48 - MOTOR DEVELOPMENT LEVEL EVALUATION IN ELDERS FROM UNATI (OPEN UNIVERSITY OF THE THIRD AGE) OF ESEFFEGO - SCHOOL OF PHYSICAL EDUCATION AND PHYSICAL THERAPY OF GOIÁS

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INTRODUCTION

Aging of people is taking proportions that deserve attention, according to the IBGE in 2008 for each group of 100 children aged zero to 14 years, there were 24.7 elders of 65 years old or more, it is estimated that in 2050 this Table suffer with the change of approximately 7 times that amount (IBGE, 2008). At the end of the twentieth century the population was approximately 590 million elders, by 2025 it is estimated that this number will grow to 1.2 billion, and that it will get two billion in 2050 (Stamato, 2007).

Some factors that positively influence aging, as the onset of vaccines, the establishment of intensive therapies centers, the discovery of antibiotics, the habit of physical exercise, involvement in social activities, these changes took place in twentieth century which marked the modifications in the age pyramid (SATAMTO, 2007).

Even with all developments and support to human health, aging is marked by several changes that may be lost or reduced throughout life (NETTO, 2007). Moreira (2001) reported that aging is an ongoing process due to reductions in performance capabilities with biopsychosocial changes that come with time and their age of peak performance. Thus, the individual requires new psychophysiological adaptations, as the motor system.

Motor aging alters the interaction of the elder with the world, with others, with time and with himself. These changes occur differently according to the degree of degeneration of the body (SINGER, 1993). It seems that the longer the development of the individual motor the lower the degree of degeneracy of the body (Rossi, 2008). According to Gallahue and Ozmun (2001), motor development are the progressive changes, changes in motor behavior that occur throughout life. Provided by the interaction between the needs of the task (physical and mechanical factors), the individual (heredity, biology, nature and intrinsic factors) and environmental conditions (experience, learning and extrinsic factors).

Motor development is part of human movement and interferes in the daily life of the elder directly affecting his way of relating to the environment. And yet, according to Rosa Neto (2009) the motor is the interaction of the various motor functions, taking an important role in the overall development of human beings. It is through motor exploration that the human increases awareness of himself and the environment around him, this way, his motor skills help in gaining independence and social adaptation. Therefore, motor control, makes the elderly explore and experience the outside world, building from his experiences basic notions for social, emotional, physical, spiritual and intellectual maintaining and enriching.

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

OBJECTIVE

This research focused on identifying and assessing the motor development of the women selected for the study. The specific objectives were to evaluate fine motor skills, gross motor skills, balance, body schema, the temporal and spatial organization in elderly between 60 and 71 years of age.

METHODOLOGY

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

Data collection consisted of a number of 62 elderly belonging to UNATI – Open University of the third age of the State University of Goias (UEG), University Unit ESEFFEGO- School of Physical Education and Physical Therapy of Goias. Aged between 60 and 71 years. Inclusion criteria: elderly women should be physically inactive regarding the systematic practice of physical activity, without pathologies in the joints that could compromise the tests; Parkinson's disease, Alzheimer's disease or those with any physical or mental limitation that prevented completion of the study procedures. Also all signed a consent form, which informed them the entire procedure to be performed; including allowing them to leave the test at any time of the collection.

The protocol used was the Motor Scale for the Elderly (EMTI) Rosa Neto (2009). That consisted of motor testing of the following motor scales: Fine motor skill – which is a visuomanual coordination, joint coordination of hands / vision / object, working small muscles in running, being more complex activities. Gross motor skill - which analyzes the coordinated motor movement in large muscle groups, less complex and the dynamic bodily movements. Balance – which enables the verification of body's ability to maintain postures, positions, offsett and cancel out all the different forces acting on the body. Body schema - informs the conscience of the individual about the body, knowledge of your own body and the ability to organize parts of the body in performing tasks. Temporal organization - refers to the perception of time from the knowledge of the order and duration of events. And Spatial organization - that tests the perception of the body as the space that surrounds it, with an orientation between the

individual and the environment.

For the presentation and analysis of the data was initially used the Kolmogorov-Smirnov test. Then ANOVA for repeated measures was used for comparisons. Significance was set at 5% ($p < 0.05$). All data were tabulated and analyzed using the program Excel and the statistical package Statistical Package for Social Science (SPSS) version 13.0.

