



Research article

**Resilience during the health emergency in residents of an unattended population in north lima**Hernan Matta-Solis<sup>1\*</sup>, Eugenia Edonis-Haro<sup>1</sup>, Lourdes Vara-Tarazona<sup>1</sup>, Lourdes Matta-Zamudio<sup>1</sup>, Brian Meneses-Claudio<sup>2</sup>, Rosa Perez-Siguas<sup>3</sup><sup>1</sup> Universidad de Ciencias y Humanidades, Lima, Perú<sup>2</sup> Universidad de Ciencias y Humanidades, Lima, Perú<sup>3</sup> TIC Research Center: eHealth & EEducation, Instituto Peruano de Salud Familiar, Lima, Perú**ABSTRACT**

Resilience is a way of acquiring skills that allow to face situations that compromise its health well-being during the coronavirus pandemic. The research objective is to determine the resilience during the coronavirus pandemic in residents of a vulnerable area of North Lima. The results show the resilience of the residents of a vulnerable area of North Lima, where 13 (1%) have a low resilience level, 413 (30.8%) have medium resilience level and 917 (68.2%) high resilience level. It is concluded that strategies should be promoted on how to maintain mental health at home during the COVID-19 pandemic.

**Keywords:** Coronavirus, Resilience, Pandemic, Mental health

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**INTRODUCTION**

The pandemic due to the coronavirus disease (COVID - 19) has generated circumstances that have consequences on the health of the world population<sup>[1]</sup>, where this situation has implied the ability not only to live day by day with this disease<sup>[2]</sup>, but the way in which it is population can cope with it and be able to maintain their well-being in themselves and their families<sup>[3]</sup>.

To do this, it has been seen that many of the people have shown to adapt and demonstrate their response capabilities in the face of the COVID-19 pandemic<sup>[4]</sup>, that has shown that people tend to be more resilient in the face of adversities that they present in their life<sup>[5]</sup>.

Resilience itself is an event in which the person demonstrates good mental health, immunity against risky situations and also adapts to adversity after a very stressful event<sup>[6],[7]</sup>; although, it is also due to the individual's own personality and that shows that it can protect it from adversities such as the COVID-19 pandemic<sup>[8]</sup>.

Although, it has been observed that while the individual has a high level of resilience, they tend to recover easily from situations that compromise both their mental and physical health<sup>[9]</sup>, therefore during the COVID-19 pandemic, many of the people have adapted to this situation of emergency<sup>[10]</sup>, since their mental health allows them to adequately cope with what arises in their life due to COVID - 19<sup>[11]</sup>.

In a study carried out in Turkey<sup>[12]</sup>, it was observed in 929 participating adults that the meaning of life, the satisfaction of life and by not presenting an experience that psychologically compromises the person has positively generated resilience in adults, while fear to COVID - 19 and indecisions negatively compromise increasing their resilience in adults.

In a study carried out in Norway<sup>[13]</sup>, it was observed that in 617 participants, symptoms of depression, anxiety and stress were moderated if the people presented good resilience, and that exposure to stress increased the levels of depression, negatively allowing them to present good resilience.

In a study carried out in the United States<sup>[14]</sup>, it was observed that in 52 participants, resilience allowed them to improve their quality of life during the COVID-19 pandemic, functioning as a protector in their dimensions of physical, psychological, social and environmental health. Therefore, the objective of the study is to determine the resilience during the COVID-19 pandemic in residents of a vulnerable area of North Lima.

**MATERIALS AND METHODS****Type of Research**

The research for its properties is quantitative, its methodology is descriptive, not experimental, cross-sectional<sup>[15]</sup>.

## Population

The population is made up of 1,343 adults in total from a vulnerable area of North Lima, it is shown in Table I.

## Participants

Table 1. Socio demographic aspects of the people of a vulnerable zone of north lima

	f	%
<b>COVID-19 infection</b>		
Yes	193	14,4
No	1150	85,6
<b>Infection of a relative by COVID-19</b>		
Yes	587	43,7
No	756	56,3
<b>Death of a family member from COVID-19</b>		
Yes	259	19,3
No	1084	80,7
	f	%
<b>Age</b>		
Youth (18 to 29)	3	,2
Adult (from 30 to 59)	238	17,7
Elderly (60 and over)	1102	82,1
<b>Sex</b>		
Female	884	65,8
Male	459	34,2
<b>Marital Status</b>		
Single	128	9,5
Married	356	26,5
Cohabiting	812	60,5
Divorced	28	2,1
Widowed	19	1,4
<b>Degree of instruction</b>		
No instruction	7	0,5
Complete primary education	70	5,2
Incomplete primary education	140	10,4
Complete secondary education	557	41,5
Incomplete secondary education	418	31,1
Complete university education	67	5,0
Incomplete university education	84	6,3
<b>Occupancy condition</b>		
Stable	198	14,7
Eventual	765	57,0
Without occupation	345	25,7
Retired	4	0,3
Student	30	2,2
Not applicable	1	0,1
<b>Type of Family</b>		
Nuclear	992	73,9
Single parent	123	9,2
Extendida	152	11,3
Expanded	36	2,7
Reconstituted	3	0,2
Family equivalent	10	0,7
Single person	27	2,0

