Personal Trainer Performance in the Elderly

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SUMMARY

The demand for physical education professionals to perform individual, systematized and progressive activities has been increasing in Brazil. In the third age this monitoring becomes important for the maintenance of health and quality of life, but not all individuals recognize it. The objective of this study was to systematize the information about the performance of the personal trainer (PsTr) with the elderly, describing the findings of the publications on the subject by means of a literature review of the documentary type. Old age is considered a stage of life where several body changes occur, such as weight and height, bone density, metabolism, and a decrease in muscle mass. Factors such as sedentary lifestyle, poor diet and inadequate general living habits that creep throughout life can generate stress in the elderly. Physical activity (PA) in this regular setting improves apparent sarcopenia in aging, improves postural gait, acts on glycemic control and lipid profile, decreases pain complaints and increases basal metabolic rate. PsTr follow-up can potentiate these benefits in a shorter period of time. This action is new in Brazil, being reported in the 90's. They are recognized for doing individual work with individuals always with the intention of overcoming bodily and physiological limits, promoting health. For the elderly, working with this professional helps strengthen skeletal muscles, increasing muscle strength and tone, increasing flexibility, and developing the cardiorespiratory tract. However, the prescriptions of PA should be based on the current picture of the elderly. I understand that the frequency and intensity of the exercises are as important as the work of force and expression of muscle tone. However, the performance of PsTr should always be to interfere in the aging process, collaborating with a prescription of physical activities consistent with the needs and limitations of each elderly, aiming to leave them independent for the activities of daily living. In this way, it is concluded in this research that the benefits of AF are long term, and that strength, muscular endurance and cognitive abilities are gradually acquired.

Keywords: Personal Trainer, Senior Adult, Physical Activity, Elderly.

INTRODUCTION

The labor market for Physical Education professionals, whose focus is systematized and progressive training, has increased in Brazil due to the number of people who enter the fitness areas with the purpose of obtaining a personalized and specific training to meet their needs ( However, To perform this role with mastery is the personal trainer (PsTr), a professional that is regulated by the Federal Council of Physical
Education (CONFEF) and the State Council of Physical Education (CREF), which needs to understand the various nuances that permeate evolution of the human being. This should be increasingly oriented on the issues that permeate the issues of how to keep the student in the academy, how to attend at the same time and individually a student, as well as new technologies that are inserted in sports practices (ARGENTO, 2010).

A current reality confirms that the maintenance of the health and physical capacity of the individual must be preserved for long years, both for aesthetics and for the development of health itself (GARAY, SILVA and BERESFORD, 2008). In this scenario one can include the elderly audience that already demonstrates to be expressive in Brazil, being the topic of discussion of several surveys (ARGENTO, 2010).

Data from the Brazilian Institute of Geography and Statistics (IBGE) estimate that by 2020 Brazil should have approximately 30 million elderly people (IBGE, 2008). Aging is a complex process that brings with it various psychological, physical and social problems. Demotivation can be a consequence of not doing easy and quick activities that were formerly done, and today are developed at the same pace. Others end up losing their autonomies, because they can not often leave their homes alone, or take their bath and even comb their hair (STILBEN; MOLINERO; TELLES, 2010).

To minimize this context, the media has emphasized, as well as some public health policies, that it is necessary to adopt a healthier lifestyle and a regular practice of physical activity (FA) that meet the physical, motor and psychological needs of the elderly (STILBEN, MOLINERO, TELLES, 2010).

In this way, the PsTr should be recognized for its warm and guiding work with the elderly during the practice of physical activity (FA).

The elaboration of this study was made to realize that there are few works that portray, jointly, on PsTr and the development of the elderly. In this way, it was decided to identify what the literature presents about PsTr and the third age.

It is recognized that PsTr is prepared to work with an audience that presents different bodily and physiological formations different from those routinely found in academies, but does not recognize and / or is recognized for its importance in this growing professional field, as well as do not seek specific training for this area.

