# Social Representations of COVID-19 Among Brazilian Elderly Women: A Structural Approach

# Representaciones sociales de la COVID-19 entre mujeres mayores brasileñas: una aproximación estructural

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#### Abstract

Background: In January 2020, the World Health Organization declared the coronavirus disease 2019 (COVID-19) «a public health emergency of international concern» owing to the detection of cases and the rapid spread of the disease. Objective: This study aimed at understanding the social representations of COVID-19 among Brazilian elderly women. Method: A total of 100 elderly women selected by convenience sampling, with an average age of 69.24 years old (SD = 6.58), participated in the study. Data were collected online using a sociodemographic questionnaire and a free word association test (FWAT) with the stimulus word «COVID-19.» The responses were examined by prototypical analysis through IRaMuTeQ. Results: The social representations of COVID-19 emphasize death and fear of the disease caused by the novel coronavirus. Elements associated with measures to contain the virus are also part of the representational field. Conclusions: Understanding social representations of COVID-19 in elderly women may contribute to short- and long-term interventions to reduce the psychosocial consequences of COVID-19 in this age group.

**Keywords**: social representations, structural approach, COVID-19, pandemic, elderly women.

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#### Resumen

Antecedentes: en enero de 2020, la Organización Mundial de la Salud declaró a la enfermedad por coronavirus 2019(COVID-19) «una emergencia de salud pública de importancia internacional» como resultado de la detección del número de casos y la rápida expansión de la enfermedad. Objetivo: este estudio tuvo como objetivo comprender las representaciones sociales de mujeres mayores brasileñas sobre la COVID-19. Método: participaron un total de 100 mujeres adultas mayores, seleccionadas por conveniencia y que tenían en promedio 69.24 años (DE = 6.58). La recolección de datos se realizó en línea mediante un cuestionario sociodemográfico y un test de asociación libre de palabras (TALP) con la palabra estímulo «COVID-19». Las respuestas al TALP se examinaron mediante un análisis prototípico utilizando el programa IRaMuTeQ. Resultados: las representaciones sociales de la COVID-19 enfatizan la muerte y el miedo a la enfermedad provocada por el nuevo coronavirus. Elementos asociados con las medidas de contención del virus también forman parte del campo representacional. Conclusiones: comprender las representaciones sociales de la COVID-19 en mujeres mayores puede contribuir con intervenciones a corto y largo plazo que minimicen las repercusiones psicosociales causadas por la COVID-19 en este grupo poblacional.

**Palabras clave**: representaciones sociales; abordaje estructural; COVID-19; pandemia; mujeres adultas mayores.

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#### Introduction

In December 2019, a novel coronavirus appeared in China: SARS-CoV-2, a virus responsible for an outbreak reported for the first time in the city of Wuhan. This virus has rapidly spread around the world by travelers and the number of cases worldwide has surpassed 72 million, with more than one million deaths by December 14, 2020 (Worldometer, n.d.). However, the numbers reported are underestimated, considering that infected asymptomatic individuals might not have been tested, and that standardized protocols and notification methods have been critically lacking in several countries (Oran & Topol, 2020).

On January 23, 2020, the World Health Organization (WHO) declared «a public health emergency of international concern» owing to the detection of cases in various Asian countries and highlighting the rapid spread of the disease. The pandemic caused significant impacts on the elderly population, such as increased symptoms of anxiety and depression, increased loneliness, less socialization, decreased practice of physical activities, job loss, worsening of health status since the onset of the pandemic: a condition most reported among women (Novais et al., 2021).

A review study conducted by Pereira et al. (2022) on the real or potential impacts of the COVID-19 pandemic on the mental health of the elderly highlighted the occurrence of anxiety, depression, loneliness, stress, feeling of fear or panic, sadness, suicide or suicidal ideation and insomnia. In studies conducted by Wegner et al. (2021), social isolation and other strategies to minimize the transmission of COVID-19 had impacts on the physical activity of women, who reported decreased levels of these activities and concern about the pandemic reality.