RESULTS AND DISCUSSION

The sample consisted of 62 elderly participants of the Open University of the Third Age - UNATI - State University of Goiás, Goiânia UNU / Eseffego. Table 1 shows measures of central and dispersion tendency of the variables investigated, and the comparison between 6 motor components of the sample.

Table 1 - Age, motor components and overall motor fitness sample.

Variables	Average	Standard Deviation	Median	Interquartile Range
Age	70,4	9,6	68,5	8,0
Fine motor skills [2,3,4,6]	104,2	27,1	108,0	30,0
Gross motor skills [1,3,4,5,6]	56,9	24,2	48,0	24,0
Balance [1,2,5]	84,9	29,6	84,0	48,0
Body Schema [1,2,5]	75,3	32,7	72,0	51,0
Spatial Organization[2,3,4,6]	97,2	22,5	96,0	15,0
Temporal Organization[1,2,5]	80,9	32,4	72,0	48,0
Overall motor fitness	83,2	17,5	80,5	28,5

Repeated measures ANOVA, with differences ($p < 0.05$) represented by the following numbers:1 Fine Motor Skill; 2 Gross Motor skill; 3 Balance; 4 Body Schema; 5 Spatial Organization; 6 Temporal Organization

The average age of the women was 70.4 ± 9.6 years. Considering the six motor components, fine motor and spatial organization were the variables that showed the highest values, with a significant difference ($p < 0.05$) from the others. Moreover, the elder's gross motor skills showed the lowest value compared with the other components ($p < 0.05$). The overall motor fitness of the investigated group was 83.2 ± 17.5 points, indicating a low normal result (PINK NETO, 2009).

For the classification of overall motor fitness, the following cutoff points were considered (PINK NETO, 2009): much lower (≤ 69), lower (70 - 79), low normal (80 - 89), medium normal (90-109), high-normal (110 - 119), high (120-129) and much higher (≥ 130). Thus, Table 2 shows the absolute and relative frequency of the classification of the sample as the overall motor fitness.

Table 2 - Classification of overall motor fitness.

Overall Motor Fitness	Absolute frequency (n)	Relative Frequency (%)
Much lower	18	29,0
Low	12	19,4
Low normal	12	19,3
Medium normal	13	21,0
High normal	07	11,3
High	-	-

It is observed that no elderly showed high overall motor fitness. Most were classified with a normal overall motor fitness (51.6%), although almost half were classified in the lower and much lower categories(48.4%).

According to Schilder (1998) the body schema is a three-dimensional image we have of ourselves and includes, in the development of body image, conscious and unconscious elements, suffering influences of desires, emotional attitudes and interactions with others and with the environment. Data from this study are corroborated by Silva et al. (2012) comparing the level of motor development of 159 elders and found the overall motor fitness lower and much lower. Also TEIXEIRA JR et al. (2012) applied tests to assess the human motor skills above, Motor Scale for Elders Francisco Rosa Neto (2009) .79 sedentary elderly and found similar results of this research.

Wolfson et al. (1996) and Tractenberg et al. (2007) demonstrated that the elderly will literally lose track of time, leaving their rush to their jobs, or even to maintain their pace of displacement due to loss of motor development, in their study and found similar results to this study. Prior et al. (2008) compared the variables of human motor skills between elders aged 60 and 62 years with elders 70 and 84 years old and found a significant reduction in motor capacity with advancing age, which confirms the decline of motor development over the years.

If on one hand there is the loss of functionality and biomechanics of older individuals by lack of physical exercise on the other side JESUS SILVA (2010) showed that elderly people who are engaged in systematic programs of physical activity have a predetermined time to fulfill the task set for the training session, which can lead them to a smaller loss of this motor capacity. Also TEIXEIRA et al. (2012) compared the practice of aerobic and resistance exercises for the elderly and concluded that both exercises provide great influences on functional capacity and motor skills of the elderly.

Alencar et al. (2011) evaluated 122 elderly volunteers and 61 elderly practicing walking (exercise) and 61 elderly women who performed physical activities not only formal, such as housework or leisure and concluded that the motor loss of older women not practicing physical exercise was significantly higher which comes out to meet this data research. Soares et al. (2012) investigated the performance of motor skills of elderly enrolled in the Family Health Program. 235 seniors participated in this research. They concluded that obesity was identified as the nutritional condition limiting the adequate performance tests. The users belonging to UNATI with results "much lower" (relative frequency of 29% of the sample - 18 elderly: absolute frequency) show results consistent with Soares' study.

