

Understanding the Level of Depression among Males and Females in India: Systematic Review

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ABSTRACT

Across the world, depression is most frequently occurring psychological disorder. Approximately around 270,000,000 people in including all ages experiences depression, according to the WHO report. The supreme cause of disability is depression worldwide and is significant contributor to the overall disease burden, globally. Females are more prone towards depression than males. PubMed, Scopus, Web of Science, Embase, PsycINFO, IndMed, and Google Scholar, Lancet, Science Direct, JSTOR, WHO website was searched to spot articles based on the level of depression among females than men using screening tools. Articles included in the study were from year 2015 to 2020. Only Articles related to last 5 years were considered under this review, because of very precise systematic review. For measurement of depression and to check the level of depression in individuals DASS and HAM-D scales were used. Descriptive study design and cross-sectional study was used for findings. Depression is more prominent and often in females than male. Also, it was observed that minimum age was around 14 years and maximum was 90 years. People who were suffering from the illness, it was found depression lied from mild to moderate. Gender disparity plays a significant role in incidence of psychiatric comorbidities.

Keywords: *Depression, Prevalence, Gender Disparity*

Across the world, depression is most frequently occurring psychological disorder. Approximately around 270,000,000 people in including all ages experiences depression. The supreme cause of disability is depression worldwide and is significant contributor to the overall disease burden, globally. Females are more prone towards depression than males. In India its seen that there is a remarkable increase in case of Depression in females in other words - out of every 1 male, 2 female suffers from depression. Depression, if severe can lead to suicide. ^{[1],[7]}

Based on the severity of condition, depression is ranged from mild to severe form. A person suffering from first stage i.e., tender stage of depression will face some difficulty in doing the routine work and involving in other works but will probably not discontinue to function

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completely. During advanced stage of depression, the probability of a person who may not be able to do the routine work with the ease and with full concentration is high and also the person will find difficult in interacting with people.^[3] Depression if left untreated, may lead to vulnerable situation, where bringing back a person to normal might be impossible. For moderate and severe form of depression- counselling (psychological) and pharmacological treatment is effective.^{[1],[7]}

Depression is now-a-days shooting up and as per WHO reports- unlike other NCDs and Communicable diseases, Depression will soon be the leading cause across the world.^{[1],[7]}

Extreme cause of disease-related disability among female in the world today is Depression. Frequency of depression is high amongst females as compared to males, along with female/male risk ratios roughly 2:1. On an observation, multiple effects of biological vulnerabilities and stimulating environments experiences are higher in females in comparison with male ^{[3],[4]}

In Indian context also, Depression is the shooting up in women of all ages. It is been observed that depression is ignored and not diagnosed especially in females in country like India. reasons found were – lack of mental health professionals, inadequate awareness, stigma, under-privileged position of women, many roles, high levels of stress, and domestic violence. It is believed that women are in depression due to many factors like- stress, which thereby makes depression more prone in them.^[22]

Reviewing of the paper is all about current epidemiological research on gender and depression and also specifically, about its prevalence in female. This article basically reviews on epidemiological proofs and causes of higher cases of depression in both males and females.^{[1],[7]}

The objective of the study is to understand the level of depression among males and females in India, a systematic review.

MATERIALS AND METHODS

The procedure of the present systematic review and analysis included sources and data bases, search strategies, quality assessment of studies, and data extraction based on the instructions for the PRISMA checklist.

Source and Databases

Comprehensive searches were done from Lancet, PubMed, SCOPUS, Nature, Elsevier and Web of Science for a systemic review study of last decade.

Search strategies and criteria for selecting study

In the beginning articles were searched on depression, then next step was advance searching i.e., related to our objective so we began with key words like, “Prevalence”, “Understanding “, “Depression “and then moved on for searching mainly for prevalence mainly focussed on gender. So, articles which were similar to the objective were included in the study and Articles which contained irrelevant information or which didn’t match with the objective were excluded by reviewing and analysing.