This study is justified by perceiving the physical, motor and social development and evolution of elderly people who make AF programs with a PsTr. Furthermore, it is justified with the purpose of facilitating the studies of students of physical education and PsTr who intend to act, or who already act, with the public of the third age.

In view of the above, this documentary literature review aims to systematize information about PsTr's performance among the elderly population, describing the findings of the publications on the subject.

**METHODOLOGY**

This study is characterized as a bibliographical research, of the document type. This type of bibliographic
research differs from the bibliographical review, because it seeks to assimilate, in a critical way, the real meaning of the results found, going beyond a simple observation. Still, it is characterized by being elaborated by already conceptual and punctual material such as books, articles and internet stories (GIL, 1994). These are documents that have not been analyzed analytically, and are not confirmed by field research (ANDRADE, 2002), which serve as inspiration for future analyzes (LIMA, MIOTO, 2007).

The search for material happened in a random and concomitant way with the reading and analysis of the content found. The inclusion criteria were those that were linked to the virtual databases that provided free materials, those studies, researches or reports that were related to the purpose of this study (to identify the performance of PsTr with the third age).

Initially, a search was made for materials related to the theme through the cross-referencing of the virtual bases Google and Google Scholar; and later in the SciElo and Digital Library databases of Nuteses. The cross-referencing of the descriptors was done from the combination of the descriptor "Personal Trainer" with Third Age, Elderly, Aging, Best Age and Special Groups, respectively. This search was performed between January 14 and April 15, 2017.

The reading was carried out with objectivity and impartiality, seeking to extract from the texts the intentions of the authors and trying to identify the most expressive ideas. While these were organized, an order of importance was adopted marking the main information of the secondary schools.

After the complete data collection and separation of the useful material for the research, it was concluded that only two articles, two blogs, three electronic newspaper reports strictly respected the cross-referencing of the descriptors. Another 32 articles and three blogs that did not meet the inclusion criteria of this research were discarded.

Subsequently, all material was recorded with the information pertinent to the research, which could be read and analyzed with more criteria. Then, at the end of this process, it was possible to elaborate three different sessions related to the theme: presentation and discussion of the contextualization of the third age and its relationship with FA, the description of the PsTr professional and the analysis of the performance of the PsTr in the work with the elderly. The gaps that were identified during the elaboration of this research were presented and discussed with the related literature.

THEORETICAL FOUNDATION

CONTEXTUALIZING THE THIRD AGE AND ITS RELATIONSHIP WITH THE PHYSICAL ACTIVITY

At the end of the last century the man presented paradigmatic contextual changes with the need to modify his behavioral models to be in good health. The new rhythm of life and work, added to the technological valorization, led to a reduction of the natural biomechanical resources, resulting in the so famous stress (COSSENZA, CARVALHO, 1999).

It is recognized that in order to understand the importance of the relationship between stress and old age, a more detailed reflection on the relationship between degenerative processes and the sedentary lifestyle, inadequate eating habits and inadequate general living habits is needed. Only then will it be possible to
conceptualize the concept of old age (COSSENZA, CARVALHO, 1999).

Old age is considered a stage of life where several bodily changes occur. Among them, the decrease in weight and height, bone density, metabolism, and a decrease in muscle mass (BALDISSERA, 2016). It can be considered the ultimate level of the aging process, bearing in mind that the two terms differ from one another. The first is defined as a condition of being, i.e., gray hair, wrinkles, reduction of the perception of reflexes, body stiffening; while the second is the process of old age (SANTOS, 2010).

It is worth mentioning that all characteristics of old age can happen without necessarily associating the chronological age (SANTOS, 2010). People are less active with increasing chronological age, favoring the appearance of chronic-degenerative diseases, which can be minimized with AF practice (ARGENTO, 2010).

In the middle of the nineteenth century, the stage of life in which physical decay became apparent was considered the beginning of old age, which appeared to lack a social and individual condition that compromised the image of the elderly (DEBERT, 1999).

