Artigo Original

Recebido em: 11/10/2022 | Aceito em: 15/02/2023

Evaluation of the COVID-19 pandemic' effects on elderly practitioners of physical activities

Avaliação dos efeitos da pandemia da Covid-19 em idosos praticantes de atividades físicas

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Abstract
Introduction: The pandemic has changed the population's lifestyle. Objective: to evaluate the effects of the COVID-19 pandemic on elderly people attending the Social Service of Commerce (SESC). Materials and methods: Quantitative research, developed with elderly people aged 60 years or older. Data were collected through semi-structured interviews carried out remotely via telephone calls with 120 elderly people, collecting information related to sociodemographic data; emotional health; physical activity and health. Results: More than 50% of participants practicing social isolation and said that the pandemic influenced their emotional state. There was an association between physical activity and hours sitting per day. Conclusion: According to the results, the pandemic influenced the emotional aspect of the participants and those who practiced physical activity spent less time sitting.
Keywords: health of the elderly; social isolation; sedentary behavior

Resumo
Introdução: A pandemia tem alterado o estilo de vida da população. Objetivo: avaliar os efeitos da pandemia da COVID-19 em idosos frequentadores do Serviço Social do Comercio (SESC). Materiais e Métodos: Pesquisa quantitativa, desenvolvida com idosos com idade igual ou maior que 60 anos. Os dados foram coletados por meio de entrevistas semiestruturadas realizadas de forma remota via ligações telefônicas com 120 idosos, levantando informações relacionadas a dados sociodemográficos; saúde emocional; atividade física e saúde. Resultados: Mais de 50% dos participantes praticaram o isolamento social e afirmou que a pandemia influenciou no seu estado emocional. Houve associação entre atividade física e horas sentadas por dia. Conclusão: Conforme os resultados, a pandemia influenciou no aspecto emocional dos participantes e quem praticou atividade física permaneceu menos tempo sentado.
Palavras-chave: saúde do idoso; isolamento social; comportamento sedentário

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Introduction

The first cases of the coronavirus appeared in December 2019 in Wuhan, Hubei province, China and on March 11, 2020 due to the increasing number of cases and infected countries, the World Health Organization (WHO) declared the beginning of the SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) pandemic[1].

Most experts say that social isolation is the best way to contain the spread of the virus[2]. Since then, many studies started to verify the effects of social isolation on levels of physical activity in the general population[3-6].

This way, it was possible to observe associations between social isolation, the decreasing of physical activity and increasing time in sedentary behavior in the elderly[3], reduction of level of physical activity from before to during the period of social isolation in adults[4] and that the period of social isolation causes some losses related to functional capacity and increased frailty in the elderly[5].

Thus, it is evident that the pandemic has altered the lifestyle of the population. In the United Kingdom, a research pointed out that lower levels of physical activity during the period of social isolation are related to older age and to subjective feelings of loneliness and symptoms of depression[6] and that social isolation generated declines in the functionality of the elderly and damages related to psychological aspects such as anxiety, depression, high levels of stress and fear, besides the increase of time in sedentary behavior[7].

Much research has been made on the effects of the COVID-19 pandemic on the general population, however, we did not find in the literature studies that evaluated at the same time the physical, emotional and social aspects of the elderly. Therefore, the aim of this study was to evaluate the effects of the COVID-19 pandemic on elderly people attending the Commerce Social Service (SESC).

Materials and methods

This research is characterized as quantitative and was implemented with elderly who participate of physical activities offered at the Commerce Social Service (SESC), in the city of Castanhal, Pará. SESC offers physical activities for a total of 200 elderly people per year. All the elderly who attended the SESC and agreed to participate in the research by signing the Informed Consent Form were included in the investigation. The elderly were 60 years old or older.

Data were collected by means of semi-structured interviews conducted remotely via telephone calls. First, the research objectives were explained and then an anamnesis was applied containing six questions related to socio-demographic data: 1. what is your age? 2. what is your marital status? 3. what is your level of education? 4. what is your current occupation? 5. what is your monthly family income? 6. Who do you live with?, six questions related to emotional health data: 1. during the pandemic did you practice social isolation?, 2. do you believe that the pandemic influenced your emotional state? How are you feeling during this time of pandemic? 4. What is your level of stress during this time of pandemic? 5. Taking the past two weeks as a reference, how would you evaluate your quality of life? Taking the past two weeks as a reference, how pleased are you with your health?, seven questions on physical activity: 1. Are you doing any physical activity during the pandemic? If you answered positively to the previous question, what physical activity are you doing? 3. Do you spend a lot of time sitting during the pandemic? 4. If yes to the previous question, how many hours a day