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Total of 100 articles were referred but only 25 articles were selected and included as they best fitted according to the objective and also, they were full-texted articles. Each of the personality models presented in studies or less was not entered into the analysis. [Figure 1] Survey Conduction took place all over the cities and villages of India. All houses of the village and cities were visited. Total sample size was identified and survey was taken amongst these sample size only. After taking a proper (verbal and written) consent from the participants, 14-90 years subjects were interviewed by researcher after obtaining consent. Information on demographic characteristics which mainly included - age, sex, education, marital status, family status, Income, occupation and medical history was collected through interviewer-administered and well-designed questionnaire, but major focus given was on Gender. The depressive symptoms were assessed by using DASS- scale or HAM-D scale. But the more preference was given to the Gender and all the data was gathered from 2015-2019. The information was gained on: sex and marital status, education (illiterates, primary level, secondary, higher secondary, college, doctorate); social support (living alone, living with family, Communication with relatives or friends); occupation (professional, clerk, trader, skilled worker); Income and Nutrition. Other medical conditions were to be self-reported.^[17]

Also, for further assessment cross-sectional study was also observed for the prevalence on depression across the years from 2015 to 2019 India. HAM-D was accustomed to check the level of depression. Data was collected and analysed by Chi square test. Any subject with alcohol consumption, once in past year was considered as addicted for the aim of the study. together with this drug substance addiction, other thing that was to checked was family problem, in sense of whether currently any problem which causes worries and ultimately results in any reasonably psychological state. Also, definition of dependency was given as frequent or continuous use of any mind-altering drugs along with alcohol, substance drug abuse.^[17]

Depression was measured used DASS and HAM-D scales, to know the severity of the disease. This self-report scale consists of 14 items for depression. Each item is rated on a scale from 0 to 3 and therefore the total score being 126. A score of 0-9 is taken into account as normal, 10-13 mild depression, 14-20 moderate depression, and 21-27 severe depression and 28+ is extreme depression.^[17]

Scale of measurement choose is ordinal; Variables taken under consideration is mainly Gender and to more extent we could consider Age also.

HAM-D scale mainly covers 12 symptoms: depressed mood, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration, enjoyment, and tearfulness. Each item is scored 0 (symptom not present) or 1 (symptom present), and item scores are summed to produce a scale with a minimum score of zero and a maximum of 12. Also, ICD-10 was used in determining the prevalence.^[13] This was an observational study wherein cause and effect relationships could not be established.

The overall study style was multi-stage, stratified, random cluster sampling technique, with random choice supported likelihood Proportion to Size at every stage. A period sampling was utilized in all the state and every hand-picked state of Republic of India recognised the sampling frame, a census enumeration block delineates an urban cluster and people inside the known households fashioned the unit of study.^[24]

Assessment of Quality of Study

The quality of identified studies was assessed as per PRISMA guidelines and also as per the requirement of these Journal in which article is to be published.

Data Extraction

Data extraction took place using Microsoft Excel. Studies which were necessary and which were included were kept in tabular form. Outcome found was on the basis of evidence-based results and conclusive statements. A table was designed to record the extracted data in the form of a regular categorization for simple understanding. After applying inclusion and exclusion criteria, the data from each study were entered into the registration form. The process of data synthesis included tabulation; detailed descriptions of the findings of each study; and the organization of studies based on authors, year, and region, design, statistics, measurement tools and relevant variables, findings.

Statistical analysis

The selected seven papers were entered into the meta-analysis according to the results reported in each text. The current study assesses the cases of depression among general population of India. We observed that depression was more common among females who are illiterate, married people, people living as nuclear families, low income families and among housewives. Similarly, increased prevalence was seen in subjects with age group of 21-40 years.

RESULT

A primary search yielded 100 articles from Lancet, PubMed, SCOPUS, Nature, Elsevier and Web of Science and Google Scholar.

So Initially 100 articles were identified, but after screen them and removing duplicates 75 articles were left. Out of that 75 again Full-text articles were assessed for eligibility from which we got 55 articles and 20 articles were removed as they contained irrelevant information. Studies included in qualitative synthesis were 25. And 16 articles were included for systematic review with Quantitative synthesis. [Table -2]