However, in order to obtain a satisfactory old age, it is necessary that the elderly can maintain their capacity for good maintenance in the face of their own age crises (STILBEN; MOLINERO; TELLES, 2010). Although some pathophysiological factors may impede social advances, participation and development in physical fitness programs, motivation and improvement of body and mind end up becoming facilitators of these difficulties (ARAGÃO; DANTAS; DANTAS, 2002).

Aging should not be classified only by chronological age, but also by the organic functional age that determines the adherence of adequate lifestyle practices of the elderly. An individual is considered to be an individual who, regardless of any state of health or action, surpasses 60 years of age. This growing population in the world will make Brazil the sixth country with the largest number of elderly in the world (WHO, 2005).

The longevity of the population may be due to the control of morbimortalities, the improvement of public health conditions, basic sanitation, education (ARGENTO, 2010) and, mainly, the improvement of health technologies (SCHNEIDER and IRIGARAY, 2008). Thus, aging has come to be considered a goal of improving public health, ensuring the rights and interests of the elderly in all aspects.

Thus, in 1994, the government created the National Policy for the Elderly (Law No. 8,842, dated January 4, 1994) in order to solve problems and guarantee the social rights of the elderly through the design of ways to promote the autonomy, effective participation and integration of the elderly into society. However, the health and wellness issues of the elderly are insufficient to meet existing demand, making clear the need for government and community strategies and projects to address these gaps (ARGENTO, 2010).

It is conceptualized aging a set of processes as a reduction of the capacity of biological maintenance and repair and deterioration of homeostasis, leading in the future to functional deficiency and loss of adaptability (SILVA et al., 2006).

Authors classify the elderly into three categories, according to their age and functional capacity. Older
young people are those individuals who are in the age group between 65 and 74 years old and who are still active and are able to perform their duties vigorously. The elderly (75-84 years old) and the elderly (?85 years old) are those who already show the signs of aging, such as weakness, illness, difficulties in carrying out the activities of daily living (PAPALIA, OLDS, FELDMAN, 2006). In this classification it can really prove that the functional age of the elderly is more important than the chronological one (SCHNEIDER; IRIGARAY, 2008).

The term modern elderly also appears as the elderly with the social condition that allows the practice of oriented AF, with the adoption of a better lifestyle, guiding him to the so dreamed longevity with quality of life (STILBEN, MOLINERO, TELLES, 2010).

In the past we had the idea that the quieter (sedentary) the elderly, the longer their life. Over the years, AF has been an important tool for extending the life of the elderly. Studies have shown that the first research relating AF to the elderly happened in the late 1970s (FEITOSA, 2006; TELLES, 2008). There was no pedagogical knowledge to understand and no didactic methodologies to pass the teaching of FA. There were few government programs and incentives to encourage older people to raise their levels of well-being and health. The justification for this fact is perhaps that the public of the elderly was a novelty for the professionals of Physical Education of the time (STILBEN; MOLINERO; TELLES, 2010).

In a study carried out with seniors that aimed to identify the importance of PSRT monitoring during strength training for the reduction of systemic arterial pressure indices, the elderly participants mentioned that these professionals were important in helping posture correction during AF practice avoiding lesions that may compromise the adherence of the elderly to the exercises (BALDISSERA, 2016).

Regular AF improves apparent sarcopenia in aging and improves postural gait (SANTOS; PEREIRA, 2006), glycemic control and lipid profile, decrease pain complaints and increase basal metabolic rate (RASO, 2007), as well as reduce the chances of developing depression (RODRIGUES et al., 2005). There is evidence that AF assists in preventing heart disease by balancing HDL and LDL levels; (Endo et al., 2003). In addition, it is important to note that the use of endorphins,

The elderly now seek AF even as a form of leisure. It is not difficult to find an elderly person walking, cycling and even jogging in a gym. In this way, it is interesting that the Physical Education professional is prepared to act consciously with the elderly public, orienting and improving their physical, mental and social condition (TELLES, 2008).

KNOWING THE ROLE OF PERSONNEL TRAINER

The PsTr is recognized by the Physical Education Councils as the baccalaureate professional that works on individual and progressive body movement, overcoming the barriers of individuals, improving their limitations and promoting quality health (AGUIAR; SOARES; GUIMARÃES, 2008). It is considered a new profession in Brazil, having its first report in the 90's (MONTELLI, 2015).

