117 - SUBJECTIVE ANALYSIS OF INSTRUMENTS THAT MEASURE PHYSICAL-MOTOR CAPACITY BY THE ELDERLY VIEW

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INTRODUCTION

With regard to the area of physical activity for elderly persons, evaluate the old means to quantify and describe the physical capabilities by determining the functional conditions of the individual aging process. Therefore, the elderly are exposed to batteries of tests that identify the physiological parameters, motor performance, physical activity level, ability to maintain the activities of daily living, among others, but little research on the perception of the evaluated about the testing they are submitted. It is this perspective that this research aims to understand how the elderly perceive the tests of physical and motor fitness that are submitted, proposed by the literature.

Considering that aging can be understood as a dynamic and progressive process, in which there are morphological, functional, biochemical and psychological loss that determine the adaptability of the individual to the environment, leading to greater vulnerability and greater incidence of pathological processes that eventually take it to death (Papaléo Netto, 2002). And the functional capacity is the result of the harmonious relationship between physical, mental, independence in daily living, social integration, family support and economic independence, interacting in a multidimensional way. Any imbalance in one of these universes can affect the functional capacity and all other dimensions relating to the life of the elderly (Ramos, 2002). An active lifestyle is essential to prolong and increase the ability to work to improve the performance of LDAs and preventing disability and dependency in later life. When it comes to quality of life, studies shows the main indicator is functional capacity, and indicate the strength and flexibility are the main qualities of physical fitness for the performance of daily tasks such as lifting and sitting, climbing stairs, carrying objects, use tools and tools, wear clothes and shoes and take care of personal hygiene (Santarém, 2003).

The determination of the functional capacity of people has been mostly established in the international context in accordance with the performance in activities of daily living. The success in performing simple or advanced activities associated with the presence or absence of external assistance in performing certain tasks represent the main indicators of classification and hierarchy of the functional capacity of the elderly (Raso, 2007). For this you need to evaluate! It is necessary to determine the condition for proper targeting, but the most important thing is to determine how much the elderly understand this need, if the test objective is comprised in the same way that it has been proposed. The older people perception of the performed tests guide us for the selection of movements really related to the LDA, or the study of what truly makes an impact on this person's life.

METHODOLOGY

The subjects of this study were 112 elderly enrolled in programs of systematic activities of the Sports of the Municipality, practicing gymnastics, aged 60 to 85 years, of both sexes.

Motor-physical batteries tests were chosen among the most widely used and suitable for active elderly population in the literature: battery of the American Alliance for Health, Physical Education, Recreation in Dance - AAHPERD; CELAFISCS, battery of Andreotti Okuma, 1999; Motor Scale for Elderly Rosa Neto, 2009; battery to assess functional capacity of the Program Curitibativa, and others cited by Spirduso, 2005 (Picture 1). The tests that were part of the investigation were previously drawn, filmed and arranged in ordered clips that were part of four films. A professor of the Department of Sports, for a performance that would not raise doubts, did the selected tests. Data collection was performed in the second fortnight of June 2009.

Picture 1. Selected tests for subjective evaluation.