CONCLUSION

It was concluded that from the six motor components, fine motor and spatial organization were the variables that showed the highest values, with a significant difference from others. Gross motor skill was the lowest value compared with the other components. . As the motor is a factor determined in the autonomy and security for the elderly population, these values found by the survey show a possible impairment in daily activities of these elderly according to the parameters evaluated. Given this, it is suggested that they engage in physical exercise program to minimize loss of motor skills.

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MOTOR DEVELOPMENT LEVEL EVALUATION IN ELDERS FROM UNATI (OPEN UNIVERSITY OF THE THIRD AGE) OF ESEFFEGO - SCHOOL OF PHYSICAL EDUCATION AND PHYSICAL THERAPY OF GOIÁS

ABSTRACT

This study aimed to identify and evaluate the motor development of elderly women participating in the activities of the Open University for the Third Age (UnATI) at the State University of Goiás, University Unity of the School of Physical Education and Physiotherapy of Goiás (ESEFFEGO) in Goiânia-GO, and above all, verify the aspects related to fine motor skill, gross motor skill, balance, body schema, the temporal and spatial organization. The average age of the women was 70.4 ± 9.6 years. The choice of this subject was due to its scope nowadays, because aging brings various physiological changes and therefore the need for prevention and means for maintaining the above mentioned items, allowing a better quality of life for the elderly. Therefore, tests were used to assess the physical and motor conditions. The protocol used was the Motor Scale for the Elderly (EMTI) Rosa Neto (2009). Considering the six motor components engines, fine motor and spatial organization were the variables that showed the highest values, with a significant difference ($p < 0.05$) from the others. Moreover, the gross motor skill of elders showed the lowest value compared with the other components ($p < 0.05$). The overall motor fitness in the investigated group was 83.2 ± 17.5 points, indicating a low normal result (PINK NETO, 2009). It was concluded that the gross motor skill was the lowest value compared with the other components. As the motor is a factor determined in the autonomy and security for the elderly population, these values found by the survey show a possible impairment in daily activities of these elderly according to the parameters evaluated.

KEYWORDS: motor development, elderly, aging.

L'ÉVALUATION DU DÉVELOPPEMENT MOTEUR CHEZ LES PERSONNES ÂGÉES APPARTENANT À UnATI (UNIVERSITÉ OUVERTE DU TROISIEME AGE) DE ESEFFEGO - ÉCOLE D'ÉDUCATION PHYSIQUE ET DE KINÉSITHÉRAPIE DE GOIÁS.

RÉSUMÉ

Cette étude visait à identifier et à évaluer le développement moteur des femmes âgées qui participent aux activités de l'Open University du troisième âge (UnATI) à l'Université d'État de Goiás, Unity University College of Education Physique et Physiothérapie de Goiás (ESEFFEGO) à Goiânia-GO. Et surtout, vérifier les aspects liés à la motricité fine, la motricité globale de contrôle, l'équilibre, schéma corporel, l'organisation temporelle et spatiale. L'âge moyen des femmes était de 70,4 ± 9,6 ans. Le choix de ce thème s'explique par le champ d'application la même chose aujourd'hui, parce que le vieillissement s'accompagne de changements physiologiques et, donc, la nécessité de la prévention et des moyens pour maintenir les éléments mentionnés ci-dessus, ce qui permet une meilleure qualité de vie pour les personnes âgées. Les tests ont été utilisés pour évaluer la physique

et moteur. Le protocole utilisé est l'échelle de moteur pour les personnes âgées (EMTI) de Neto Rosa (2009). Considérant les six moteurs de composants, de la motricité fine et l'organisation spatiale étaient les variables qui ont montré les valeurs les plus élevées, avec une différence significative (p <0,05) pour l'autre. En outre, la mobilité globale des personnes âgées a montré une valeur inférieure comparés aux autres composants (p <0,05). L'aptitude moteur global étudiée était de 83,2 ± 17,5 points, ce qui indique un résultat faible (PINK NETO, 2009). Il a été conclu que la motilité global était plus faible valeur par rapport aux autres composants. Comme le moteur est un facteur donné l'autonomie et la sécurité pour les personnes âgées, ces valeurs trouvées par l'enquête indique une dépréciation possible dans les activités quotidiennes de ces personnes âgées selon les paramètres évalués.

MOTS CLÉS: développement moteur, personnes âgées, vieillissement.

