Content available at: https://www.ipinnovative.com/open-access-journals

Indian Journal of Forensic and Community Medicine

Journal homepage: www.ijfcm.org

Original Research Article

A study on the prevalence of depression and the associated factors among the women in a rural area of Bihar: A cross-sectional study

Soni Rani[1], Arun Kumar Pandey[1*]

[1]Dept. of Community Medicine, Radha Devi Jageshwari Memorial Medical College & Hospital, Muzaffarpur, Bihar, India

Abstract

Background: Depressive disorder (also known as Depression) is a common mental disorder. Depression is about 50% more common among women than among men.
Objective: The aim of study was to estimate the prevalence of depression and associated socio-demographic factors in a rural area.
Materials and Methods: A community based cross sectional study was performed in 2023, among women aged more than 18 years in the rural field practice of Katihar medical college. The prevalence of depression was determined using Hamilton depression rating scale (HDRS). The total 1566 women were interviewed in their houses using a systematic random sampling method. The socio-demographic factors were recorded by using a semi structured proforma.
Results: The current prevalence of depression in study population was 3.26% and lesser education, lower socio-economic status, living separately, divorced and husband's substance abuse were predictors for depression among women.
Conclusion: In this study we conclude that high prevalence of depression was found among women residing in rural area. higher chances of being depressed was found in women with less education, women with marital issues and lower socio-economic status and mental health training and counselling is only way to improve the mental health of the women in rural area.

Keywords: Depression, Rural women, Socio-economic status, Education.

Received: 25-10-2024; **Accepted:** 19-02-2025; **Available Online**: 18-03-2025

1. Introduction

Depression is a serious mood disorder that affects social life, family relationship, career and one's sense of self-worth and purpose.

Indian are reported to be among the world's most depressed, according to WHO, with an overall prevalence of 9% and an average age of onset of 31.9 years.[1] According to National Mental Health Survey of India 2015-16, the overall weighted prevalence of depressive disorder was 2.7% for current experience and 5.3% for lifetime experience. For current experience of depressive disorder, the rated for female (3.0%) were slightly higher compared to that of males (2.3%).[1] Ample evidences shows that depression is more prevalent among females than males in India.[2,3] The lifetime prevalence of MDD is 10–25% for women, and 5–12% for men.[4]

The higher prevalence of depressive symptoms among women is associated with limited educational opportunities and poor socio-economic background.[5-7]

The mental health of women in a rural area of Katihar district is an unexplored area. The lack of authentic date makes it difficult to formulate policies to provide women with the necessary help they deserve. Hence, a cross-sectional study was designed to assess the burden of depression and to identify its socio- demographic risk factors among women aged more than 18 years residing in the field practice area of rural health training center of Katiha Medical College, Katihar, and Bihar.

*Corresponding author: Arun Kumar Pandey
Email: drarunpandey80@gmail.com

https://doi.org/10.18231/j.ijfcm.2025.006

2. Materials and Methods

2.1. Study design and setting

This is a community based cross-sectional analytical study done in the rural field practice area of Katihar Medical College. This area has a population of around 40000 and agriculture is the predominant occupation for this population. The study was done during February to September 2023, among women aged more than eighteen years.

2.2. Sampling methods

The sample size (1566) was calculated by taking prevalence of 6%,[8] confidence level 95% with a relative precision of 20% by adopting the formula:

$$n = \frac{4PQ}{d^2}$$

Where, P= prevalence rate of the disease = 6 percent.

Q= 1- P = Complement of P = 94 percent.

d= Allowable Error = 20% of P, (1.44 in this study).

To achieve the sample size, we systematically approached every 5th house to cover the entire population and only one woman from each household who is in eligible age group for this study selected randomly (if more than one was eligible and present at the time of data collection) and interviewed, after obtaining the verbal consent.

