

## ORIGINAL ARTICLE

# Frequency of Depression, Anxiety and Stress among Gynae Residents during Covid Pandemic

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## ABSTRACT

**Objective:** To find the frequency of depression, anxiety and stress among Gynae residents during covid pandemic.

**Methodology:** This Cross-sectional survey was carried out in different Teaching Hospitals of Khyber Pakhtunkhwa during the period of six months i.e from August 2020 to January 2021. After the ethical approval from the research committee, data was collected from Post Graduate Gynae Residents of Teaching Hospitals. Sample size for the study was 405 participants. Depression, anxiety and gross scale shorten version DASS-21 containing 21 items was standard research to use in study i.e. depression, anxiety and stress was identified on the basis of their cutoff scores i.e. normal scores were  $\geq 10$ ,  $\geq 8$  and  $\geq 15$  for depression, anxiety and stress respectively.

**Result:** In depression, 136 (34%) participants were normal followed by moderate level having frequency 121 (30.25%). In the anxiety category, 116 (29%) participants were normal followed by moderate level having frequency 101 (25.5). In the category of stress, 179 (44.75%) participants were normal followed by mild levels having frequency 106 (26.50%). Only COVID positive status was statistically significant with depression, anxiety and stress as their P-value was 0.02 less than 0.05.

**Conclusion:** Considerable number of post graduate Gynae trainees working in different tertiary care hospitals have varying degrees of depression, anxiety and stress due to COVID-19 pandemic.

**Keywords:** COVID-19, Pandemic, Post graduate, Psychological impact, Trainee doctors, Gynae residents, Mental health, Obstetrics, Gynaecology.

## INTRODUCTION

Corona virus disease 2019 or COVID-19 is caused by recently identified Corona Virus (1,2). On 12 march 2020, the World Health Organization declared the COVID outbreak as a worldwide pandemic (3).

Various psychological problems and serious threats were triggered and caused by COVID-19 pandemic. Medical doctors and healthcare professionals working in different COVID wards experienced certain psychological symptoms like depression was reported by 50.4% healthcare workers while anxiety, insomnia and distress were reported by 44.6%, 34% and 71.5% healthcare workers respectively (4).

COVID pandemic increased difficulties for healthcare workers like SARS-CoV and Middle East respiratory syndromes pandemics in the past. Increased workload during duty hours, limited supply of protective equipment like PPEs, masks etc. and fear of getting infections along with frustration and non-availability of life saving resources are certain factors maximizing psychological problems (5).

According to the results of recently done research on Healthcare workers (HCWs) are more susceptible to pandemic due to which it increases psychological distress among them (6-8). There is scarcity of evidence regarding prevalence of depression in low and middle income countries, but recently a study was done in India regarding depression in HCWs, and they reported 32.6% HCWs with

depression, which was much higher if compared with general population reporting only 10% prevalence of common menial disorders (9).

Post graduate trainee doctors during their training period mutually reported high prevalence of psychological problems like anxiety and depression. Research studies reveal 14% of early exhaustion while 12.4% resident doctors reported advanced exhaustion (10, 11). Different psychological problems like anxiety, depression, restlessness or insomnia and denial maximum due to future uncertainty of result of COVID pandemic. On post graduate trainee resident, a study was conducted reporting high prevalence i.e. 26.4%, 22.6% and 4.4% of depressive symptoms, generalized anxiety disorder and acute stress disorder (12). The most vulnerable and exposed unit reporting high incidence of COVID are Otolaryngology 21% of residents of Otolaryngology reported exhaustion and burn out in different hospitals of the United states of America (13).

The purpose of this study is to determine the psychological impact of depression, anxiety, and stress among postgraduate gynaecology residents working in various tertiary care hospitals in Pakistan, as well as the relationship between their marital status, year of training, and whether they or a family member has been infected with COVID disease. This research would focus on the most vulnerable members of the medical community.