do you sit? 5. What physical activities did you do at the SESC? 6. Do you intend to return to SESC when the activities return after the pandemic ends? 7. Has your doctor ever told you that you can exercise? and 18 health-related questions: 1. Are you a smoker? 2. If yes, how many cigarettes a day? 3. Have you ever smoked? 4. When did you quit? 5. Do you drink alcohol?, 6. If yes, how many times a week?, 7. When you drink, how much do you drink? 8. List the health problem(s) you have been diagnosed with by a doctor, 9. Do you take any medication for any of these diseases? 10. Have you ever had a fall? 11. If yes, did you break any bones? If yes, which? 13. Do you feel any pain? 14. If yes, where?, 15. If yes, does it obstruct any task or movement?, 16. If yes, which?, 17. When the pandemic ends, with the return of physical activities at SESC, we intend to do a physical evaluation with you. Do you intend to participate? 18. What is your weight and height?

The question 'how are you feeling in these pandemic times', had as possible answers: I feel good, happy, worried, anxious, afraid, angry, other. For examinations purposes the answers were dichotomized into: good feelings and bad feelings. It was also considered as bad feelings for those who answered two feelings (one good and one bad).

The question 'if you answered positively to the previous question, how many hours a day do you sit?" had as possible answer: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, >5 hours, and other. Likewise, for analysis purposes, the answers were dichotomized into 1 to 2 hours and 3 or more hours.

The anamnesis questions were developed by the researchers of the study. However, the other questions related to health and quality of life are part of the World Health Organization Quality of Life-bref (WHOQOL-BREF) questionnaire, abbreviated version, consisting of 26 questions related to the domains: physical, psychological, social relations, and environment[8]. This questionnaire was validated by Fleck et al.[9] and intends to help in the evaluation of quality of life through different domains[8].

The interviews were implemented in July and August 2021 (during the pandemic of COVID-19) and a total of 120 elders were interviewed. The calls were made from Monday to Saturday and lasted of 15 to 20 minutes each approximately and were recorded, if the participants gave their consent, using an IC Recorder (ICD-PX240).

The data were analyzed with the Statistical Package for Social Science (SPSS) version 25® software. Descriptive statistics were performed (relative data, mean, and standard deviation). The Chi square test was applied to verify the association between the variables of physical activity with good and bad feelings and physical activity with sedentary time. This research was approved by the Research Ethics Committee with opinion number 4.833.903 and CAAE: 48169021.5.0000.0018.

Results

120 elderly people participated in this research, where 92.5% were female. Table 1 presents the sociodemographic and anthropometric data of the participants. The BMI calculation was made with 98 participants, the ones who reported their body mass and/or height. According to the mean body mass index (BMI = 28.20±4.83 kg/m2), the participants were ranked as overweight[10].

Table 1. Sociodemographic and anthropometric characteristics of the participants (n=120), Castanhal-PA.

VARIABLES	
Age (years)*	70.24±6.08
BM (kg)* (n=107)	66.76±12.27
Height (m)* (n=101)	1.54±0.06
BMI (kg/m^2)* (n= 98)	28.20±4.83
Marital Status (% married)#	35.8
Schooling (% High School Complete)#	30.8
Ocuppation (% Retired)#	62.5
Monthly Family income (% 1 to 2 minimum wages)#	49.2
Lives with whom (Son/daughter)# (%)	31.7

* Descriptive for continuous variables. # Descriptive for categorical variables. Kg=kilograms BM= body mass, m=meter, %=percentage, BMI= body mass index.