	Test	*Reference*
1	Make the lame walk	Motor scale for seniors / general coordination, level 7. Rosa Neto, 2009
2	Jump a height of 20 cm	Motor scale for seniors / general coordination, level 5. Rosa Neto, 2009
3	Jump over a Chair	Motor scale for seniors / general coordination, level 11. Rosa Neto, 2009
4	Mobility at home	LDA battery of Andreotti & Okuma, 1999. Test: sitting and rising from a chair and move about the house
5	Vertical Jump	Vertical Jump Test. in: Matsudo, 2000
6	Sit and Lift of a Chair	LDA battery of Rikli & Jones, 1999. Test: sitting and rising from a chair in 30 seconds.
7	Jump a height of 40 cm	Scale motor for elderly / general coordination, level 8. Rosa Neto, 2009
8	Make the lame walk with a matchbook	Motor scale for seniors / general coordination, level 10. Rosa Neto, 2009
9	Up on a bench (with support)	Motor scale for seniors / general coordination, level 2. Rosa Neto, 2009
10	Jump over a rope	Motor scale for seniors / general coordination, level 3. Rosa Neto, 2009
11	One knee balance position	Motor scale for seniors / balance, level 9. Rosa Neto, 2009
12	Balance is squatting	Motor scale for seniors / balance, level 8. Rosa Neto, 2009
13	Balancing yourself on one knee	Motor scale for seniors / balance, level 3. Rosa Neto, 2009
14	Forearm flexion	LDA battery of Rikli & Jones, 2004. Test: Flexion of the forearm in 30 seconds.
15	KR trunk flexion test	Sit and Reach Adapted – KR bench. Kruchelski and Rauchbach, 2005.
16	1 min Abdominal test	Abdominal Test Modified (curl -up test) in: Nahas, 2003.
17	Kneeling from a lying position	LDA battery for elderly in level III of Spirduso, 2005. Test: Maneuver general mobility.
18	Climbing stairs	LDA battery of Andreotti & Okuma, 1999. Testing Tes ting Steps Up
19	Ruler flexibility	LDA battery of Rikli & Jones, 2004. Test: sit and reach.
20	Going up steps	LDA battery of Andreotti & Okuma, 1999. Testing Testing Steps Up
21	1 min Push-up test	Flexion / extension of the arms (such as a forward on the ground) in: Nahas, 2003
22	Knee elevation	LDA battery of Rikli & Jones, 2004. Test: two minutes of step on the spot.
23	Balance yourself on a bench (static)	Motor scale for seniors / balance, level 2. Rosa Neto, 2009
24	Coordination test (COO)	AAHPERD battery. Coordination test (Swap cans).
25	Rotate 360 °	Tinetti range of balance and mobility: in Spirduso, 2005. Balance while turning.

Initially the elderly fill out a self-assessment of functional capacity (Rikli & Jones, 1999; in Matsudo, 2000, p.83) with 12 questions and signed out the informed consent. To understand the perception of the elderly about the physical and motor fitness testing proposed in the literature regarding their implementation capacity and the subjective degree of difficulty, but also check the layout of this group to undertake them, the elderly have seen four films with 25 clips, each clip depicting the execution of a physical test-engine. After each test, the elderly have indicated in a proper summary form, their choice of answers to the questions: *Are you able to perform this test? Would you like to perform this test? Do you see the application of this movement in your day to day? This test, in your opinion, shows what degree of difficulty?* The hypothesis is that there is an association of the ability to perform the tests with the decision to execute them and with the understanding of the movement use in everyday life. The data were initially treated by the descriptive statistics and analyzed in BioEstat 5.0 with application of the Chi-square test of adhesion. The hypothesis was rejected when (p) was less than 0.05.

RESULTS AND DISCUSSION

Functional analysis indicated 89.3% of the elderly have high scores and moderate to complete the LDA. The tests with the highest percentage of full marks for the difficulty was the *jump over a chair* (75%) and *Jump a height* of 40 cm (48.2%), the same tests were identified as the most unable to perform, 82.1% and 42.9%, respectively, according to descriptive statistics. *Up on a bench with support* was minimal difficulty for 83.9% of the individuals, followed by the *Knee elevation for 2 min* (75.9%). Most considered more able to perform the *Forearm flexion also in the Up on a bench with support* (92%).

Table 1. Results percentage of positive res ponses (above 66%) for 1, 2 and 3 films, according to descriptive statistics.

	Feel capable to do	*Would like to try*	*See the application*
	%	%	%
Make the lame walk	-	71,4	-
Jump a height of 20cm	-	69,6	-
Jump a height of 40cm	-	-	-
Make the lame walk with a matchbox	-	67,0	-
Up on a bench (with support)	92,0	88,4	83,9
Jump over a chair	-	-	-
Mobility at home	84,8	90,2	67,9
Jump over a rope	90,2	83,0	-
Jump in the air	-	-	-
Squatting balance position	67,0	-	-
Vertical jump	73,2	67,9	--
Sitting and rising from a chair	90,2	85,7	73,2
One knee balance position	85,7	82,1	-
Forearm flexion	92,0	87,5	-
KR trunk flexion	77,7	73,2	-
1 min Abdominal test	-	-	-
Kneeling from lying position	67,9	73,2	-
Stair climb	74,1	68,8	-
Ruler flexibility	75,0	71,4	67,0
Steps up	-	-	-
1 min arm flexion test	-	-	-
Knee elevation	90,2	84,8	74,1
Balance yourself on a bench (static)	84,8	80,4	79,5
Coordination test (COO)	71,4	73,2	-
Rotate 360°	75,0	75,0	67,0