A phenomenon that accompanies population aging is the feminization of old age, in which there is a higher proportion of women than men in the elderly population, especially at older ages (Sousa et al., 2018). The process of feminization of old age can be experienced in a discriminatory way due to gender and age. On the other hand, the feminization of old age is not limited to the fact that there are more elderly women in Brazil and that they live longer than men, but it includes social-historical contexts that make Brazilian women more likely to be vulnerable to inequality, disasters' impacts, and overall survival than men (Cepellos, 2021; Okai, 2022).

In the pandemic scenario, women are more susceptible to the risk of contamination and to the social vulnerabilities that stem from that reality, such as unemployment, violence, lack of access to health services and increase of poverty (Canavêz et al., 2021). Santana et al. (2022) highlights that the main elements that contributed to the increased vulnerability of women to violence in the context of the pandemic were ethnicity (mainly black women), partial closure of complaint services, low schooling, economic dependence, among others.

Social distancing measures, such as suspension of events, cancellation of classes, quarantine of the population and risk groups, restriction on the use of public transport (Da Silva et al., 2021) and use of masks (De Sousa et al., 2021), were adopted in the Brazilian context to minimize the transmission of the virus. Studies have shown that elderly with comorbidities were three times more likely to agree with the preventive measures adopted for social distancing than those without comorbidities (Filho et al., 2021). Romero et al. (2021) identified that adherence to total social distancing was higher among elderly women.

The psychosocial, emotional, and behavioral implications of the pandemic in the elderly population may be related to social isolation, fear of contagion, feelings of abandonment, loneliness, sadness, fear of death, panic, emotional lability, sleep disorders, loss of appetite, among others (Faria & Patiño, 2022). A study conducted with Brazilians showed that the genesis of the social representations of the novel

coronavirus is marked by concerns related to its dissemination, psychosocial implications (collective concern about the prevention of COVID-19 and prophylactic care) and affective issues (uncertainty, feelings of fear and despair) (Do Bú et al., 2020). Studies developed by Joia et al. (2022) pointed out that politics and government, social distancing, death, and fear made up the central number of social representations of the pandemic among the Brazilians.

Thus, knowing the social representations of COVID-19 among elderly people can help understand the feelings aroused, what preventive measures they consider to be relevant and how they interpret the reality experienced (Oliveira et al., 2020). Given this context, it is important to research the social representations of COVID-19 among elderly women, mainly considering that the virus propagation not only affected the number of dead and infected people but also has psychosocial implications. Social representations are understood as a set of values, ideas epresses that establish an order which guides people in their material and social world, besides allowing the communication among the members of a community (Moscovici, 2007).

Seeking to explain the social representations' genesis, Moscovici developed two important concepts: anchoring and objectification. Anchoring can be understood as the process of incorporation and assimilation of a new object to a set of categories that are familiar to the individuals and are easily available in the memory, allowing the integration of that object of representation to a set of proper values in a way that individuals start to name and classify it from their social insertion (Almeida & Santos, 2011; Bertoni & Galinkin, 2017). In objectivation, the new object is integrated to the structures of the daily action: what is abstract becomes concrete (Jodelet, 2018).

The structural approach proposes that social epressentation is organized around a central nucleus characterized by stability, resistance to change, translation of meaning; moreover, it is related to collective memory and peripheral elements, which allow adaptation to reality and capture singularities from individualized experiences (De Melo et al., 2020; Parreira et al., 2018). The core elements, therefore, are characterized as more abstract, stable and with a more normative nature, while the peripheral elements are characterized as more concrete, unstable, and more related to particular situations (Flament, 2001). Given the aforementioned this study aims mainly at understanding the social representations of COVID-19 among Brazilian elderly women.

# Method

# Type of research

This is a qualitative, exploratory, descriptive, and cross-sectional study.

# **Participants**

The sample included 100 elderly women from 13 Brazilian states, more specifically, Piauí (41%), Rio de Janeiro (22%), Ceará (18%), Maranhão (5%), São Paulo (4%), Pernambuco (4%), Rio Grande do Norte (1%), Distrito Federal (1%), Espírito Santo (1%), Goiás (1%), Paraíba (1%) and Rio Grande do Sul (1%). The participants' ages varied from 60 to 83 years old (M = 69.24, SD = 6.58). Most of them were married (39%) and had a secondary level of education (32%) (see Table 1).

