132 - LABORATORY OF PHYSICAL EVALUATION: DIAGNOSIS ON PHYSICAL FITNESS RELATED TO THE HEALTH OF IFMG SERVERS CAMPUS CONGONHAS

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Introduction

The relationship between physical practices and physical activities with health promotion are associated with the current conceptions of physical education and health in each age (SOARES et al., 1992). The moving body is a fundamental expression of life and physical exercises and practices have a historical relationship to health.

The promotion of health has relevance that goes beyond the impact on the health conditions of the population; their directions should seek to transform the profile of community engagement and social welfare. In this process, multiple resources must be articulated and integrated taking into account different interests, needs and motivations of the social actors in the local scenario (MACDONALD; VEEN; TONES, 1996).

According to Tavares (2013) one of the main goals of public health is to increase individual participation in regular practice of moderate to vigorous physical activity. The continuation of this objective should include processes that identify individuals at increased risk for adverse events related to physical exercises and daily practices. Before diagnosing the PFRH of an individual or groups of individuals, it is important to understand their lifestyle and health status.

The components of Physical Fitness Related to Health (PFRH) should consider indexes of muscular strength / endurance, flexibility, cardiorespiratory capacity and body fat. These indexes relate to health status (in the prevention and reduction of disease risks), as well as in the organization to perform daily activities in an individual or social way (quality of life and body awareness). For this purpose there are several tests that propose to evaluate the components of the PFRH. A test is defined as a static instrument that is used to measure or evaluate, since the evaluation is a dynamic process, designed around the PFRH of a specific individual. The tests vary in complexity, validity, reliability and costs involved (ACSM, 2015).

Thus, in this investigation, assessment of body composition had been made by measuring the skin folds. Body composition is considered a component of PFRH due to the relationships between the amount and distribution of body fat with changes in the level of physical aptitude and the health status of people (ACSM, 2015). In addition, the waist and hip circumference were measured to obtain the Hip Waist Ratio Index, which is a simple method for determining body fat distribution (ACSM, 2010), as well as the risk of developing diseases cardiac disorders.

The evaluation of cardiorespiratory fitness, the 1-mile test was defined as a research resource. This test allows the estimation of the VO2 (ml/kg/min) of individuals with lower physical condition or who shows limitations in the performance of more intense physical exertion, as proposed by Kline et al. (1987). To compare individuals who differ in body size, VO2 is expressed relative to body weight, like mL/kg/min. The relative VO2 estimates the energetic value of activities involving body weight support, such as walking, running, aerobics and climbing stairs (HEYWARD, 2002)

In the evaluation of muscle strength and endurance, was important to identify possible strength deficits through abdominal testing (ACSM, 2015). Dynamic muscle strength is often determined by the maximum amount of resistance (load) in a repetition, that is, the load that the individual is able to withstand in a single effort. Although this evaluation produces a good measure of absolute force, it requires considerable time because it is determined by trial and error.

In the assessment of flexibility, has been relevant to understand the performance of individuals in the "sit and reach" test based on the understanding that in activities of daily living those subjects with higher flexibility indexes tend to move more easily and are less susceptible to injuries. In addition, low levels of flexibility can lead to irreversible chronic problems, causing discomfort, incapacity of movement, pain, drop in performance in daily activities, limiting the quality of life of the individuals (GUEDES, NETO, GERMANO, LOPES, & SILVA, 2012).

With this perspective in mind, it is important to emphasize that lifestyle has come to be considered as a fundamental aspect in promoting health and reducing mortality. For a large part of the population, the greatest risks to health and well-being stem from the individual's own behavior, resulting both from the information and will of the person, as well as from the opportunities and barriers present in the social reality, including policies to promote the quality of life of workers (ARAÚJO & ARAÚJO, 2000).

In this context, it is expected that the PFRH diagnosis of IFMG Campus Congonhas servers will play an important role in the possibility of future construction of a Physical Activity program and worker's body awareness aligned with institutional quality-of-life policies that are attentive to the process of democratizing corporal practices in a critical and participative way. This will increase the knowledge of the relationship between Physical Activity, work, quality of life and health of the employees who work in this institution.