Hamilton depression rating scale (HDRS)[9] questionnaire was used for capturing the primary outcome in this study (i.e. Depression) and a semi- structured proforma was used to collect the data regarding socio-demographic profile and related factors. The HDRS (also known as the Ham-D) is the most widely depression assessment scale. The original version contains 17 items (HDRS17) pertaining to symptoms of depression experienced over the past week, For the HDRS17, a score of 0–7 is generally accepted to be within the normal range (or in clinical remission), while a score of 20 or higher (indicating at least moderate severity) is usually required for entry into a clinical trial. Data collection was done by MBBS interns posted at rural health training centre during study period after a brief training, under supervision of medical officer in-charge.

2.3. Statistical analysis

The primary outcome was the prevalence of depression among women. The association between primary outcome i.e. Depression and other socio-demographic factors were tested using Chi-square test and P< 0.05 was considered statistically significant. First data entry was done on Microsoft excel sheet and then analysis was done using Epi info 7 software.

3. Results

A total of 1566 women were interviewed and among the participants, 1035 (66.09%) were in the age group of 30 to 49 years. The current prevalence of depression among study population was 3.26%.

Table 1: Prevalence of depression according to age distribution

Age Group (Years)	Current Depression			
	Yes	%	No	%
18-29	1	1.92	51	98.08
30-39	11	2.10	515	97.90
40-49	17	3.30	492	96.70
50-59	11	3.62	293	96.38
>60	11	6.29	164	93.71
Total	51	3.26	1515	96.74
χ2- 7.79, p >0.05				

The prevalence of depression was gradually increasing with age and was higher in elderly age group (6.29%).

Table 2: Prevalence of depression according to socio-economic status

SES	Current Depression			
	Yes	%	No	%
Upper	18	2.89	604	97.11
Upper Middle	16	3.31	467	96.69
Middle	7	3.43	197	96.57
Lower Middle	6	3.85	150	96.15
Lower	4	3.96	97	96.04
Total	51	3.26	1515	96.74
χ2- 0.62, p >0.05				

The prevalence of depression was higher in respondent belonging to lower socio-economic status (3.96%).

Table 3: Prevalence of depression according to educational status

Education	Current Depression			
	Yes	%	No	%
Illiterate	14	5.81	227	94.19
Primary	13	3.25	387	96.75
Middle	13	3.18	396	96.82
High School	7	2.57	265	97.43
Intermediate	2	2.44	80	97.56
Graduate / Postgraduate	1	1.32	75	98.68
Professional	1	1.16	85	98.84
Total	51	3.26	1515	96.74
χ2- 7.42, p >0.05				

Respondent belonging to lower level of education had higher prevalence (Illiterate 5.81%, education up to primary school 3.25%).

Table 4: Prevalence of depression according to marital status

Marital Status	Current Depression			
	Yes	%	No	%
Unmarried	8	2.01	391	97.99
Married	10	1.25	792	98.75
Widow	21	7.84	247	92.16
Separated/Divorced	12	12.37	85	87.63
Total	51	3.26	1515	96.74
χ2- 55.68, p <0.0001				

Current prevalence rate among widowed/divorced/separated (20.21%) was approximately ten time as high as the prevalence among those married (1.25%) and never married (2.01%).

Table 5: Prevalence of depression according to husband's substance use

Husband's Substance Use	Current Depression			
	Yes	%	No	%
Yes	5	1.94	253	98.06
No	5	0.92	539	99.08
Total	10	1.25	792	98.75
χ2- 0.76, p >0.05				

In addition, depression among women is also an important consequence of husband's substance use which affects 1.94% of married women.

4. Discussion

Our study aimed to find the prevalence of depression and associated socio-demographic factors among the women more than eighteen years of age group. According to our study the prevalence of depression was 3.26%. Prior researches have demonstrated a higher prevalence of depression among women globally.[10-14]

This study identified the factors- having lesser years of education, living separated/widowed and lower socio-economic status as an associated factor of depression. Both CURES study and study from Vidarbha reported the same findings that people with lesser years of education, living separated/ widow and low socio-economic status had a higher chance of being depressed.[1,16]

Although depression among women and husband substance use was not a significant risk factor in our study, in a Thiruvananthapuram study substance abuse by husband identified as a significant risk factor.[17]

5. Conclusion

There is high prevalence of depression among women residing in rural area. Women with less educational status, living separated/divorced and belonging to lower socio-economic status had higher chance of being depressed. Regular counselling services at the primary care level should be available. Training regarding mental health issues at the grass-root level health workers to identify the earlier symptoms of depression, as they will be familiar person to women and will feel more comfortable.

