64 - EVALUATION OF PHYSICAL APTITUDE AND FUNCTIONAL CAPACITY FROM PRACTITIONERS OF REGULAR EXERCISES AGED.

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INTRODUCTION

The aged population in Brazil comes gradually increasing. According to IBGE (Brazilian Institute of Geography and Statistics), in 1970 the population who was more than 60 years old was 4, 7 million of people (what it represented 5.05% of the total population); in 1980 this number was 7, 2 million (6.06%); in 1991 the aged population increased for 10,7 million (7.30%). Expecting to get in the end of the century with 8.658.000 aged ones, i.e., 1 in each 20 Brazilians will have more than 65 years old (5.023.200 of women and 3.634.800 of men). The projection for 2020, when the life expectation would be 75,5 years, population will be form by 23.5% of young and 7.7% of aged, i.e., will be composed for 16,2 million aged 1 in each 13 belong to the aged population (Camargo, 1995; Berquó, 1996; Chamowicz, 1998).

The estimate for 2025 is an increase of five times of general population and 25 times of aged population. For 2080 the proportion of young and aged should be stabilize with respectively 20% and 15% of the total. At least 20 years, Brazil passed from 16° to 10° place in the countries who have oldest population in the world. (Camarano, 1988).

With this data you can notice that the Brazilian population is more careful about the aging process, which causes physical, physiological and cognitive alterations.

According to Matsudo & Matsudo (1993), the aging comes with series of effects in the different systems of human body that reduces the physical aptitude and performance. McArdle (1996), affirm that all the physiologic measurements declines with the aging, although not all of them have the same rhythm, and the deterioration vary widely to a definitive age and according to the characteristics of the way of life.

The OMS (World Organization of the Health), has evidenced that it is much more easy to prevent death than the occurrence of chronic diseases and the development of incapacities associates to the aging. Although the great majority of aged ones are carrying of, at least, a chronic disease, nor all are limited for these illnesses, and many of them take normal life, with its controlled illnesses and express satisfaction in the life.

One of the biggest concerns, when we think about aging, is the loss of Autonomy, it is defined by Ramos (2002), as the capacity to determine and execute them proper appoints. Any person who gets the old age is able to determine its daily life activities, these including, physical activities, social activities, leisure, work, among others, will be considered a healthful person.

The functional capacity is one of the factors that the individual loses the Autonomy. Many researches work with the concept of functional incapacity, which defines for the presence of difficulty in the performance of certain gestures and certain activities of the daily life or impossibility to perform them.

According to Matsudo et al. (2003), sarcopenia is a generic term which indicates the loss of the mass, force and quality of the skeletal muscle, there is an significant impact in the daily life activities of aged ones, increasing the risks of falls, loss of functional physical independence and more risks of chronic diseases as diabetes and osteoporosis, however, the loss of muscular mass and, consequently, muscular strength is the main responsible by deterioration of mobility and functional capacity the individual that it is aging.

The functional capacity appears as a new paradigm of health, and if the Health is a resultant of the multidimensional interaction between physical and mental health, independence in the daily life, social integration, familiar support and economic independence, any difficult that will have in one of these dimensions, will be able to affect the functional capacity of an aged one.

One of the solutions to keep a healthful old age with a preservation of functional capacity is the physical activity. According to ACSM (American College of Sports Medicine), the benefices of regular physical activity for the health has been widely registered. There are many evidences that initial results gotten from physical activity program just will be kept if the individuals keep practicing appropriate exercise for a long time.

Mazo et al.,(2001) defines physical activity as every/all and any corporal movement produced by skeletal muscle (voluntary) which results in spend energize above of the rest levels. By the way, the physical aptitude is understood as the set of characteristics possessed or acquired by an individual who are related with capacity to do physical activities.

However, the physical activity is associated with the improvement of the health. It can provide improvements in the psychological and social aspects of the people who do it regularly.

Knowing that the functional capacity and the physical aptitude suffer derived alterations from the aging, this research has as objective to evaluate the physical aptitude and the functional capacity of aged that do regular exercises at AFRID-FAEFI-UFU project.

