THE IMPACT OF PHYSICAL EDUCATION ON THE HEALTH OF ELDERLY IN SOCIAL ISOLATION DURING PANDEMIC TIMES: Experience report

O IMPACTO DA EDUCAÇÃO FÍSICA NA SAÚDE DE IDOSOS EM ISOLAMENTO SOCIAL EM TEMPOS DE PANDEMIA: Relato de experiência

EL IMPACTO DE LA EDUCACIÓN FÍSICA EN LA SALUD DE LOS ANCIANOS EN AISLAMIENTO SOCIAL EN TIEMPOS PANDÉMICOS: Informe de experiencia

Neila Barbosa Osório
PhD in Human Movement Science (UFSM). Professor-researcher at UFT, at the Collegiate of Pedagogy. neilaosorio@mail.uft.edu.br

Luiz Sinésio Silva Neto
PhD in Health Sciences and Technology (UnB). Professor-researcher at UFT, at the Graduate School of Gerontology. luizneto@uft.edu.br

Fábio Santos Metódio
Master in Pharmaceutical Sciences (UFT). fatodio@hotmail.com

Maria Helena Paulo
Master in (UFT). Mariahelena.paulo@gmail.com

Mailing Address: Universidade Federal de Tocantins-UFT, Av. NS 15 quadra 109, Norte, S/N- Plano Diretor Norte, Palmas-TO, CEP:77001-090.

ABSTRACT:
The world begins the year 2020 in the midst of a crisis, with socioeconomic impacts and in the way of life in general, caused by a pandemic resulting from the new coronavirus COVID-19. Among the recommendations of health organizations, there is social isolation, especially the risk groups that include the elderly. In social isolation, the elderly are subject to depression, anxiety, in addition to the difficulty in practicing physical activities, one of the essential elements to keep the body and mind in healthy conditions. Thus, the present article brings an experience report developed with elderly people between 53 and 71 years old, who digitally participate in a group that promotes the interaction and encouragement of physical activities directed to the elderly.

KEYWORDS: Physical activity; Social isolation; Pandemic; Aging.

Introduction

The worries about the conditions of the function of aging is a frequent topic in scientific communities and contemporaneous society, this attention has been reflected in the numbers of studies and purposes having elderly quality life as an object of study, among this studies there is a considerable number of researches about benefits effects of physical education on health as a therapeutic measure and pathologies prevention.

A healthier lifestyle has a positive impact on the autonomy and independence of the elderly (MACIEL, 2010, p1024), it has positive results in the therapeutic measuring of hypertension control (NOGUEIRA et.al., 2012, p599), improves flexibility and balance
COELHO; BURINI, 2009), control of diabetes, positive impacts on cognitive and emotional aspects (VARGAS; LARA; MELLO-CARPES, 2014) etc.

It is understood that health aging occurs in a variable context, among them, exercises have a big relevance, seeing that, although the increase of world life expectancy, it is relevant to consider the aging conditions too, having a profound correlation between the body in movement and health.

By the way, keeping the body in the movement has been a difficult task, because the beginning of 2020 the world has been a scenario of a dangerous economical, health, crisis, on many levels, caused by the pandemic for a new coronavirus named by COVID-19. The virus arising from a mutation identified at the end of 2019 in China, it is the reason for isolation and social distance on a global level.

On January 30 of 2020 the World Health Organization (WHO), informed in an official declaration that the outbreak of the disease caused for the new coronavirus makes a public health emergency of international importance - the highest level warning of the organization, as provided for the International Health Regulation (IHR), and on March 11 of 2020, the COVID-19 was categorized as a pandemic for OMS. (OPAS BRASIL, 2020)

According to health organizations, the virus has a high indication of lethality between elderly and preexistent diseases, like diabetes, heart diseases, also there are many measures recommended for OMS to contain the pandemic, like washing the hands, to use hand sanitizer, protection mask, etc., The social isolation is recommended.

Considering the social isolation as an essential part of the infection diseases combat, recommended by the health institutions, on the other rise, the body needs to be healthy and the social isolation has influence in elderly’s health, seeing that social interaction and physical activities are bases to prevent physical and mental elderly health.

Furthermore, loneliness is a frequent complaint among the elderly and also one of the causes of precocious institutionalization, according to Russel (2004) apud Azeredo e Afonso (2016, p316),

The loneliness is the most frequent complaint in the elderly population it can be because of the: widowhood, the children out of the house to live their liver or retirement; in these situations, the loneliness can contribute to a precocious institutionalization.

