131 - GENERAL MOTOR SKILLS APTITUDE OF INDIVIDUALS OVER THE AGE OF 60 IN THE ULBRATI PROJECT - UNIVERSITY OF THE THIRD AGE AT THE UNIVERSIDADE LUTERANA DO BRASIL, CANOAS, RS.

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INTRODUCTION

The fact that populations are getting older and older all over the world is due to the improvements in the field of health and the consequent increase in life expectancy. These demographic changes are the result of factors such as: a lower death rate brought on by technological advances in medical interventions; lower fertility rates and the consequent drop in births due to urbanization and industrialization, which facilitate access to family planning; and the migration of young people seeking better living conditions while leaving elderly relatives behind**,** which causes an increase in the proportion of the elderly in relation to other age groups. Furthermore, improvements in hygiene and basic sanitation systems have reduced the death rate from infectious contagious diseases (VARGAS, 2000; MAZO et al., 2004).

Elderly people are those who are older than 60 years of age, as noted in the IBGE social indicators (BRAZIL, 2000). In Brazil, this segment of the population breaks down to 50% between 60 and 69 years old, 36% between 70 and 79 and 14% 80 and over.

According to Vargas Neto (2000), aging is a process marked by the different modifications which appear in living beings with the passing of time as well as one in which daily habits and routines of individuals are altered. Aging is not just the passage of time (HAYFLICK, 1997), it is the manifestation of physiological, psychological, social and motor skills changes that influence an individual's behavior. However, according to Mazo et al. (2004), such alterations do not occur in the same manner to everyone, taking into account the existence of differences among people of the same age due to genetic and environmental factors.

In relation to each of these premises, the motor profile involves gains and improvements in motor performance, as well as losses and diminishments associated to general coordination, fine motor skills, balance, body scheme, spatial, and temporal organization. Spirduso (2005) points out the fact that the variability of adult motor behavior increases with each decade in a person's life, modifying the interaction of a senior citizen with himself/herself, with other people, with the world and with time (ROSA NETO, 2002).

All of those variables directly or indirectly influence the process of control and regulation of movement, causing countless changes in the performance of motor tasks. In Gallahue's view (2001), the majority of those alterations involves a drop off in the task success rate and can result in deterioration of the physiological system and the psychological factors associated with old age, a changeable environment, and the demands of the task or some sort of combination of these four variables.

The older people are the less active they become and their growing difficulty to carry out everyday tasks can be observed (SPIRDUSO, 2005). Thus, a consequent decrease in motor skills performance is noted, transforming simple tasks into complicated ones, and causing a reduction in motor performance, especially in day-to-day motor tasks which are not carried out well enough any more. This increases the risk of accidents and diminishes the individual's involvement in professional or leisure activities as well as hampers a healthy life style. (SIMÕES, 1998; VERAS, 1999).

With the relevance of this issue in mind, the present study was carried out aiming to determine the level of the general motor skills aptitude of individuals over the age of 60 in the Ulbrati Project - University of the Third Age at the Universidade Luterana do Brasil, Canoas, RS.

MATERIALS AND METHODS

The present study, of a descriptive nature, used an available sample group of 35 female individuals over 60 years of age, who were participants in the Ulbrati Project - University of the Third Age, which was developed at the Universidade Luterana do Brasil, Canoas campus, RS, in 2005.

The instrument used to determine the general motor skills aptitude level was the Motor Skills Scale for Senior Citizens, known in Portuguese as E.M.T.I., by Rosa Neto (2002), which is made up of a series of tests developed to test the basic motor skills elements of motor skills, such as fine motor skills, general coordination, balance, body scheme and spatial and temporal organization.

The tests were classified to corresponding levels of difficulty (levels 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11). Grading was done according to success on the tests: If the senior citizen was successful on a test, the result was positive and was registered as a number 1. If the test demanded skill with the right and left side of the body**,** it was registered as a 1 when there was success with both limbs. If there was success with only one limb (right or left), it was registered as ½. If there was a negative result on a test, it was registered as a 0. The test of a specific area could only be interrupted when the result was zero (0). The distribution of the classification of the subjects according to the Motor Skills Scale for Senior Citizens (E.M.T.I.), by Rosa Neto (2002) is as follows: 130 points or more Much Higher, 120-129 points Higher, 110-119 points Above Average, 90-109 points Average, 80-89 points Below Average, 70-79 points Lower and 69 or Much Lower.