sociodemographic aspects of the people of a vulnerable zone of north lima

## Inclusion and exclusion criteria

- Participants ages 18 and up.
- Participants who voluntarily agree to be in the study.
- Participants who live for more than 3 years in the district of North Lima.

## Technique and Instrument

A survey was conducted in which the Connor-Davidson Resilience Scale data instrument was written in its 25-item version (CD-RISC 25).

For data collection, it was structured in two ways; 1. Socio-demographic data regarding age, sex, marital status, occupation, level of education, and about COVID - 19; 2. CD-RISC 25 that includes 25 items in which they are represented in 5 items (persistence - tenacity - self-efficacy, control under pressure, adaptation and ability to recover,

control and purpose and spirituality), in which they are valued with a scale Likert type with 5 response options: "0 = never", "1 = rarely", "2 = sometimes", "3 = often" and "4 = almost always", obtaining a total score by adding all the items, so its score would range from 0 to 100, where, "0 to 33" is low resilience, "34 to 66" is medium resilience and "67 to 100" is high resilience, the higher the score the higher the resilience level of the residents of a vulnerable area in North Lima[16].

The validity of the instrument was determined based on the exploratory factor analysis technique with Varimax rotation. The Kaiser-Mayer-Olkin sample adequacy measure obtained a coefficient of 0.977 (KMO > 0.5), while the Bartlett sphericity test obtained significant results ( $X^2$  approx. = 58412.426;  $gl = 300$ ;  $p = 0.000$ ). The sampling adequacy measures of the anti-image diagonal obtained significant coefficients for the 25 items (MSA > 0.96). The principal components analysis determined that there are two factors that explain 84.566% of the variance. Finally, the matrix of rotated components generated two main components. Therefore, a significant validity of the instrument can be determined.

The reliability of the instrument was determined based on the Cronbach's Alpha statistical test, the same one that obtained a coefficient of 0.987 ( $\alpha > 0.8$ ) for all the items ( $i = 25$ ).

## Instrument location and application

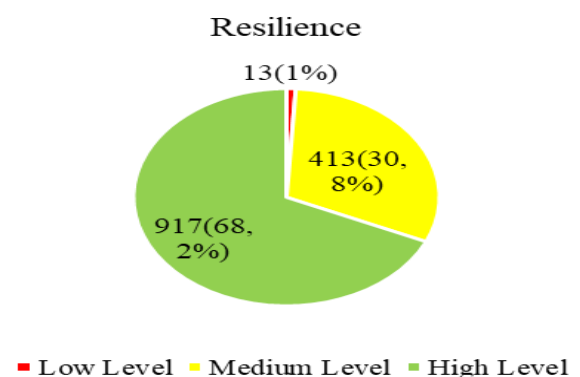
The survey was conducted virtually through the google form which will measure resilience during the COVID-19 pandemic in residents of a vulnerable area of North Lima.

First, we coordinated with the heads of the family to carry out the study in order to obtain data for our research and also provide details about the study.

After collecting the data, we had good support from the population to carry out the study, generating benefits and satisfaction at the time of making the research database.

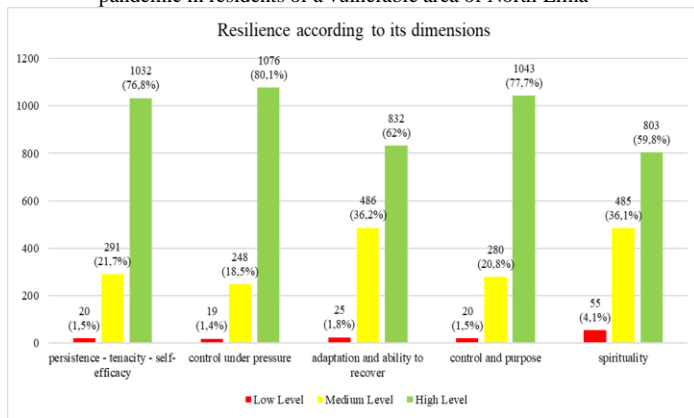
## RESULTS AND DISCUSSION

Figure 1. Resilience during the COVID-19 pandemic in residents of a vulnerable area of North Lima