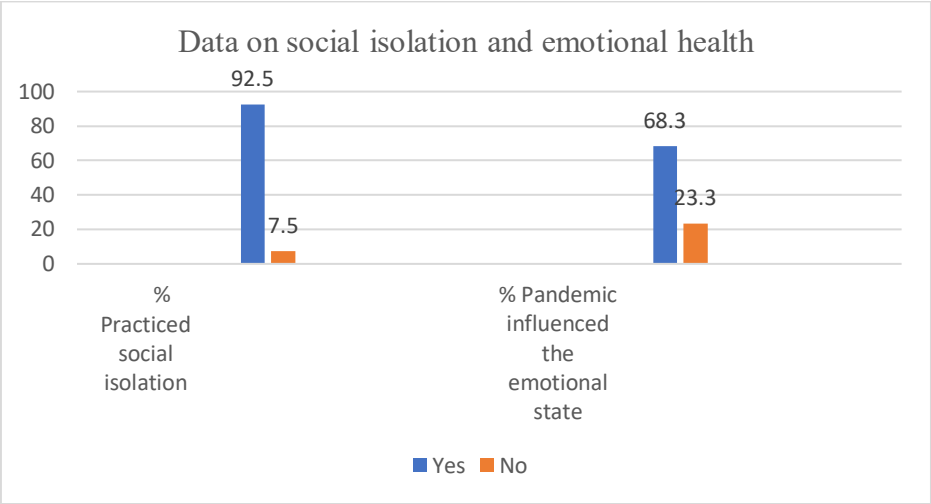

Figure 1. Data on social isolation and emotional health of the research participants.

Figure 1 presents the data about social isolation and emotional health of the participants. The results show that 92.5% of the elderly did social isolation during the pandemic; 68.3% felt that the pandemic influenced their emotional state. In addition, the research pointed out that 28.3% felt two or more emotions (worried, anxious, and afraid); 55.8% classified their stress level as moderate; 65% evaluated their quality of life as good, and 64.2% said they were pleased with their health.

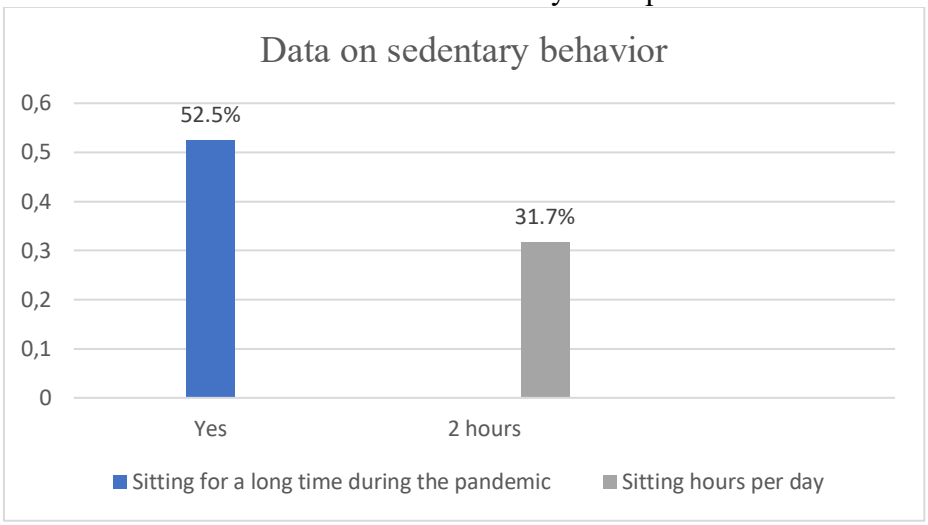

Figure 2. Data on sedentary behavior of the research participants.

The information about the time spent in sedentary behavior by the research participants is presented in figure 2. The data show that 52.5% said they spent a lot of time sitting during the pandemic; 31.7% said they spent an average of 2 hours sitting a day.

It was also verified that 51.7% of the participants were not making physical activity during the pandemic; 41.4% said they walked as a physical activity; 53.3% informed that they practiced two or more physical activities at the SESC; 99.2% said that they had doctor's permission to practice physical activity and 100% intended to return to the SESC.

Data on behavioral aspects and physical health show that 98.3% of the participants declared themselves as non-smokers; 82.5% did not drink alcohol; 59.2% of the participants had already suffered some sort of fall, 55.7% said they had not fractured any bone, and 67.5% felt some kind of pain.

About health problems diagnosed by a doctor, 55% of the participants declared hypertension, 51.7% pointed out some back problems, and 63.3% said they had other diseases.

Table 2. Association between physical activity practice and feelings.

Number of participants		**Feeling with isolation**					
120	**Practice of PA**	Good (%)	N	Bad (%)	N	Total	**Value p**
	YES	27.6	16	72.4	42	100% (58)	
	NO	29.0	18	71.0	44	100% (62)	0.861

According to the results observed in table 2, there was no association between the practice of physical activity and good or bad feelings.

Table 3. Association between the practice of physical activity and time spent in sedentary behavior.

