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Original article

Nivel de adaptación y el estrés percibido en los adultos mayores ante la pandemia de COVID-19 en tres municipios del Estado de Hidalgo

Level of adaptation and perceived stress in older adults to the COVID-19 pandemic in three municipalities of the State of Hidalgo

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Resumen

Introducción: Identificar el nivel de adaptación da las pautas del efecto que tuvo la pandemia de COVID-19 en los adultos mayores, así como determinar si hubo relación con el estrés.

Objetivo: Analizar la relación del nivel de adaptación y el estrés percibido en adultos mayores ante la pandemia de COVID-19 en tres municipios del Estado de Hidalgo.

Material y métodos: Estudio transversal y de alcance correlacional realizado en una muestra no probabilística por conveniencia de 375 adultos mayores. El estudio contó con la aprobación del comité de ética y los participantes firmaron carta de consentimiento informado previo a su participación. Se empleó la Escala de Estrés Percibido para medir el grado de estrés de los participantes. Se utilizó el instrumento de Adaptación del Adulto Mayor Activo, que evalúa los modos adaptativos fisiológico, autoconcepto, interdependencia y función del rol.

Resultados: La media de edad de los participantes fue de 68.7 años con una desviación estándar de ± 7.8 años, 53. 3% de los participantes fueron mujeres. Se observó una correlación baja entre el nivel de adaptación y el estrés percibido.

Discusión: El 58% de adultos mayores reportan estrés, además, se observa alta adaptación fisiológica e integración en roles, pero diferencias en autoconcepto e interdependencia, posiblemente impactadas por el COVID-19.

Conclusión: Existe una relación entre el nivel de adaptación y el estrés en los adultos mayores ante la pandemia de COVID-19 en tres municipios del Estado de Hidalgo.

Palabras clave: adulto mayor, estrés psicológico, nivel de adaptación.

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Abstract

Introduction: Identifying the level of adaptation gives patterns of the effect that the COVID-19 pandemic had on older adults, as well as determining if there was a relationship with stress.

Objective: To analyze the relationship between the level of adaptation and perceived stress in older adults during the COVID-19 pandemic in three municipalities of the State of Hidalgo.

Material and methods: Cross-sectional and correlational study conducted in a non-probabilistic convenience sample of 375 older adults. The study was approved by the ethics committee and participants signed a letter of informed consent before participation. The Perceived Stress Scale was used to measure the degree of stress of the participants. The Adaptation of the Active Older Adult instrument was used, which assesses physiological adaptive modes, self-concept, interdependence, and role function.

Results: The mean age of the participants was 68.7 years with a standard deviation of ± 7.8 years, 53.3% of the participants were female. A low correlation was observed between the level of adaptation and perceived stress.

Discussion: 58% of older adults report stress; in addition, high physiological adaptation and role integration are observed, but with differences in self-concept and interdependence, possibly impacted by COVID-19.

Conclusion: There is a relationship between the level of adaptation and stress in older adults during the COVID-19 pandemic in three municipalities of the State of Hidalgo.

Keywords: older adult, psychological stress, adaptation level.

Introduction

Older adults constitute a population that will increase considerably in the coming years according to the World Health Organization (WHO), which mentions that between 2015 and 2050 the percentage of older adults will almost double, from 12% to 22%.[1] It is known that this population is less tolerant of stress, and also tends to remain in a state of alertness. Physical symptoms increase, as well as worry and discomfort, making it difficult to differentiate between the signs of aging and a possible aggravation of depression.[2] Therefore, investigating the situation affecting this population will allow us to create the basis for improving its care.

For its part, COVID-19 was a significant obstacle to health in general, since the population had to be confined at home to the detriment of mental health.[3] Older adults were no exception, as this event caused constant exposure to multiple stressors; such as financial changes,[4,5] the exclusion they suffered,[6] the reception of news associated with COVID-19,[7] uncertainty about the duration

of quarantine, boredom, fear of contagion and death, misinformation about the disease and risk pathologies in case of contagion. All these stressors, together with isolation, cause irritability, loneliness, and disconnection from society in older adults, which alters stress levels.[8,9] This can be defined as *"a set of physiological and psychological reactions experienced by the organism when subjected to strong demands"*.[10] Stress, if not regulated on time, results in various situations, including a higher incidence of functional disability,[11] as well as difficulty in detecting symptoms[12] that put the life of the elderly at risk and even lead to the onset of depressive symptoms.[13] Although several authors state that the effects of stress in older adults are not as harmful as in young people, it cannot be denied that the older adult has characteristics that can enhance the negative effects of the pandemic, such as the reduction of social contact and even the presence of negative relationships.[14]