According to Wichmann (2013, p821), for the elderly, the social relations and the social support, being emotional, instrumental or informational, favor the health
improvement, furthermore, the author in his studies about the coexistence in groups affects the elderly’s health, concluded that there,

The elderly have the possibility to find the stimulus to a healthy social life, develop own culture, to have leisure times. Then, improving their self-esteem and acceptance in society, because in these places they receive citizenship lessons, of participating and how to collaborate with a very common, learning that there is no limit of age to do it. (WICHMANN, 2013, p822)

Therefore, in these groups the elderly search to promote physical and mental health, throughout physical activities, trips, mental activities, etc, then, general well-being support to the elderly.

How Physical education at home can contribute to the maintenance and promote the general well-being of the elderly in social isolation? How social isolation affects the elderly’s social abilities, cognitive, and what is the physical education role in this?

In this scenario, the current research brings a report about the experience developed through a WhatsApp group, it promotes daily physical activities with the elderly between the age of 53 and 71. Before a debate about aging with a multidisciplinary approach, the research brings a data discussion, it brings an analysis of physical activity and social interaction it promotes its psycho-emotional and physical effects among the elderly.

Methodology

The article is about a report of experiences with the elderly from 53 to 71 yours old, that for a digital way they participate in a group, it promotes interactions and physical activities incentive, directed to old-aged, can practice these activities at home. The activities are indicated based on peculiar aspects for each one of them, like age, weight, height, physical conditions, injuries. Moreover, in the group, there are daily exercises, communication, information, answer questions, and video calls.

The research brings a qualitative analysis having the data collected in interviews as an instrument, according to Fraser, Gondim (2004 p140).

The qualitative interview research, when privilege the social actor speech, allow achieving a high level of comprehension of the human reality that becomes accessible because the speeches, being appropriate to investigations with the objective of knowing how people perceive the world.
The interview was developed by median mode where there is no visual contact, the information collection was digitally made. Overmore, some data were collected by the behavior observation of the group analyzed.

The empirical data were collected through the literature studies specified with books and articles published in Scielo, LiLacs, and Google Academics.

**Aging: Multidisciplinary Approach**

The aging is a multifaceted topic and covers biological components, social and psychological aspects that there are not connected to the chronological order, it can be different in each person depending on the particular characteristics.

In this sense, Fontaine (2000) apud Simões (2020, p70) talks about biological age, which considers organic aspects and changes in the body’s biological mechanisms, cell aging; social age, which is defined according to the roles and status that each has in society; and psychological age, linked to memory, motivation, intelligence, factors that affect how to deal with changes in the environment.

For Maciel (2010, p1024) "Aging is a complex and variable phenomenon, and its study is carried out from an interdisciplinary perspective".

The process is a process that causes changes and wears in various functional systems, which occur progressively and irreversibly. The moment when these transformations appear when they start to be perceived and evolved, one individual differs from another. (NAHAS, 2006, p25)

From a biological perspective, aging causes several morphophysiological changes, which limit and decrease the body’s functionality. The table below shows the results of a study on these changes.
**Figure 1** Deleterious effects of aging (MATSUDO, 1996 apud MACIEL, 2010, p1025).

<table>
<thead>
<tr>
<th>Anthropometric level</th>
<th>Muscle Level</th>
<th>Pulmonary level</th>
<th>Neural Level</th>
<th>Cardiovascular Level</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased body weight/fat.</td>
<td>Decreased vital capacity</td>
<td>Decreased number and size of neurons</td>
<td>Decreased energy expenditure</td>
<td>Decreased agility</td>
<td></td>
</tr>
<tr>
<td>Decreased stature</td>
<td>Increased in residual volume</td>
<td>Decreased nerve conduction speed</td>
<td>Decreased heart rate</td>
<td>Decreased coordination</td>
<td></td>
</tr>
<tr>
<td>Decreased muscle mass</td>
<td>Increased ventilation during exercise</td>
<td>Increased cognitive tissue in neonates</td>
<td>A decrease in systolic volume</td>
<td>Decreased balance</td>
<td></td>
</tr>
<tr>
<td>Decreased bone density</td>
<td>Less mobility of the chest wall</td>
<td>Shorter reaction time</td>
<td>Decreased use of O2 by tissues</td>
<td>Decreased flexibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decreased lung diffusion capacity</td>
<td>Lower movement speed</td>
<td>Decreased joint mobility</td>
<td>Decreased cartilage stiffness of tendons and ligaments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decreased cerebral blood flow</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aging is a concept that can take different conceptions depending on how the social environment absorbs the biological changes that happen with the elderly, so the norms, values, and criteria of society define how the individual will deal with the aging process, as well as define your role in society. (OKUMA, 2012, p15-16)

Corroborating this line of thought Falcão and Araújo (2010, p137) argue that,

To guarantee the aging process and healthy old age it is necessary to understand it in a heterogeneous way, because, even though old age is understood as a universal phenomenon, the coping mechanisms are particularized according to the sociocultural, general, and psychological health framework.