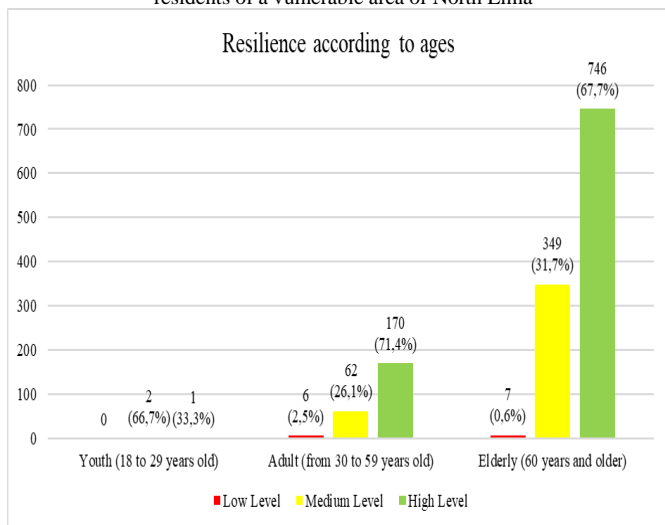
In Figure 1, we observe that 13 (1%) of the inhabitants have a low resilience level, 413 (30.8%) have a medium resilience level and 917 (68.2%) have a high resilience level.

Figure 2. Resilience in relation to its dimensions during the COVID-19 pandemic in residents of a vulnerable area of North Lima



In Figure 2, regarding their resilience dimensions, in the persistence - tenacity - self-efficacy dimension, 1032 (76.8%) have a high resilience level, 291 (21.7%) have medium resilience level and 20 (1.5%) low resilience level, in the control under pressure dimension 1076 (80.1%) have a high resilience level, 248 (18.5) medium resilience level and 19 (1.4%) high resilience level, in the adaptation and capacity to recover dimension, 832 (62%) have a high resilience level, 486 (36.2%) medium resilience level and 25 (1.8%) low resilience level, in the control and purpose dimension, 1043 (77, 7%) have a high resilience level, 280 (20.8%) medium resilience level and 20 (1.5%) low resilience level and in the spirituality dimension, 803 (59.8%) have a high resilience level, 485 (36.1%) medium resilience level and 55 (4.1%) low resilience level.

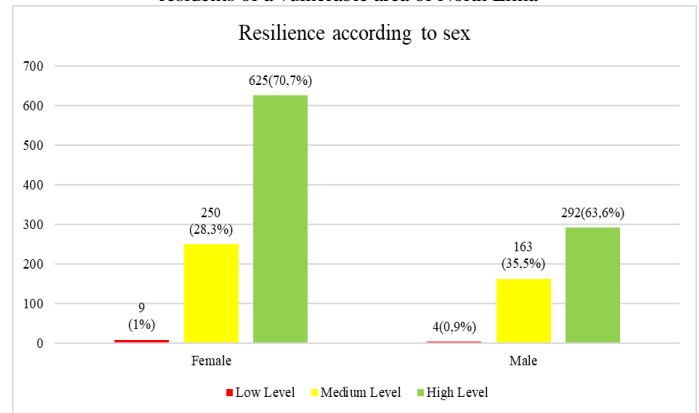
Figure 3. Resilience in relation to ages during the COVID-19 pandemic in residents of a vulnerable area of North Lima



In Figure 3, we observe the resilience according to the ages of the inhabitants, where, in the elderly (60 years and over), 746 (67.7%) have a high level of resilience, 349 (31.7%) medium resilience and 7 (0.6%) low resilience, in the adult ages (30 to 59 years), 170 (71.4%) have a high level of resilience, 62 (26.1%) 9 medium resilience and 6 (2.5%) Medium low resilience and in the young ages (18 to 29 years), 1 (33.3%) have a high level of resilience and 2

(66.7%) have medium resilience.

Figure 4. Resilience in relation to sex during the COVID-19 pandemic in residents of a vulnerable area of North Lima



In Figure 4, we observe the relationship of resilience and the sex of the inhabitants, where in the female sex, 625 (70.7%) have a high resilience level, 250 (28.3%) have a medium resilience level and 9 (1%) low resilience level, in males, 292 (63.6%) have a high resilience level, 163 (35.5) medium resilience level and 4 (0.9%) low resilience level.