The information from the test files was typed into a data base which was used to carry out the statistical analysis in a descriptive manner (average, standard deviation, percentage and frequency distribution) and Pearson's Correlation by the software program SPSS 12.0. The data was analyzed by way of tables and graphs provided by WORD FOR WINDOWS software.

PRESENTATION OF RESULTS

Table 1 - Percentage distribution of the subjects evaluated on the Motor Skills Scale for Senior Citizens E.M.T.I. (n= 35).

E.M.T.I.	f	%
Much Lower	32	91.4
Lower	3	8.6
Total	35	100.0

Table 2 - Frequency, average and standard deviation distribution of the subjects in relation to age and general motor skills aptitude (n=35).

Items	n	Average	Standard Deviation
Age	35	69.49	6.13
General Motor Skills Aptitude - GMS	35	47.66	13.13

Table 3 - Frequency, average and standard deviation distribution of the subjects in the results of the tests using the Motor Skills Scale for Senior Citizens, E.M.T.I. (n= 35).

Items	n	Average	Standard Deviation
Fine Motor Skills - MS 1	35	54.00	13.80
General Motor Skills - MS 2	35	42.00	15.12
Balance - MS 3	35	40.97	27.36
Body Scheme - MS 4	35	52.46	42.88
Spatial Organization - MS 5	35	73.03	20.86
Temporal Organization - MS 6	35	21.60	22.31

DISCUSSION OF THE RESULTS

After analysis of the data, it was noted that of the 35 subjects studied most attained a result below 69 points on the E.M.T.I. scale, 32 of them achieved results corresponding to Much Lower (91.4%) and only 3 cases rated above these figures with results ranging from 70 to 79 points on the E.M.T.I. scale (8,6%).

The reduction of the general motor skills aptitude may cause an increase in the chance of accidents, reduce involvement of the elderly in professional or leisure activities as well as hamper a healthy life style (SIMÕES, 1998; VERAS, 1999).

The average age of the subjects in the study sample, as noted, was 69.49 years old, while the general motor skills aptitude scores corresponded to the classification of Much Lower, with an average score of 47.66 points and results below 69 points on the E.M.T.I. scale.

The alterations of general motor skills aptitude due to chronic diseases, physical handicaps, modifications of the muscular-skeletal system and central nervous system become more frequent as one gets older, reducing the efficiency level or the successful performance of a given task (GALLAHUE, 2001). According to Hayflick (1997), responses and stimulus become slower with age and the chances of their being imprecise increases, with such effects intensifying as the tasks become more complex.

The result of motor skills parameters of 35 female senior citizens tested yielded the average fine motor coordination of 54.00 points, which corresponds to a rating of Much Lower on the E.M.T.I. scale.

Eye-hand coordination requires sensorial integration of vision and motor commands in order to activate the proper muscles in the correct sequence to complete the motor task. The elderly become slower to process visual stimuli, thus compromising the perceptive-motor skills (HAMILTON, 2002; SPIRDUSO, 2005).

One of the most significant changes that occurs during the aging process is a decline in movement capability, since tasks that demand a continuous series of complex and varied movements are more difficult for the elderly to accomplish (GALLAHUE, 2001). In the present study, the results of the general coordination test attained an average of 42.00 points which corresponds to the grade level of Much Lower on the E.M.T.I. scale.

Such a score confirms the theories of Gallahue (2001) and Spirduso (2005) that the reaction time, the demands of the task, the decrease of muscular strength, the loss of muscular mass, the loss of flexibility of the joints and the connective tissues and diminishing ability to maintain balance and motor control all directly affect motor coordination of the elderly.

The results for the test of balance averaged at 40.97 points, which corresponds to the grade level of Much Lower on the E.M.T.I. scale. In Rosa Neto's view (2002), the deterioration of balance and postural control are related to the increase in age and may become irreversible. Impairment or losses registered in the visual, vestibular and somatic sensorial systems, in muscular strength and in muscular-postural reactions undermine good balance and postural control in elderly individuals (GALLAHUE, 2001; GOBBI; VILLAR; ZAGO, 2005; SPIRDUSO, 2005).

Loss of balance is one of the factors associated with the risk of taking a fall and postural oscillations, since every year roughly 30% of adults over the age of 65 suffer some kind of fall (GALLAHUE, 2001).