GENERAL OBJECTIVE

To evaluate the physical aptitude and the functional capacity of the aged which do exercises at AFRID-FAEFI-UFU project.

SPECIFICS OBJECTIVES

· To analyze the flexibility of the shoulder
· To measure the normal and maximum velocity of walking
· To measure the velocity of raising from seated and lying position
· To evaluate the functional capacity of each volunteer
· To improve the quality of life according to autonomy, performance of functions and independence of action.

METHODOLOGY

This research has a quantitative character, and it was made in the Physical Education College-Federal University of Uberlândia (FAEFI-UFU).

Sampling

This research was made by 12 women with average age of 65 years practicing regular exercises of AFRID group.

Instruments

The used instruments were tests: Arm curl, Flexibility of shoulder, Test to seat and to reach, Form of auto-evaluation of functional capacity (Rikli & Jones, 1999), Normal and maximum velocity of walking protocol by Williams & Greene, 1990; Velocity to stand up of the seated position, Velocity to stand up of the lying position, Velocity to stand up of the

chair (CELAFISCS).

RESULTS

The results of the physical aptitude are in tables 1, 2 and they are presented average (x) and standard deviation(s), respectively. The evaluation of physical aptitude demonstrates that these values are equal and/or rather, when compared with the values reference standards, except in the test of Normal Velocity of Walking. In the auto-evaluation questionnaire it can be verified that 89,5% had answered that they do exercises, i.e., they present advanced functional level.

Table 1

TESTS	50 -59 YEARS	60 -69 YEARS	70 -79 YEARS
Maximum Velocity of Walking*	2,24 x 0,15 s	2,46 x 0,16 s	2,60 x 0,18 s
Normal Velocity of Walking*	3,00 x 0,12 s	3,21 x 0,39 s	3,63 x 0,49 s
Velocity to stand up of the chair*	0,61 x 0,13 s	0,68 x 0,14 s	0,63 x 0,15 s

Table 2

TESTS	60 -64 YEARS	65 -69 YEARS	70 -74 YEARS	75 -79 YEARS
Arm curl	24,33 x 6,02 s	24 x 1,41 s	21 x 0 s	19,5 x 3,53 s
Flexibility of shoulder**	-1 x 10,81 s	-4,75 x 10,96 s	-7 x 7,07 s	3 x 1,41 s
To seat and To reach**	5,33 x 11,93 s	6 x 9,89 s	2,75 x 3,88 s	4 x 4,24 s
Velocity to stand up of SEATED position*	2,27 x 0,35 s	2,93 x 0,35 s	3,22 x 0,14 s	2,51 x 0,10 s
Velocity to stand up of lying position*	2,4 x 1,75 s	4,24 x 0,61 s	4,36 x 0,77 s	2,93 x 0,09 s

*resulted in seconds and hundredth of second
**resulted in centimeters

CONCLUSION

From theses results we can notice significant improvement in the physical aptitude and functional capacity of the aged practitioners of regular exercises. The important point of this research was an anticipated knowing of the aged about the purposes and consequently they showed more interesting with the research and tests.

Finally, from this research we can affirm that a program of physical exercises based on real necessities of aged can propose good activities time, opportunity of improvement in the physical, physiological and social aspects of population researched.

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EVALUATE OF PHYSICAL APTITUDE AND FUNCTIONAL CAPACITY FROM PRACTITIONERS OF REGULAR EXERCISES AGED.

Introduction: The aptitude physical and functional capacity is determinative of the effect of the aging in the physical performance. Objective: To evaluate of physical aptitude and functional capacity in people with 50 years or more, practitioners of regular exercises. Methodology: 12 women with average age of 65 years practicing regular exercises of AFRID group, 12 of them did tests of the Table-1 and 9 of them did tests of the Table-2. The used instruments were tests: Arm curl, Flexibility of shoulder, Test to seat and to reach, Form of auto-evaluation of functional capacity (Rikli & Jones, 1999), Normal and maximum velocity of walking protocol by Williams & Greene, 1990; Velocity to stand up of the seated position, Velocity to stand up of the lying position, Velocity to stand up of the chair (CELAFISCS). Results: The results of the physical aptitude are in tables 1, 2 and they are presented average (x) and standard deviation(s), respectively. The evaluation of physical aptitude demonstrates that these values are equal and/or rather, when compared with the values reference standards, except in the test of Normal Velocity of Walking. In the auto-evaluation questionnaire it can be verified that 89, 5% had answered that they do exercises, i.e., they present advanced functional level.