The tests that older people would most like to run (> 85%) were: *mobility at home, climb the bench to support, forearm flexion and sit up from his chair.* Less interest tests in running were *jump over a chair* (76.8%) and *Jump a height* of 40 cm (57.1%). The applicability has been identified in the *Up in a bench with support* (83.9%) and *Balance yourself in a bench (static)* (79.5%), contrary to *jump over a chair* and *Jump a height of 40 cm,* with low scores with the daily activities.

Table 2. Results percentage of negative responses (above 66%) for 1, 2 and 3 f ilms, according to descriptive statistics.

	Do not feel capable to do	**Would not like to try**	**Do not see the application**
	%	%	%
Make the lame walk	-	-	69,6
Jump a height of 40 cm	-	-	78,6
Make the lame walk with a matchbox	-	-	77,7
Jump over a chair	82,1	76,8	89,3

Some results reflect the nature of human beings to challenge themselves, *as make the lame walk, jump over a rope,* but are not related to the elderly daily activities, despite participating in other phases of their lives. Thus, movements experienced in youth are reported as easy to perform, even when they are no longer part of the repertoire of movements performed in everyday life.

Tests considered easy movements that correspond to what elderly can still perform indifferent to realize that they can cause injury or cause pain. Moreover, both tests appear to be difficult ones that require skills that are already compromised. However, recent experiences, as tests carried out on fitness group physical assessments, were considered easier than the tests

never experienced before.

It is suggested that the purpose of testing for the elderly must observe the relationship of the movement or skill with daily activities needs that could be at risk with aging. In other tasks or tests developed for other age groups, there is a risk that the elderly judge it able to perform tests because are posed by the teacher (complete confidence), the same way they believe they should be able to do what is asked and risk themselves in inadequate movements.

The report assessed that they would not like to perform some tests proposed in the literature, meaning that researchers may be exposing the elderly to unpleasant situations.

Table 3. Significant p values (p>0,05) for association between the capable of execute, readiness for implementation and relationship with the everyday activities.

Tests	*p*
Up on a bench (with support)	0,813
Jump over a chair	**0,187**
Mobility at home	0,153
Squatting balance position	0,113
Vertical jump	0,201
Sitting and rising from a chair	0,352
One knee balance position	0,958
KR trunk flexion	0,152
1 min abdominal test	0,309
Kneeling from a lying position	0,278
Stair climb	0,373
Ruler flexibility	0,775
Steps up	0,854
1 min arm flexion test	0,212
Knee elevation	0,405
Balance yourself on a bench (static)	0,893
Coordination test (COO)	0,802
Rotate 360°	0,717

Pondering the statistical evaluation, the association was positive for 18 of the evaluated tests. One of them, *jump over a chair,* showed a strong association, but in reverse. While others were related to routine activities for the elderly, the test in question does not relate, do not want to try it and is not within the implementation capacity of the population studied. The tests that were not associated are based on infant motor development batteries, which have been proposed for the elderly as a way to assess motor skills - *Making the lame walk, make the lame walk with a matchbox, jump over a rope, Jump a height of 20 cm, Jump a height of 40 cm* (Rosa Neto, 2009). The exception is the test of forearm flexion, for which no association was observed for the adhesion test, chi-square, but was related to the daily descriptive statistics. It is concluded that the greatest loss of strength in lower body developed with aging, reduces the perception of the role of upper body in the household, as to lift groceries or lift a small child.

CONCLUSION

The evaluation of the results shows that not all the proposed tests may be appropriate for the elderly. The aging process and functional capacity should be considered in the choice of tests for the elderly population, because the lack of perception of physical aging affects the trial's ability to conduct a test, putting them at risk of injury. Furthermore, identification of tests not related to the daily life points elderly to risk situations during the evaluation, considering that the elder will try to make the assessments. Thus, moves that go against the recommendations for prevention of falls should not be part of protocols for evaluation of the elderly. Whereas the teacher is responsible for counseling for the prevention of domestic accidents, when one observes that the elderly undergo daily through risk conditions, for example, having the habit to balance themselves on a bench.