The following criteria were considered for selecting the sample: 1) being 60 years old or older, 2) not having any disorder that could hamper communication, 3) agreeing to participate in the study freely and voluntarily. Also, 1) being Brazilian, 2) being a female, 3) having access to the Internet.

# Measures

Two instruments were used to collect the data: a sociodemographic questionnaire and a free word association test (FWAT).

Sociodemographic questionnaire. This questionnaire was used to characterize the sample and to collect the participants' sociodemographic information such as their age, their skin color, their sexual orientation, the Brazilian state where they lived, their marital status, if they developed a paid activity, if they were retired and/or a pensioner, their income, if they were the main responsible for the family's financial support, if they received aids from government programs, their religiosity, their education, the number of children they had, if they did any physical and leisure activity, if they were diagnosed with COVID-19, and if they were hospitalized.

Free word association test (FWAT). A FWAT was used to collect the social representations of the participants (Neves et al., 2014). To accomplish that, the stimulus word «COVID-19» was used, for which five evocations were requested. A FWAT allows the identification of semantic universes with the evocation of responses to a stimuli word –or words– and is widely used in studies based on the theory of social representations (Coutinho, 2017; Mota et al., 2018).

### Procedure

This study is part of an «umbrella» project called Qualidade de vida e atitudes frente a pandemia da COVID-19: Um estudo transcultural entre idosos (in English, Quality of Life and Attitudes Towards the COVID-19 Pandemic: A Transcultural Study Among Elderly People), which was submitted to the Research Ethics Committee (CEP) of the Federal University of Parnaíba Delta and approved on August 30, 2021, according to the opinion document number 4.092.097 and CAEE 478831121.5.0000.5214. After the approval from CEP, the recruitment of participants started -by means of social networks (Facebook, Instagram, and WhatsApp) and by accessing telephone contacts through groups and institutions that provide assistance to elderly women– after proper authorization was granted. Data were collected from October 2021 to May 2022.

If inclusion criteria were met, women were invited to participate, and the purpose of the study was explained. Afterwards, a Google Forms link was sent so they could fill it in. The form used was selfadministered. The consent form, study aims, instructions and measurements were included. By reading and accepting the consent form, the participants declared being aware of the study risks and benefits, as well as their right to withdraw from the study at any time. To respond to any difficulties when filling out or handling the form, the researchers informed the participants that they were available to assist them in such a task. After confirming their participation, a day and time were scheduled for the participants to fill the study form with online support (video call) on WhatsApp. After that, it was the researcher who completed the form based on the participants' responses. When possible, video calls with the participants' consent were recorded. The confidentiality and the privacy of the information were assured, and all the material obtained was stored in a safe place.

#### Data analysis

A descriptive statistical analysis of the sociodemographic information was conducted with IBM SPSS Statistics version 25 to identify the averages, standard deviations, and percentages. The data obtained from FWAT were tabulated on a spreadsheet using OpenOffice software and organized according to the participants' order of evocation. Afterwards, the spreadsheet was imported to IraMuTeQ (Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires) version .7 alpha. In this software, the matrix analyses, more specifically, the multiple frequency analysis and the prototypical analysis were carried out. According to Verges (1992), the latter is also called «evocation analysis» or «four-house square», one of the most frequently used techniques to explore the structure of social representations, which is based on the calculation of frequencies and average order of the words' evocations.

The semantic criterion was adopted to group the answers, i.e., the evocations were classified according to meaning similarity. The minimum frequency considered for the inclusion of words in the quadrants was three, which was equivalent to 3% of the sample size. Regarding the delimitation of the cut points for the quadrant's coordinates, the evocation rank order was employed (Wachelke & Wolter, 2011).

In this sense, the data obtained from the prototypical analysis were understood from the structural approach (Abric, 2003), which conceives social representations as a structure with a central core and a peripheral one. It is also worth mentioning that the study, including its measures and the participants' responses, was carried out in Brazilian Portuguese. When the study report was finished, it was translated into English.

#### **Results**

Table 1 contains the detailed description of the participants' sociodemographic characteristics.

