIMA[1,3]
1. UniEVANGÉLICA - University Center in Anapolis, Goias, Brazil
Funding Agency: FUNADESP - National Foundation for the Development of Private Higher Education.
2. Medicine Course – UniEVANGÉLICA
3. PHYSICAL EDUCATION– UniEVANGÉLICA
4. Federal Institute of Education, Science and Technology-Campus Goiania Goias.
Financial support: UniEVANGELICA- University Center in Anapolis, Goias, Brazil
Institutional Program for Scientific Initiation Scholarship (PIBIC)
jairojuniorteixeira@hotmail.com

INTRODUCTION

The contemporary era can be characterized by various historical, philosophical, economic, political and social transformations. However, the most prominent social phenomenon is the rapid increase of the elderly world population (VERAS, 2009; ALENCAR and CARVALHO, 2009; CAMARANO and Kanso, 2009).

The aging world population is a new event for some countries, which before was a phenomenon that occurred with higher incidence in European countries and they are still adapting to it, today happens basically in every country. It is important to remember that aging differs substantially in developed and underdeveloped countries, the life expectancy increase in Europe was already perceived due to important achievements in the medical field, which showed results in the effective treatment of tuberculosis, reducing deaths in England in 1855, while in third world countries, the substantial increase in life expectancy was only observed after 1960 (Kalache et al., 1987).

Etchepare et al. (2003) says that the increase of people's life expectancy occurs because of the advance of science and medical-sanitary conditions, and therefore, it is expected that this progress is likely to increase considerably the number of elderly people in the country. Consequently, it is essential to have a good maintenance of muscle and bone mass, especially in seniors, which tend to have a physical fitness loss and as a result a health loss too. This maintenance will provide to the elderly greater conditions to remain productive and performing their daily tasks normally.

Raffone and Hennington (2005) discuss the effect of the aging of the workforce, which will certainly bring important changes in society that will have an impact on different areas. With the impact of the aging population, there is a concern about motor development, which is emerging as a new focus on estimating the health of the elderly. The increase in the number of people aged over 60 years generates a higher onset probability of chronic diseases, and also the development of age-related disabilities (IBGE, 2008; LIMA and BUENO, 2009).

Therefore, the functional aging is understood as the loss of functional capacity, in other words, to work and do their own maintenance, and that can be noticed before the chronological aging. Recent studies have shown that promoting work ability decreases motor development disability and early retirement (RAFFONE and Hennington, 2005).

Motor development involves the movements, the changes in a person's motor behavior. These movements are acquired throughout life. This continuous change in behavior occurs due to the interaction between the needs to accomplish a task, the individual's biology and the environment, characterizing a dynamic process in which motor behavior arises from several restrictions related to behavior (GALLAHUE and OZMUN, 2005; Barela, 2001 ; MANOEL, 2000).

The improvement of motor development is being treated as a new standard of health for the elderly, since factors such as disease, lack of autonomy, cultural factors, socioeconomic and lifestyle undertake the functional capacity of the individual for failing to preserve or to improve motor capacity, compromising thus the well-being and a healthy aging process (VIVIAN and ARGIMON, 2009).

Fiedler and Peres (2008) emphasize that it is essential to evaluate the elderly motor development and this factor needs to be a part of the clinical evaluation, thus serving as a tool for health intervention through actions that can delay the disabilities onset, providing the elderly with a better quality of life.

OBJECTIVE

This research focused on evaluating and identifying whether or not the motor development was satisfactory according to the chronological age of the elderly women attending. The specific objectives were to evaluate fine motor skill, gross motor skill, balance, body schema, temporal organization and spatial organization in elderly between 60 and 75 years old.

METHODOLOGY

It was a positivist research with a quantitative approach, of descriptive nature, with the purpose of describing and registering the observed and analyzed events in order to correlate the facts without manipulating them (TRIVIÑOS, 1992).

Data collection included 40 elderly women attending the University Center of UniEVANGÉLICA in Anapolis, Goias, who were aged between 60 and 75 years. Inclusion criteria: the elderly women should be physically inactive regarding the systematic practice of physical activity; could not have joint pathologies that could compromise the tests; Parkinson's disease; Alzheimer's disease or any other disease that could imply in physical or mental limitation that could prevent achieving the study procedures. All of them also signed a consent form, which informed them the entire procedure that would be performed, including the fact that they could give up on the test at any time during the data collection.