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ABSTRACT

The physical assessment for the elderly is a mean to quantify and qualify the physical activity for an aging body. The elderly are exposed to batteries of tests that identify the physiological parameters but that limit physical activity to only motor benefit when its fundamental importance to this age is the psycho emotional social aspects. However, adding the vision of the assessed valued the ability increases the functional relationship of exercise to the individual. The older people perception of the performed tests helps to guide for the selection of movements related to the LDAs, or the study of what truly makes an impact on this person's life. The objective of this study is to understand the perception of the elderly regarding the testings of physical and motor fitness proposed in the literature. Randomly chose 25 tests that were filmed in clips and organized in four films. The sample consisted of 112 elderly people who watched the films and answered four questions. The hypothesis is that there is an association of the ability to perform the tests with the decision to execute them and with the understanding of the use of movement. The data were analyzed by descriptive statistics and chi-square, $p < 0.05$, by BioEstat 5.0. The association was positive for 18 of the tests evaluated, while tests based on infant motor development were excluded. An exception proved to be evident with the lack of association of forearm flexion test. Concluded that the greatest loss of strength in lower limbs enable the perception of the role of upper limbs in the household. The results evaluation shows that not all the proposed tests may be appropriate for the elderly; there is a need for teachers to relate the exercises with LDAs and to discuss which tests really illustrate the physical aspects of aging.

KEYWORDS: Motor Evaluation, Aging, Subjective Analysis

ANALYSE SUBJECTIVE DES INSTRUMENTS QUI MESURENT LA CAPACITE PHYSIQUE-MOTEUR PAR LE REGARD DES PERSONNES AGEES

L'évaluation physique pour les personnes âgées est un moyen de quantifier et qualifier l'activité physique d'un corps vieillissant. Les personnes âgées sont exposées à des batteries de tests qui permettent d'identifier les paramètres physiologiques, mais qui imposent des limites à l'activité physique avec des bénéfices moteurs, lorsque son importance fondamentale à cet âge est le psicoaffectifsocial. Cependant, en ajoutant la vision de l'évalué à la capacité évaluée on augmente la relation fonctionnelle de l'exercice physique à l'individu. Ce que les personnes âgées rendent compte des tests réalisés nous guide à la sélection des mouvements liés a les AVDs, c'est-à-dire, à l'étude de ce qui produit véritablement un impact sur la vie de cette personne. L'objectif de cette étude est de comprendre la perception des personnes âgées concernant aux tests de la capacité physique-moteur proposé dans la littérature. On a choisi aléatoirement 25 évaluations qui ont été filmés et organisés en quatre films. L'échantillon se composait de 112 personnes âgées qui ont regardé les films et répondu à quatre questions. L'hypothèse est qu'il existe une association de la capacité d'effectuer les tests avec la décision de les exécuter et avec la compréhension de l'utilisation du mouvement. Les données ont été analysées par la statistique descriptive et par le test qui-quadrado, $p < 0,05$, par le logiciel BioEstat 5.0. L'association a été positif pour 18 des évalués, alors que les tests fondés sur le développement moteur de l'enfant ont été exclus. Une exception s'est avérée évidente avec l'absence de l'association du test Flexion d'Avant-bras. On peut conclure que la plus grande perte de force dans les membres inférieurs difficulte la perception du rôle des membres supérieurs dans le ménage. L'évaluation des résultats montre que ne sont pas tous les tests proposés qui peuvent être approprié pour les personnes âgées, il y a un besoin d'un enseignant qui met en relation les exercicer de la classe avec AVDs et on discute lequels tests peuvent bien illustrer les aspects physiques du vieillissement.