Table 1

TESTS	50 -59 YEARS	60 -69 YEARS	70 -79 YEARS
Maximum Velocity of Walking*	2,24 x 0,15 s	2,46 x 0,16 s	2,60 x 0,18 s
Normal Velocity of Walking*	3,00 x 0,12 s	3,21 x 0,39 s	3,63 x 0,49 s
Velocity to stand up of the chair*	0,61 x 0,13 s	0,68 x 0,14 s	0,63 x 0,15 s

Table 2

TESTS	60 -64 YEARS	65 -69 YEARS	70 -74 YEARS	75 -79 YEARS
Arm curl	24,33 x 6,02 s	24 x 1,41 s	21 x 0 s	19,5 x 3,53 s
Flexibility of shoulder**	-1 x 10,81 s	-4,75 x 10,96 s	-7 x 7,07 s	3 x 1,41 s
To seat and To reach**	5,33 x 11,93 s	6 x 9,89 s	2,75 x 3,88 s	4 x 4,24 s
Velocity to stand up of SEATED position*	2,27 x 0,35 s	2,93 x 0,35 s	3,22 x 0,14 s	2,51 x 0,10 s
Velocity to stand up of lying position*	2,4 x 1,75 s	4,24 x 0,61 s	4,36 x 0,77 s	2,93 x 0,09 s

*resulted in seconds and hundredth of second
**resulted in centimeters

Conclusion: From theses results we can notice significant improvement in the physical aptitude and functional capacity of the aged practitioners of regular exercises.
Key-words: Functional Capacity, Aptitude Physical, aged.

ÉVALUATION DE L'APTITUDE PHYSIQUE ET CAPACITÉ FONCTIONNELLE DE PERSONNES ÂGÉES PRATIQUANTES DE GYMNASTIQUE DU PROJET AFRID

Introduction: L'évaluation des composantes de l'aptitude physique et de la capacité fonctionnelle est déterminante des effets du vieillissement dans la performance physique, ainsi que dans l'évaluation de programmes d'activité physique. Objectif: Évaluer l'aptitude physique et la capacité fonctionnelle dans des personnes avec plus de 50 ans, praticiens de gymnastique. Méthodologie: La population étudiée a été des femmes pratiquantes de gymnastique du Projet AFRID. L'échantillon s'est composé de 12 femmes avec âge moyen de 65 ans, étant que 12 ont participé des essais de Tableau 1 et 9 ont participé des essais de Tableau 2. Les instruments utilisés ont été les essais : Flexion de coude, Flexibilité de l'épaule, Essai d'asseoir et atteindre, Fiche d'auto évaluation de la capacite fonctionnelle (Rikli et Jones, 1999), Vitesse normale d'étage et Vitesse maxime d'étage, minutés par Williams & Greene, 1990 ; Vitesse pour que se soulèvent de la position de places assises, Vitesse pour que se soulèvent de la position couchée et Vitesse de soulèvement de la chaise (CELAFISCS). Résultats: Les résultats de l'aptitude physique sont dans les tableaux 1, 2 et sont présentés moyenne (x) et détour étalon (s), respectivement. L'évaluation de l'aptitude physique démontre que des valeurs obtenues sont égaux et/ou meilleurs, quand comparés avec les valeurs des normes de référence, excepté dans l'essai de vitesse normale de marcher. Dans le questionnaire d'auto évaluation se peut vérifier que 89,5% a répondu qui fait les activités, c'est-à-dire, présente niveau fonctionnel "avancé".

