



## Research articles

**Anxiety in pregnant women during the covid – 19 pandemic who go to a hospital in lima**

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**ABSTRACT**

Anxiety is one of the factors that affects the mental health of pregnant women during the coronavirus pandemic, due to the physiological and vital changes in their pregnancy. The objective is to determine anxiety in pregnant women during the pandemic of coronavirus who go to a hospital in Lima. It is a quantitative, non-experimental, descriptive cross-sectional study, with a total population of 660 participants, who answered a survey with sociodemographic data and the state-trait anxiety scale. In the results, we observed that during the coronavirus pandemic, 16 (2.4%) of pregnant women presented low anxiety, 555 (84.1%) presented medium anxiety and 89 (13.5%) presented high anxiety. It is concluded psychological interventions are necessary for pregnant women and thus be able to help them during this stage in a safer and more trouble-free way during the coronavirus pandemic.

**Keywords:** Coronavirus, Pregnant, Anxiety, Mental health.

Received – 29/07/2021, Reviewed - 02/09/2021, Revised/ Accepted- 28/11/2021

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**INTRODUCTION**

The health of the world population generated by the coronavirus (COVID - 19) has brought alarming consequences at the economic and social level, where negative symptoms are evidenced in people's mental health. <sup>[1]</sup>. Although, in the pregnant population, the impact on mental health as a population vulnerable to symptoms of anxiety and depression could have consequences in their children <sup>[2]</sup>, negatively developing their behavioral, cognitive and socio-emotional level; causing problems during their growth. <sup>[3][4]</sup>.

For this reason, the mental health of pregnant women is the most affected during the COVID-19 pandemic, <sup>[5]</sup>, and during the prenatal period, there is a risk that the baby will be negatively affected during the months inside the uterus, <sup>[6]</sup>, due to the mental problems that the mother presents and this will influence its development. <sup>[7]</sup>.

This panorama allows us to see that pregnant women tend to be more conducive to presenting a double impact on their mental health, both in her and in her successor, <sup>[8]</sup>, generating emotional instability and stress, where the symptoms of anxiety and depression are more evident, <sup>[9]</sup>, and this is more evident when the pregnant woman is in her perinatal period, where she is more susceptible to a higher mental load and that affects the baby during her care. <sup>[10]</sup>.

In a study carried out in the United States, <sup>[11]</sup>, with 2740 Participating pregnant women, they interpreted that women were

anxious to be pregnant during the COVID-19 pandemic, but they showed a high index of anxiety in pregnant women who gave birth during the COVID-19 pandemic.

In a study carried out in Iran <sup>[12]</sup>, with 300 participating pregnant women, they observed that pregnant women had anxiety during the first, second and third trimesters of pregnancy but in the third trimester, the level of anxiety was higher due to the fact that they were concerned about getting COVID-19.

In a study carried out in Turkey, <sup>[13]</sup>, with 283 participating pregnant women, they maintained that pregnant women had a high level of anxiety reflected by the COVID-19 pandemic and the level of anxiety as a trait was high, related to the type of the pregnant woman's personality.

Therefore, the objective of the research is to determine anxiety in pregnant women during the COVID-19 pandemic who go to a hospital in Lima.

Its research hypothesis is that anxiety in pregnant women has consequences in the development of the baby and puts the mother at risk during its pre and perinatal process.

**MATERIAL AND METHOD****Research Type**

Due to its characteristics, the study has a quantitative approach in terms of data collection and measurement of the variable and the methodological design is based on a non-experimental,

descriptive and cross-sectional study [14].

### Population

The total population is made up of 660 pregnant women who attend a hospital in Lima.

### Inclusion criteria

- Pregnant women who are 20 weeks gestation onwards.
- Pregnant women who have attended at least 3 times their check-ups at the hospital center.
- Pregnant women who voluntarily participate in the study.

### Technique and instrument

The technique used is the survey, through the STAI questionnaire or data collection instrument, which aims to measure anxiety in nursing students at the national level.

The State-Trait Anxiety Inventory (STAI) scale consists of 40 items, divided into two subscales with 20 content items in each of them, which assess anxiety as a state (S) and anxiety as a trait (T). The anxiety as state subscale (S) seeks to measure the anxiety at a given moment of the person, for this the score ranges from 1 to 4 Likert type, where 1 is "not at all", 2 is "a little", 3 is "quite a lot" and 4 is "a lot". The anxiety as a trait subscale (T) seeks to measure permanent anxiety in the person, as they generally perceive their anxiety, the score ranges from 1 to 4 Likert type where 1 is "never", 2 is "sometimes", 3 is "frequently" and 4 is "almost always." In order to obtain the total score of the anxiety (S) and anxiety (T) subscale, they can vary from a minimum of 20 to a maximum of 80 depending on the items, that is, a score of 4 by 10 items for anxiety (S) and 11 anxiety questions (T) determines a high level of anxiety, the same for the score of the remaining 10 anxiety questions (S) and 9 anxiety questions (T), also the scores are inverted marked 1, 2, 3 or 4 and scored 4, 3, 2 or 1 to determine a low anxiety level respectively, the items that are inverted to determine a low anxiety level are: For state anxiety (S): 1, 2, 5, 8, 10, 11, 15, 16, 19, 20. For anxiety as a trait (T): 21, 23, 26, 27, 30, 33, 34, 36, 39. We consider the score for each subscale a score from 20 to 39 for low anxiety, from 40 to 59 for medium anxiety and from 60 to 80 for high anxiety. [15].