1.Objectives

This study aims to diagnose and compare the physical fitness related to the health of servers, of the effective and outsourced staff, who work at the IFMG Campus Congonhas, as well as to analyze the Physical Fitness Related to Health of each group of workers and compare the results of the groups in their differences and similarities with regard to labor specificity.

2.Methodology

The methodology combined the researches: bibliographical and field. In the bibliographical research were reviewed terms such as: Physical Fitness Related to Health, quality of life, physical activity, physical exercise, sedentarism and corporal consciousness of the worker. The bibliographic survey was carried out in the IFMG Campus Congonhas library, in the digital library systems, in the academic search sites (BDTD, Electronic Scientifc Library, Scielo, among others) and in the CAPES Journal Portal.

In the field research were used protocols for measuring body indexes and motor tests. For the procedures of testing and data collection, the investigation was ethically evaluated through the Plataforma Brasil (CAAE: 68059817.6.0000.5098). Only after authorization from the Research Ethics Committee were fieldwork started. We invited a pilot volunteer so that the

scholarship students could know the tests and validate the application in the intended sample.

The sample was characterized by non-probabilistic and was subject to voluntary adherence of the participants. According to the HR department of IFMG Campus Congonhas there were 69 faculty members, 45 administrative technicians and 39 outsourced staff. All the servers of the effective and outsourced staff were invited through the Invitation Letter containing all the research information, as well as the Free and Informed Consent Term and Authorization Term for the use of the image and testimony. Those who agreed to participate in the study organized an agenda within possible dates and times to the volunteer. All steps of the collection took place in the IFMG Campus Congonhas Multi-sport Gymnasium.

The first step in the data collection was the application of the questionnaires: the MOS Short Form Health Survey (SF-36) and the International Physical Activity Questionnaire (IPAQ). Anthropometric evaluation was performed. The following data were collected: body mass, height, skinfolds, waist circumference and hip perimeter.

The procedures adopted in this phase of the collection were: Body mass - a welmy mechanical balance was used with a maximum load of 150 kg and an accuracy of 100 grams. The measure was noted in kilograms using a decimal. The man climbed the scale and remained on his back in an orthostatic position.

Stature: a stadiometer coupled on scale with a scale of 2.00m in divisions of 0.05cm. The measure of height was written in centimeters to one decimal place. The man climbed the scale and remained on his back in an orthostatic position. The head in Frankfurt plane and the body in contact with the measuring instrument.

Cutaneous Folds: an adipometer (Sanny®) with an accuracy of 0.5mm and a variation of 0-55mm and a dermatographic pencil. The measurements were demarcated and collected in the right hemi-body of the volunteer. The bending of the fold was done with the left hand and with the thumb and forefinger. The compass rods were placed perpendicular to the fold and were slowly released while keeping the fold pressed while the measurement was performed. Each fold was clamped three times and the average recorded. The protocol of Petroski (1995) Brazilians - 4 Folds (Men 18 to 61 years - Triceps, Subscapular, Suprailiac and Medial Calf and Women 18 to 51 years - Average Axillary, Suprailiac, Thigh and Medial Calf) were used.

Waist and hip perimeters: a measuring tape 1.5 m long, 0.5 cm wide, with a scale of 0.1 cm, ensuring the tape is always stretched. The tape was applied tightly but never tightened, preventing the skin from squeezing. Three measurements were performed at each site. For waist circumference, the subjects remained in the orthostatic position, with the feet joined and the abdomen relaxed. The measurement was performed in the horizontal plane in the region of smaller circumference, above the umbilical scar and just below the rib cage, after a normal expiration. With regard to hip circumference, the measurement was performed on the largest horizontal plane around the buttocks.

Following, the data collection followed with the motor tests. The test protocols were suggested by the Brazilian Sports Project (PROESP-BR) and the American College of Sports Medicine (ACSM). The battery of motor tests was followed by the following order: 1600 meter run / walk (cardiopulmonary fitness), abdominal modified 1 minute (strength / muscular endurance) and sit-and-reach (flexibility).