Authors describe that PsTr is no longer accessible only to artists or entrepreneurs, but its need for body development as a form of prevention of musculoskeletal diseases and even as a form of rehabilitation is recognized (DOMINGUES FILHO, 2006). Senescence refers to several physiological changes in the elderly. Among them, the decrease of vestibular, visual and somatosensory systems, which when
correlated with musculoskeletal alterations (reduction of body mass, speed and muscle contraction force) lead to negative postural control of the elderly (TEIXEIRA et al., 2007).

For Lopes (2015) the knowledge of PsTr for work with the elderly is of fundamental relevance, mainly for the rehabilitation of the elderly who suffered falls. These are a reality in the life of the elderly and should be considered a health risk. Therefore, strengthening the lower and lumbar muscles, helping to improve the posture, is a goal of PsTr with the elderly, to minimize the risk of falls (SANTOS; PEREIRA, 2006). An adequate exercise prescription should aim at improving the proprioception pattern, reducing these indices (JACOB FILHO, 2006).

In the study by Aguiar, Soares and Guimarães (2008), 11 PsTr were enrolled in the Regional Council of Physical Education of Santa Catarina (CREF3 / SC). It was identified that the majority of these participants were males, with a mean age of 31 years, with diverse marital situations (single and married) and coming from the state of São Paulo. Age-related data are contradictory among studies, as the current trend is for marriages to occur later in life. Most had specialization in the field of Exercise Physiology, bodybuilding, specific training and PsTr, administration and sports marketing and physiology applied to special populations.

These participants have been working as personal for 5.5 years, dedicating 3.3 years to care for the elderly (AGUIAR; SOARES; GUIMARÃES, 2008). Already the study of Stilben; Miller; Telles (2010) showed that the longest-trained professionals took a long time to start working as PsTr, unlike the recent graduates who had a short time between graduation and the beginning of this specific activity. This reality may indicate a market that is expanding that requires many professionals. Those who understand and take responsibility for themselves, or those who have experienced this type of graduation, are more likely to accept the challenges of working with a single student, systematizing their service. Still, those graduated longer may not absorb the idea or have not had the opportunity to act as PsTr.

In the majority, the public of the old age that looks for this type of attendance are women in the age group of 60 to 70 years of age that receive the attendance in the own residence. The performance of PsTr is often initiated by the anamnesis of physical evaluation, with walking as the most cited activity and performed by this public with supervision (Aguiar, Soares, Guimarães, 2008).

It is recognized that the interaction between PsTr and the elderly is not always easy. However, in Aguiar, Soares and Guimarães (2008), it was identified that the reason for the adherence and permanence of the elderly were due to the motivation they had on the part of the PsTr, which ended up becoming a relationship of friendship between one and the other.

It should be understood that the PsTr should always be updated due to the constant variation of information about the topic of old age. Studies in this area are also interesting, since they show that professionals are directly related to this very specific public (AGUIAR; SOARES; GUIMARÃES, 2008). The prescriptions of FA should be based on the current situation of the elderly.

Understand that the frequency and intensity of the exercises are as important as the work of the force and expression of muscle tone will make all the difference in the prognosis of the individual. In this way, working together with the medical and physiotherapeutic team will ensure a rapid and concrete evolution of the physical state of the elderly (LOPES, 2015).
The prescriptions must be of progressive intensities, respecting the limit of each elderly, besides requiring a sequence of heating, conditioning, strengthening and cooling, with duration of approximately 45 minutes (CORAZZA, 2005). Respiratory control should be guided, requiring inspirations and deep expirations, so that inspirations occur in movements that require an increase in thoracic cage amplitude (IDE et al., 2007).

However, the role of PsTr is to interfere in the aging process, collaborating with a prescription of PA consistent with the needs and limitations of each elderly, aiming to leave them independent for the activities of daily living (BALDISSERA, 2016).