The validity of the instrument to measure anxiety was determined based on the exploratory factor analysis technique. The Kaiser-Mayer-Olkin sample adequacy measure obtained a coefficient of 0.934 (KMO > 0.5), while the Bartlett sphericity test obtained significant results ( $X^2$  approx. = 7437.138;  $gl = 780$ ;  $p = 0.000$ ).

The reliability of the instrument was determined with the Cronbach's Alpha statistical test, in which a coefficient of 0.808 ( $\alpha > 0.6$ ) was obtained for the items ( $i = 40$ ).

In this research, the State-Trait Anxiety Inventory scale (STAI) will be used as a data collection instrument. The data collection processing was through the questionnaire in which the matrix for the database was carried out in the SPSS Statistics Base

26.0 program, in which the data analysis and processing were carried out to perform tabulations and figures for then be described and interpreted, respectively.

### Instrument location and application

The study to measure anxiety in pregnant women took place at the Luis Negreiros Hospital in Callao district.

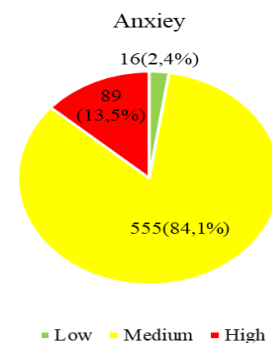
For the beginning of data collection, it was previously coordinated with the heads of service to be able to carry out the survey to the pregnant women and thus both parties have knowledge about the research study.

This study is important because we will observe in pregnant women if the COVID-19 pandemic and anxiety are related to each other, since in the prenatal stage, changes can occur and even more due to the pandemic.

## RESULT AND DISCUSSION

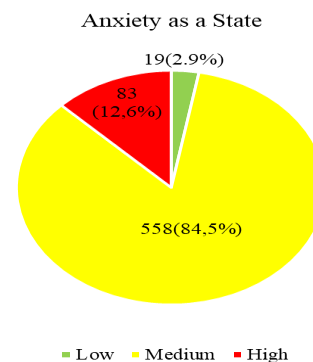
Below is a summary table of the surveys carried out following the guidelines corresponding to the research work:

Figure 1. Anxiety in pregnant women during the COVID-19 pandemic who go to a Hospital in Lima



In Figure 1, we observe that during the COVID-19 pandemic, 16 (2.4%) of pregnant women present low anxiety, 555 (84.1%) present medium anxiety and 89 (13.5%) present high anxiety.

Figure 2. Anxiety in pregnant women during the COVID-19 pandemic who go to a Hospital in Lima



In Figure 2, we observe that during the COVID-19 pandemic, 19 (2.9%) of pregnant women present anxiety as a low state, 558 (84.5%) present anxiety as a medium state and 83 (12.6%) present anxiety as a high state.

In Figure 3, we observe that during the COVID-19

pandemic, 51 (7.7%) of pregnant women present anxiety as a low trait, 486 (73.6%) present anxiety as a medium trait, and 123 (18.6%) present anxiety as a high trait.

Figure 3. Anxiety as a State in pregnant women during the COVID-19 pandemic who go to a Hospital in Lima

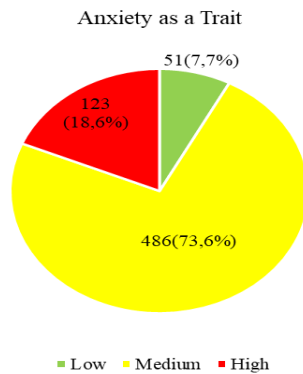


Table 1. Anxiety in relation to the marital status of pregnant women during the COVID-19 pandemic who go to a Hospital in Lima