Based on these considerations, Okuma (2012, p16) observes that in 21st-century society, the negative and outdated social stereotype that strengthens the false idea that
the elderly have no capacity and represents a biological decline, loss of status and value, causes from a personal perspective, a change in the way the elderly identify themselves and how they interact with others, the world and time.

From the perspective of the psychology of aging, one of the most promising trends, I defined successful aging as,

An individual and group condition of physical and social well-being, referenced to the ideals of society and to the conditions and values existing in the context in which the individual grows old and the circumstances of his personal history and age group [...]. Successful old age preserves the potential for development, respecting the limits of each one's plasticity. (NERI, 1995, apud OKUMA, 2012, p17).

Thus, it is understood that aging occurs as biological, psychological, and social aspects interact with each other and with the environment, and healthy aging depends directly on the balance of this interaction.

For physical education, the effects of aging can be reduced with physical activity practices, maintaining the functionality of the body.

To conceptualize Maciel (2010, p1025) states that,

Functionality can be understood as the person's ability to perform certain activities or functions, using different skills to carry out social interactions, in their leisure activities, and in other behaviors required in their daily lives.

functional individual has the ability to perform their daily activities and take care of themselves, "it is the result of intrinsic capacities (physical and mental) and interaction with the environment (WHO, 2015, p.13)".

Physical Education and Social Interaction

The socioeconomic dynamics that occurred in the post-industrial revolution period, brought about several changes in the world lifestyle. Population growth combined with the increasing use of technology made it possible to decrease the intensity and time spent on work activities, and among other factors, contributed significantly to the epidemiological picture related to physical inactivity, obesity and the development of chronic non-communicable diseases (NCDs) (NAHAS; GARCIA, 2010).

Caspersen, Powell, Christensen (1985) apud Maciel (2010, p.1026) defined physical activity as, "any body movement, produced by skeletal muscles, which results in greater energy
expenditure than resting levels, for example, as Walking, dancing, gardening, climbing stairs, among other activities."
Nahas e Garcia (2010, p136) argue that,

"Physical Education - whether as a school subject, academic area, or regulated profession - came to be seen as one of the leading areas in the process that aims to educate, motivate for changes and create opportunities for people to fully reach their human potential and have better health living conditions."

Among the improvements in health conditions, studies indicate that physical activity has beneficial effects in psychophysiological aspects. One of those studies carried out by Meurer, Benedetti, Mazo (2009) cited by Maciel, indicated that the participation of a group of 150 elderly people of both sexes had a positive influence on the elderly’s self-image and their self-esteem.

"Self-esteem can be defined as a variable of psychological well-being, related to self-concept, referring to the positive or negative assessment that the individual makes of himself". Hawk; Araujo, 2010, p88).

Corroborating the result of the aforementioned research, Ferreira, Roncada, Tiggemann, and Dias (2014, p407) report in their research that the regular practice of physical activity contributes to the reduction of depression levels in elderly individuals.

Batista and Oliveira (2016, p7) concluded in their study that it included physical activity in the therapeutic treatment of depression and anxiety, had positive results in reducing symptoms and promoting emotional relief, as well as authors of physical activities as a therapeutic supplement in the treatment of anxiety and depression.

Other studies indicate that women are predisposed to having mental health affected, presenting depression and anxiety problems since they are more prone to isolation and loneliness as well as being the majority of caregivers for the most vulnerable members of the family. In addition, women tend to have a more self-deprecating image and a negative view of old age. The study also indicates that in addition to age and sex, marital status is a risk factor for depression, being more present in divorced women. However, the same study points out that these data decrease significantly "among women who have better health conditions and productive involvement in socio-family life throughout old age". (Camarano, 2003, apud Falcão; Araujo, 2010, p14).

A study by Abade (2009, p333) points out that the pathologies present or not, are dispensable when analyzing the motivation of the elderly, as they did not assume a
meaning for a happy life, on the other hand, physical activity and social coexistence were responsible for the well-being and motivation of the group.

Monteiro et al. (2014, p73) in comparative research between the level of well-being of active and sedentary elderly people concluded that “physical activity seems to be associated with benefits in the mood and in the increase of experiences of joy, fun, and other experiences. physical activity”, the author also states that physical activity even without promoting changes in physical fitness levels, is beneficial in reducing the risk of various physical and psychological diseases and decisive in increasing well-being in the elderly”.