The protocol used was the Motor Scale for the Elderly (EMTI) from Rosa Neto (2009), which included motor tests following these scales: Fine motor skill - requires visualmanual coordination, that combines the coordination of hands / vision / object, and works with small muscles in complex activities. Gross motor skill - which analyzes the motor movements coordinated by large muscle groups, less complex and dynamic bodily movements. Balance –verifies the body's ability to maintain postures, positions, offsets and cancels out all the different forces acting on the body. Body schema - informs the individual's body conscience, the knowledge of his/her own body and the ability to organize the body parts to perform tasks. Temporal organization

- refers to the perception of time according to the knowledge of the order and duration of events. Spatial organization - that tests the perception of the body as the space that surrounds it, with an interaction between the individual and the environment.

the data analysis was performed using descriptive statistics as mean, standard deviation, absolute and relative frequency. A risk test was also carried out to identify the relative risk of low physical fitness. The significance adopted was $p < 0.05$. For this, we used the Statistical Package for the Social Sciences (SPSS) for Windows, version 17.0.

RESULTS AND DISCUSSION

It can be seen in Table 1 that age was the only variable that did not show and statistic difference, which is very important to emphasize the homogeneity of the group on this variable, since with advancing age there is a bigger tendency to lose motor skills, as stated by NETTO (2007). In all other motor variables assessed, the elderly were significantly lower than expected for their chronological range.

For the rating scale score of overall motor fitness of Rosa Neto (2009), shown below, it was considered: that 69 points or less classified as "much lower", 70-79 "low"; 80-89 "low normal ", 90-109" medium normal ", 110-119" high normal ", 120-129" high "and over 130" much higher ".

Tabela 1: Comparison between age and motor characteristics of the sample of sedentary elderly.

Variables	Physical Condition	n	Average	± SD	p
Age	Sedentary	40	67,74	5,44	0,86
Fine motor skill	Sedentary	40	68,97	26,28	0,001
Gross motor skill	Sedentary	40	68,87	28,32	0,001
Balance	Sedentary	40	64,78	27,52	0,003
Body schema	Sedentary	40	68,89	21,86	0,001
Spatial Organization	Sedentary	40	65,33	17,69	0,001
Temporal organization	Sedentary	40	66,55	29,41	0,001
General motor fitness	Sedentary	40	69,00	14,96	0,001

In which: n = number of individual in the sample; SD = standard deviation; p = probability of accepting the null hypothesis.

As noted there was significant difference between all components of the motor scale (Table 1), and were rated on average as "much lower." Showing the difference that a sedentary life for the elderly. This study is supported by (DOMENICO DI and SCHÜTZ, 2009; MAZO et al., 2001) who found similar results. Launstein (2006) also states that physical exercise, especially resistance exercise, is to increase muscle mass, bone density, improving the individual's motor performance and as a consequence improves the daily activities of the elderly, making them more secure and independent about their attempts. This was not found in this study due to elderly inactivity.

It can be seen that over the years the weakness of the muscles can increase until an elderly person has difficulty or can no longer perform common activities of daily living, such as household chores, get out of bed, sweep the floor, put the garbage out, lifting objects, climbing stairs or even walking (Teixeira, et al. 2012). In the study by Peter and Amorin (2008) in which the goal was to compare mass and muscle strength among elders who practice or not weight lifting, the practitioners showed better balance and strength to perform daily activities. Dias et al. (2006) made a revision based on PUBMED and LILACS about benefits of weight lifting (weight training) components of motor fitness and concluded that it is an important tool for improving the physical fitness of elderly people, considering that it promotes adaptations in muscle strength and consequently prevents the decay of physical fitness throughout life. With this, one should note that all these studies that have been mentioned agree with the results presented in Table 1 and demonstrates that elderly women's motor development far below their chronological range. According to Okuma (1999), the aging process is characterized by mutual changes in the physical, neurological, psychosocial and motor, that interacts differently with each human being, and motor development is one of the basic components to maintaining the autonomy over daily activities. On the other side, Teixeira Júnior (20,012) states that the processes and issues occurring in aging cannot be distinct, because the man is a complex and undergoes various changes, where organ systems are interrelated, and the biological and psychosocial aspects and severe loss of motor components can lead elderly people to depression and anxiety, especially for women that have a hormonal variability larger than its counterpart.

CONCLUSION

It was concluded that all the elderly women have their motor skills below their chronological age, therefore it is unsatisfactory. It may be harmful in their daily activities according to the parameters evaluated.