Tableau 1

ESSAIS	50 -59 ANS	60 -69 ANS	70 -79 ANS
Vitesse maxime d'étage*	2,24 x 0,15 s	2,46 x 0,16 s	2,60 x 0,18 s
Vitesse normale d'étage *	3,00 x 0,12 s	3,21 x 0,39 s	3,63 x 0,49 s
Vitesse de soulèvement de la chaise *	0,61 x 0,13 s	0,68 x 0,14 s	0,63 x 0,15 s

Tableau 2

ESSAIS	60 -64 ANS	65 -69 ANS	70 -74 ANS	75 -79 ANS
Flexion de coude	24,33 x 6,02 s	24 x 1,41 s	21 x 0 s	19,5 x 3,53 s
Flexibilité de l'épaule **	-1 x 10,81 s	-4,75 x 10,96 s	-7 x 7,07 s	3 x 1,41 s
S'asseoir et atteindre**	5,33 x 11,93 s	6 x 9,89 s	2,75 x 3,88 s	4 x 4,24 s
Vitesse pour que se soulèvent de la position de places assises*	2,27 x 0,35 s	2,93 x 0,35 s	3,22 x 0,14 s	2,51 x 0,10 s
Vitesse pour que se soulèvent de la position couchée*	2,4 x 1,75 s	4,24 x 0,61 s	4,36 x 0,77 s	2,93 x 0,09 s

*résultat dans des secondes et centièmes d'en second
** résultat dans des centimètres

Conclusion: On peut affirmer que le Programme de Gymnastique a réussi à améliorer l'aptitude physique et la capacite fonctionnelle de la population étudiée
Mots Clef: l'aptitude physique, capacité fonctionnelle, personnes âgées

EVALUACIÓN DE LA DISPOSICIÓN FÍSICA Y CAPACIDAD FUNCIONAL DE ANCIANAS QUE PRACTICAN GINMASIA EN EL PROYECTO AFRID

Introducción: La capacidad funcional es determinante de los efectos del envejecimiento en el desempeño físico. Objetivo: Evaluar la disposición física e la capacidad funcional en las personas con más de 50 años que practican gimnasia. Metodología: 12 mujeres con edad media de 65 años siendo que 12 participaron de los tests de la tabla 1 y 9 participaron de los tests de la tabla 2. Los instrumentos usados fueron los tests: Flexión del codo, Flexibilidad del hombro, Test de sentarse y alcanzar, Ficha de autoevaluación de la capacidad funcional (Rikli & Jones, 1999), Velocidad normal de caminar y Velociadad

máxima de caminar (Williams & Greene, 1990); Velocidad para levantarse de la posición sentada, Velocidad para levantarse de la posición acostada y Velocidad para levantarse de la silla (CELAFISCS). Resultados: Los resultados de la disposición física están en las tablas 1, 2 y son presentadas las medias (x) y (s), sendos. La evaluación de la disposición física demostra que valores obtenidos son iguales y/o mejores, cuando son comparados con los valores patrones de referencia, excepto en em test de Velocidad Normal de Caminar. En el cuestionario de autoevaluación se puede verificar que el 89,5% responderon que hacen las actividades, es decir, presentan nivel funcional "avanzado".

Tabla 1

TESTS	50 -59 AÑOS	60 -69 AÑOS	70 -79 AÑOS
Velocidad Máxima de Caminar*	2,24 x 0,15 s	2,46 x 0,16 s	2,60 x 0,18 s
Velocidad Normal de Caminar*	3,00 x 0,12 s	3,21 x 0,39 s	3,63 x 0,49 s
Velocidad de levantarse de la silla*	0,61 x 0,13 s	0,68 x 0,14 s	0,63 x 0,15 s