MOTS-CLÉS: moteur d'évaluation, le vieillissement, l'analyse subjective

ANÁLISIS SUBJETIVO DE LOS INSTRUMENTOS DE MEDIDA DE LA CAPACIDAD FÍSICO-MOTOR A TRAVÉS DE LA OPINIÓN DE LA TERCERA EDAD

La evaluación física de las personas mayores es un medio para cuantificar y calificar la actividad física para un cuerpo en envejecimiento. Los ancianos están expuestos a las baterías de pruebas que determinará los parámetros fisiológicos, sino que limitan la actividad física en beneficio de motor sólo cuando su importancia fundamental para esta edad es el aspecto emocional psicosocial. Sin embargo, agregar la visión de la evaluación valora la capacidad de aumento de la relación funcional del ejercicio para el individuo. La percepción de las personas mayores de las pruebas realizadas para la ayuda a guiar la selección de los movimientos relacionados con la AVDs, o el estudio de lo que realmente hace un impacto en la vida de esta persona. El objetivo de este estudio es entender la percepción de las personas mayores en relación con los testes de aptitud física y motor propuestos en la literatura. Eligieron al azar 25 pruebas que fueron filmadas en los clips y organizado en cuatro películas. La muestra consistió de 112 personas de edad avanzada que ver las películas y sus respuestas a cuatro preguntas. La hipótesis es que existe una asociación de la capacidad para realizar las pruebas con la decisión de ejecutar ellos y con la comprensión de la utilización del movimiento. Los datos fueron analizados por estadística descriptiva y chi-cuadrado, $p < 0,05$, por BioEstat 5.0. La asociación fue positiva para 18 de las pruebas de evaluación, mientras que se excluyeron las pruebas basadas en el desarrollo motor infantil. Una excepción resultó ser evidente con la falta de asociación de la prueba de flexión del antebrazo. Llegó a la conclusión de que la mayor pérdida de fuerza en extremidades inferiores no permite la percepción de la función de las extremidades superiores en el hogar. La evaluación de los resultados muestra que no todos los ensayos propuestos pueden ser apropiados para las personas mayores, es necesario que los profesores se relacionan los ejercicios con

AVDs y discutir las pruebas que realmente ilustran los aspectos físicos del envejecimiento.
PALABRAS CLAVE: Motor de Evaluación, el envejecimiento, Análisis Subjetivo

ANÁLISE SUBJETIVA DOS INSTRUMENTOS QUE MEDEM A CAPACIDADE FÍSICO-MOTORA PELO OLHAR DO IDOSO

RESUMO

A avaliação física para idosos é um meio de quantificar e qualificar a atividade física para um corpo envelhecendo. O idoso é exposto a baterias de testes que identificam parâmetros fisiológicos, mas que limitam a atividade física ao benefício motor, quando seu aspecto fundamental para esta idade é o psicoemocionalsocial. Contudo, agregando a visão do avaliado à habilidade avaliada aumenta-se a relação de funcionalidade do exercício físico para o indivíduo. O que os idosos percebem dos testes executados nos orientam para a seleção de movimentos relacionados com as AVDs, ou seja, ao estudo do que realmente produz um impacto na vida desta pessoa. O objetivo deste trabalho é compreender a percepção dos idosos com relação aos testes de aptidão físico-motora propostos pela literatura. Sortearam-se 25 testes que foram filmados em clips e organizados em quatro filmes. A amostra foi composta de 112 idosos que assistiram aos filmes e responderam a quatro perguntas. A hipótese é que há uma associação da capacidade de realizar os testes com a decisão de executar os mesmos e com a compreensão da utilização do movimento. Os dados foram analisados pela estatística descritiva e pelo teste qui-quadrado, com $p<0,05$, através do programa Bio Estat 5.0. A associação se mostrou positiva para 18 dos testes avaliados, sendo excluídos os testes fundamentados no desenvolvimento motor infantil. Uma exceção se mostrou evidente com a falta de associação do teste Flexão de Antebraço. Conclui-se que a maior perda de força em membros inferiores dificulta a percepção do papel dos membros superiores nas tarefas domésticas. A avaliação dos resultados mostra que nem todos os testes propostos possam ser apropriados para a terceira idade, há a necessidade do professor relacionar os exercícios de aula com AVDs e discute-se quais testes realmente ilustram os aspectos físicos do envelhecimento.
PALAVRAS CHAVE: Avaliação Motora; Idoso; Análise Subjetiva

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