Number of participants		**Sitting hours per day**					
63	**Practice of PA**	1 a 2 h	N	3 or more	N	Total	**Value p**
	YES	57.1%	16	42.9%	12	100%(28)	0.011
	NO	25.7%	09	74.3%	26	100% (35)	

Table 3 presents the association between physical activity and sedentary behavior. The results show that those who did physical activity passed less time in sedentary behavior.

Discussion

This study corresponds to data from 120 elderly people, most ranked as overweight, and among the main results, we highlight that more than half practiced social isolation, stated that the pandemic influenced their emotional state, and reported their stress level as moderate. There was an association between physical activity and sitting hours per day, showing that those who made physical activity passed less time in sedentary behavior.

Similar results were found in another study conducted in Brazil, in which, in general, 89% of the sample analyzed stated that they did some kind of social isolation during the pandemic[11].

About the emotions affected by this period, the study by Barros et al.[12], conducted during the pandemic period, showed that 40.4% of the participants felt

sad or depressed always or almost always, and 52.6% felt anxious or nervous always or often. Corroborating this, the data from the present study shows that the pandemic influenced emotional state. A survey that evaluated the mental health of the population in Ecuador during the period of social isolation due to Covid-19 observed that 14.2% reported moderate to high levels of stress[13].

Despite the emotional health results of the present study, more than half of the sample evaluated quality of life and contentment with health in a positive way during the pandemic. Similar results were found in the study by Gomes et al.[14], that evaluated the quality of life of elderly people before and during the pandemic, and most (43.3%) reported life quality as good/very good during the pandemic.

Regarding physical activity and sitting time in the present study, more than half of the sample was not practicing in some type of physical activity, and reported passing a lot of time sitting during the pandemic (around 2 hours a day). Like these results, a study that evaluated the impact of the Covid-19 pandemic on the level of physical activity and sedentary behavior concluded that participants that had increased time in sedentary behavior during the pandemic were older and less active before the pandemic[15].

A meta-analysis implemented to evaluate the association between prolonged time watching TV (sedentary behavior) and the risk of cardiovascular diseases, type 2 diabetes, and mortality of all-causes, indicated that 2 hours of TV watching was associated with elevated risk of all the variables analyzed[16]. Another study carried out with 43,554 Brazilians elderly showed that participants that spent more than 3 hours in sedentary behavior were more likely to have multimorbidities when compared to those who spent less than 3 hours[17]. And that sitting for more than 4 hours can bring risks to the health of the elderly[18]. Besides, the authors Galvão et al.[19] highlight that the older the person, the more time he/she spends in sedentary behavior.

This way, it was observed that after 2 two hours of sedentary behavior, the rate found in this study, it is possible to have problems to health.

In the present search, there was no association between the practice of physical activity and feelings related to social isolation. On the other hand, those who made physical activity passed less time sitting. Corroborating these findings, the study by Wang et al.[20] showed that intervention with aerobic exercises in elderly women was able to reduce the time spent in sedentary behavior and increase the time spent in light, moderate, and total physical activities. Lynch et al.[21] studied the effectiveness of a 12-week intervention in menopausal women who were breast cancer survivors, observing positive results in increasing the level of moderate and vigorous physical activity and decreasing sedentary behavior.

A study made with physically active individuals who observed the recommendations of 150 minutes/week of moderate/vigorous physical activity showed an association between metabolic syndrome and increased time spent in sedentary behavior, that is, even if the individuals observe the recommendations for physical activity, the increase in sedentary behavior can bring risks to health[22].

Considering the presented data, the practical implications of this study are related to the understanding that it is possible to improve health by reducing sedentary behavior and increasing regular physical activity.

Limitations of this study include the fact that the research was carried out remotely via telephone call due to the COVID-19 pandemic. As positive aspects, we highlight that even in the midst of the pandemic, it

was possible to carry out a survey with a good number of participants.

Conclusion

According to the results found in the research, the pandemic influenced the emotional state of the participants; however, more than half of the sample evaluated their health and quality of life in a positive way. There was association between physical activity and sitting time, that is, those who made physical activity passed less time in sedentary behavior.

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How to cite this article:

Peniche EAN, Leal FEG, Souza HND, Bezerra JB. Evaluation of the COVID-19 pandemic' effects on elderly practitioners of physical activities. Rev. Aten. Saúde. 2023; e20238794(21). doi https//doi.org/10.13037/ras.vol21.e20238794