Cardiopulmonary fitness test "Walk of 1609 meters" - Kline et al (1987). At the sign of the evaluator the volunteer should walk as fast as possible the previously established course of 1609 meters (covered IFMG block marked with the markings of footage). At the end of the test the evaluator approached the volunteer to measure the Heart Rate in a period of 15 seconds and multiply by 4 (1 minute). Check the time the individual performed the test. A digital watch from the Geonaute brand, Kalenji model, Stopwatch 1 / 100s, was used to control the time.

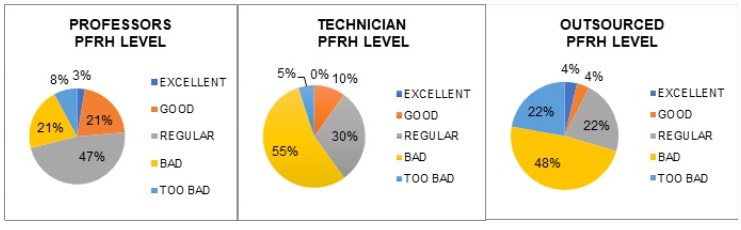
Strength test "Abdominal strength". The volunteer positioned himself in dorsal decubitus with knees flexed at 90 degrees and arms crossed over the thorax. The evaluator fixed the evaluator's feet to the ground. At the signal the evaluated one initiated the movements of flexion of the trunk until touching with the elbows in the thighs, returning the initial position. The evaluator performed the count out loud. The maximum number of repetitions were counted, without pauses, for 1 minute.

"Sit and Reach" flexibility test. This was performed following the VO2 max test and Abdominal Strength Test, as recommended by the ACSM (2015). Using Wells's bench the subjects, after removing their shoes, were instructed to sit on the floor with their knees at their maximum and feet against the test box. He was then asked to slowly slide forward with both hands as far as possible, holding this position in 3 seconds. The evaluator made sure that the participant kept the hands parallel and did not perform the movement with only one hand. The score obtained refers to the most distant point reached with the fingertips, in a series of three repetitions.

Data analysis is of the cross-sectional type. All variables are being measured once, with no structural distinction between predictors and outcomes. Cross-sectional studies are valuable because they provide descriptive information on prevalence, and have the advantage of not having the typical problems of follow-up studies, such as prolonged time, costs and abandonment (HULLEY, 2003). For the statistical treatment the descriptive analysis of the quantitative data will provide as a measure of location (central tendency) - Average - and of dispersion of the data - Standard Deviation and Amplitude. We are using the Minitab Statistic 17 program for data analysis, for greater familiarity with commands. The following are the discussions and results.

3.Results and Partial Discussions

The research is in the analysis step of the data. The procedures for the analysis of the data already collected are taking place as follows: 1) Organization and pre-screening of questionnaires and physical assessment sheets; 2) Separation of the physical evaluation sheets by segment of the workers (Professors, Administrative and Outsourced Technicians); 3) Interpretation of data through free software platform atu.afig.com; 4) Organization of the spreadsheets with the data interpreted for each subject in their respective work group; 5) Statistical treatment for validation of interpretations; 6) Analysis and discussion of results. The following is the results and a previous analysis of the results: Population Professors = 69 subjects / Collected = 40 subjects / Interpreters = 38 subjects. Population Administrative technicians = 45 subjects / Collected = 22 subjects / Interpreters = 20 subjects. Outsourced Population = 39 subjects / Collected = 30 subjects / Interpreters = 27 subjects



Partial results indicate that 68% of the professors' population evaluated had an PFRH level between REGULAR and BOM. At the moment it is the group with better perspective of conditions that generate quality of life. The population of administrative technicians is the one with the lowest participation in the study, only 48% volunteered. Of these, 85% have an PFRH level between REGULAR and RUIM. Already the Outsourced population is the one with the greatest adhesion volume, 76% have already participated in the tests. Of these, 70% have an PFRH level between RUIM and MUITO RUIM. This means that life conditions and life choices can determine the level of PFRH of individuals, based on specific social determinants (schooling, economic condition, access to health services, among others).

Gonçalves (2004) defends the idea that the quality of life is related to the way people live and assimilate their daily life, involving: education, housing, transportation, work and health. It is possible to perceive that several factors contribute to the results of the physical evaluations of the volunteers, but as a focus of this study one can diagnose peculiar characteristics in each group evaluated. It is believed that levels of education/schooling and financial conditions are able to determine the classification of individuals through the tests applied. These factors are directly related to other personal conditions such as: body awareness, availability to perform physical exercise among others.

