25 - THE ELDERLY AND THE FUNCTIONAL CAPACITY: COMPARATIVE EVALUATION OF THE DIFFERENT CATHEGORIES OF PHYSICAL ACTIVITY DEVELOPPED IN A SOCIAL PROJECT OF DOURADOS-MS

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INTRODUCTION

The increase of longevity is a worldwide phenomenon and the most increasing age group in the world is of 80 years old people or more. An IBGE (Brazilian Institute of Geography and Statistic) study shows that in 1980, there were in Brazil 591 thousand long-lived elderlies (80 years old or more) and the projections indicate that in 2050, they will be 13,8 million, what correspond to a 2.226% of increase, while the total population would increase 81,6% and the elderly one 436% in the same period (IBGE, 2008).

The increase on the estimated life offers to the people a larger period of time to summarize and culminate the achievement of their life projects. Nevertheless, for this happens, it is necessary that the elderlies have lived with quality (PEREIRA; RODRIGUES 2007).

Zimerman (2000) sees the elderly as a person of many ages: the body's, the genetic history's; psychological characteristic's and the relation with the society's. For a normal and healthy aging, it is necessary a minimum degree of physical conditions that contribute for a good quality of life, being the maintenance of the functional capacity a predominant factor for the elderly people.

While getting old, it can bring the reduction of flexibility, which provokes damages that can generate a partial loss of movements' independence, what becomes worst with the age (MATSUDO, 2010).

Toward this, it appears the need of investigations about the responsible of the functional capacity in elderly, considering the possibility of intervention measures, about the professionals' performance of those who help the elderlies and also about the public policies planning (PEREIRA; RODRIGUES 2007).

Healthy aging in this new vision is a result of the multidimensional interaction among physical health, mental health, independence in the everyday life, social integration, familiar support and economic independence. The loss of a loved relative, the bankruptcy, an incapacity disease, a mental disturb, an accident, are everyday events that can, together or isolated, compromise the functional capacity of a person. The welfare in the elderly or health in an ample sense would be the result of balance among the several dimensions of the elderly's functional capacity, without meaning the absence of problems in all the dimensions (RAMOS, 2003).

According to Matsudo et al, (2001), nowadays physical activity, health, life quality and aging, is practically a consensus among the professionals of the health area since the physical activity is a determinant factor on the aging process success and, the benefits of the active life style on the prevalence of chronic not transmissible diseases, on the mortality and on the maintenance of the functional capacity during this process, are assured.

Such prerequisite justified the accomplishment of this work, aiming the relevance of the theme for the health as for the involved in the research as for the scientific community. Therefore, the aim of the study was to compare the indices of the functional capacity on an elderly evaluation on the different categories of physical activities of a Social Project of Dourados/MS.

MATERIAL AND METHODS

The field study, quantitative, having a transversal character (MARCONI; LAKATOS, 2008; VIEIRA; HOSSNE, 2003), involved 36 people, being 34 female corresponding to 95% of the sample and 2 male corresponding to 5%, with ages between 60 to 72 in a Social Project of Dourados/MS, distributed in three groups of 12 regulars of each modality of physical exercises offered to the elderly (Dance, Gymnastics and Water Aerobics), with application of batteries of tests, evaluating their functional capacity, among them: 800 meters of walking, sitting and standing of the chair and climbing steps (MATSUDO, 2010).

The current search, according to the responsibility by the scientific conduction, submitted its project to the Ethic Committee in Researches with Human Beings (ECR) of Centro Universitário da Grande Dourados – UNIGRAN, attending the resolution 196/96 (BRASIL, 2002), under the protocol 214/11, assuring its beginning only after the agreement of this Committee and assuring all the ethic precepts that involved the work.

The search was accomplished in a social project of Dourados/MS, in the Sportive, Cultural and Leisure Complex, which formation of this group was given whereof the insertion of old people that registered on the Social Project of the Social Action Bureau of Dourados' city hall. In this Social Project the elderly meet to do different physical activities, such as, Dance, Gymnastics and Water Aerobics and some do not unite to the physical exercises participating only in the leisure activities, as playing checkers, cards and chess.