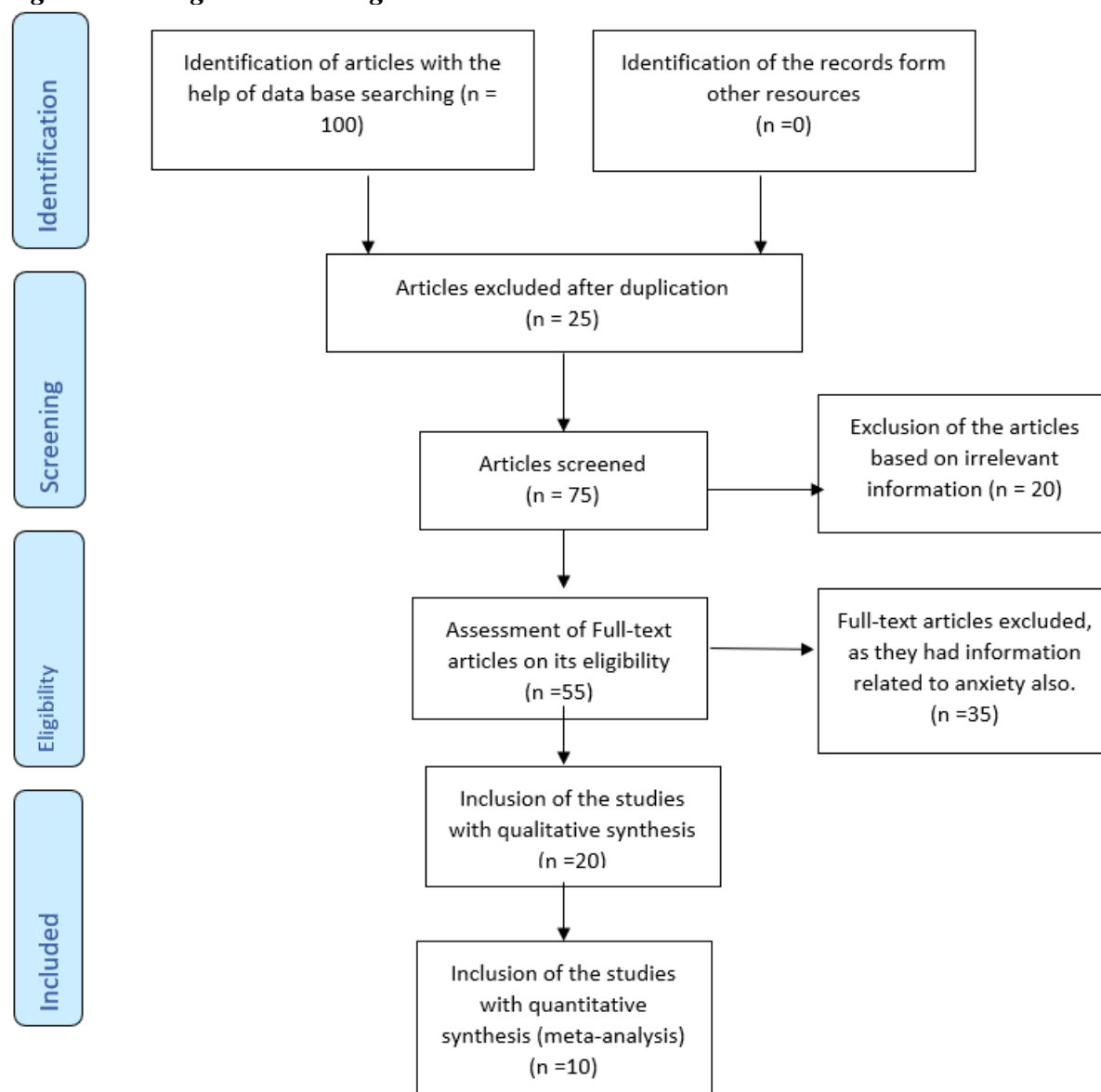
Table – 2 Basic characteristics of the studies included in the systematic review and meta-analysis.

Author	Region	Main focus of the article	Sample	N – Sample size (M- male, F- Female)	Design	Statistical Methods	Instruments	Findings
M. Guerra et.al (2015) [10]	Asian countries	Frequency of depression in low- and middle-income countries.	People with age 65 years or above over residing in urban and rural areas.	2002 (M-886, F-1116)	1 phase CS	N/A	ICD-10	Prevalence of depression in elderly keeps on changing as it is dependent on the criterion assessment pattern.
Bohra N et. al (2015) [22]	India	Depression of women in Indian context	N/A	N/A	N/A	N/A	N/A	Presence of depression is highly seen in females of India including all the ages of females. Stress is the major contributor to the depression in females as Indian women plays multiple roles. And thereby making her susceptible to depression, which is often not reported because of stigma.
Rashmi Yadav et Al (2016) [11]	Jhansi, India	Depression frequency and its associated factors amongst students in medical.	Medical students	310 (M-203, F-107)	CS	simple proportions and chi-square test	DASS	Early screening and psychiatric counselling are required in population.
Kalkidan Hassen Abate et. al [20] (2018)	India	Gender difference in frequency of depression among patient populations.	Patient population	5172 (M- 2316, F- 2856)	Observational analytical studies	Chi square and Homogeneity test	ZUNG, BDI, DSM-IV	Females are more prone to depression as compared to males.
Perkash KourGulzar (2018) [19]	Jammu and Kashmir, India	Assessing the frequency of depression in rural population of selected village of Kashmir.	Rural population of village of Kashmir, India.	276 (Male-93, F-183)	community based survey	Not specified	CES-D Scale	Depression was more common among females, illiterate, married people, people living as nuclear families, low-income families and among housewives.
Manju Pilonia et Al (2019) [13]	India	Frequency of depression in elderly patients.	Elderly patient	23778 (M-9794, F-13984)	Systemic Review	Not specific	CES-D; HAM-D	Prevalence of depression in elderly keeps on changing as it is dependent on the criterion assessment pattern.