In addition, Falcão and Araújo (2010, p89) says that “the person's perception of the effects of training seems to be as important as the physical change itself”, thus, physical activities with the elderly increase the flexibility necessary for routine activities which reflects in the daily activities of the elderly, bringing the feeling of satisfaction.

Weyerer (1992) apud Falcão and Araújo (2010, p87) points out the effects of physical education on “cognition, perception, affection, personality, self-concept, as well as on clinical syndromes such as depression, psychosis, alcoholism, and disability mental”.

Thus, regular physical activity is linked to inter and intrapersonal factors, since many elderly people seek group activities to escape isolation and loneliness, as well as seeking without fitting into a social group that feels welcomed and can share experiences.

**Results**

As for the results obtained, some testimonies from participants of the virtual academy group will be analyzed.

Participant A declares that she does not like to use groups, but she approved the group's initiative because it is helping her with physical activities and says “it is wonderful to be doing physical activity early, I am more willing and I do not think about this pandemic”. The participant shows her satisfaction in interacting with the other members: “! alas if I didn't have this group, these wonderful teachers who help us, cheer us up, we have physical education activities that we can do at home and choose the time, this is very comforting, wonderful!”.

The interviewee claims to avoid watching TV, because according to her the bad news is not good, and physical activities help to distract the mind and according to the participant “when I stop doing my exercises I get very tired and all swollen because of spinal problems (arthrosis and parrot's beak) then I have to do a lot of exercises to strengthen my spine”.

The participant also reports participating in outdoor activities, but with social isolation, these activities are not possible and thanks for the creation of a virtual gym to perform these activities in the homeroom.

Participant B has a child with intellectual disability (ID) and says that he likes outdoor activities very much, and reports problems with him and states that “with Social Isolation you have to stay at home, this causes your boredom and I’m afraid he will freak out, as well as I suffer from this century’s disease called depression “and he also mentions problems with his ex. husband.

With this scenario, the participant says that “I was desolate, very sad, in a moment of despair I knelt down and asking God to give me a light! That was when a teacher appeared in response to my request to God! I was welcomed by the group to give UMA of BSB “and considers physical activity as the way out to stay healthy physically and psychologically,” Now with Physical Education it was all we needed to go through this Pandemic with physical and mental health “.

Participant B is a neighbor of another who is also part of the group and always seeks to carry out the activities of the virtual gym together, and is satisfied with suggesting exercises and having the freedom to give an opinion on the activities.

Participant C considers herself dynamic and describes several activities she likes to do, “I like to dance in the “forró” of the elderly, ride a bicycle, do physical activity in the outdoor gym and do my walk, but with this quarantine, I was very sad, because my doctor writes the prescription, but always says that what will give me health is physical activities “. The participant is well aware of the importance of keeping the body moving and likes to keep up with the activities.

The interviewee states that the exercises are light and agree that some can give muscle pain if they are not performed correctly. The participant states that “I like to help others, with this solidarity group that was born in Novo Gama UMA BSB, I asked the group to include my name to be a volunteer in this humanization project and I am very happy to have been accepted into the group.”

Participant D claims to have “a disease in the bones” and recognizes that although doctors indicate physical activities, she does not perform any exercise due to pain in the knee, feet, and joints of the hands. Participant D reports that the exercises promoted by the virtual academy are helping because, according to her, “I don't feel pain, unlike before, I am willing after the exercises, I clean all the furniture that is not so many, I wash the whole house”. She reports that before the virtual gym, the only exercise she did was to wash the house.
Participant E declares she is happy to have the opportunity to perform the physical activities she performed before the outdoor epidemic, the participant says that “at the beginning, it was very difficult, because I am very afraid of getting sick, with that I ended up being very isolated and kind of neurotic with this pandemic, but the help of teachers with connections, pedagogical assistance, basic food baskets and the care they have with us and important to our ego, makes us feel that there are good people in the world”.

Participant F also performs the group’s physical activities with a neighbor who is also a participant and reports that before the epidemic, she traveled to the city center where she lives to perform physical activities. The participant states that the group provides the opportunity to do the same exercises without leaving home, says that she follows all the tips and has the discipline and mentions that “I feel very good about my body movement, because I have medical recommendations that I need to exercise, once I suffer from bipolarity, doing physical activity relaxes and calms me down.”