RESULTS AND DISCUSSION

In the Water Aerobics (n=12), it was obtained an average of 599 seconds in the 800 meters of walking test, 57 seconds in the sitting and standing test and 51 cm in the climbing steps test. In the Gymnastics Aerobics, (n=12), the sample obtained an average of 583 seconds in the 800 meters of walking test, 65 seconds in the sitting and standing test and 48 cm for the climbing steps test. In the Dance, (n=12) the results has an average of 604 seconds in the 800 meters of walking test, 57 seconds in the sitting and standing test and 48 cm for the climbing steps test, according the chart 1:

Chart 1- Sample of data related to the results obtained among the modalities of physical exercises performed in the Social Project of Dourados/MS.

	800 meters of Walking			Sitting and Standing			Climbing Steps		
N	Water Aerobics	Gymnastics	Dance	Water Aerobics	Gymnastics	Dance	Water Aerobics	Gymnastics	Dance
1	480	624	588	48	68	53	50	40	50
2	625	525	625	70	63	59	30	50	50
3	549	638	667	55	70	64	60	40	40
4	565	493	565	58	57	54	40	60	50
5	437	638	636	48	65	69	70	50	40
6	961	309	606	65	53	52	30	60	40
7	505	640	543	45	73	44	70	50	50
8	599	652	715	47	72	65	40	40	40
9	609	595	565	46	63	57	50	50	50
10	640	713	630	46	61	60	50	40	60
11	549	585	545	53	56	55	50	60	60
12	561	546	565	61	61	48	60	50	50

Source: Research Data.

On the comparison among several researches, including one performed by Costa and Parizotto (2010) in a Social Project that involves the Water Aerobics modality in the city of Dourados/MS, there were some similarities on the data results for the genre, once, the most of studies involve women due to the fact of this gender participate more in physical activities offered in projects related to health and to welfare of old people.

Comparing the number of samples to Aguiar et al's (2008) research, it obtained a sample of 09 elderlies between 60 to 81 years old, being 2 male and 7 female, which was applied the test (Berg's scale of functional balance), before and after the sections performed twice a week with duration of 1 hour and 30minutes, in a total of 30 sections of physiotherapy exercises and the results obtained on the patients was a possibility of drop reduction in even 50% with improvement of the functional capacity of the people analyzed.

On the Figure 1, below, it can be found the results of the tests applied in the current study, making the comparison among the people and the modalities practiced by them, it is possible to see that the elderlies who practice water aerobics presented a better performance in the sitting and standing test and moving, and a better capacity of climbing steps. The gymnastics had a highlight in the 800 meters of walking or running test. Proving the hypothesis broached in this study that elderlies who practice physical exercises improve their functional capacity in their everyday activities.

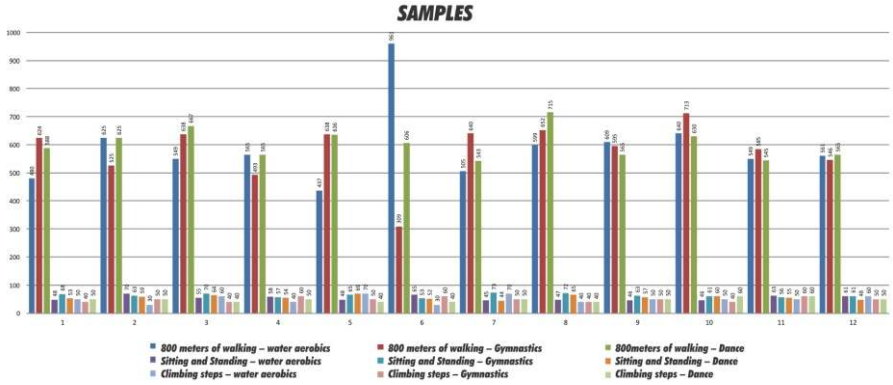


Figure 1: Comparative sample data among the tests application for the people and the modalities practiced.
Source: Research data.

