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Relationship between depression and anxiety with social isolation due to confinement in older adults

Relación entre depresión y ansiedad con el aislamiento social debido al confinamiento en adultos mayores

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Abstract

Introduction: As a consequence of the social isolation associated with COVID-19, depression and anxiety are two of the most frequent affective disorders in the elderly. **Objective:** To determine the relationship between depression and anxiety with social isolation in older adults in a first level care clinic. **Material and methods**: An observational descriptive cross-sectional study was carried out in patients 65 years and older, of both sexes, in social isolation due to confinement. A validated questionnaire was applied for the diagnosis of anxiety and depression, as well as another with questions about social isolation and sociodemographic variables. The Mann-Whitney and Kruskall Wallis U statistical tests were used, with a significance level of 0.05. SPSS program. Version 26. **Results**: 286 older adults were included, with an average age of 70.6 years,54.2 % belonged to the female sex. Regarding the social isolation, 73.4% reported a lack of relationship with their friends. The average score of the questionnaire was 45.06 (95% CI: 43.4% - 46.6%). Only 25.3% did not present neither anxiety nor depression, and in 51.1% some type of depression was identified. Regarding social isolation and its relationship with anxiety and depression; statistical significance was obtained in all questions. **Conclusion**: the social isolation of the elderly due to confinement by SARS-CoV2, was related with statistical significance to both anxiety and depression, while noting that in 75% of the patients one of the two conditions was presented.

Keyword: depression, anxiety disorders, social isolation, coronavirus infections, pandemics.

Resumen

Introducción: como consecuencia del aislamiento social asociado al COVID-19, la depresión y la ansiedad son dos de los trastornos afectivos más frecuentes en el adulto mayor. **Objetivo**: determinar la relación entre depresión y ansiedad con el aislamiento social en adultos mayores en una clínica de primer nivel de atención. **Material y métodos**: se llevó a cabo un estudio observacional descriptivo de corte transversal en pacientes de 65 años en adelante, de ambos sexos, en aislamiento social debido al confinamiento. Se aplicó un cuestionario validado para el diagnóstico de ansiedad y depresión, así como otro con preguntas sobre el aislamiento social y sobre variables sociodemográficas. Se utilizaron las pruebas estadísticas U de Mann-Whitney y Kruskall Wallis, con nivel de significancia de 0.05. Programa SPSS. Versión 26. **Resultados**: se incluyeron 286 adultos mayores, con promedio de edad de 70.6 años, 54.2 % pertenecían al sexo femenino. Con relación al aislamiento social, 73.4 % refirieron falta de relación con sus amigos. El promedio del puntaje del cuestionario fue de 45.06 (IC95%: 43.4 % - 46.6 %). Solamente el 25.3 % no presentó ni ansiedad, ni depresión, y en 51.1 % se identificó algún tipo de depresión. Respecto al aislamiento social y su relación con ansiedad y depresión; se obtuvo significancia estadística en todas las preguntas. **Conclusión**: el aislamiento social de los adultos mayores debido al confinamiento por el SARS-CoV2, se relacionó con significancia estadística tanto con la ansiedad como con la depresión, sin dejar de remarcar que en 75% de los pacientes se presentó alguna de las dos condiciones.

Palabras clave: depresión, trastornos de ansiedad, aislamiento social, infecciones por coronavirus, pandemias.

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Introduction

The COVID-19 pandemic associated with the SARS-Cov2 virus has spread throughout the world since December of the 2019 year. Due to the high presence of asymptomatic cases, the incidence and prevalence is uncertain in all age groups. (1) Nevertheless, it is accepted that older adults (MA) have a higher risk of suffering adverse outcomes that can lead to a high mortality rate. (2) In Mexico, the average age of deceased persons is 61 years, 19%between 70 and 79 years old, and 10%in over 80 years. (3) It is unknown why older age is a risk factor for developing severe COVID-19. Among the elements that could contribute to this are the higher prevalence of comorbidities, a higher concentration of receptors of the angiotensin converting enzyme 2 (ACE2), the immunosenescence phenomena and life in closed residences. (4) Therefore, the World Health Organization (WHO) insists that it is necessary to guarantee that older people are protected from COVID-19 without being isolated, stigmatized or left in a situation of greater vulnerability. (5) For this reason, almost all the governments of the world have decreed the almost total confinement of this population group. However, as an unwanted effect, several authors have considered that confinement can have consequences at different levels: on a physical level, the loss muscle mass and the worsening of some pathologies; at the cognitive level, the loss or alteration in cognitive abilities; at the behavioral level, the modification of sleep patterns, as well as the alteration of nutritional habits; and on an emotional level, the appearance of anxiety symptoms to depressive or fearful of the new situation. (6.7) With relationship to the depression and the anxiety disorders are characterized by sadness of sufficient intensity or duration to interfere with