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LABORATORY OF PHYSICAL EVALUATION: DIAGNOSIS ON PHYSICAL FITNESS RELATED TO THE HEALTH OF IFMG SERVERS CAMPUS CONGONHAS

This study wants to diagnose and compare the health-related physical fitness of effective and outsourced staff at the IFMG Campus Congonhas. The components of Physical Fitness Related to Health (PFRH) should consider indexes of muscular strength / endurance, flexibility, cardiorespiratory capacity and body fat. According to the Human Recourses department of IFMG Campus Congonhas there are 69 staff, 45 administrative technicians and 39 outsourced staff. It is important to understand this reality to create possibilities in the development of institutional policies that value the worker's quality of life. The methodology combined the researches: bibliographical and field. In the bibliographic research were reviewed terms such as: Physical Fitness Related to Health, quality of life, physical activity, physical exercise and body awareness of the worker. In the field research were used questionnaires, protocols for measuring body indexes and motor tests. Body mass, height, skinfolds, waist circumference and hip circumference were measured. The volunteers were submitted to a battery of motor tests that obeyed the following order: sit-and-reach (flexibility), modified abdominal (muscular strength / endurance) and 1609-meter walk (cardiorespiratory fitness). The data collected underwent an exploratory qualitative-quantitative screening to analyze the PFRH of each group of workers and in the sequence to compare the results of the groups in their differences and similarities. Preliminary results indicate that living and life conditions can determine the level of PFRH in individuals. The group of workers with greater social vulnerability did not reach positive levels of PFRH.

Key words: Physical fitness, health and work.

LABORATOIRE D'EVALUATION PHYSIQUE: DIAGNOSTIC DE L'APTITUDE PHYSIQUE RELATIF A LA SANTE DES SERVEURS DE L'IFMG CAMPUS CONGONHAS

Cette étude vise à diagnostiquer et comparer la condition physique liée à la santé des serveurs, le personnel efficace et externalisé, qui travaillent dans le IFMG Campus Congonhas. Les composantes de la condition physique liée à la santé (AFRS) devraient prendre en compte les indices de force / endurance musculaire, de flexibilité, de capacité cardiorespiratoire et de graisse corporelle. Selon le département RH d'IFMG Campus Congonhas, il y a 69 employés, 45 techniciens administratifs et 39 employés externalisés. Il est important de comprendre cette réalité pour créer des possibilités dans le développement de politiques institutionnelles qui valorisent la qualité de vie du travailleur. La méthodologie a combiné les recherches: bibliographique et de terrain. Dans la recherche bibliographique ont été examinés termes tels que: la condition physique liée à la santé, la qualité de vie, l'activité physique, l'exercice physique et la conscience corporelle du travailleur. Dans le domaine de la recherche ont été utilisés des questionnaires, des protocoles pour mesurer les indices corporels et des tests moteurs. La masse corporelle, la taille, les plis cutanés, le tour de taille et la circonférence de la hanche ont été mesurés. Les volontaires ont été soumis à une batterie de tests moteurs obéissant à l'ordre suivant: assis-à-portée (flexibilité), abdomen modifié (force musculaire / résistance) et marche de 1609 mètres (aptitude cardiorespiratoire). Les données recueillies ont fait l'objet d'un examen qualitatif et quantitatif exploratoire pour analyser les AFRS de chaque groupe de travailleurs et dans la séquence pour comparer les résultats des groupes dans leurs différences et leurs similarités. Les résultats préliminaires indiquent que les conditions de vie et

de vie peuvent déterminer le niveau d'AFRS chez les individus. Le groupe de travailleurs ayant une plus grande vulnérabilité sociale n'a pas atteint des niveaux positifs d'AFRS.

Mots clés: Forme physique, santé et travail.