| Marital status | Single     | Count                   | Anxiety |        |       | Total  |
|----------------|------------|-------------------------|---------|--------|-------|--------|
|                |            |                         | Low     | Medium | High  |        |
| Single         | Married    | Count                   | 3       | 95     | 9     | 107    |
|                |            | % within marital status | 2,8%    | 88,8%  | 8,4%  | 100,0% |
| Married        | Cohabitant | Count                   | 5       | 176    | 18    | 199    |
|                |            | % within marital status | 2,5%    | 88,4%  | 9,0%  | 100,0% |
| Cohabitant     | Divorced   | Count                   | 6       | 187    | 35    | 228    |
|                |            | % within marital status | 2,6%    | 82,0%  | 15,4% | 100,0% |
| Divorced       | Widow      | Count                   | 1       | 68     | 20    | 89     |
|                |            | % within marital status | 1,1%    | 76,4%  | 22,5% | 100,0% |
| Widow          | Total      | Count                   | 1       | 29     | 7     | 37     |
|                |            | % within marital status | 2,7%    | 78,4%  | 18,9% | 100,0% |
| Total          |            | Count                   | 16      | 555    | 89    | 660    |
|                |            | % within marital status | 2,4%    | 84,1%  | 13,5% | 100,0% |

Chi-square tests

|                              | Value               | df | Asymptotic significance (bilateral) |
|------------------------------|---------------------|----|-------------------------------------|
| Pearson's Chi-square         | 14,038 <sup>a</sup> | 8  | ,081                                |
| Likelihood ratio             | 13,889              | 8  | ,085                                |
| Linear by linear association | 10,008              | 1  | ,002                                |
| N of valid cases             | 660                 |    |                                     |

a. 5 cells (33.3%) have expected a count less than 5. The minimum expected count is .90.

In Table I, anxiety is related to the marital status of the pregnant woman, in which it was determined with Pearson's chi-square test ( $X^2$ ). The level of significance of the test obtained a value of 0.90 ( $p > 0.05$ ) ( $X^2 = 14,038$ ;  $d.f = 8$ ). Therefore, an association hypothesis is not rejected, so we can observe that in the marital status of the pregnant women mentioned in the tabulation, we observed in the marital status single (88.8%), married (88.4%), cohabiting (82%), divorced (76.4%) and widow (78.4%) show medium anxiety during the COVID-19 pandemic.

In Table II, anxiety is related to the education level of pregnant women, in which it was determined with Pearson's chi-square test ( $X^2$ ). The level of significance of the test obtained a value of 1.43 ( $p > 0.05$ ) ( $X^2 = 7.762$ ;  $d.f = 8$ ). Therefore, we can interpret that, in the levels of education of pregnant women, without education (78%), primary education (88.5%), secondary education (83.1%), technical education (84.8%) and university education (84.2%),

pregnant women show medium anxiety during the COVID-19 pandemic.

Table 2. Anxiety in relation to the education level of pregnant women during the COVID-19 pandemic who go to a Hospital in Lima

| Education Level      | Without Education    | Count                         | Anxiety |        |       | Total  |
|----------------------|----------------------|-------------------------------|---------|--------|-------|--------|
|                      |                      |                               | Low     | Medium | High  |        |
| Without Education    | Primary Education    | Count                         | 1       | 46     | 12    | 59     |
|                      |                      | % within Level of instruction | 1,7%    | 78,0%  | 20,3% | 100,0% |
| Primary Education    | Secondary Education  | Count                         | 0       | 85     | 11    | 96     |
|                      |                      | % within Level of instruction | 0,0%    | 88,5%  | 11,5% | 100,0% |
| Secondary Education  | Technical Education  | Count                         | 5       | 182    | 32    | 219    |
|                      |                      | % within Level of instruction | 2,3%    | 83,1%  | 14,6% | 100,0% |
| Technical Education  | University Education | Count                         | 6       | 162    | 23    | 191    |
|                      |                      | % within Level of instruction | 3,1%    | 84,8%  | 12,0% | 100,0% |
| University Education | Total                | Count                         | 4       | 80     | 11    | 95     |
|                      |                      | % within Level of instruction | 4,2%    | 84,2%  | 11,6% | 100,0% |
| Total                |                      | Count                         | 16      | 555    | 89    | 660    |
|                      |                      | % within Level of instruction | 2,4%    | 84,1%  | 13,5% | 100,0% |

Chi-square tests

|                              | Value              | df | Asymptotic significance (bilateral) |
|------------------------------|--------------------|----|-------------------------------------|
| Pearson's Chi-square         | 7,762 <sup>a</sup> | 8  | ,457                                |
| Likelihood ratio             | 9,600              | 8  | ,294                                |
| Linear by linear association | 3,310              | 1  | ,069                                |
| N of valid cases             | 660                |    |                                     |

a. 4 cells (26.7%) have expected a count less than 5. The minimum expected count is 1.43.