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Author	Region	Main focus of the article	Sample	N – Sample size (M- male, F- Female)	Design	Statistical Methods	Instruments	Findings
Banavaram Anniappan Arvind et Al (2019)	India	Prevalence and socio-economic impact of depression.	Multisite population-based study	28519 (M-10302, F-18217)	CS	Not specified	DSM-IV	Most affected population are productive population. DD carries considerable socioeconomic impact at individual and family levels.
R. Sagar et. al (2020)	India	Mental Disorder burden in India: The Global Issue to Study 1990–2017	General population of India	N/A	DALY and QALY	N/A	N/A	In 2017 1 in 7 were affected by mental disorder.

Fig.1 Flow Diagram according to PRISMA Guidelines.



Minimum age of subjects was 14 years and maximum age was 90 years. Cases of depression were more common among females as compared to males. As per the statistical analysis on the basis of gender it is clearly seen that prevalence of depression is high in females than males. Majority of subjects were illiterate, most of them were married and few of them were unmarried, when comparison took place in consideration in the type of families it was found that majority of them were nuclear family and minority in joint family. Type of family also has huge impact as females are expressive but many-a-times there is no one surrounding her with whom she can share her feelings, emotions and few of them belong to single family.

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According to article and research it was found that majority belongs to low family income few of them belong to average family, Quarter of them were housewives. Maximum representation of subjects with depression was shown by the age group of 21-40 years (38.40%) followed by 20% of 41-60 years age group.

People who were suffering from depression, it was found that most of them had mild to moderate depression. Only 3 per 100 people suffered from severe depression. On comparing, it was found that 58.8119% females and 41.189% male were depressed. That means that ratio of depression in women is doubled than men. 50% females had mild to moderate depression while men suffered only 25% of it.

Age, gender, place of residence, education and household income were found to be significantly associated with present scenario of depression. Approximately 66.67% of individuals plagued by Depression varying from sever form, and also the treatment gap for depression within the study population was 79.1%. it's analysed that Ratio of Total disease burden in India is doubled since 1990.

DISCUSSION

^[4] Some specialists believe that every genders unit of measurement afflicted by depression in having no difference in numbers, however females are likely to be diagnosed with this disorder, as compared to males as they're likely to speak concerning feelings and obtain facilitate for mood issues. The triggers for depression seem to disagree, with ladies plenty of usually presenting with internalizing symptoms and men presenting with externalizing symptoms. Females, additionally expertise specific styles of depression-related to anxiety, that unit of measurement related to changes in gonad hormones and may contribute to the raised prevalence in ladies. Few reasons that unit believed to form this gender difference.

- **Hormones:** Women experience a lot more hormonal fluctuations than men. These fluctuations are linked to symptoms of depression and happen at various stages of a woman's life such as puberty and menopause. The hormonal changes that occur during menstruation are also a cause of mood alterations similar to those in depression.
- **Genes:** Based on studies of identical and fraternal twins, it has been found that women have a stronger genetic predisposition for depression. There are certain genetic mutations that are specific to women, which are associated with the development of depression.
- **Environmental factors:** Social and environmental factors also play a significant role in the gender bias. Women are more likely to suffer from stressful life-events such as child sexual abuse, domestic violence or sexual abuse in adulthood. Studies have shown that women are more likely to get depressed in response to a stressful event. Women are also more likely to become full-time caregivers to either young children or aging parents. Even though this may not cause high amounts of stress, the chronic nature of the stress can cause women to be predisposed to depression.
- Other environmental factors that can lead to symptoms of depression are poverty, single parenting, struggling to juggle job and family responsibilities, to name a few.
- **Diagnosis:** It is also perceived that women are more likely to be diagnosed with depression, leading to the gender gap. This is partly also because men are less likely to share emotional issues or seek help for mood problems. Violent behaviour and alcoholism are also factoring that disguise depression in men.

