ORIGINAL ARTICLE

Prevalence of Geriatric Depression and Its Associated Risk Factors in a Rural Area of Meerut, Uttar Pradesh

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ABSTRACT

Background: Depression among older adults, an emerging public health concern in India, contributing significantly to morbidity and reduced life quality. Rural elderly populations, vulnerable due to social and medical determinants. **Aims & Objectives:** To determine the prevalence of depression among geriatric individuals in a rural area of Meerut and to identify associated risk factors. **Material & Methods:** A community-based cross-sectional study, conducted in the rural field practice area of LLRM Medical College, Meerut, during October–November 2019. Total of 121 individuals aged ≥60 years were selected through systematic house-to-house survey after random selection of one village. Depression was assessed using the Hindi version of the Geriatric Depression Scale-15 (GDS-15). Data were analyzed using Epi Info version 7.2.3.1. Chi-square test was applied. A P value <0.05 was considered statistically significant. **Results:** The prevalence of depression was 38%. Education status (P = 0.013) and religion (P = 0.046) were significantly associated with depression. Chronic conditions such as diabetes mellitus, hypertension, and coronary artery disease showed strong associations. Common symptoms included reduced activities, feelings of emptiness, and social withdrawal. **Conclusion:** A high burden of depression exists among rural elderly. Community-level screening and integration of geriatric mental health services into primary healthcare are essential.

KEYWORDS

Geriatric Depression, GDS-15, Prevalence, Elderly, Rural Health, Uttar Pradesh

INTRODUCTION

Depression is a leading cause of disability worldwide and a major contributor to global disease burden. India is undergoing rapid demographic transition, with individuals aged ≥60 years constituting over 10% of the total population. Population ageing, epidemiological transition, and sociocultural changes have increased vulnerability to chronic diseases and mental health disorders among older adults.

Depression in elderly individuals is frequently under-recognized due to atypical presentation, attribution of symptoms to ageing, and limited mental health services in rural settings. Social isolation, financial dependency, chronic illnesses, and declining functional status further increase susceptibility. The National Mental Health Survey highlights a substantial treatment gap for depressive disorders in India.

Given the growing elderly population and limited rural mental health infrastructure, estimating the burden and identifying associated determinants of geriatric depression is essential for planning community-based interventions. The present study was conducted to assess the prevalence of depression among geriatric individuals in a rural area of Meerut and to determine associated risk factors.

AIMS & OBJECTIVES

- To determine the prevalence of depression among geriatric individuals (≥60 years).
- To identify socio-demographic factors associated with geriatric depression.
- To assess the association between selected co-morbid conditions and depression.

MATERIAL & METHODS

Study Type & study design: Community-based cross-sectional study.

Study setting: Rural field practice area of the Department of Community Medicine, LLRM Medical College, Meerut, Uttar Pradesh.

Study Population: All individuals aged ≥60 years residing in the selected village for at least one year.

Sample Size Calculation: Sample size was calculated using:

$N = 4PQ / L^2$

Assuming prevalence (P) = 23%,

Q = 100 − P,

Allowable error = 7.5%.

Final sample size = 121 participants.

Sampling Technique: Among six villages, Kasimpur was selected randomly. A random starting household was

chosen, and adjacent households were surveyed systematically until sample size was achieved.

Inclusion Criteria

- Age ≥60 years
- Permanent resident (≥1 year)
- Provided written informed consent

Exclusion Criteria

- Non-residents (<6 months stay)
- Unavailable after three visits
- Refusal to consent

Strategy for Data Collection: Data were collected through house-to-house visits using a pre-tested semi-structured questionnaire. Depression was assessed using Hindi version of GDS-15. A score ≥5 was considered indicative of depression.

Ethical Approval: Approved by Institutional Ethics Committee, LLRM Medical College (Letter No. SC-1/2020/7652 dated 14 September 2020). Study adhered to Declaration of Helsinki principles. Written informed consent obtained.

Data Analysis: Data were analyzed using Epi Info version 7.2.3.1. Proportions were calculated. Chi-square test was applied. Exact P values reported. P <0.05 considered statistically significant.

RESULTS

A total of 121 elderly individuals participated. Overall prevalence of depression was 38% (46/121).

Table: 1 Association between socio demographic variables and depression.