Out of all the participants, 44% declared themselves being swarthy. Most of them were from Piauí state (where the study originated); 41% still held a paid activity (15% - formal jobs, 26% - informal jobs); 86% was retired and/or received a pension, 49% was the main responsible for their family's financial support, and 90% declared not having received any aid from governmental programs. In relation to the dwelling, 39% of the participants lived with a companion or with a spouse. A total of 81% and 74% did some type of physical and leisure activity, respectively. Only 39% was diagnosed with COVID-19, out of whom only 5% was hospitalized. Regarding the losses for COVID-19, 34% of the participants reported having lost someone they loved (friends, relatives, and neighbors).

The prototypical analysis is the organization of the answers based on the frequency (F) and the average order of evocation (AOE) or average position at which the answer appears among the answers evoked (Wachelke et al., 2016). A total of 476 evocations to the stimulus word «COVID-19» could be identified, considering the omitted cases. Therefore, the words with AOE below 2.73 were classified as having low evocation order (see Table 2). The results of the prototypical analysis about COVID-19 are shown in Table 2.

Table 2 left upper part presents the categories that compose the first quadrant, which corresponds to the core elements or the central core of the representation. The first quadrant is composed of the words with high frequency (F) and low AOE, i.e., words promptly evoked after the presentation of the stimulus word and used by a great number of participants. The first quadrant of Table 2, where the central core is, consisted of recurring evocations  $(f \ge 8.85)$  with high hierarchy (AOE  $\le 2.73$ ), where the expressions «death», «fear», «disease», «sadness», and «mask» are highlighted as core elements of the social representations of COVID-19. Those elements represent what was more consensual among the participants and, therefore, more strongly shared among them.

Older adults, particularly women, have been affected by a higher risk of serious health complications that may result in various mental-related problems, such as anxiety and depression symptoms, sleep disorders or other disorders (Khalaf et al., 2022). In the COVID-19 pandemic, the fear of COVID-19 was significantly higher in women compared to men and in individuals with chronic diseases compared to those without any chronic disease (Bakioglu et al., 2021).

The first periphery, located on the right upper quadrant (see Table 2), contains the high-frequency words with a high order of evocation. It means that AOE was higher than the core elements: although the words had a high frequency of evocation, they were not promptly evoked –like the words that are part of the central core— besides being above the AOE cut

(2.73). Moreover, the elements that compose the first periphery are the ones that are secondary to the representation (Abric, 2003; Wachelke & Wolter, 2011), as they support the central core and complement new contents (Castro et al., 2020; Nogueira & Di Grillo, 2020; Tomé & Formiga, 2020).

According to Table 2, the elements of the first periphery were «isolation» (f = 24; AOE = 3.6), «vaccination» (f = 21; AOE = 3.5), «loss» (f = 14; AOE = 2.8) and «care» (f = 11; AOE = 2.8). These elements indicate the range of meanings attributed by Brazilian elderly women to COVID-19 and continuously update the central nucleus from the transformations derived from the immediate context (Polinia & Santos, 2020).

The contrast zone, located on the left lower quadrant in Table 2, contains the words evoked with low frequency, but which were promptly evoked in the first positions after the stimulus word was mentioned. This zone might indicate two possibilities: being a complement of the peripheries, which distinguish themselves from most of the words; or the existence of a subgroup of particular elements, which distinguish themselves from most part of the words (Wachelke & Wolter, 2011). Overall, the elements of the contrast zone got close to the core elements (central core) and to the first periphery, functioning much more as a complement. For example, the terms «pandemic» (AOE = 1.4) and «danger» (AOE = 1.7) may be related to the elements «death», «fear», and «disease», which compose the central core.

Besides that, it can be inferred that the contrasting elements «suffering» (AOE = 2.3), «bad» (AOE = 2.2) and «nervousness» (AOE = 2.5) may be involved

in the deaths caused by COVID-19, as well as the fear of being contaminated, of the disease and of the death (Eiguren et al., 2021). In a similar way, the term «cleanliness» (AOE = 2.7) may be related to the term's «mask» (AOE = 2.5) and «care» (AOE = 2.8), which in general evidence strategies to fight against the pandemic (Rodrigues et al., 2020; Tavares et al., 2020).

