

Research Paper

An Objective Look at The Presence and Severity of Mental Health Issues in Indian Women in Delhi, Gujarat and Jharkhand

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ABSTRACT

The aim of this paper is to present an objective look at the presence and severity of mental health issues in Indian women, across the selected intervention districts in Delhi, Gujarat and Jharkhand in the COVID-19 era. The survey was undertaken between June 2021 and October 2022. It was largely representative of the population, as 577,239 people were taken from households of 26 districts of Delhi, Jharkhand and Gujarat. The survey population aged 15 to 65 years. 473,970 people were screened for anxiety, depression, suicidal thoughts (if scores severe on screening). Conditions which they were facing were explored by a semi structured script accompanied with PHQ4 as a screening tool. They were further provided with psychological intervention(s) in the cases where mental health challenges were reported. The overall response rate was 87.79%. This paper presents selected findings for the pattern with respect to socio-demographic differences in the female population who reported mental health problems N=19778. Our data showed us that females exhibited a prevalence rate of 8.4% versus males who exhibited a prevalence rate of 5.8% and thus we decided to have a look at whether we could observe trends in the female population. It was found that, females in the <18 group were more likely to experience severe and moderate MH issues as whole than females in other age groups. Unmarried females or females who were divorced, separated or widowed were more likely to experience severe MH issues. Females in active employment are more likely experience severe and moderate MH issues as a whole than other occupational groups.

Keywords: PHQ-4, Anxiety, Depression, Mental Health Screening, COVID

After being first discovered in Wuhan, China, in December 2019, COVID-19 quickly spread over the world, gaining the moniker of a pandemic and altering the operating procedures of all societal sectors. Although certain pandemic-related stressors affect

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almost everyone, several affected particularly women.

Effects of the COVID-19 pandemic on mental health according to gender

Female gender is substantially associated with higher self-reported levels of stress, anxiety, sadness, and post-traumatic stress symptoms, as well as a more severe total psychological impact, according to studies from China, where COVID-19 initially arose (Wang et al. 2020; Liu et al. 2020). Women are more likely to have risk factors such as chronic environmental stress, pre-existing depressive and anxiety disorders, and domestic violence, all of which are known to worsen during a pandemic (Hao et al. 2020). (Campbell 2020).

Women encountered pandemic-related stressors specific to reproductive functioning and phases in addition to impacts connected to cultural gender roles. The key factors are outlined below.

- **Pregnancy:** High vulnerability to mental health issues exists throughout the perinatal period (pregnancy and the first year after delivery). One in seven perinatal women report elevated levels of anxiety, sadness, and discomfort. Women with medically high-risk pregnancies are at significantly greater risk (Fairbrother et al. 2017).
- Due to the lack of conclusive information on the consequences of COVID-19 during pregnancy, the pandemic caused by COVID-19 for many pregnant women results in greater dread and a diminished sense of control.
- **Perinatal:** mental health issues worsen due to pressures associated to the pandemic. Scores on the Edinburgh Postnatal Depression Scale (EPDS) before and after January 20, 2020 were compared in a study of 4124 pregnant women in China. Pregnant women after that announcement had higher overall EPDS scores and more likelihood of scoring above the cut-off for probable major depression. (Wu et al 2020).
- **Postpartum:** Postpartum depression can be prevented by social support. (Pao et al. 2019). In order to relieve some of the burden of new obligations while coping with significant hormonal changes, sleep deprivation, adjustments to the family dynamic, and changes in the distribution of roles, effective postpartum social support may involve relying on family, friends, or hired professional help. This was no longer an option for many moms, who during COVID period found themselves juggling several roles with little assistance due to pandemic-related stay-at-home or shelter-in-place directives (Brooks et al. 2020).
- **Miscarriage:** Women who miscarry experience increased rates of sadness, anxiety, and posttraumatic stress symptoms in comparison to those who complete healthy pregnancies (Farren et al. 2016). More women may choose to miscarry at home during the pandemic in order to lower their chance of contracting COVID-19 in a hospital setting. Natural miscarriage takes longer, is more likely to be incomplete, and needs unanticipated surgical intervention and/or transfusions compared to surgical therapy (Nanda et al. 2012). Instead of choosing surgical intervention, some women may now endure several days of bleeding and cramping, occasionally passing foetal parts, and frequently doing so more alone and with less access to social support. This signifies a larger chance of developing later mental health issues.
- **Parenting:** Nearly 1.2 billion students were shuttered in an effort to stop the spread of the pandemic, or roughly three-fourths of all pupils in the majority of nations. The result was a high burden of parental stress, especially for mothers who traditionally shoulder most of childcare and eldercare. Many parents, especially females, reported feeling more agitated, anxious, fearful, or depressed as a result. (Wang et al. 2020).