**THE PERFORMASSE OF PERSONNEL TO TRAIN IN THE WORK WITH THE THIRD AGE**

PsTr who works with the elderly should be able to identify the needs of each individual at this stage and be responsible for prescribing the best individualized exercises (LOPES, 2015b).

According to Corazza (2005: 26), the basic functions that teachers must carry out with their elderly students are:

"Guide; know their students throughout the biopsychosocial '; knowing how to speak with respect; know hear; respect the 'psychophysical' individuality; always consider opinions and criticisms; to know how to praise naturamente, without moonshine or commissions; demonstrate trust and confidence in its methodology; use all your creativity and daring; always stimulate the social part, the sociability of the student with the group; know how to integrate groups in a stimulating, pleasant and non-competitive way; always remember that you are not preparing or training 'athletes'; learn to absorb and explore the interest of the group; adapt their method and modality of work to that of their students; to develop classes always, and always, directed towards the third age; mind that all the explanations and information you have to pass, to teach, will not always be absorbed at first by all or a few. [...] To do so, for this work to really work, we continue with the keyword: 'Love ... Love ... Love'.

Special care with the elderly should occur due to falls in consequences of some diseases. In these cases, working on independence is a differential in both prevention and rehabilitation. However, strengthening the lower and lumbar muscles, helping to improve the posture, is a goal of PsTr in acting with the elderly (LOPES, 2015b).

When initiating an accompaniment to the elderly is interesting not to force it or to correct it first so as not to form a barrier between the professional and the student. Knowing their limitations and verifying the development of the exercises becomes more important at this moment to avoid giving up the training (CORAZZA, 2005).

Exercise prescription should take into account the student's cognitive ability, mobility, exercise tolerance, restrictions on high-impact activities, and heart rate (LOPES, 2015b). Still, it must meet the acceptance and satisfaction of the student / elder to be pleasant and have a significant part in the process of adhesion and maintenance of FA (JACOB FILHO, 2006).

The case of a post-cardiac surgery patient is exemplified. Rehabilitation should include low intensity aerobic training and slow progression (LOPES, 2015b). An exercise that should be indicated would be the...
walk, evolving to the jog and then a light jog.

Research shows that the best option for the elderly is the performance of PA that combines aerobic training with muscular strength and specific exercises of flexibility and balance (MATSUDO, 2006).

Bodybuilding is a very explored modality for working with the elderly, as it improves motor coordination, rehabilitation of muscle tone and strengthening of the muscles that act as auxiliaries and protectors of the joints avoiding or controlling diseases such as arthritis and arthrosis, besides favoring the cardiorespiratory function (ONLINE, 2017).

Other modalities being proposed are water aerobics and gymnastics (SANTOS; PEREIRA, 2006). Water activities contribute to the development of muscles and joints (FERREIRA, 2003), but it is necessary to check questions such as depth of the pool and water temperature so that the elderly see aquatic activities as pleasurable and not as a hindrance (CORAZZA, 2005).

The training programs, which should be specific for each elderly person, seek results that are reflective of the organization of the prescription of AF; so it is necessary to plan the exercise sequence carefully, focusing on the frequency of the type and duration of training, the speed and intensity of exercise, duration and number of repetitions of each series, considering rest intervals (ARGENTO, 2010). Bompa (2002) cites some principles of training, based on several authors. Among these principles is the principle of overload, specificity, individuality, reversibility and use and disuse.

The overload principle translates that the greater the overload, the greater the combination of the varieties of specific adaptations of the body. Thus, adaptations of body physiological functions depend on the overload that has been worked out, defining the principle of specificity. Already the aptitude of the elderly to the beginning of the training should also be considered in the principle of individuality (ARGENTO, 2010; BOMPA, 2002).

After the initial adaptation, the already accustomed body begins to present corporal and physiological differences. However, at the moment AF practice is terminated, even for a short period of time, the individual will begin to observe the reduction of physical capacity, reflecting the principle of reversibility. In this way, the more routine and systematized the training, the better the bodily and physiological responses. The use and disuse principle portrays the importance of continued AF, since adaptations will only occur if the routine is not broken (ARGENTO, 2010; BOMPA, 2002).