Table 2. Resilience in relation to covid - 19 in people residents in a vulnerable area of north lima

	Resilience level						Total	
	Low Level		Medium Level		High Level			
	f	%	f	%	f	%	f	%
<b>COVID-19 infection</b>								
Yes	1	0,5	51	26,4	141	73,1	193	100
No	12	1,0	362	31,5	776	67,5	1150	100
Valor X <sup>2</sup> = 2,597; gl = 2; Sig. = 0,273								
<b>Infection of a relative by COVID-19</b>								
Yes	4	0,7	100	17,0	483	82,3	587	100
No	9	1,2	313	41,4	434	57,4	756	100
Valor X <sup>2</sup> = 94,626; gl = 2; Sig. = 0,000								
<b>Death of a family member from COVID-19</b>								
Yes	2	0,8	25	9,7	232	89,6	259	100
No	11	1,0	388	35,8	685	63,2	1084	100
Valor X <sup>2</sup> = 67,892; gl = 2; Sig. = 0,000								

In Table 2, we observe the relationship between resilience and COVID - 19, where people who have not been infected with COVID - 19 have a better level of resilience, where 776 (67.5%) have a high resilience level, 362 (31.5%) medium resilience level and 12 (1%) low resilience level, regarding the infection of a relative, it is observed that those who were infected had a high resilience level, where 483 (82.3%) have a high resilience level, 100 (17%) medium resilience and 4 (0.7%) low resilience and in the inhabitants who have not had a deceased family member have a high resilience level, where

685 (63.2%) have a high resilience level, 388 (35.8%) medium resilience level and 11 (1%) low resilience level. In the research work, an approach was given to the mental health of the inhabitants in relation to COVID-19 in a vulnerable area of North Lima, emphasizing the ability to face and resolve conflicts that compromise their health or from a family member due to the COVID-19 pandemic.

In the results of resilience during the COVID-19 pandemic in residents of a vulnerable area in North Lima, they presented a high resilience level, this is due to the fact that the population has adapted to the situation of the COVID – 19 pandemic, although they must face the situation due to the sudden changes in their daily life, but they look for a way to be able to cope with the situation and to be able to keep their family safe. The authors argue that resilience rises as the person faces situations that allow them to keep their mental health in balance and allow them to develop skills that help them resolve their conflicts and decisions regarding the problems generated by the COVID- 19 pandemic<sup>[12]</sup>.

Regarding the results of the resilience dimensions, they presented a high level, this is due to the fact that the COVID-19 pandemic, over time, has generated skills in the population that allows it to adapt to today's situation, where the balance in their mental health is even greater, since they make the right decisions, they do not think negative things about COVID - 19, they do not get carried away by the situation of the COVID - 19 pandemic, but they face them and focus on how it will be their daily life over time whether it is long term or short term. The authors maintain that the COVID - 19 pandemic has made the residents develop capacities both at a mental and social level with regard to decision-making and coping with the situation due to COVID - 19 and this will allow develop skills in the population to adapt to their daily life that will be in the long term<sup>[7]</sup>.

In the results according to age, we can see that the elderly have a higher resilience level, this is due to the fact that the elderly have developed skills and capacities at a physical, cognitive and social level before the COVID-19 pandemic and due to this, the elderly have developed resources and strengths that allow them to live in a positive and adaptive way in the face of the COVID-19 pandemic. The authors argue that the population as age advances over time, develops skills and abilities that allow them improve their quality of life, although due to the COVID-19 pandemic, they have had to develop or enhance their skills in order to preserve their quality of life and lifestyle<sup>[9]</sup>.

In the results in relation to sex, we can observe that the female sex presented a higher resilience level than the male sex, this is because the female sex has sought a way to face situations that compromise their health and from their family, therefore, during the COVID-19 pandemic, women, especially single-parent families as heads of households, make the correct decisions and face the COVID-

19 situation, ensuring the well-being of themselves and their children. The authors maintain that the female sex has a high level of resilience because over time they have developed resources that allow them to adapt to adversities in their daily lives, therefore, during the COVID-19 pandemic, these resources develop their potential by improving the ability to adapt in them<sup>[14]</sup>.

In the results in relation to resilience and COVID - 19, we observe that they present a high resilience level when they are infected with the disease, a family member or even if a family member dies from COVID - 19, this is because today's people have developed skills and obtained essential resources to cope with the COVID-19 pandemic, where their ability to adapt allows them to make decisions that improve their quality life and lifestyle. The authors maintain that people who have been infected by COVID-19 or a family member tend to increase their resilience, because as they have passed the disease, they try to improve their way of coping with it and be able to be healthy without infecting themselves or their own family<sup>[6]</sup>.

## CONCLUSIONS

It is concluded that the mental health of the population should be taken care of during the pandemic, taking into account the care either virtually or presencial.

It is concluded that strategies should be promoted on how to maintain mental health at home during the COVID-19 pandemic.

It is concluded that prevention strategies for anxiety, stress and depression should be developed within the home related to their health well-being.

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