6. Source of Funding

Nil.

7. Conflicts of Interest

There are no conflicts of interest.

References

1. Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK, et al. National Mental Health Survey of India, 2015-16: Prevalence, Patterns and Outcomes. Bengaluru: National Institute of Mental Health and Neuro Sciences; 2016. p. 150.
2. Malhotra S, Shah R. Women and mental health in India: An overview. *Indian J Psychiatry.* 2015;57(Suppl 2)S205–11.
3. Thara R, Patel V. Women's mental health. In: *Regional Health Forum.* 2001;5:24–34.
4. Rihmer Z, Angst A**.** Mood disorders: Epidemiology. In: Sadock BJ, Sadock VA**,** editors. *Comprehensive Textbook of Psychiatry.* 8th ed. Baltimore: Lippincott Williams & Wilkins; 2004.
5. Patel V, Kleinman A. Poverty and common mental disorders in developing countries. *Bull World Health Organ*. 2003;81(8):609–15.
6. Maitra S, Brault MA, Schensul SL, Schensul JJ, Nastasi BK, Verma RK, et al. An approach to mental health in low and middle income countries: a case example from urban India. *Int J Ment Health.* 2015;44(3):215–30.
7. Vindhya U. Quality of women's lives in India: Some findings from two decades of psychological research on gender. *Femin Psychol*. 2007;17(3):337–56.
8. Arvind BA, Gururaj G, Loganathan S, Amudhan S, Varghese M, Benegal V, et al. Prevalence and socioeconomic impact of depressive disorders in India: multisite population-based cross-sectional study. *BMJ Open.* 2019;9:e027250.
9. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960;23(1):56–62.
10. Girgus JS, Yang K, Ferri CV. The gender differences in depression: Are elderly women at greater risk for depression than elderly men? *Geriatrics (Basel).* 2017;2(4):35.
11. Salk RH, Hyde JS, Abramson LY. Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. *Psychol Bull*. 2017;143(8):783–822.
12. Yeung SLA, Jiang C, Cheng KK, Xu L, Zhang W, Lam TH, et al. Age at menarche and depressive symptoms in older Southern Chinese women: A Mendelian randomization study in the Guangzhou Biobank Cohort Study. *Psychiatry Res.* 2018;259:32–5.
13. Kodjebacheva, G. et al. Racial/ethnic and gender differences in the association between depressive symptoms and higher body mass index. *J Public Health (Oxf).* 2015;37(3):419–26.
14. Leach LS, Christensen H, Mackinnon AJ, Windsor TD, Butterworth P, et al. Gender differences in depression and anxiety across the adult lifespan: the role of psychosocial mediators. *Soc Psychiatry Psychiatr Epidemiol*. 2008;43(12):983–98.

15. Poongothai S, Pradeepa R, Ganesan A, Mohan V. Prevalence of depression in a large urban South Indian population—the Chennai Urban Rural Epidemiology Study (Cures–70). *PLoS One.* 2009;4(9):e7185.
16. Shidhaye R, Gangale S, Patel V. Prevalence and treatment coverage for depression: a population-based survey in Vidarbha, India. *Soc Psychiatry Psychiatr Epidemiol.* 2016;51(07):993–1003.
17. Lijin A. Prevalence and correlates of depression in ever-married women in coastal panchayat of rural Thiruvananthapuram [thesis]. Thiruvananthapuram: Achutha Menon Center for Health Science Studies; 2012. Available from: https://dspace.sctimst.ac.in/server/api/core/bitstreams/757457af-3897-430b-a1c8-7c8f7822875a/content

Cite this article: Rani S, Pandey AK. A study on the prevalence of depression and the associated factors among the women in a rural area of Bihar: A cross-sectional study. *Indian J Forensic Community Med.* 2025;12(1):36–39.