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- **Physical health:** Women are prone to hypothyroidism which is associated with depression. Lower levels of physical activity also contribute to the symptoms of depression.

Here is shown the signs and symptoms of depression.

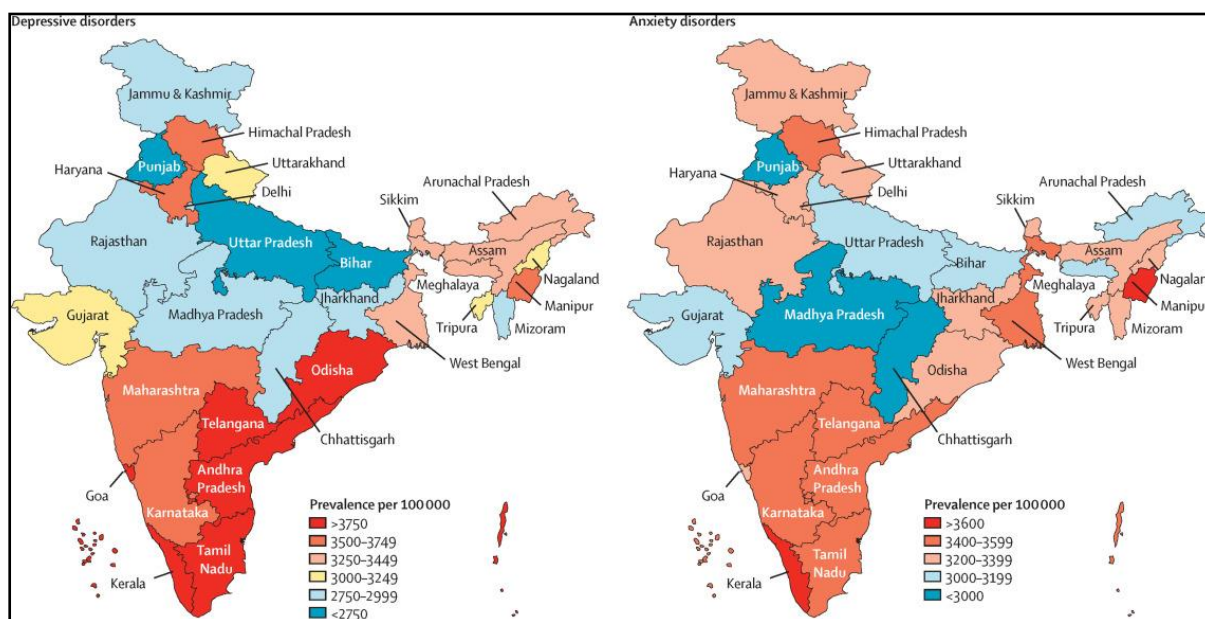


Fig.2 Describes about Prevalence per 100000 of Depression And Anxiety Disorder over country.

(Source: The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017)

[25],[26] According to mental health survey in 2016 India shows that 11% of Indian of age 18 years especially teenage girls suffers from Depression and other mental health disorders.

In 2017 reports suggest that 197 Million people suffered from Mental Health Disease and out of which 46 Million had depression and 45 Million suffered from Anxiety Disorder.

The study, which also looked at the state-wise prevalence of mental disorder, found that southern states, including Maharashtra, have higher prevalence of Depression. It is said for every 1 men ratio of depression was twice.

CONCLUSION

From all the above discussions and procedures that were performed it can be clearly stated that there is Gender discrepancy plays an important role in incidence of medical speciality comorbidities. Female adults need care who are suffering from depression in India. Relatively high prevalence of depression is observed in low income countries like India. Depression is often among females than male patients. Psychological well-being is important. Early screening and psychiatric counselling are required in population. [13] Mental health of rural population especially females of rural populations are to be kept under notice, and counselling of them should be addressed.

CS – Cross-sectional Study

ZUNG -Zung Self-Rating Depression Scale

BDI- Beck depression scale;

DSM- IV -Diagnostic and Statistical Manual of Mental illness

CES-D Scale - Centre for Epidemiologic Studies Depression

DASS - Depression Anxiety Stress Scale

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Conflict of Interest

The author(s) declared no conflict of interest.

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