Over the years there is a motor component's regression in most elderly people, but this sample shows results much lower than the normal for this age group. The suggestion is to practice physical exercisse to provide fewer losses and reductions of motor components, enabling successful aging, allowing the development every day activities.

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Rua Couto Dafico Qd. 50 Lt. 05 Anápolis – Goiás. CEP 75110190
062 81262349

MOTOR DEVELOPMENT LEVEL EVALUATION IN ELDERS WHO ATTEND THE UNIVERSITY UniEVANGELICA

ABSTRACT

The improvement of motor development is being treated as a new standard of health for the elderly, since factors such as disease, lack of autonomy, cultural factors, socioeconomic and lifestyle undertake the functional capacity of the individual for failing to preserve or to improve motor capacity, compromising thus the well-being and a healthy aging process. This research focused on evaluating and identifying whether or not the motor development was satisfactory according to the chronological age of the elderly women attending the University Center of UniEVANGÉLICA in Anapolis, Goias. The specific objectives were to evaluate fine motor skill, gross motor skill, balance, body schema, temporal organization and spatial organization in elderly between 60 and 75 years old. In order to obtain information, tests were used to assess the physical and motor conditions. The protocol used was the Motor Scale for the Elderly (EMTI) from Rosa Neto (2009). The results show that only the age was not statistically different, which is very important to emphasize the homogeneity of the group on this feature, since with advancing age there is a tendency to lose motor skills, as stated by NETTO (2007). In all other motor variables assessed, the elderly women achieved marks significantly lower than expected for their chronological range. It was concluded that all the elderly have their motor development much lower than expected for their chronological age, therefore it is unsatisfactory. Over the years there is a motor component's regression in most elderly people, but this sample shows results much lower than the normal for this age group. The suggestion is to practice physical exercisse to provide fewer losses and reductions of motor components, enabling successful aging, allowing the development every day activities.

KEYWORDS: Motor development, Elderly, Aging.

L'ÉVALUATION DU DÉVELOPPEMENT MOTEUR CHEZ LES PERSONNES ÂGÉES DNAS LE CENTRE UNIVERSITAIRE – UNIEVANGÉLICA.

RÉSUMÉ

Improvement du développement moteur est traitée comme une nouvelle norme de santé pour les personnes âgées, car des facteurs tels que la maladie, le manque d'autonomie, les facteurs culturels, socio-économiques et mode de vie entreprendre la capacité fonctionnelle de l'individu de ne pas préserver ou l'amélioration de la capacité du moteur et de compromettre ainsi le bien-être et de santé processus de vieillissement. Cette recherche a porté sur l'identification et l'évaluation du développement moteur comme satisfaisante ou non, en fonction de l'âge chronologique des femmes fréquentant le Centre Universitaire UniEVANGÉLICA, Anápolis – Goias. Les objectifs spécifiques étaient d'évaluer la motricité fine, la motricité globale de contrôle, l'équilibre, schéma corporel, l'organisation temporelle et spatiale chez les personnes âgées comprise entre 60 et 75 ans.Par conséquent, des tests ont été utilisés pour évaluer la physique et moteur. Le protocole utilisé est l'échelle de moteur pour les personnes âgées (EMTI) (Rosa Neto, 2009). Les résultats montrent que l'âge ne soit pas statistiquement différente, ce qui est très important à souligner l'homogénéité du groupe sur cette fonction, puisque avec l'âge il ya une tendance à la perte de la motricité, comme indiqué NETTO (2007). Dans toutes les variables motrices évaluées, les personnes âgées étaient significativement plus faibles que prévu pour leur fourchette chronologique. Il a été conclu que toutes les personnes âgées ont leur développement moteur beaucoup moins que leur âge chronologique, si peu satisfaisant. Au fil des ans, il ya une régression des forces motrices des personnes âgées dans son ensemble, mais l'échantillon était bien en dessous de la normale pour ce groupe d'âge. Nous suggérons l'utilisation de l'exercice physique pour fournir moins de pertes et réductions de moteur, ce qui permet un vieillissement réussi, permettant ainsi aux activités de développement de la vie quotidienne.

MOTS CLÉS: développement moteur, personnes âgées, vieillissement.