functional activity and sometimes, in a decrease in interest or pleasure aroused by activities. Depression is considered a public health problem, with serious implications for disability, morbidity, mortality, as well as the quality of life of the AMs who suffer from it. Furthermore, it is considered an indicator associated with cognitive impairment and frailty. (8) In 2017, Moreno K et al, (9) conducted a cross-sectional study with 1,249 MAs aged 60 years or older, with the aim of estimating the prevalence and factors associated with social isolation in this population, resulting in 26% suffering from depression and anxiety, the multivariate analysis showed an association between cognitive deterioration (PR = 1.37; CI 95%1.15-1.63) and depressive symptoms (PR = 1.24; CI 95%1.02-1.52) with social isolation in women, although not in men. Faced with the appearance of an epidemic outbreak of an infectious disease such as the SARS-Cov-2 coronavirus, it is of utmost importance to consider and evaluate the mental health of AMs, to avoid adverse consequences as much as possible. Therefore, the objective of the present study was to determine the relationship between depression and anxiety with social isolation due to confinement due to the COVID-19 pandemic in AM of the Dr. Ignacio Chávez Family Medicine Clinic. Mayor's Office Coyoacan, in the south of Mexico City, between the period from July to December 2020.

Material and methods

An observational descriptive cross-sectional type research was conducted. Were included the AM patients 65 years of age and over, assigned to the Dr. Ignacio Chávez Family Medicine Clinic, of the Institute of Social Security and Services for State Workers (ISSSTE), in the Coyoacan Mayor's Office in the south of Mexico City, of both sexes and both administrative shifts, without prior diagnosis of anxiety or depression, or moderate or severe cognitive impairment, in social isolation and who agreed to participate by signing an informed consent. Patients who had physical or mental difficulties that prevented them from participating were excluded, and patients whose responses were not complete were eliminated. The research was carried out between the months of July and December 2020. The type of sampling was non-probabilistic for convenience. To calculate the sample size, the formula for descriptive studies, qualitative variables and binominal distribution were used, and the absolute difference criterion (n = 267). In total, 286 patients were included who met the selection criteria, considering the possible loss of 5 to 10% of patients. For the diagnosis of anxiety and depression, the Guillermo Calderón questionnaire of 20 items was applied. (10) The questionnaire was developed in Mexico in 1992, and consists of items that correspond to the frequent symptoms of depression and anxiety in our sociocultural environment. It is designed to be self-applied and requires only a brief explanation to the patient. The answers are formulated according to a summarized Likert range, each item can be answered negatively (NO) or positively (YES) with the option of three degrees of severity in the latter case, (little, regular, a lot). It is scored by scoring each symptom on a scale of 1 to 4, according to its intensity, being able to obtain a minimum score of 20 and a maximum of 80. The final score is as follows: normal, from 20 to 35 points; anxiety reaction, from 36 to 39 points; incipient depression of 40 to 45 points; mean depression from 46 to 65 points; and severe depression, from 66 to 80 points. In addition, another questionnaire was applied to identify sociodemographic variables, (sex, age, education, occupation, marital status, with whom you live), as well as knowing the type of social isolation that the MAs had presented due to confinement due to the pandemic. The information was obtained through telephone calls or e-mails. (In statistical analysis there were no differences between the two ways of obtaining the information). Regarding social isolation, the question to identify its presence was posed as follows: in the last three months there has been a lack or decrease in communication or relationship with: i) - the family, ii). -with friends, iii). - with health systems and iv). - with service providers. These questions were developed by the group of experts in gerontology and Clinical psychology, taking into consideration the questionnaire on social isolation by Lubben J et al, (11) which has not been validated in Spanish.

To establish the association between variables, the Mann-Whitney U statistical test was used, with a significance level of 0.05, using the SPSS version 26 statistical program. The protocol was submitted for approval to the Research and Ethics Committee of the Clinic, and received registration by the Medical Directorate of the Institute.

Results

The average age was 70.6 ± 5.2 years (95% CI: 70.6 - 71.2). Of the total from the patients, the 54.2 % belonged to the female sex, on 52.1% his marital status was married, and alone the26.6% had a higher level of education. The results of the sociodemographic characteristics are presented in Table 1.

Regarding the social isolation of the AMs, the results are presented in Table 2.73.4% of patients reported a lack or decrease in communication or relationship with their friends, and the 65.0 % they discussed the same condition with the health systems. These two questions were the ones with the highest percentages. Regarding the number of positive responses per patient, it was obtained that 36.0%, they answered the four questions in the affirmative, while only 11.2% they answered negatively to the four questions.