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- **Domestic violence:** In India, a crime against women occurs every 1.7 minutes, while domestic violence against women occurs every 4.4 minutes. The number of complaints from women who were abused in their houses during the lockdown increased by 94%, according to the National Commission for Women. Since the beginning of the pandemic domestic violence has experienced a "horrifying spike," according to the United Nations (United Nations 2020).

Isolation policies are in place in many regions, preventing victims of intimate partner violence from staying with friends or family or going to a domestic violence shelter. Even getting a protective order filed might be difficult. Many people avoid seeking medical attention to reduce their chance of contracting COVID-19.

Domestic violence can lead to severe mental health issues such as PTSD, Depression and Anxiety.

METHODOLOGY

The survey was undertaken between June 2021 and October 2022. It was largely representative of the population as 577,239 people were reached from households of 26 districts of Delhi, Jharkhand and Gujarat. The survey population aged 15 to 65 years. 473,970 people were screened for anxiety, depression, suicidal thoughts (if scores severe on screening). Conditions which they were facing were explored by a semi structured script accompanied with PHQ-4 as a screening tool. 227,802 females were screened using the PHQ-4 out of which 19778 scored ≥ 3 on PHQ-4 (reported mild, moderate or severe mental health issues) and 208034 scored < 3 on PHQ-4.

Severity of mental health issues were defined by scores on PHQ4:

- PHQ-4 Scoring: Total score ranges from 0 to 12,
- None: 0-2
- Mild: 3-5
- Moderate: 6-8
- Severe: 9-12
- Anxiety sub-scale = sum of items 1 and 2 (score range: 0 to 6)
- Depression sub-scale = sum of items 3 and 4 (score range: 0 to 6)

They were further provided with psychological intervention(s) in the cases where mental health challenges were reported. The overall response rate was 87.79%. This paper presents selected findings for the pattern with respect to socio-demographic differences in the female population who reported mental health problems.

Sample size: N=19778.

Inclusion criteria

Respondents within the age range of 15-65 at the time of interview were included. Females who scored ≥ 3 on PHQ 4 were included in this data set.

Exclusion criteria:

Females who scored < 3 on PHQ 4 were excluded in this data set. Respondents above 65 years of age were excluded.

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Socio-demographic profile

The socio-demographic data of age at interview, and sex, marital status, occupation and were collected as a standard. The socioeconomic status could not be successfully elicited, in many respondents, hence cannot be used as a reliable marker in socio-demographic profile for the scope of this paper.

Analysis

Descriptive analyses were calculated by the use of SPSS Version 29.0.0.0(241). To examine data separate cross tabulations were conducted to determine Chi-square, setting statistical significance at $p < .001$.

RESULTS AND DISCUSSION

Age Group with MH category Cross Tabulation

| | | Mild | Moderate | Severe | Total |
|-------|-------|-------|----------|--------|--------|
| <18 | Count | 121 | 14 | 7 | 142 |
| | % | 85.2% | 9.9% | 4.9% | 100.0% |
| ≥60 | Count | 2625 | 173 | 31 | 2829 |
| | % | 92.8% | 6.1% | 1.1% | 100.0% |
| 18-34 | Count | 5326 | 499 | 106 | 5931 |
| | % | 89.8% | 8.4% | 1.8% | 100.0% |
| 35-59 | Count | 9300 | 837 | 186 | 10323 |
| | % | 90.1% | 8.1% | 1.8% | 100.0% |
| Total | Count | 17694 | 1702 | 382 | 19778 |
| | % | 89.5% | 8.6% | 1.9% | 100.0% |

Chi-Square Tests

| | Value | df | p-value |
|--------------------|---------|----|---------|
| Pearson Chi-Square | 629.588 | 8 | 0.000 |

The above data shows us a few interesting observations. The contribution of severe and moderate MH cases in their own age group was the highest among females <18 at 4.9% and 9.9% respectively whereas in the age group of ≥60, the proportion of severe MH cases was only 1.1%. The highest proportion of mild MH cases within their age group was for people ≥60 at 92.8%. The data presents that more people in the age group ≥60 mild MH issues whereas more people in the age group <18 experience. Females below the age of <18 were at greater odds due to the closed education system and had to stay confined at home. (Singh, 2020).

Marital Status with MH category Cross Tabulation

| | | Mild | Moderate | Severe | Total |
|-----------|-------|-------|----------|--------|--------|
| Married | Count | 13250 | 1096 | 228 | 14574 |
| | % | 90.9% | 7.5% | 1.6% | 100.0% |
| Unmarried | Count | 1256 | 218 | 52 | 1526 |
| | % | 82.3% | 14.3% | 3.4% | 100.0% |
| Others* | Count | 2804 | 321 | 75 | 3200 |
| | % | 87.6% | 10.0% | 2.3% | 100.0% |
| Total | Count | 17310 | 1635 | 355 | 19300 |
| | % | 89.7% | 8.5% | 1.8% | 100.0% |

*Others include divorced, widowed, and separated 478 people were of *unknown* marital status and their MH status was as follows: 396 Mild (83.0%), 52 Moderate (10.7%) and 30 Severe (6.3%)

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Chi-Square Tests

| | Value | df | p-value |
|--------------------|---------|----|---------|
| Pearson Chi-Square | 129.706 | 4 | 0.000 |

The observation of note here is that the contribution of severe (3.4%) and moderate (14.3%) MH cases in their own marital status groups is the highest in unmarried groups followed by severe (2.3%) and moderate (10%) MH cases in the others groups. Married people exhibited the highest proportion of mild (90.9%) MH cases in their marital group. The data suggests that unmarried people are at a greater risk of severe mental health disorders than married people.