The elements of the second periphery, situated on the right lower quadrant, present a lower frequency of evocation than the elements that compose the first periphery. In the second periphery, the following elements can be identified: «loneliness» (f = 8; AOE = 3.4), «prevention» (f = 7; AOE = 3.1), «alcohol» (f = 6; AOE = 3.2), «hospital» (f = 6; AOE = 2.8), «flu» (f = 5; AOE = 3.8), «medication» (f = 5; AOE = 3), «miss» (f = 4; AOE = 4), «hospitalization (f = 4; AOE = 3.2), «worry» (f = 4; AOE = 3), «home» (f = 4; AOE = 3), «neglect» (f = 3; AOE = 3.7), «hope it will end» (f = 3; AOE = 4), and «pain» (f = 3; AOE = 3.3).

Some of the elements identified in the participants' responses are based on psycho-emotional aspects like pain, worry and missing. Besides that, they refer to the *locus* and to the measures of prevention/ treatment, evidenced by the expressions «hospital», «hospitalization», «medication», and «alcohol». It can be inferred that –among other situations— it may be due to attitudes of indifference to facts and evidence (Araújo & Eichler, 2022). Moreover, the COVID-19 pandemic forced people to practice social isolation and to stay at home, increasing feelings of loneliness, particularly in elderly women. Despite these issues, for some of the elderly women, there is hope that one day the pandemic will come to an end.

**Table 1**Sociodemographic data

Characteristics	Elderly women		
Marital status	F	%	
Single	11	11	
Married	39	39	
Widower	30	30	
Separated/divorced	13	13	
Other	7	7	
Education	F	%	
Illiterate	8	8	
Primary school	24	24	
Secondary school	32	32	
Higher education (unfinished)	2	2	
Higher education (complete)	19	19	
Post-graduate	13	13	
Other	2	2	
Brazilian region	F	%	
Northeast	70	70	
Southeast	27	27	
North	-	-	
Center-West	2	2	
South	1	1	
Religion	F	%	
None	3	3	
Catholic	74	74	
Spiritualist	9	9	
Evangelic	12	12	
African matrix religions	-	-	
Other	2	2	
Family income	F	%	
Up to 1 minimal wage	32	32	
From 1 to 2 minimal wages	29	29	
From 2 to 4 minimal wages	28	28	
From 4 to 5 minimal wages	7	7	
Above 6 minimal wages	4	4	

Note: The highest values were highlighted in bold.

 Table 2

 Results of the prototypical analysis of COVID-19 among Brazilian elderly women

Central core			First periphery		
Word	F	AOE	Word	F	AOE
	≥8.85	≤ 2.73		≥8.85	> 2.73
Death	38	2.7	Isolation	24	3.6
Fear	26	2.2	Vaccine	21	3.5
Disease	23	1.9	Loss	14	2.8
Sadness	15	2.3	Care	11	2.8
Mask	13	2.5			
Contrast zone			Second periphery		
Word	F	AOE	Word	F	AOE
	< 8.85	< 2.73		< 8.85	> 2.73
Cleanliness	7	2.7	Loneliness	8	3.4
Pandemic	7	1.4	Prevention	7	3.1
Suffering	7	2.3	Alcohol	6	3.2
Bad	5	2.2	Hospital	6	2.8
Nervousness	4	2.5	Flu	5	3.8
Misinformation	3	2.7	Medication	5	3
Health	3	2.7	Miss	4	4
Sequela	3	2	Hospitalization	4	3.2
Leisure	3	2	Worry	4	3
Faith	3	2.3	Home	4	3
Danger	3	1.7	Neglect	3	3.7
			Hope it will end	3	4
			Pain	3	3.3

*Note:* Prototypical analysis of the evocations (n = 476) induced by the stimulus word «COVID-19»

#### **Discussion**

The results from the prototypical analysis of the responses to the stimulus word «COVID-19» allow identifying the elements that compose the structure of its social representation. The COVID-19 pandemic has shown the impact that emerging infectious diseases have on becoming a Public Health Emergency of International Concern (Assefa et al., 2022). One year after the first appearance of a COVID-19 case, Brazil was considered the second country in number of deaths worldwide; besides that, individuals aged 60 to 69 years accounted for 45,467 (46.4%) deaths, out of which 17,950 were women (46.8%) (Castro et al., 2020).