The performance of PsTr for the elderly should be based on the aforementioned principles, besides being based on the responsibility of promoting the health of the elderly. In this way, several modalities can be worked out.

In aerobic exercises should work large muscle groups, with elements of low energy consumption and repetitive movements so that the exercise is supported for a longer period of time. In this group we can include walking, swimming, running and cycling (ARGENTO, 2010).

The author also adds that in resistance exercises, such as in bodybuilding, there is the introduction of weights that work to increase muscle mass and increase the strength of skeletal muscles, important for preventing, for example, falls in the elderly. The localized exercises should be worked with the objective
of developing the strength of a specific muscle group, and then maintaining this force to support other activities, as in the case of aerobic and resisted exercises.

In a more innovative way, muscle stretching exercises favor mobility and motor coordination, serving as the basis for other exercises or even for body development (ARGENTO, 2010).

There are innovations in the class of the exercises that can be worked in group or individually that aims to facilitate the adhesion of the individuals to the regular practice of FA. Among them, one has the dance, the Yoga and the Tai-chi-chuan.

The exercises performed through dance, much discussed at the present time, develop motor coordination, improve psychosocial interaction, and improve the proprioception of aging. Made under the guidance of a trained professional, in a period ranging from 30 minutes to one hour, the effects are equivalent to that of an aerobic activity. Yoga and Tai-chi-chuan are advised in cases where there is a need for postural reeducation, improved motor coordination, body awareness and flexibility, making the elderly have a greater body self-control (ARGENTO, 2010).

However, one should have the idea that working with the elderly, assuming that they are sedentary or have a low PA burden, should prioritize those exercises that work on muscular strength, flexibility and cardiorespiratory capacity (Freitas, 2002). Among all the authors mentioned, it is a predilection for walking a lot to work the skeletal muscle groups and the cardiovascular system, because it is zero cost and because it does not have to have specific abilities (ARGENTO, 2010).

**FINAL CONSIDERATIONS**

The objectives of this study were achieved. It can be recognized that the country is moving towards a population that is mostly elderly. It must be realized that public health policies need to be more focused on this public. Within this reality, the PsTr found a rising market that made it adapt to this scenario. The performance of the professional of Physical Education is resting, having the first records in the late 70's, early 80's.

It is important to realize that senescence is not a disease, but a process where there are significant involuntary biopsychosocial losses that need to be smoothed to promote the health and quality of life of the elderly.

It was possible to verify that the practice of regular AF can allow the elderly to achieve greater autonomy to perform their activities of daily living, where the lack of systematized and oriented movement can evolve or confirm a sedentary lifestyle, causing disabilities and age specific pathologies.

The benefits of AF are long-term. Strength, muscular endurance, and cognitive abilities are gradually acquired. However, some obstacles can be recognized as factors of non-adherence, such as the lack of preparation of the professional who must be able to recognize the limits of age and student; beyond, including socioeconomic factors. Reduced sporting practice, or even a cessation of it, can result in the loss of all the success already achieved.

Even emphasizing the importance of the recognition of the population regarding the work of PsTr in the
third age, there are still those elderly people who are already familiar with this practice of oriented AF, sometimes by medical indication, or to realize that they still manage to overcome their limits, improving the quality of life. These cases can affirm the professional of Physical Education as a transformer of the health of the society.

In relation to the publications on the subject, an incipient number was identified in the virtual databases. In relation to the books found, the theme is approached in a general way, without directly contributing the relationship between the PsTr and the elderly in the practice of PA. This fact is confirmed by finding only two publications that portray the selection of the inclusion and exclusion criteria of this research.

Scientifically, this research will contribute in the expansion of works that relate these two topics so relevant and has been presenting an expanding market in Brazil.

After the conclusion of this research, it was noticed that there are still spaces for new field studies, that work the reality in locu, in order to verify if what happens in a region of Brazil is similar to other regions, being able to see if the practice of AF oriented by a PsTr happens culturally or by socioeconomic financial issues.

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