In the current study, the resultant sample of the average percentage for each modality practiced is: 40% of Water aerobics over the 800 meters of walking test; 43% of sitting, standing and moving test; and 51% of the climbing steps test. The gymnastics had a 42% of percentage over the 800 meters of walking tests; 35% of sitting, standing and moving; and 48% of the climbing steps test. The Dance presented a percentage of 40% over the 800 meters of walking test; 43% on the sitting, standing and moving test; and 48% on the climbing steps test, showed on the Figure 2 below:

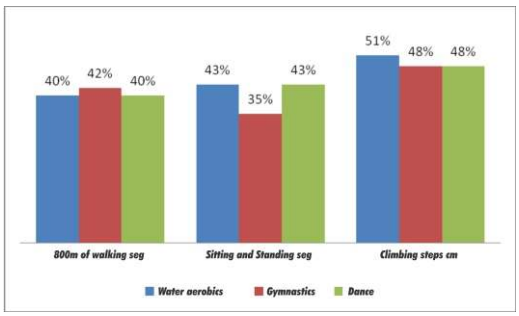


Figure 2: Percentage of the results sample average for each modality practiced.
Source: Research data

From the results it can be observed a variation among the modalities practiced, highlighting the Water Aerobics in two tests applied. Costa and Parizotto (2010) in the study which investigated the risk of drops between a control group (water aerobics regular) and an experimental group (elderlies beginners of the same modality) obtained that the control group had 100% of low risk of drop according to the score of Berg's scale of functional balance, while the experimental group had 40% for a half risk of drop and 60% for a low risk of drop, showing the beneficial effects of the water aerobics on the functional capacity among the regulars of water aerobics.

On Hernandes' research (2004) while verifying if the participation of ten weeks in the Program of Elderlies' Life Quality – A Multidisciplinary Proposal, it would be capable of provoking changes in the elderlies' development in tests that simulate everyday activities, with sample of 20 elderlies, of both sex (15 women and 5 men, ages between 61 and 77, average of 67,7 years old), it was found that the variable measures referred to the time spent to move (running or walking) in a circuit of 800m; standing from the ground; sitting, standing and moving in a space comparable to a room of little dimension (4 meters); climbing 9 steps on a stair; ability to wear a sock; and the height achieved, on the climbing steps test. Despite having no improvement in all tests, the results found – improvement in two tests, tendency of improvement in one and the maintenance of the results in the two other – offer an experimental support to the possibility of reaching success in AVL tests performance, in deadlines and training modalities not strictly suitable with the mainly basic principles of the physical training.

It was applied in the current study, the Friedman's statistic test, which is a kind of variance analysis for two criterion of variation for linked sample data, on the BioEstat 5.0 program, with margin of error of 5% for the security level in 95% finding the value of p=0,0001, what shows the study level of significance, according the figure 3, related to the positive effects for the functional capacity of the elderlies who practice physical exercise regularly.

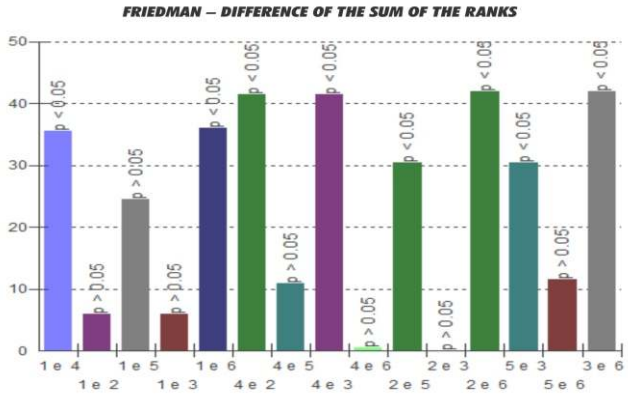


Figure 3: Friedman's Statistic test for the analysis among the samples and the modalities practiced (p=0,0001).
Source: Research data.

The coefficient of variation was determined in this study according to each modality practiced being classified as: Water aerobics (CV=0,2287); Gymnastics (CV=0,1806) and finally, Dance (CV=0,0871). Having such results, it can be confirmed that the physical activity, inserted on programs of regular physical exercises, correctly orientated by a professional of Physical Education provides intrinsic psychological reward, or else, a feeling of self-accomplishment, effectiveness, mental welfare, nevertheless, the biggest and most common motivation among elderly people is the desire of improving the personal physical aptitude and the health (SHEPHARD, 2003). So, some governments really invest on projects of prevention with the practice of physical exercises for this population due to the improvement that they bring for the health conditions in general.