As far as body scheme is concerned, the average score was 52.46 points that corresponds to the grade level of Much Lower on the E.M.T.I. scale.

The elderly consider the physical changes related to the body as negative, including the subjective sensations regarding physical appearance and the inability of the body to accomplish physical objectives, which spur the accelerated degeneration of this motor area (SPIRDUSO, 2005).

In reference to spatial organization, the average score obtained was 73.03 points, or Lower on the E.M.T.I. scale. Spatial organization relies on the information provided by the visual, auditory and tactile systems as well as sensory receptors in the joints, tendons and neuromuscular spindles, for as people get older, the perception of their own body changes and when this information is contradicted there is an inter-sensory conflict generating disturbances in the processing of the information, above all concerning the position of the respective body parts (SPIRDUSO, 2005).

The scores on the temporal organization evaluation averaged 21.60 points, corresponding to Much Lower on the E.M.T.I. scale. Temporal organization is related to awareness of time and its organization. The factors related to the perception of time evolve and mature with age, for the awareness of time is structured on the changes perceived (ROSA NETO, 2002).

Using Pearson's Correlation Analysis, it was observed that there is a significant inverse correlation between the age variable and general motor skills aptitude (r= -0.45 and p =0.01). Thus, the greater the age, the lower the score on general motor skills aptitude. The aging process, with the passage of time, leads to a progressive decline of viability and an increase in vulnerability of the body. And using the measurement of the variables that represent physical and mental functions, it is evident that the individual differences within each age group augment with the increase of age and the different levels of learning experience with each task (SPIRDUSO, 2005).

CONCLUSION

Aging is a process marked by different physiological, psychological, social and motor skills changes that occur at different rhythms and paces, as part of an individual process with differences among people of the same age due to genetic and environmental factors.

Such changes influence the motor behavior of the elderly, causing innumerable changes in the performance on motor tasks. In the results collected **-** considering the level of general motor skills aptitude of the sample group studied in relation to basic components such as fine and general motor skills, balance, the body scheme, spatial and temporal organization - the average scores attained were classified as Much Lower, proving that the decline in motor skills performance hampered doing everyday activities. They were not completed well enough, increasing the chance of accidents, reducing involvement in professional or leisure activities as well as impeding a healthy lifestyle

Therefore, the author would recommend a program designed for the elderly, directed by responsible professionals who distinguish the unique aspects of this stage of life, aiming for the best adaptation of each individual and countering losses intrinsic to the aging process with preventative maintenance of certain motor skills.

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LEVEL OF GENERAL MOTOR CONTROL OF FEMALE PARTICIPANTS OVER 60 YEARS OF AGE OF THE ULBRATI PROGRAM AT ULBRA, CANOAS, RS.

ABSTRACT

This research had the purpose to analyze the level of general motor control of 35 female subjects over 60 years of age enrolled at the ULBRATI Program at ULBRA, Canoas, RS in 2005 chosen through a convenience method of sampling. In this descriptive study it was used the Rosa Neto´s Elderly Motor Scale (2002) that assesses the basic motor elements such as fine motor coordination, general coordination, balance, body scheme, space and time organization. The study showed that among the sample subjects, 91.4% was classified as *very low* and 8.6% as *low* in the assessment scale. It was observed that the average age level was 69.49 while the general motor control presented an average value of 47.66 and it was classified as *very low* in the scale. It was shown that in the motor parameters average the subjects were classified as *very low* in the scale while in the space organization variable they achieved the scale *low* classification. When data were submitted to the Pearson´s correlation coefficient it was observed a significant inverted correlation between chronological age and general motor control. It was concluded that the subjects´low level of general motor control observed can interfere in the elderly motor capacity while doing activites of daily life and harm their quality of life.

Key words: Third age. General motor control.

NIVEAU D' APTITUDE MOTRICE GENERALE DE PERSONES AGEES DE PLUS DE 60 ANS ATTACHEES AU PROJET ULBRATI - ULBRA, CANOAS, RS, BRÉSIL