LABORATORIO DE EVALUACIÓN FÍSICA: DIAGNÓSTICO SOBRE APTITUD FÍSICA RELACIONADA DE LA SALUD DE SERVIDORES DEL IFMG CAMPUS CONGONHAS

Este estudio tiene por objetivo diagnosticar y comparar la aptitud física relacionada a la salud de servidores, del cuadro efectivo y tercerizado, que actúan en el IFMG Campus Congonhas. Los componentes de la Aptitud Física Relacionada a la Salud (AFRS) deben considerar índices de fuerza / resistencia muscular, de flexibilidad, de la capacidad cardiorrespiratoria y grasa corporal. De acuerdo con el departamento de RRHH del IFMG Campus Congonhas existen en su cuadro funcional: 69 docentes, 45 técnicos administrativos y 39 tercerizados. Es importante comprender tal realidad para componer posibilidades en el desarrollo de políticas institucionales que valoren la calidad de vida del trabajador. La metodología combinó las investigaciones: bibliográfica y de campo. En la investigación bibliográfica se revisaron términos como: Aptitud Física Relacionada a la Salud, calidad de vida, actividad física, ejercicio físico y conciencia corporal del trabajador. En la investigación de campo se utilizaron cuestionarios, protocolos de medición de índices corporales y pruebas motores. Se midieron: masa corporal, estatura, pliegues cutáneos, el perímetro de la cintura y el perímetro de la cadera. Los voluntarios fueron sometidos a una batería de pruebas motores que obedeció el siguiente orden: sentarse y alcanzar (flexibilidad), abdominal modificado (fuerza / resistencia muscular) y caminar de 1609 metros (aptitud cardiorrespiratoria). Los datos recogidos pasaron por una selección exploratoria cualitativa cuantitativa buscando analizar la AFRS de cada grupo de trabajadores y en la secuencia comparar los resultados de los grupos en sus diferencias y similitudes. Los resultados preliminares apuntan que las condiciones de vida y de opción en la vida pueden determinar el nivel de AFRS de los individuos. El grupo de trabajadores con mayor vulnerabilidad social no alcanzó niveles positivos de AFRS.

Palabras Claves: Aptitud física, salud y trabajo.

LABORATÓRIO DE AVALIAÇÃO FÍSICA: DIAGNÓSTICO SOBRE APTIDÃO FÍSICA RELACIONADA À SAÚDE DE SERVIDORES DO IFMG CAMPUS CONGONHAS

Este estudo tem por objetivo diagnosticar e comparar a aptidão física relacionada à saúde de servidores, do quadro efetivo e terceirizado, que atuam no IFMG Campus Congonhas. Os componentes da Aptidão Física Relacionada à Saúde (AFRS) devem considerar índices de força/resistência muscular, de flexibilidade, da capacidade cardiorrespiratória e gordura corporal. De acordo com o departamento de RH do IFMG Campus Congonhas existem em seu quadro funcional: 69 docentes, 45 técnicos administrativos e 39 terceirizados. Torna-se importante compreender tal realidade para compor possibilidades no desenvolvimento de políticas institucionais que valorizem a qualidade de vida do trabalhador. A metodologia combinou as pesquisas: bibliográfica e de campo. Na pesquisa bibliográfica foram revisados termos como: Aptidão Física Relacionada à Saúde, qualidade de vida, atividade física, exercício físico e consciência corporal do trabalhador. Na pesquisa de campo foram utilizados questionários, protocolos de medida de índices corporais e testes motores. Foram mensuradas: massa corporal, estatura, dobras cutâneas, o perímetro da cintura e o perímetro do quadril. Os voluntários foram submetidos a uma bateria de testes motores que obedeceu a seguinte ordem: sentar-e-alcançar (flexibilidade), abdominal modificado (força/resistência muscular) e caminhada de 1609 metros (aptidão cardiorrespiratória). Os dados coletados passaram por uma triagem exploratória quali-quantitativa buscando analisar a AFRS de cada grupo de trabalhadores e na sequencia comparar os resultados dos grupos em suas diferenças e similaridades. Os resultados preliminares apontam que as condições de vida e de opção na vida podem determinar o nível de AFRS dos indivíduos. O grupo de trabalhadores com maior vulnerabilidade social não atingiu níveis positivos de AFRS.

Palavras Chaves: Aptidão física, saúde e trabalho.