The results on the frequency of depression and anxiety are presented in Table 3. The 25.5% did not present either of the two conditions, and in 50.7% some type of depression was identified. In women there was a higher frequency of both medium and severe depression, with statistically significant differences (p = 0.017). There was no statistical relationship between both pathologies with age groups, schooling or the others sociodemographic variables analyzed. Calderón's average test score was 45.06 ± 13.7 (95% CI: 43.4% -46.6%), median of 45.0 and range of 60 (20 to 80 points).

Table 1. Sociodemographic characteristics of the population

Variable	Categories	No	%
Sex	Male	155	54.2
	Female	131	45.8
Age by groups	65 to 70 years	173	60.5
	71 to 75 years	58	20.3
	76 to 80 years	40	14
	81 and more	15	5.2
Scholarship	Basic	108	37.8
	Half	102	35.6
	Higher	76	26.6
Marital status	Single	21	7.3
	Free Union	28	9.8
	Married	149	52.1
	Divorced	27	12.9
	Widower	51	17.8
Who does he live with	Only	41	14,3
	Spouse	156	54.5
	Sons	73	25.5
	Others	16	5.6
Occupation	Active	141	49.3
	Home	56	19.6
	Pensioner or retired	89	31,1

Removed the % sign from the entire table

Table 2. Results of social isolation related to the contingency by the SARS-Cov2 virus

Insulation type	No	%
Lack of communication with friends	210	73.4
Lack of communication with family members	170	59.4
Lack of communication with health systems	186	65
Lack of communication with service providers	177	61.9

Removed the % sign from the entire table

Regarding social isolation and confinement related to the SARS-Cov2 virus, and its relationship with the presence of anxiety and depression; The four questions considered were analyzed individually, with all of them a relationship with statistical significance was obtained. The results are presented in the table 4.

Table 3. Frequency of anxiety and depression reaction by sex and in total in the MA studied

Behaviour	Sex					
	Male		Female		Total	
	No	%	No	%	No	%
Normal	38	29	35	22.2	73	25.5
Anxiety reaction	37	28.2	31	20	68	23.8
Middle depression	50	38.2	67	43.2	117	40.9
Severe depression	6	4.6	22	14,2	28	9.8

Table 4. Results of the association between social isolation and the presence of anxiety and depression

Question related to social isolation	Probability value
In the last three months you have had a lack or decrease in communication or relationship with your friends	0.0001
In the last three months you have had a lack or decrease in communication or relationship with your family members	0.001
In the last three months you have had a lack or decrease in communication or relationship with service providers	0.0000007
In the last three months you have had a lack or decrease in communication or relationship with health services	0.0003

Prueba U de Mann-Whitney

In table 5 the same analysis as the previous one is presented, but dividing to the group by sex of the patients. In most cases, statistical significance was maintained, except for the relationship with family members for men (p = 0.079), and for the relationship with health services (p = 0.179) for women.

Table 5. Results of the relationship between social isolation and the presence of anxiety and depression by sex

Question related to social isolation	Sex	Probability value[1]
In the last three months you have had a lack or decrease in communication or relationship with your friends	Male	0.001
	Female	0.001
In the last three months you have had a lack or decrease in communication or relationship with your family members	Male	0.0791
	Female	0.0006
In the last three months you have had a lack or decrease in communication or relationship with service providers	Male	0.0000007
	Female	0.004
In the last three months you have had a lack or decrease in communication or relationship with health services	Male	0.003
	Female	0.1791

1 U de Mann-Whitney test

An analysis of the relationship between social isolation and the presence of anxiety and depression was also carried out, but considering whether the patient lived alone or with someone (the variable was worked in a dichotomous way). When the patient reported living alone, a relationship with statistical significance was only presented in the question related to lack of

communication with friends, while when he answered living with someone, the four questions had statistical significance. These results are presented in the Table 6.

Table 6. Results of the relationship between social isolation and the presence of anxiety and depression considering whether the older adult lives alone or with someone

Question related to social isolation	Condition	Probability value[1]
In the last three months you have had a lack or decrease in communication or relationship with your friends	Only	0.001
	Accompanied	0.0001
In the last three months you have had a lack or decrease in communication or relationship with your family members	Only	0.329
	Accompanied	0.003
In the last three months you have had a lack or decrease in communication or relationship with service providers	Only	0.227
	Accompanied	0.00001
In the last three months you have had a lack or decrease in communication or relationship with health services	Only	0.185
	Accompanied	0.001