EVALUACIÓN DEL NIVEL DE DESARROLLO MOTOR EN PERSONAS MAYORES PERTENECIENTES A LA 'UNATI' (UNIVERSIDAD ABIERTA DE LA TERCERA EDAD) DE LA ESEFFEGO – ESCUELA SUPERIOR DE EDUCACIÓN FÍSICA E FISIOTERAPIA DE GOIÁS

RESUMEN

Este trabajo tuvo como objetivo evaluar e identificar el desarrollo motor de mujeres mayores de edad participantes de las actividades de la Universidad Abierta de la Tercera Edad (UNATI), en la Universidad del Estado de Goiás, Unidad Universitaria Escuela Superior de Educación Física y Fisioterapia de Goiás (ESEFFEGO), en Goiânia-GO, con especial énfasis en verificar los aspectos relacionados a la motricidad fina, la motricidad global, el equilibrio, el esquema corporal, la organización temporal y la organización espacial. La edad media de estas personas abarca de los 70,4 ± 9,6 años. La selección de este tema se debe a la amplitud del mismo en la actualidad, visto que el envejecimiento acarrea varias alteraciones fisiológicas y, por tanto, la necesidad de prevención y de medios para la manutención de los elementos previamente citados, permitiendo una mejora en la calidad de vida de las personas mayores. Para este estudio fueron aplicados exámenes de evaluación de las condiciones físicas y motoras. El protocolo utilizado fue la Escala Motora para la Tercera Edad (EMTI) de Rosa Neto (2009). Considerando los seis componentes motores, la motricidad fina y la organización espacial fueron las variables que presentaron los mayores valores, con una diferencia significativa (p<0,05) respecto a las demás. Por otro lado, la motricidad global de estas personas presentó el menor valor al ser comparado con otros componentes (p<0,05). La aptitud motora general del grupo analizado fue de 83,2 ± 17,5 puntos, indicando un resultado normal bajo (ROSA NETO, 2009). Se concluye que la motricidad global fue la de menor valor en comparación con los otros componentes. Puesto que la motricidad es un factor determinante para la autonomía y la seguridad de la tercera edad, los valores apuntados en esta investigación indican un posible prejuicio en las actividades diarias de estas personas, de acuerdo con los parámetros evaluados.

PALABRAS CLAVE: Desarrollo motor; personas mayores; envejecimiento.

AVALIAÇÃO DO NÍVEL DE DESENVOLVIMENTO MOTOR EM IDOSAS PERTENCENTES À UNATI (UNIVERSIDADE ABERTA DA TERCEIRA IDADE) DA ESEFFEGO – ESCOLA SUPERIOR DE EDUCAÇÃO FÍSICA E FISIOTERAPIA DE GOIÁS

RESUMO

Este trabalho teve como objetivo avaliar e identificar o desenvolvimento motor de mulheres idosas participantes das atividades da Universidade aberta à Terceira Idade (UNATI) na Universidade Estadual de Goiás, Unidade Universitária Escola Superior de Educação Física e Fisioterapia de Goiás (ESEFFEGO) em Goiânia-GO, sobretudo, verificar os aspectos relacionados a motricidade fina, motricidade global, equilíbrio, esquema corporal, organização temporal e organização espacial. A idade média das idosas foi de 70,4 ± 9,6 anos. A escolha deste assunto se deu em razão da abrangência do mesmo na atualidade, visto que o envelhecimento traz consigo várias alterações fisiológicas e, portanto, a necessidade de prevenção e meios para manutenção dos itens supracitados, permitindo uma melhor qualidade de vida aos idosos. 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). Considerando os seis componentes motores, a motricidade fina e a organização espacial foram as variáveis que apresentaram os maiores valores, com diferença significativa (p<0,05) para as demais. Por outro lado, a motricidade global das idosas apresentou o menor valor quando comparado com os outros componentes (p<0,05). A aptidão motora geral do grupo investigado foi de 83,2 ± 17,5 pontos, indicando um resultado normal baixo (ROSA NETO, 2009). Concluiu-se que a motricidade global foi a de menor valor comparado com os outros componentes. Como a motricidade é um fator determinada na autonomia e segurança para a população idosa, estes valores encontrados pela pesquisa acena um possível prejuízo nas atividades diárias destas idosas de acordo com os parâmetros avaliados.

PALAVRAS-CHAVE: Desenvolvimento motor, idosas, envelhecimento.