Occupation with MH category Cross Tabulation

| | | Mild | Moderate | Severe | Total |
|------------|-------|-------|----------|--------|---------|
| Unemployed | Count | 1848 | 207 | 60 | 2115 |
| | % | 87.4% | 9.8% | 2.8% | 100.0% |
| Student | Count | 543 | 54 | 9 | 606 |
| | % | 89.6% | 8.9% | 1.5% | 100.0% |
| Employed | Count | 2036 | 282 | 30 | 2348 |
| | % | 86.7% | 12.0% | 1.3% | 100.0% |
| Homemaker | Count | 11109 | 720 | 115 | 11944 |
| | % | 93.0% | 6.0% | 1.0% | 100.0% |
| Total | Count | 15536 | 1263 | 214 | 17013** |
| | % | 91.3% | 7.4% | 1.3% | 100.0% |

**2765 people were were of unknown occupational status and their MH status was as follows: 2342 Mild (84.7%), 321 Moderate (11.6%) and 102 Severe (3.7%)

Chi-Square Tests

| | Value | df | p-value |
|--------------------|---------|----|---------|
| Pearson Chi-Square | 179.023 | 6 | 0.000 |

The observations of note here are varied. Unemployed females have the highest proportion of severe (2.8%) MH issues within their own occupational group. Employed females reported the highest proportion of moderate (12%) MH issues within their own occupational group. The highest proportion of mild (93%) MH issues within their own occupational group were reported by home-makers. Interestingly, the highest proportion of moderate and severe issues combined (13.3%) within their age group were reported by females in employment. This could be attributed to a higher burden on them with child care and domestic duties being a significant burden along with official tasks. (Wang et al. 2020.)

In comparison to a prevalence rate of 7.8% by Sagar et al., 2020, we see a prevalence rate of 8.4 % which points to an increase of the prevalence of common mental disorders in the female population overall.

Mental health services should be included into NCD preventive and control programmes, as well as children's health, adolescent health, geriatric health, and other nationwide disease management programmes. Specific programme implementation methods and guidelines for exercises, activities, human resources, finance, and evaluation should be offered to all state governments. Screening for common mental illnesses (depression, suicidal behaviour, drug use issues, etc.), wellness (through yoga and other means), and continuity of treatment / referral facilities should be an inherent component of all of these programmes. Furthermore,

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contemporary academic establishments and employment networks should be reinforced to integrate a mental health focus. Based on the findings of preliminary studies, such programmes should be launched in DMHP sites initially.

Limitations and strengths of the study

In terms of limitations, the study did not look at the prevalence rates of specific mental health concerns such as schizophrenia, personality disorders, bipolar affective disorder, and so on. The study was unable to gather and report on prevalence in the homeless population, those in jail or hostels, and the elderly subpopulation. Which may have had a little influence on the population but remained underrepresented in other areas, particularly when competent interviewers are necessary. It should be highlighted that due to the time and energy necessary, there is a global drop in answers and involvement. Despite the limitations there are various strengths to the study; first and foremost being the large data pool, which very well represents the population in question.

The time spent on the completed survey was 30 minutes, which proved to be brief and efficient, with a response rate of 87.7%. The current demographic data throws light on a much-needed investigation of the occurrence of mental health concerns in different age groups.

The study as a whole provides a picture of more in-depth investigation, as well as the possibilities of short-term actions in the near future, as well as a policy orientation.

CONCLUSION

Women reached out in earnest to be screened for MH issues once the process was spoken to them. They were willing to acknowledge the existence and severity nature of MH issues.

A few trends we noticed in the female cohort were as follows,

- Females in the <18 group were more likely to experience severe and moderate MH issues as whole than females in other age groups.
- Unmarried females or females who were divorced, separated or widowed were more likely to experience severe MH issues.
- Females in active employment are more likely experience severe and moderate MH issues as a whole than other occupational groups.

Mental health issues have been reported after a COVID-19 infection. However, comparison to prevalence in uninfected and infected individuals have not been examined in a detailed manner among both general and COVID affected populations. We identified how COVID-19 relates to mental health in the large community-based COVID Symptom Study.

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Conflict of Interest

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