## METHODOLOGY

This Cross-sectional survey was carried out in different Teaching Hospitals of Khyber Pakhtunkhwa during the period of six months i.e from August 2020 to January 2021. After the ethical approval from the research committee, data was collected from Post Graduate Gynae Residents of Teaching Hospitals. Sample size for the study was 405 calculated through open EPI sample size calculator with confidence interval of 95% and margin of no response 5%. Convenience sampling technique was used in study. Post graduate Gynae residents were included in the study while those who were on psychological treatment before COVID were excluded. Depression, anxiety and stress scale shorten version DASS-21 containing 21 items was standard research to use in study i.e. depression, anxiety and stress was identified on the basis of their cutoff scores i.e. normal scores were  $\geq 10$ ,  $\geq 8$  and  $\geq 15$  for depression, anxiety and stress respectively. Each item of the DASS-21 questionnaire is categorized into four categories i.e. 0 for never, 1 for sometimes, 2 for often and 3 for always. Statistical analysis of the elected data was done on SPSS version 20. Association between variables was found through chi-square test. P value of  $\leq 0.05$  was considered statistically significant. Result was shown in table and groups.

## RESULT

Calculated sample size of our study was 405 and Response rate of our study was 98.76% thus 400 Gynae residents gave response to our questionnaire distributed in different hospitals. In demographics of results, mean age of the participants were  $31.10 \pm 2.62$  years. In gender comparison, female was more i.e. 394 (98.5%) while only 6 participants were males as Gynae is priority of females in our culture. On the basis of marital status, maximum residents were married having frequency 220 (56.5%) followed by unmarried residents having frequency 170(41%) while 4 residents (1%) were divorced. On the basis of years of experience, maximum residents were in their fourth year of training i.e. 149 (37.25%) followed by 2<sup>nd</sup> year of training having frequency 112 (28%). Demographics of the study is shown in table I.

Table III: Association of Depression, Anxiety and Stress with study variables

| Variables        | Categories           | N (%)        | Depression | p-value | Anxiety | p-value | Stress | p-value |
|------------------|----------------------|--------------|------------|---------|---------|---------|--------|---------|
| Gender           | Female               | 394 (98.5%)  | 14.5       | 0.13    | 13.7    | 0.23    | 15.7   | 0.43    |
|                  | Male                 | 06 (1.5%)    | 12.2       |         | 14.2    |         | 16.4   |         |
| Marital status   | Unmarried            | 170 (42.5%)  | 12.3       | 0.98    | 10.8    | 0.14    | 14.6   | 0.62    |
|                  | Married              | 226 (56.5%)  | 12.3       |         | 12.0    |         | 14.6   |         |
|                  | Divorce              | 04 (01.0%)   | 11.8       |         | 17.1    |         | 18.1   |         |
|                  |                      |              |            |         |         |         |        |         |
| Year of training | 1 <sup>st</sup> year | 75 (18.75%)  | 12.1       | 0.80    | 11.6    | 0.72    | 14.8   | 0.48    |
|                  | 2 <sup>nd</sup> year | 112 (28.0%)  | 12.9       |         | 11.0    |         | 14.5   |         |
|                  | 3 <sup>rd</sup> year | 64 (16.0%)   | 12.4       |         | 11.1    |         | 14.9   |         |
|                  | 4 <sup>th</sup> year | 149 (37.25%) | 11.9       |         | 12.1    |         | 14.1   |         |
| COVID infection  | Yes                  | 202 (50.50%) | 12.7       | 0.18    | 11.6    | 0.34    | 14.7   | 0.02    |
|                  | No                   | 198 (49.50%) | 11.9       |         | 11.5    |         | 14.9   |         |

## DISCUSSION

As country is facing covid pandemic, not only affecting general community population but also healthcare workers both physically and mentally. Not only senior but also

Table 01: Demographics

| Variables         | Categories           | Frequency (N) | Percentage % |
|-------------------|----------------------|---------------|--------------|
| Gender            | Female               | 394           | 98.5%        |
|                   | Male                 | 06            | 1.5%         |
| Marital status    | Unmarried            | 170           | 42.5%        |
|                   | Married              | 226           | 56.5%        |
| Years of training | Divorce              | 04            | 01%          |
|                   | 1 <sup>st</sup> year | 75            | 18.75%       |
|                   | 2 <sup>nd</sup> year | 112           | 28%          |
|                   | 3 <sup>rd</sup> year | 64            | 16%          |
| COVID infection   | 4 <sup>th</sup> year | 149           | 37.25%       |
|                   | Yes                  | 202           | 50.50%       |
|                   | No                   | 198           | 49.50%       |

Table II of the study shows the frequency of depression, anxiety and stress among Gynae residents, along with their levels of normal, mild, moderate, severe and very severe. In depression, 136 (34%) participants were normal followed by moderate level having frequency 121 (30.25%). In anxiety category, 116 (29%) participants were normal followed by moderate level having frequency 101 (25.5). in category of stress, 179 (44.75%) participants were normal followed by mild levels having frequency 106 (26.50%).