The conception of the older adult as a biopsychosocial being allows us to have an overview of the areas of life that were mostly damaged by the presence of high levels of stress, because from the perspective of Callista Roy's model; *"human beings are integral and adaptable systems"*.[15] The perception of the elderly has changed. Now, they are not only biopsychosocial beings, but also the way they resolve conflicts must be taken into account. Similarly, identifying the level of adaptation allows describing the condition of life processes in three levels classified as integrated, compensatory, and compromised.[16]

In other words, older adults were immersed in a changing environment during the pandemic, resulting in higher stress levels. So far, there is no scientific evidence of the relationship between adaptation and stress in older adults, and the impact of stress on the level of adaptation is also unknown. However, it is believed that it could have repercussions on the adaptive mechanisms of the older adult, generating failures and finally emotional and physical discomfort. Due to the above, the purpose of this study was to analyze the relationship between the level of adaptation and perceived stress in older adults in the face of the COVID-19 pandemic.

Material and methods

A quantitative and cross-sectional study of correlational scope was carried out on a non-probabilistic sample of 375 adults over 60 years of age, meeting the inclusion criteria. The sample consisted of residents of the municipalities of Atitalaquia, Tetepango, and Tepeji del Rio Ocampo, including both men and women who were able to answer the questionnaire, that is, who were within their mental faculties, from November 2021 to March 2022. The study was conducted under the conditions established in the general health law, as well as in the Helsinki Declaration,[17,18] and Google questionnaires were carried out. In addition, visits were made to places where older adults gathered and even home visits were made to invite them to participate in the study. After obtaining the signature of the informed consent, a sociodemographic and health data form was applied.

To identify the level of adaptation, the Adaptation Level of the Active Older Adult Scale was applied, which consists of 112 dichotomous items and is divided into four dimensions or adaptive modes (physiological mode, self-concept mode, role function mode, interdependence

mode). This scale has acceptable levels of reliability (KR-20 >0.70),16 and for each of its dimensions it classifies the level of adaptation as integrated, compensatory, or compromised, as follows:

- Physiological mode: less than 15 points = integrated, 15-18 points = compensatory, 19-42 = compromised.
- Self-concept mode: less than 12 points = integrated, 12-23 = compensatory, 24-35 = compromised.
- Interdependence mode: less than 7 = integrated, 7-12 = compensatory, 13-18 = compromised.
- Role-based mode: less than 7 points = integrated, 7-12 = compensatory, 13-18 = compromised.

The Perceived Stress Scale (PSS-14), which has been validated in the Mexican population with a Cronbach's alpha of 0.82, was also used to measure the level of stress. This scale has 14 Likert-type questions, its global score is 56 points and is interpreted as follows: 0-14 indicates that you are rarely or never stressed, 15-28 that you are occasionally stressed, 29-42 that you are often stressed, and 43-56 that you are very often stressed.[19]

The sociodemographic variables, as well as the level of adaptation and stress, were described with frequencies and percentages. Spearman's correlation test was used to examine the relationship between perceived stress and level of adaptation. This nonparametric test was chosen because, according to the Shapiro-Wilk test, the distribution of the scores of the variables of interest was not normal. SPSS version 22 was used for the statistical analysis.

Results

A total of 375 older adults participated with a mean age of 68.7 years and a standard deviation of ± 7.8 years. More than half of the participants were women (53.3%), and only 38.1% of the participants reported not suffering from any chronic disease. Only 86.4% of the participants performed their activities on their own. Of the sample, 43.2% were married, 75.5% reported having basic education, i.e., primary and secondary school, and 40.4% reported not having a paid job. Almost the entire study population professed some type of religion, with the Catholic religion being the predominant one (89.1%). It should also be noted that 10.9% lived alone (see Table 1).

Table 1. General characteristics of the study population.

General characteristics		*f*	%
Mean age (in years) 68.73 ± 7.8 years			
Sex	Female	200	53.3
	Male	175	46.7
Marital status	Married	162	43.2
	Free union	75	20
	Single	43	11.5
	Divorced	6	1.6
	Widower	89	23.7

General characteristics		*f*	%
Mean age (in years) 68.73 ± 7.8 years			
Schooling	None	65	17.3
	Primary	190	50.7
	Secondary	93	24.8
	High School	10	2.7
	University	17	4.5
Occupation	Housewife	141	37.6
	Unemployed	11	2.9
	Worker	17	4.5
	Merchant	49	13.1
	Farmer	59	15.7
	Professional	11	2.9
	Retired	63	16.8
	Driver	3	0.8
	Another	21	5.6
Religion	Catholic	334	89.1
	Christian	9	2.4
	Jehovah's Witness	4	1.1
	Evangelical	20	5.3
	Does not profess	3	0.8
	Another	5	1.3
Chronic disease	Yes	232	61.9
	No	143	38.1
Autonomy in activities	Autonomous	324	86.4
	Requires support	51	13.6
Company	Lives alone	41	10.9
	Lives in company	334	89.1

Source: Sociodemographic data questionnaire n= 375

Stress in older adults

The information found on stress was as follows: more than half of the population (59.2%) reported being stressed from time to time (see Table 2).