CONCLUSION

It can be concluded from the study that the elderlies who practice physical exercises regularly improve their functional capacity making easier their everyday activities, such as moving, up and down steps, sitting and standing, enabling actions of autonomy on their self-care. The study showed that depending on the physical activity/exercise practiced it can promote more or better gains, considering that the Gymnastics obtained a better result in sitting and standing, while the Water Aerobics and the Dance had equal percentage in the walking tests. But the Water Aerobics exceled in the climbing steps test. It can be considered then, that the three modalities were favorable to fortify the muscles because they provide muscular and articular work on the inferior members that are favorable to the elderlies in their everyday activities.

It is not supposed to be forgotten that many other not investigated variables can interfere on these results, but it can be observed that the physical exercise practice will be always crucial and it is proved by the theoretical foundation here presented. In this sense, it must emphasize the importance of the Physical Education Professional in Social Programs developed for the elderly people, due to the fact of this professional know, comprehend, analyze and evaluate the social reality to interfere professionally on it, in different ways and modalities of the physical exercise. This way increasing the possibilities of adoption of a new life style physically healthy and active among the elderlies, improving their autonomy, for them not to feel dead in the familiar, with the neighbors or other companion, not losing their capacity of decision and choice, what keep their autonomy.

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THE ELDERLY AND THE FUNCTIONAL CAPACITY: COMPARATIVE EVALUATION OF THE DIFFERENT CATHEGORIES OF PHYSICAL ACTIVITY DEVELOPPED IN A SOCIAL PROJECT OF DOURADOS-MS

ABSTRACT

Investigate the indices of the functional capacity on a comparative evaluation of elderly who practice some modality of physical exercises in a Social Project of Dourados/MS. The field study, having a transversal character, quantitative-descriptive, through the application of 800 meters of walking tests, sitting down and standing up of the chair and climbing steps, with evaluation of 36 people, being 95% female (n=34) and 5% male (n=2), with ages between 60 to 72, in 03 modalities of physical activity of the Social Project: Water Aerobics, Gymnastics and Dance, all of them having 12 people of each sample, through drawing among the regulars of each modality. In the Water Aerobics it was obtained an average of 599 seconds in the 800 meters of walking test; 57 seconds in the sitting and standing test; and, 51 centimeters for the climbing steps. In the Gymnastics, the average was 583 seconds in the 800 meters of walking test; 65 seconds in the sitting and standing test; and, 48 centimeters to climb steps. In the Dance, it was obtained an average of 604 seconds in the 800 meters of walking test; 57 seconds in the sitting and standing test; and 48 centimeters for the climbing steps test. It was concluded through the results that the elderly who practice regular physical exercises improve their functional capacity making easier their everyday activities, indication that can be useful for new studies.

KEY-WORDS: Functional Capacity, Physical Exercises, Elderly.

L'ÂGE ET LA CAPACITÉ FONCTIONNEL: AVALIATON COMPARATIVE DES DIFFÉRENTS CATEGORIES D'ACTIVITÉS PHYSIQUES DEVELOPÉSS DANS UN PROJET SOCIAL DE DOURADOS-MS

RÉSUMÉ

Enquêter les indices de la capacite fonctionnel comparative des âgés pratiquants de quelques modalités d'exercices physiques dans um projet social de Dourados-MS. La recherche de champ, de caractère transversal, quantitatif-descriptif, a eté realizée par moyen d'application de tests de marche de 800 mètres, asseoir et lever de la chaise et monter marche avec avaliation de 36 individus, étant 95% du sexe féminin (n=34) et 5% du sexe masculin (n=2), avec un groupe d'âge entre 60à 72 ans, en 3 modalités d'activité physique du projet social: Hydrogymnastique, Gymnastique et Dance, toutes avec 12 personnes pour chaque échantillon. À la Hydrogymnastique a obtenu une moyenne de 599 secondes au test de asseoir et ever; et, 51 centimètres pour le test de monter les marches. À la Gymnastique la moyenne a eté de 583 secondes au test de marche de 800 mètres, 65 secondes au test de asseoir et lever; et 48 centimètres pour monter les marches. À la Dance, a obtenu une moyenne de 604 secondes au test de marche de 800 mètres; 57 secondes au test de asseoir et lever; 48 centimètres pour le test de monter des marches. Pouvons nous conclure que les âgés que pratiquent exercices physiques régulierment améliorent votre capacite fonctionnel facilitant les activités de la vie quotidienne ce que sert d'indication pour les nouveaux études.