Table II: Frequency of depression, anxiety and stress among post graduate Gynae-residents

|             | Depression N (%) | Anxiety N (%) | Stress N (%) |
|-------------|------------------|---------------|--------------|
| Normal      | 136 (34.0%)      | 116 (29.0%)   | 179 (44.75%) |
| Mild        | 95 (23.75%)      | 48 (12.0%)    | 106 (26.50%) |
| Moderate    | 121 (30.25%)     | 101 (25.25%)  | 102 (25.50%) |
| Severe      | 35 (8.75%)       | 82 (20.5%)    | 12 (3.0%)    |
| Very severe | 13 (3.25%)       | 53 (13.25%)   | 1 (0.25%)    |

Table III of the result shows association of depression, anxiety and stress with different variables of demographics like gender, marital status, years of training and COVID positive status. Chi square test was used to find association and COVID positive status was statistically significant with depression, anxiety and stress as their P-value was 0.02 less than 0.05.

young and junior doctors had lost their lives in this covid situation for better future.

The result of our study showed high mean DASS score of depression followed by stress and then anxiety which are  $8.17 \pm 3.30$ ,  $5.34 \pm 3.12$  and  $3.80 \pm 3.40$  respectively. In Pakistan, two studies were conducted, one

in Karachi and another one in Lahore through web-media to assess mental health of healthcare workers performing their duties directly exposed to Covid patients. According to the results of the study done in Karachi, mean score of depression, anxiety and stress was 18.2, 19.01 and 20.12 respectively while results of study in Lahore showed 6.17, 5.80 and 7.34 DASS score for depression, anxiety and stress respectively (14, 15). Another study done in China on mental health status of frontline healthcare workers using DASS score showed lower frequencies of depression, anxiety and stress as compared to our study (16).

In this study DASS-21 was used to find the frequencies of depression, anxiety and stress and results showed 177(66.8%) HCQs with depression, 198 (71.6%) with anxiety and 150 (56%) with stress respectively. In comparison of our study results with two studies done in Pakistan on doctors, the results of the study done by Sandesh et al in Karachi reported higher frequencies of depression, anxiety and depression while study done in Lahore showed lower frequencies (14, 15). Similar kind of study was conducted in Turkey showed higher frequencies of stress, anxiety and depression among general physicians i.e. 64.7%, 51.6% and 41.2% respectively (17). While study done by Lai J et. al on healthcare workers in China revealed higher frequencies of depression and anxiety related symptoms i.e. 50.4% and 44.6% respectively (17, 18).

According to the results of our study DASS symptoms didn't showed any significant association with independent variables of the study like age, gender, marital status and years of training but showed significant association with Gynae residents whose family members got infection. A study was conducted on trainee medical officers and results showed higher stress level in female trainee officers while higher level of depression and anxiety in unmarried trainee medical officers (19).

A comparative study was done by Kannampillil TG between physicians working in covid units and physicians not exposed to covid patients. Result of the study showed higher frequencies of stress, depression and anxiety among exposed physicians as compared to unexposed. Level of stress was 29.4% in exposed as compared to 18.9% in unexposed, depression was 46.3% in exposed as compared to 33.7% in unexposed while 21.6% anxiety were in exposed as compared to 14.9% in unexposed (19). Study done in Pakistan showed high burnout frequency in anesthesia and critical care units followed by Gynae and obstetrics unit (20).

The COVID-19 pandemic has a high psychological morbidity on health-care personnel all around the world, according to the literature. Stressors lurking beneath the surface must be addressed. Stress coping strategies and seminars must be organized in such a way that they are easily accessible (21). We must encourage them to embrace and employ various stress-reduction measures, as most health-care personnel were aware of the availability of institutional wellness programs and COVID emergency resources, but only 4-5 % took advantage of them (21). As a result, providing a supportive working environment and increasing incentive to engage in healthy, stress-relieving activities is critical for maximum productivity

during this pandemic. Furthermore, establishing large-scale mental health support programs for healthcare workers is critical (22, 23). Practical implementations of treatments must be ensured for improved outcomes (24).

## CONCLUSION

Significant number of post-graduate Gynae trainees have varying degree of depression, anxiety, and stress ranging from mild, moderate, severe and very severe according to DASS-21 scale

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