Table 2. Frequency of stress in the sample

Stress level	*f*	%
Rarely stressed	85	22.7
Occasionally stressed	222	59.2
Often stressed	63	16.8
Very often stressed	5	1.3
f: frecuencia		n=375

Source: Perceived Stress Scale (PSS-14)

Level of adaptation of older adults

On the other hand, in the adaptation level, 33.3% of the population was in the compromised physiological mode, and in the self-concept mode, 96.8% was at a compensatory level. In addition, less than half of the study population possessed a compensatory level of adaptation in the interdependence and role function modes, with 37.1% and 45.6% respectively (see Table 3).

Table 3 Frequency and percentage of the level of adaptation in adaptive modes

Physiological mode	***f***	*%*
Integrated	188	50.1
Compensatory	61	16.5
Compromised	125	33.3
Self-concept mode	***f***	*%*
Integrated	9	2.4
Compensatory	363	96.8
Compromised	3	0.8
Interdependence mode	***f***	*%*
Integrated	229	61.9
Compensatory	139	37.1
Compromised	7	1.9
Role function mode	***f***	*%*
Integrated	194	51.7
Compensatory	171	45.6
Compromised	10	2.7
f: frequency		n=375

Source: Adaptation Level Scale in the Active Older Adult.

Correlation between perceived stress and the level of adaptation

When correlating the different adaptive modes with perceived stress, it was observed that the higher the frequency of stress, the greater the compromise in the level of adaptation; however, a low but significant relationship was found (see Table 4).

Table 4. Correlation between perceived stress and level of adaptation

Modes	***Correlation coefficient***	***p[a] value***
Physiological mode	0.205	<0.001
Self-concept mode	0.203	<0.001
Interdependence mode	0.205	<0.001
Role function mode	0.178	<0.001

[a] Spearman›s correlation

Source: Own elaboration

Discussion

In this study, a high percentage of older adults reported being stressed from time to time, representing 58%. These data are similar to those reported by Naranjo Hernández *et al*, who in 2021 found that 47% of older adults were stressed, which could be a consequence of sociodemographic differences. On the other hand, in that research 36% of the older adults studied lived alone,[9] while only 10.9% of our sample met this characteristic. The use of different instruments to assess stress should also be emphasized.

Regarding the level of adaptation, in the present study, a high integrated level was observed in the population in the physiological mode. Consequently, in the self-concept mode, a high frequency was observed in the compensatory level, whereas, in the interdependence mode and the role function mode, a higher prevalence was observed in the integrated level. These data present differences with the results of Chávez Pérez, *et al*,[16] who reported in 2019 that 80% of older adults were in an integrated level in the physiological mode, in addition to 20% being in a compensatory level; in contrast, in the present study, a prevalence of 33.3% was found in a compromised level. Regarding the self-concept mode, these same authors reported a notable compromised level in their study population (70%), whereas in our sample less than 1% were at the same level. Furthermore, it has been observed that, in the results of the present study, there is a slight similarity in the considerable prevalence of the integrated level for the interdependence and role function modes. Most likely, these differences are because the Chavez-Perez study was conducted before the COVID-19 pandemic, as the subsequent implications on older adults due to confinement could have impacted the stress of the population. However, it is important to mention that the Chavez-Perez study had a sample size of n=35.

Conclusion

Based on the results obtained, it can be affirmed that there is a relationship between the level of adaptation and stress in older adults during the COVID-19 pandemic in the municipalities of Atitalaquia, Tetepango, and Tepeji del Río Ocampo in Hidalgo, Mexico. Likewise, it was observed that the greater the frequency of stress, the greater the compromise in the level of adaptation; however, due to the cross-sectional nature of the study, it was not possible to determine the temporality of the results or the causality between the variables of stress and adaptation, thus fulfilling the research objective.

Stress is a situation that has repercussions in the different spheres of life of the older adult, so the physical, mental, emotional, and social wear and tear that this group experienced during the COVID-19 pandemic should not be minimized. In addition, it is important to implement comprehensive nursing care with an emphasis on the mental and physical health of older adults. It is also recommended to create new evidence that allows monitoring of the level of post-confinement adaptation, to observe the transformation of this process in the short, medium, and long term.

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