1 Prueba U de Mann-Whitney

Discussion

The isolation and quarantine associated with the current SARS-Cov2 pandemic are identified as the most extreme forms of social distancing. These conditions have generated a series of mental and behavioral alterations in all populations and in all the age groups, but in a very particular way in the AM, recognized group age as highly vulnerable, in which people are separated from their loved ones, deprived of their freedoms, devoid of purpose and with an altered routine, which can contribute to frustration, boredom, low mood, in addition to enhancing both the anxiety associated with the fear of contagion, and depression. (12) This latest, has been confirmed in different studies coinciding with it here presented, in which we obtained 23.8% of patients with an anxiety reaction and 51.7% with some degree of depression. As an example of the above, on a research conducted in AM on China, Meng H et al, (13) determined that 37% of the elderly in their community had experienced anxiety and depression during the pandemic. Similarly, Di Santo S et al, (14) they reported that in his research involving 176 AM, the 19.8% presented depression, the 37.3% obtained scores indicative of mild or moderate anxiety and 9.5% reached a score indicative of clinically significant anxiety. These same authors refer that both being a woman, like having a family member infected with the virus, they were factors that influenced the presence of both conditions. In our research, we also obtained a relationship with statistical significance with the fact of being a woman and the presence of depression. In another cross-sectional study conducted in China, Huang Y et al, (15) they identified 33% of AM with anxiety disorders and 20% with depressive symptoms. In a study carried out in America, specifically in Paraguay, in which 1,180 people participated, all over the 18 years of age, of which 23.8 % were people over 50 years of age and obtained that in this age group, 43.4% presented anxiety and 48.4 % depression. The information was obtained through the different social networks. (16) In another research that involved authors from various countries, Sepúlveda-Loyola W et al, (6) conducted an analysis of 10 articles published between 2019-2020, in which they conclude that the Prevalence of anxiety and depression during the COVID-19 outbreak varies widely between the various studies, with a wide range ranging from the 8.3 to the 49.7% for anxiety, and the 14.6 to the 47.2% for depression, these authors relate the data obtained with previous studies of other epidemics. For example, in France due to avian influenza, an anxiety prevalence of 39% was observed in Sierra Leone, 48% of the general population experienced symptoms of anxiety or depression one year after the Ebola outbreak; and in Hong Kong due to the SARS epidemic, 31.2% presented depression in 2003.

Regarding to the relationship between social isolation and the presence of anxiety and / or depression, in this research we obtained statistical significance with all the questions related to said isolation. Di Santo S et al, (14) reported having obtained a significant association between depression and living alone or having a bad relationship with their partners. Wong S et al, (17) they also associate isolation with worse outcomes in mental matters, the authors they also relate the female sex as a conditioning factor. Robb C et al, (18) report that there is a significant negative association between isolation with depression (OR = 17.2, 95% CI 13.2-22.5) and with anxiety (OR = 10.8 95% CI 8.3-14.0), these authors also report worse results in gender female (OR = 2.4 95% CI 2.1-2.9). In the analysis of the relationship between social isolation with anxiety and depression, but considering whether the MA lives alone or with someone, it is in this second condition that statistical significance was presented for the four questions. This could be understood by considering that the MAs who already lived alone were more accustomed to isolation and, therefore, the condition of confinement does not seem to have affected their mental state in the same way as the MAs who live with others. When referring to the relationship between variables, it is important to consider the type of study developed as a limitation.

It should come as no surprise that higher than normal levels of symptoms of depression and anxiety have been recorded in various countries. A large study conducted in

Amara (Ethiopia) in April 2020 estimated that there was a 33% prevalence rate of depression in the region, three times the pre-pandemic estimates for Ethiopia. (19) Ecological disasters can cause profound disruption to communities that extends far beyond geographic boundaries. The psychological and behavioral response to such disasters creates a significant burden on public health. The disorders produced give rise to changes in the morbidity and mortality of the populations, which justifies making rapid diagnostic evaluations to be able to dictate health policies that affect the problem. (20) therefore, the WHO has postulated different recommendations to maintain the mental health of this age group in particular.

In conclusion, the social isolation of older adults due to confinement by SARS-CoV2, which includes distancing from family, friends, service providers and health systems, was statistically significantly related to both anxiety and depression, without leaving It should be noted that 75% of the patients studied had one of the two conditions.

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Authors contribution

Luis Alberto Chavez Negrete. Primary author. Conception and study design. Information capture. Analysis and interpretation of data, writing of the manuscript. Final approval of the version presented.

Ana Maria Olivares Luna. Conception and study design. Analysis and interpretation of data, writing of the manuscript. Final approval of the version presented

Juan Manuel Rivera Rodriguez. Information capture. Analysis and interpretation of data, writing of the manuscript. Final approval of the version presented.

Alberto Gonzalez Pedraza Aviles. Analysis and interpretation of data. Manuscript writing. Final approval of the version presented. Responsible for publication.

Interest conflict

The authors declare that there are no conflicts of interest, neither personal nor professional.

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