EVALUACIÓN DEL NIVEL DE DESARROLLO MOTOR DE PERSONAS MAYORES QUE FRECUENTAN EL CENTRO UNIVERSITARIO UniEVANGÉLICA

RESUMEN

La mejora del desarrollo motor viene siendo tratada como un nuevo modelo de salud para las personas mayores visto que factores como la enfermedad, la falta de autonomía, los factores culturales, socioeconómicos y el estilo de vida comprometen la capacidad funcional del individuo debido a la falta de preservación y mejora de la condición y capacidad motora, comprometiendo así el bienestar y un proceso de envejecimiento saludable. Esta investigación tuvo como objetivo evaluar e identificar si el desarrollo motor era satisfactorio o no, de acuerdo con la edad cronológica de las personas mayores que frecuentan el Centro Universitario de la UniEVANGÉLICA, en la ciudad de Anápolis (Goiás). Los objetivos específicos fueron: evaluar la motricidad fina, la motricidad global, el equilibrio, la estructura corporal, la organización temporal y la organización espacial en personas con edades comprendidas entre los 60 y los 75 años. Para ese estudio fueron aplicados exámenes que evaluaban las condiciones físicas y motoras. El protocolo utilizado fue la Escala Motora para la Tercera Edad (EMTI) de Rosa Neto (2009). Los resultados demostraron que la edad no difirió estadísticamente, lo que es de suma importancia para enfatizar la homogeneidad del grupo en lo referente a esta característica, una vez que con el avance de la edad hay una tendencia a la pérdida de capacidad motora, como afirma NETTO (2007). En todas las demás variables motoras evaluadas, las personas mayores se mostraron significativamente por debajo de lo esperado para su edad cronológica. Se concluye que todas las personas mayores poseen un desarrollo motor muy inferior a lo esperado para su edad, por tanto, insatisfactorio. Con el pasar de los años hay una regresión de los elementos motores en la vida de las personas mayores, aunque la muestra analizada está muy por debajo de lo considerado normal para esta edad. Se sugiere la práctica de ejercicio físico para proporcionar menos pérdidas y reducciones de los elementos motores, permitiendo un envejecimiento con más éxito y posibilitando la realización de sus actividades cotidianas.

PALABRAS CLAVE: Desarrollo motor; personas mayores; envejecimiento.

AVALIAÇÃO DO NÍVEL DE DESENVOLVIMENTO MOTOR DE IDOSAS FREQUENTADORAS DO CENTRO UNIVERSITÁRIO UNIEVANGÉLICA.

RESUMO

A melhora do desenvolvimento motor vem sendo tratado como um novo padrão de saúde para o idoso, visto que fatores como: uma doença; falta de autonomia; fatores culturais; sócio-econômicos e estilo de vida comprometem a capacidade funcional do indivíduo por falta de preservar ou melhorar a condição e capacidade motora, comprometendo, desta forma, o bem-estar e o processo de envelhecimento saudável. Esta pesquisa teve como foco avaliar e identificar se o desenvolvimento motor estava ou não satisfatório de acordo com a idade cronológica, das idosas frequentadoras do Centro Universitário da UniEVANGÉLICA, Anápolis Goiás. Os objetivos específicos foram avaliar a motricidade fina, motricidade global, equilíbrio, esquema corporal, organização temporal e organização espacial, em idosas entre 60 e 75 anos de idade. Para tanto, foram aplicados testes para avaliar as condições físicas e motoras. O protocolo utilizado foi a Escala Motora para a Terceira Idade (EMTI) de Rosa Neto (2009). Os resultados demonstram que somente a idade não diferiu estatisticamente, o que é de suma importância para ressaltar a homogeneidade do grupo quanto a esta característica, uma vez que com o avançar da idade há uma tendência à perda da capacidade motora, como afirma NETTO (2007). Em todas as demais variáveis motoras avaliadas, as idosas se mostraram significativamente abaixo do esperado para a sua faixa cronológica. Concluiu-se que todas as idosas possuem seu desenvolvimento motor muito inferior a sua idade cronológica, portanto insatisfatório. Com o passar dos anos há uma regressão dos elementos motores na vida dos idosos como um todo, mas a amostra estudada esta muito abaixo do considerado normal para esta faixa etária. Sugere-se a prática de exercício físico para proporcionar menos perdas e reduções dos elementos motores, permitindo um envelhecimento bem sucedido, possibilitando a realização suas atividades da vida diária.

PALAVRAS-CHAVE: Desenvolvimento motor, idosas, envelhecimento.