**Discussion of data**

In all reports, it is possible to observe, even if in an intrinsic way, that despite promoting physical activities, the participants feel part of a group where they feel welcomed. According to the theoretical basis presented there is the function of social interaction of physical activity occurring even if performed in a virtual way.

In the speech of participant A when she says: “! What, if I didn’t have this group, these wonderful teachers who help us, cheer us up, we have physical education activities that we can do at home “and participant D” !! I’m praying for the teachers of the group, because I don’t know what it would be like if I lived alone in this shack if it weren’t for this group of god that welcomed me into this pandemic “, it is observed beyond the feeling of belonging, the search for more conviviality social, a fight against the feeling of loneliness, thus, these elderly people find support in the group and identify with the experiences of others.

The digital medium provides a paradigm with respect to social interaction, since despite allowing people to connect from distant places with practicality, it promotes the departure from social interaction relationships based on physical contact. This withdrawal is felt significantly by the elderly, and as observed in the researched literature, it has caused high rates of depression, anxiety and other psycho-emotional diseases in the elderly.

The survey data also points out that elderly people who were active before social isolation, maintained the habit of exercising. Another common point found in the
speeches refers to the awareness of the importance of physical activity for mental and physical health. As participant B reports, “Now with Physical Education was all we needed to get through this Pandemic with physical and mental health”.

Physical education is related to the release of substances such as serotonin and endorphins that relax the body and mind as described by participant 4 who claims to have bipolarity and states that physical activity helps to relax and maintain tranquility in social isolation.

A similar effect is observed in the testimony of participant B who has a child with ID, problems with her ex-husband and depression, according to the participant, physical activities help to keep her body and mind healthy, and contributes to her son and mother in isolation. social can live with more tranquility.

Thus, the testimonies point out that physical education is an ally in facing the consequences of social isolation both in physical and psycho-emotional aspects.

**Conclusion**

Given the above, it is observed that social isolation can favor the onset of psychosocial diseases, in addition to aggravating physical problems due to lack of physical activities and social interaction, both important for maintaining the physical and mental health of the elderly.

The research pointed out that despite the preventive measures against COVID-19, physical activity performed at home by digital means provides beneficial effects and preserves the health of the elderly, as well as an opportunity for interaction even if digital does not replace the need for physical contact, however it alleviates the effects of isolation. In addition, the reports corroborate what was discussed in the theoretical framework, in the sense that the elderly seek to practice physical exercise not only seeking to respond to medical recommendations but also seeking social interaction, a sense of belonging and a way to escape loneliness.

Another important point observed in the research is the elderly’s awareness of the importance of keeping the body in motion for health, even in times of social isolation, where uncertainty, stress, anxiety, and distance from the family, can cause emotional instability.

Thus, the social isolation resulting from the COVID-19 epidemic is an opportunity for further study in how social withdrawal can affect different aspects of the elderly’s life, being a recent occurrence, there is still room for several studies on the subject.
References


RESUMO:
O mundo inicia o ano de 2020 em meio a uma crise, com impactos socioeconômicos e no modo de vida em geral, causada por uma pandemia decorrente do novo coronavírus COVID-19. Entre as recomendações das organizações de saúde, encontra-se o isolamento social, em especial os grupos de risco que inclui os idosos. Em isolamento social, os idosos estão sujeitos a apresentar depressão, ansiedade, além da dificuldade em praticar atividades físicas, um dos elementos essenciais para manter o corpo e mente em condições saudáveis. Assim, o presente artigo traz um relato de experiência desenvolvido com idosos entre 53 e 71 anos, que por meio digital participam de um grupo que promove a interação e incentivo de atividades físicas direcionadas à terceira idade.

PALAVRAS-CHAVE: Atividade Física; Isolamento social; Pandemia; Envelhecimento.

RESUMEN:
El mundo comienza el año 2020 en medio de una crisis, con impactos socioeconómicos y en la forma de vida en general, causada por una pandemia resultante del nuevo coronavirus COVID-19. Entre las recomendaciones de las organizaciones de salud, hay aislamiento social, especialmente los grupos de riesgo que incluyen a los ancianos. En el aislamiento social, los ancianos están sujetos a depresión, ansiedad, además de la dificultad para practicar actividades físicas, uno de los elementos esenciales para mantener el cuerpo y la mente en condiciones saludables. Por lo tanto, este artículo trae un informe de experiencia desarrollado con personas mayores entre 53 y 71 años, que participan digitalmente en un grupo que promueve la interacción y fomenta actividades físicas dirigidas a las personas mayores.

PALABRAS-CLAVES: Actividad física; Aislamiento social; Pandemia; Envejecimiento.