RÉSUMÉ

Cette recherche a voulu vérifier le niveau d' aptitude motrice générale de 35 persones âgées de plus de 60 ans attachées au Projet Ulbrati - ULBRA, Canoas, RS, Brésil, choisies par convenance. L`étude, caracterisée comme une investigation descriptive, a utilisé l`Échelle Motrice pour le Troisième Âge (EMTI), de Rosa Neto, comme instrument. Cette échelle teste les éléments de base de la motricité: la motricité fine, la coordination générale, l`équilibre, le schéma corporel, l`organisation spatiale, l`organisation temporelle. La recherche a révélé que, parmi les sujets analysés , 91,4% ont présenté des résultats correspondants à « très inferieur » et 8,6% à « inferieur ». On a observé que la moyenne correspondante à l´âge cronologique a eté de 69,49 ans, alors que l`aptitude motrice générale a présenté lê valeur moyen de 47,66, en caracterisant la classification « très inferieur ». On a verifié que dans la moyenne des paramètres moteurs la classification a eté de « très inferieur », alors que l`organisation spatialle a eté classifié comme « inferieure ». Enfin, on a observé une co-relation significative inverse entre la variable âge cronologique et l`aptitude motrice générale. On a conclut que le niveau d´aptitude motrice générale est réduit, en influenciant la capacité motrice des âgés à la réalisation dês activités du quotidien, une ménace à sa qualité de vie.

Mot-clés : Viellissement. EMTI. Niveau d`aptitude motrice générale.

NIVEL DE APTITUD MOTORA GENERAL DE INDIVIDUOS CON MAS DE 60 AÑOS DEL PROYECTO ULBRATI - UNIVERSIDAD PARA LA TERCERA EDAD DE LA UNIVERSIDAD LUTERANA DE BRASIL, CANOAS, RS

RESUMEN

La investigación actual trató de verificar el nivel de aptitud motor general de 35 personas con mas de 60 años participantes del Proyecto Ulbrati -ULBRA, Canoas, RS., que han sido elegidas intencionalmente. El estudio caracterizado como una investigación descriptiva utilizó como instrumento la Escala Motora para Tercera Edad - E.M.T.I. de Rosa Neto (2002) que testa los elementos básicos de motricidad, como: coordinación motora fina, coordinación general, equilibrio, esquema corporal, organización espacial, organización temporal. Este estudio mostró que entre los sujetos analizados, 91,4% presentan resultados correspondientes a muy inferior y 8,6% a inferior. También se observó que el promedio correspondiente a la edad cronológica fue de 69,49 años, mientras que la aptitud motora general presenta un valor promedio de 47,66 clasificándose como muy inferior. Se verificó que en el promedio de los parámetros motores la clasificación fue de muy inferior, siendo que la organización espacial quedó como inferior. Finalmente se observó una co-relación significativa inversa entre la variable edad cronológica e aptitud motor general. Es posible concluir que el nivel de aptitud motor general es reducido, influenciando la capacidad motora de ancianos en la realización de actividades cotidianas y colocando su calidad de vida amenazada.

Palabras-clave: Envejecimiento. E.M.T.I. Nivel de aptitud motora general.

NÍVEL DE APTIDÃO MOTORA GERAL DE INDIVÍDUOS ACIMA DE 60 ANOS DO PROJETO ULBRATI - UNIVERSIDADE PARA A TERCEIRA IDADE DA UNIVERSIDADE LUTERANA DO BRASIL, CANOAS, RS.

RESUMO

A presente investigação buscou verificar o nível de aptidão motora geral de 35 idosas acima de 60 anos do Projeto Ulbrati -ULBRA, Canoas, RS., escolhidas por conveniência. O estudo, caracterizado como uma investigação descritiva utilizou-se como instrumento a Escala Motora para Terceira Idade - E.M.T.I. de Rosa Neto (2002) que testa os elementos básicos da motricidade, como: coordenação motora fina, coordenação geral, equilíbrio, esquema corporal, organização espacial, organização temporal. O estudo revelou que dentre os sujeitos analisados, 91,4% apresentaram resultados correspondentes a muito inferior e 8,6% a inferior. Observou-se que a média correspondente à idade cronológica foi de 69,49 anos, enquanto a aptidão motora geral apresentou o valor médio de 47,66 classificando-se como muito inferior. Verificou-se que na média dos parâmetros motores a classificação foi de muito inferior, sendo que a organização espacial classificou-se como inferior. Por fim observou-se uma correlação significativa inversa entre a variável idade cronológica e aptidão motora geral. Conclui-se que o nível de aptidão motora geral é reduzido, influenciando na capacidade motora dos idosos na realização de atividades da vida diária tornando sua qualidade de vida ameaçada.

Key words: Envelhecimento. E.M.T.I. Nível de aptidão motora geral.