Table 3. Anxiety in relation to the parity number of pregnant women during the COVID-19 pandemic who go to a Hospital in Lima

| Anxiety | Low    | Count            | N° parity   |             | Total  |
|---------|--------|------------------|-------------|-------------|--------|
|         |        |                  | Primiparous | Multiparous |        |
| Low     | Medium | Count            | 7           | 9           | 16     |
|         |        | % within Anxiety | 43,8%       | 56,3%       | 100,0% |
| Medium  | High   | Count            | 238         | 317         | 555    |
|         |        | % within Anxiety | 42,9%       | 57,1%       | 100,0% |
| High    | Total  | Count            | 47          | 42          | 89     |
|         |        | % within Anxiety | 52,8%       | 47,2%       | 100,0% |
| Total   |        | Count            | 292         | 368         | 660    |
|         |        | % within Anxiety | 44,2%       | 55,8%       | 100,0% |

Chi-square tests

|                              | Value              | df | Asymptotic significance (bilateral) |
|------------------------------|--------------------|----|-------------------------------------|
| Pearson's Chi-square         | 3,065 <sup>a</sup> | 2  | ,216                                |
| Likelihood ratio             | 3,044              | 2  | ,218                                |
| Linear by linear association | 2,478              | 1  | ,115                                |
| N of valid cases             | 660                |    |                                     |

a. 0 cells (.0%) have expected a count less than 5. The minimum expected count is 7.08.

In Table III, anxiety is related to the number of parities of pregnant women, in which it was determined with Pearson's chi-square test ( $X^2$ ). The significance level of the test obtained a value of 7.08 ( $p > 0.05$ ) ( $X^2 = 3.065$ ;  $d.f = 2$ ). We can interpret that, the study raises anxiety in pregnant women during the COVID-19 pandemic, so emphasis is placed on mental health to promote strategies that prevent psychological disorders that affect the mother in the short or long term and for her successor.

In our results, we observe that most pregnant women have medium anxiety, this is due to the fact that during pregnancy, women sustain physiological and emotional changes, since their adaptation can alter their emotional changes, generating anxiety in them, depression and fear, and even more so if it is the first time that they are pregnant, but that these changes make pregnant women vulnerable because they can present respiratory symptoms in relation

to their immunological changes that can be decisive for the primiparous pregnant women 47 (52.8%) present high anxiety during the COVID-19 pandemic and in multiparous pregnant women 317 (57.1%) present medium anxiety during the COVID - 19 pandemic.

Being infected by COVID - 19. In <sup>[12]</sup>, they argue that during the first trimesters of pregnancy of mothers, during the COVID-19 pandemic they had a much higher rate of anxiety when this disease was not present, and that this is a factor that can sharpen the mental health of the pregnant woman.

In the results of anxiety as a state and trait, we can observe that the majority of pregnant women in both variables have a medium anxiety, so we interpret that mothers, due to the COVID-19 pandemic, not only increases the anxiety indexes that pregnant women suffer, but it is also due to the fact that some pregnant women have already presented anxiety regularly before and during their pregnancy, which makes them more vulnerable to their mental health being considerably affected, although factors such as concern about the health of the fetus or as the development of their pregnancy progresses, are factors that predispose to present highly anxiety but at the same time stress. In <sup>[8]</sup>, the author maintains that factors such as daily restrictions, social isolation, fear of being infected by an unknown disease, makes pregnant women increase their anxiety more and, at the same time, present symptoms of depression and stress.

In the results of the primiparous pregnant women, we observe that they present high anxiety, this is because as a mother who will have her first baby, she has an anxiety where to be a first time mother, the sanitary restrictions and the disease due to COVID-19, are factors that trigger high anxiety, where they considerably affect their mental health, when experiencing anxiety and symptoms of depression during their prenatal period they can continue to present these symptoms during their short and long-term postnatal period. In <sup>[13]</sup>, they argue that pregnant women who will have their first baby for the first time are the most presenting pictures of anxiety and stress, because being a mother for the first time and the disease due to COVID-19, makes their Mental health is predisposed to factors that can compromise their pregnancy.

## CONCLUSION

It is concluded that telecare should be carried out to pregnant women for their planning of their pregnancy during COVID - 19, and that pregnant women should have a high priority of care during the COVID - 19 pandemic.

It is concluded that psychological interventions are necessary for pregnant women and thus be able to help them during this stage in a safer way and without problems during the COVID-19 pandemic.

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### How to cite this article

Hernan Matta-Solis, Fanny Rimari-Miranda, Lourdes Vara-Tarazona, Lourdes Matta-Zamudio, Brian Meneses-Claudio, Rosa Perez-Siguas, 2021. Coronavirus, Pregnant, Anxiety, Mental health. Jour. of Med. P'cutical & Allied. Sci. V 10 - I 6, 1588, P- 3747 - 3750. doi: 10.22270/jmpas.V10I6.1588