MOTS-CLÉS: Capacité Fonctionnel, Exercice Physique, Âgés.

LA EDAD Y LA CAPACIDAD FUNCIONAL: EVALUACIÓN COMPARATIVA DE LAS DIFERENTES CATEGARÍAS DE ACTIVIDAD FÍSICAS DESAROLLADAS EM UM PROYECTO SOCIAL DE DOURADOS-MS

RESUMEN

Investigar los índices de la capacidad funcional en una evaluación de ancianos praticantes de algunas modalidades de ejercicios fisicos de un proyecto social de Dourados-Ms. La pesquisa de campo, de carácter transversal, cuantitativo-descriptivo fue realizado por medio de aplicación de pruebas de paseos de 800 metros, sentar y levantar de la silla y subir escalón con evaluación de 36 personas, siendo 95¨mujeres (n=34) y 5% hombres (n = 2), con un grupo de edad entre 60 a 72 años en 3 formas de actividad física del proyecto: Hidrogimnasia, gimnasia y danza, todos con 12 personas para cada muestra. En la hidrogimnasia recibió una media de 599 segundos en la prueba de paseo de 800 metros, 57 segundos en la prueba de levantar y sentar, y 51 centímetros para la prueba de subir los escalónes. En la gimnasia la media fue de 583 segundos en la prueba de paseo de 800 metros, 65 segundos para la prueba de sentar y levantar, y 48 centímetros para subir escalón. En la danza, tiene una media de 604 segundos en la prueba de paseo de 800 metros, 57 segundos en la prueba de sentar y levantar, y 48 centímetros en la prueba de subir escalón. Podemos concluir que los ancianos que pratican ejercicios físicos regularmente mejoran su capacidad funcional facilitando las actividades de la vida diaria que que sirve como una indicación para los nuevos estudíos.

PALABRAS CLAVE: Capacidad Funcional, Ejercicio Físico, Ancianos.

O IDOSO E A CAPACIDADE FUNCIONAL: AVALIAÇÃO COMPARATIVA DAS DIFERENTES CATEGORIAS DE ATIVIDADES FÍSICAS DESENVOLVIDAS EM UM PROJETO SOCIAL DE DOURADOS-MS

RESUMO

Investigar os índices da capacidade funcional em uma avaliação comparativa de idosos praticantes de algumas modalidades de exercícios físicos de um Projeto Social de Dourados/MS. A pesquisa de campo, de caráter transversal, quantitativo-descritiva, por meio de aplicação de testes de caminhada de 800 metros, sentar e levantar da cadeira e subir degraus, com avaliação de 36 indivíduos, sendo 95% do sexo feminino (n= 34) e 5% do sexo masculino (n=2), com faixa etária entre 60 a 72 anos, em 03 modalidades de atividade física do Projeto social: Hidroginástica, Ginástica e Dança, todas contando com 12 sujeitos para cada amostra, mediante sorteio entre os frequentadores de cada modalidade. Na Hidroginástica obteve-se uma média de 599 segundos no teste de caminhada de 800 metros; 57 segundos no teste de sentar e levantar; e, 51 centímetros para o teste de subir degraus. Na ginástica, a média foi de 583 segundos no teste de caminhada de 800 metros; 65 segundos no teste da sentar e levantar; e, 48 centímetros para subir degraus. Na Dança, obteve-se uma média de 604 segundos no teste de caminhada de 800 metros; 57 segundos no teste da sentar e levantar; e, 48 centímetros para o teste de subir degraus. Concluiu-se pelos resultados apresentados que os idosos que praticam exercícios físicos regularmente melhoram sua capacidade funcional facilitando as atividades da vida diária, o que serve de indicação para novos estudos.

PALAVRAS-CHAVE: Capacidade Funcional, Exercício Físico, Idosos.