The results obtained in this study evidence one of the COVID-19 pandemic impacts: the large number of deaths because of the disease and complications associated with it. This impact had been reported in other studies (França et al., 2020; Mascarello et al., 2021; Pereira et al., 2022). Among the reasons why COVID-19 is considered a threat, the possibility of high-income elderly people and even healthy adults to die is highlighted (Campiolo et al., 2020).

Erbesler and Demir (2022) identified that death was pointed out as the biggest fear among the elderly people who had been diagnosed with COVID-19. The fact that COVID-19 is an infectious disease, high mortality rates, uncertainties about the future and classification of the elderly as part of the risk group can cause these people to think about death, raising the levels of anxiety and depression.

Fear, evoked by the participants of this study, may be associated with the fear of being infected with COVID-19; it can serve as an adaptive emotion in that it helps the individual to deal with a potential threat but, if it is not properly proportional to the real threat, it can be unadaptive (Rubio et al., 2022). The pandemic acted as a prolonged psychosocial stressor that may have affected personal adaptive coping resources (Friesen et al., 2022).

It is important to note that, in a study conducted by Passos and Araújo (2021) with lecturers of Brazilian private higher education institutions on the social representations of COVID-19, the expressions «death», «disease», «fear», and «mask» were also the elements that composed the core zone. As a result, it can be inferred that, although the two groups are different, the consonance between them may reveal the macrosocial context and the humanitarian/sanitary crisis constructed from the intergroup relationship with the physical and social environment in which they live (De Sousa & De Souza, 2021).

Complementing the core zone, the words promptly evoked on the contrasting zone were «suffering», «bad», and «nervousness». These might indicate the psychosocial negative consequences stemming from the deaths caused by COVID-19. These results are consistent with findings, in the pandemic context, of feelings of loneliness, fear and anxiety, together with the fear by the high rates of viral transmission (Bezerra, Saintrain, et al., 2020; Islam et al., 2020; Lin, 2020).

Disaster situations and major emergencies can be disorganizing and have great potential for physical and psychic illnesses for people directly or indirectly affected, so that mental health becomes an easy target (Rafaloski et al., 2020). Nevertheless, not all demands of psychological order can be classified as a disorder; they can be normal and expected reactions in face of an unusual and unexpected situation. In addition, the effects on mental health can have more consequences among low-income populations who live in precarious situations, with limited access to health and social assistance (Assefa et al., 2022; Fundação Oswaldo Cruz [FIOCRUZ], 2020; Organização Pan-Americana da Saúde [OPAS], 2009).

Concerning the elements evoked in the first periphery, the following aspects were identified: protective and preventive measures against the virus, and the impacts caused by COVID-19, expressed in terms like «loss», from which concrete and symbolic losses can be inferred. «Isolation» and «care», evoked

by the participants, denote measures that were efficient to reduce the transmission of the virus and even prevent the collapse of the hospital system (Da Silva et al., 2021).

Social isolation during the pandemic changed people's daily lives and was associated with a significant increase of unemployment, sleep and stress alterations, and challenges to the practice of physical activities (Bezerra, Silva, et al., 2020). Among elderly people, social isolation represented an increased risk of cardiovascular and autoimmune problems, neurocognitive and mental health issues, besides the fact that the social disconnection may increase the risks of depression and anxiety (Armitage & Nellums, 2020), distancing from family and social networks, feelings of loneliness, prevention of free circulation, damage to the autonomy, interruption of work and physical activities, lack of medical assistance for preexisting diseases, and other diagnoses (Casselato et al., 2020). At the end, this last sentence neither provides any information regarding the study results nor is the main theme of the cited reference.

The massive losses caused by the COVID-19 pandemic had psychosocial consequences (Carvalho et al., 2021). In many situations, it was not possible to say goodbye to the beloved ones who died (Giamattey et al., 2022; Pauli et al., 2022; Yildiz et al., 2022). On the other hand, the losses, in the COVID-19 scenario, are experimented in multiple forms: loss of the normal life, loss of jobs or loss of physical intimacy (Ramadas & Vijayakumar, 2021).