SOCIO DEMOGRAPHIC DETAILS				
VARIABLES	**N (%)**	**DEPRESSION +VE**	**DEPRESSION -VE**	**P Value**
GENDER				
MALE	82 (67.8%)	28	54	.20349
FEMALE	39 (32.2%)	18	21	
AGE GROUP (YEARS)				
60 – 70	68(56.2%)	24	44	.064656
71 – 80	40 (33.1%)	20	20	
≥80	13 (10.7%)	02	11	
RELIGION				
Hindu	91 (75.2%)	30	61	.046277
Muslim	30 (24.8%)	16	14	
EDUCATION STATUS				
Illiterate	32 (26.4%)	19	13	.013179
Primary	73 (60.3%)	23	50	
Secondary	16 (13.2%)	04	12	
OCCUPATION				
Unemployed	29 (24 %)	10	19	.66324
Actively working	68(56.2 %)	25	43	
Retired	24(19.8 %)	11	13	
SOCIO-ECONOMIC STATUS				
Class I	3 (2.5 %)	2	1	.4784
Class II	05(4 %)	1	4	
Class III	40 (33 %)	15	25	
Class IV	32(26.5 %)	15	17	
Class V	41(34 %)	13	28	
MARITAL STATUS				
Married	107 (94.8%)	42	65	.656433
Unmarried	5 (3%)	1	04	
Widow/widower/separated	9 (2.2%)	3	06	
TYPE OF FAMILY				
Nuclear	38 (31.4%)	16	22	.530714
Joint	83 (68.6%)	30	53	
TYPE OF HOUSE				
Pukka	81 (67%)	34	47	.175516
Semi Pukka	40(30.5%)	10	27	
Kuccha	4 (2.5%)	02	01	

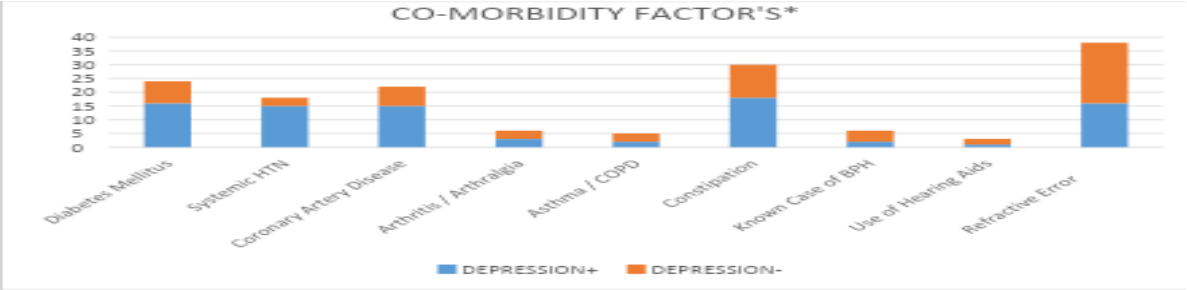
Majority were aged 60–70 years (56.2%), males (67.8%), Hindu (75.2%), married (94.8%), and literate (73.5%). Most belonged to socioeconomic Class V (34%) and joint families (68.6%).

Education status showed significant association with depression (P = 0.013), with highest prevalence among illiterates (59.3%). Religion was significantly associated (P = 0.046). Age showed borderline significance (P = 0.064).

Gender, marital status, occupation, socioeconomic status, family type, and housing type were not significantly associated.

Depression was more common among participants with diabetes (66.7%), hypertension (83.3%), coronary artery disease (68.2%), and constipation (60%).

Figure 1: No. of participants according to co-morbidities factor



Common depressive symptoms included:

- Dropping activities (73.6%)
- Social withdrawal (69.4%)
- Feeling life is empty (55.4%)
- Hopelessness (19%)

No suicidal ideation was reported.

Discussion

The prevalence of 38% observed in this study aligns with recent Indian studies reporting prevalence between 35–44%. Education status showed significant association, suggesting literacy may improve coping ability and healthcare access. Chronic illnesses demonstrated strong correlation with depression, supporting the bidirectional relationship between physical and mental health.

Although age showed borderline association, increasing prevalence in higher age groups suggests cumulative vulnerability. Gender was not significantly associated, possibly due to male predominance in the sample.

The findings emphasize the need for routine screening at primary healthcare level under National Programme for Health Care of Elderly and District Mental Health Programme.

Conclusion

A high prevalence of depression (38%) exists among rural elderly in Meerut. Education status and chronic medical conditions were significantly associated. Early screening and integration of mental health services into primary care are essential to promote healthy ageing.

Recommendation

- Routine GDS-15 screening at Health & Wellness Centres
- Strengthening DMHP outreach in rural areas
- Chronic disease management integration
- Community support groups for elderly

Limitation of the Study

Cross-sectional design; Small sample size; Single village; No multivariable regression

Relevance of the Study

Provides region-specific rural data from Western Uttar Pradesh and highlights need for integrated geriatric mental health services.

Authors Contribution

All authors have contributed equally.

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Nil

Conflict of Interest

There are no conflicts of interest.

Declaration of Generative AI and AI Assisted Technologies in the Writing Process

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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