Tabla 2

TESTS	60 -64 AÑOS	65 -69 AÑOS	70 -74 AÑOS	75 -79 AÑOS
Flexión del codo	24,33 x 6,02 s	24 x 1,41 s	21 x 0 s	19,5 x 3,53 s
Flexibilidad del hombro**	-1 x 10,81 s	-4,75 x 10,96 s	-7 x 7,07 s	3 x 1,41 s
Sentarse y alcanzar**	5,33 x 11,93 s	6 x 9,89 s	2,75 x 3,88 s	4 x 4,24 s
Velocidad para levantarse de la posición "SENTADA"*	2,27 x 0,35 s	2,93 x 0,35 s	3,22 x 0,14 s	2,51 x 0,10 s
Velocidad para levantarse de la posición "ACOSTADA"*	2,4 x 1,75 s	4,24 x 0,61 s	4,36 x 0,77 s	2,93 x 0,09 s

*resultado en segundos y centésimos de segundo
**resultado en centímetros

Conclusión: Se puede afirmar que el Programa de Gimnasia está consiguiendo mejorar la disposición física y la capacidad funcional de esta población estudiada.

Palabras claves: capacidad funcional, disposición física, ancionos.

AVALIAÇÃO DA APTIDÃO FÍSICA E CAPACIDADE FUNCIONAL DE IDOSAS PRATICANTES DE GINÁSTICA DO PROJETO AFRID

Introdução: A aptidão física e a capacidade funcional é determinante dos efeitos do envelhecimento no desempenho físico. Objetivo: Avaliar a aptidão física e capacidade funcional em pessoas com mais de 50 anos, praticantes de ginástica. Metodologia: 12 mulheres praticantes de ginástica do Projeto AFRID, com idade média de 65 anos, sendo que 12 participaram dos testes da Tabela 1 e 9 participaram dos testes da Tabela 2. Os testes foram: Flexão de cotovelo, Flexibilidade do ombro, Teste de Sentar e Alcançar, Ficha de auto-avaliação da capacidade funcional (Rikli & Jones, 1999), Velocidade normal de andar e Velocidade máxima de andar, protocolados por Williams & Greene, 1990; Velocidade para se levantar da posição sentada, Velocidade para se levantar da posição deitada e Velocidade de levantar da cadeira (CELAFISCS). Resultados: Os resultados da aptidão física estão nas tabelas 1, 2 e são apresentados média (x) e desvio padrão (s), respectivamente. A avaliação da aptidão física demonstra que valores obtidos são iguais e/ou melhores, quando comparados com os valores padrões de referência, exceto no teste de Velocidade Normal de Andar. No questionário de auto-avaliação pode-se verificar que 89,5 % responderam que fazem as atividades, ou seja, apresentam nível funcional "avançado".

Tabela 1

TESTES	50 -59 ANOS	60 -69 ANOS	70 -79 ANOS
Velocidade Máxima de Andar*	2,24 x 0,15 s	2,46 x 0,16 s	2,60 x 0,18 s
Velocidade Normal de Andar*	3,00 x 0,12 s	3,21 x 0,39 s	3,63 x 0,49 s
Velocidade de levantar da cadeira*	0,61 x 0,13 s	0,68 x 0,14 s	0,63 x 0,15 s

Tabela 2

TESTES	60 -64 ANOS	65 -69 ANOS	70 -74 ANOS	75 -79 ANOS
Flexão de cotovelo	24,33 x 6,02 s	24 x 1,41 s	21 x 0 s	19,5 x 3,53 s
Flexibilidade do ombro**	-1 x 10,81 s	-4,75 x 10,96 s	-7 x 7,07 s	3 x 1,41 s
Sentar e alcançar**	5,33 x 11,93 s	6 x 9,89 s	2,75 x 3,88 s	4 x 4,24 s
Velocidade para se levantar da posição "SENTADA"*	2,27 x 0,35 s	2,93 x 0,35 s	3,22 x 0,14 s	2,51 x 0,10 s
Velocidade para se levantar da posição "DEITADA"*	2,4 x 1,75 s	4,24 x 0,61 s	4,36 x 0,77 s	2,93 x 0,09 s

*resultado em segundos e centésimos de segundo
**resultado em centímetros

Conclusão: Pode-se afirmar que o Programa de Ginástica tem conseguido melhorar a aptidão física e capacidade funcional desta população estudada.

Palavras-chave: capacidade funcional, aptidão física e idosos.