The term «vaccine», evoked by the participants at the first periphery, may reflect the Brazilian context in relation to the immunization process when the data were collected. With the beginning of the vaccination in the first months of 2021, the age profile of the serious cases and deaths changed, reducing the impact of the disease, deaths, and severe cases. In June 2021, although serious cases concentrated in more advanced ages, there was a significant reduction of the age average of those cases and deaths, a

period that coincided with a great vaccine coverage of the elderly population (FIOCRUZ, 2021a, 2021b; Kabad & Souto, 2022).

The vaccination against COVID-19 can reduce mortality rates and is a strategy to protect the elderly population's health (Souto & Kabad, 2020) and control the pandemic (Pagno, 2021). Concerning the adhesion of Brazilian seniors to the vaccination, some studies pointed out that 92.4% of elderly women had been or had the intention to be vaccinated. The factor most strongly associated to the intention of getting vaccinated was the source of information. Those people who had information about immunizers from the Brazilian Ministry of Health, or from the traditional media, were more prone to get the vaccines than those who had information from friends and from the social media networks as their source of knowledge (Lima-Costa et al., 2022).

#### Final remarks

The present study aimed at identifying the social representations of COVID-19 among Brazilian elderly women. It was possible to identify that those representations are strongly associated to death and to the fear that the disease imposes on society. Notwithstanding, the elderly population was one of the groups that suffered the most with the consequences of COVID-19 and because of the impact caused by the social isolation measures, although they were necessary to reduce the virus transmission.

In general, the peripheral elements do not differ from the core elements. The study participants recognized the protection and virus-containment measures —such as isolation, vaccine, and care—without forgetting the feelings that the pandemic caused them, evoked from the terms «suffering», «bad» and «nervousness», and evidenced in the peripheral social representations. The feeling of threat may lead to the necessity of protection and movement; nevertheless, when people have intensively lived for

a long time, they can have psychosocial and emotional consequences, which denote the need for a careful vision. This situation considers the specificities of elderly women, as well as the social vulnerability to which they are submitted.

Among the study strengths, we can mention the following: the target public; the study of a problem within the pandemic context, where there is still a scenario of uncertainty, many questions, and some answers; and the online data collection, which allowed conducting the research in states different from the one where the study originated. On the other hand, the online data collection was a limitation as elderly women who do not have access to the Internet did not meet the inclusion criteria of the study. Moreover, the research did not cover states in northern Brazil.

Finally, with the analysis carried out and the conceptions learned, it is expected that this study contribute to governmental and non-governmental strategies for reducing the psychosocial consequences caused by COVID-19, such as the provision of emotional and social support and public policies which consider the special characteristics of the study group and how these social representations about COVID-19 guide experiences, decision-making and behaviors during the pandemic reality. Therefore, considering these aspects can help the construction and dissemination of representations and social practices that continue to control COVID-19 in the Brazilian context.

Moreover, new studies about this topic which include elderly women from states not represented in this study, mainly from the north region, are necessary. Furthermore, it is recommended to conduct longitudinal studies on social representations that can monitor and deepen the evolution of the perception of the COVID-19 pandemic, in addition to including elderly women who do not have access to the Internet.

#### Conflict of interests

The authors declare that this study was carried out without any commercial or financial relation that could be interpreted as a potential conflict of interest.

# **Ethical responsibility**

The data were collected in a way to ensure the participants' privacy and anonymity. Therefore, the project was approved by the Research Ethics Committee of Federal University of Piaui; number 4.092.097. The participants received a free and informed consent form which explained the study, risks of participation, as well as guaranteed the confidentiality and security of data collection. The data gathering began after the signature of the consent form.

# **Authorship contribution**

AVCF: study design, data processing and interpretation, introduction, body of the review, conclusions, general review and writing in APA format.

LFA: design of the study, interpretation of the data, introduction, body of the review, conclusions, general review, and writing in APA format.

RNSBN: design of the study, interpretation of the data, introduction, body of the review, conclusions, general review, and writing in APA format.

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