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# Socio-demographic correlates of depression severity among elderly patients in the psychiatry outpatient department of a tertiary care teaching hospital

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**Abstract:** The global elderly population is rapidly increasing, and India has the second-largest population of elderly people. The elderly population in India has increased from 5.6% in 1961 to 7.7% in 2001. Depressive disorders are prevalent among the elderly population, with estimates ranging from 10% to 20% depending on cultural factors. Studies conducted in India have found that the point prevalence of depressive disorders among the elderly population varies between 13% and 25%. Despite India being the second-most populous country, elderly depression is not yet recognized as a public health problem. The present study aimed to investigate the prevalence of depressive features among individuals aged 60 years and above attending the psychiatric outpatient department (OPD) of a tertiary care teaching hospital. A cross-sectional design was used, and convenient sampling was employed to select a sample of 206 participants. The Beck Depression Inventory was used to assess the prevalence of depressive characteristics. The results of the study indicate that the majority of participants (56%) belonged to the age group of 66 to 70 years, and 52% were male. Hindus accounted for 68% of the participants in terms of religion. In terms of education, 28% were illiterate, and 43% had only primary education. Additionally, 49.5% of the participants were unemployed. The Depression Score revealed that 50% of the participants suffered from moderate depression, while 3.9% of the participants suffered from major depression. The results of the study indicate that depression is prevalent among the elderly population in India and is a significant public health problem that needs to be prioritized by the Indian healthcare system. Further research is needed to identify the factors contributing to the prevalence of depression among the elderly population in India. This will inform the development of effective interventions and strategies to improve mental health in the elderly population. It is essential to recognize elderly depression as a public health problem and develop appropriate policies and interventions to improve the quality of life of the elderly population in India.

**Keywords:** Elderly; Disease pattern; Psychiatric disorder; Depression.

## 1. Introduction

Depressive disorders are a significant public health problem, particularly among the elderly. The World Health Organization (WHO) estimates that the overall prevalence rate of depressive disorders in older people generally varies between 10% and 20%, depending on cultural background [1]. In India, the geriatric population, defined as those aged 60 and over, is projected to account for 18.4% of the total population by 2025 [2]. The life expectancy of an average Indian has increased from 54 years in 1981 to 64.6 years in 2002, indicating a growing need to address mental health issues in the elderly [3].

Community-based mental health studies in India have shown that the point prevalence of depressive disorders in the elderly Indian population varies between 13% and 25% [3]. This indicates that depression is a common problem among the elderly population in India. A recent review reported a wide range of estimates for mental illness in the elderly, ranging from 2.2% to 33.3% for age-specific populations [4]. Although depression is common worldwide, depression rates vary from country to country. Studies from developed

countries tend to report higher rates, while lower rates are reported in low- and middle-income countries. A population-based study in Colombo reported a lifetime prevalence of depression of 6.6% [5]. Depression rates are higher in women, divorced individuals, and those with lower socioeconomic status [6].

Although India is the second most populous country in the world, it has not yet recognized depression as a public health problem [1]. This is a worrying issue as the geriatric population is expected to constitute a significant proportion of the total population in India in the coming years. The phenomenon of population aging is already a major social and health problem in industrialized countries [2].

The Beck Depression Inventory (BDI), created by Dr. Aaron T. Beck in 1961, is a 21-question multiple-choice self-report inventory. It is commonly used to assess the severity of depressive symptoms and to monitor treatment progress [6]. A nationwide survey by the National Sample Survey Organization in India found that 45% of older people suffered from chronic diseases [7,8]. Chronic illness can contribute to the development of depressive symptoms, which is why it is important to assess both physical and mental health problems in older people.

Community-based epidemiological studies in Nepal suggest that the prevalence of depression ranges from 28% to 41%, and that of hypertension ranges from 23% to 34% [9]. This indicates a significant burden of mental and physical health problems among the elderly population in Nepal. Given the similarities in cultural and socioeconomic factors between India and Nepal, these results might also be applicable to the elderly population in India. The geriatric population is expected to constitute 18.4% of the total population in India by the year 2025 [2]. Community-based mental health studies in India have revealed that the point prevalence of depressive disorders in the elderly Indian population varies between 13% and 25% [3]. A recent review reported a wide range of estimates for mental health morbidities in the elderly, ranging from 2.2% to 33.3% for age-specific populations [4]. Although India is the second-most populated country in the world, in terms of the elderly population of 60 years and above, depression is not yet recognized as a public health problem in India [1]. By addressing the problem of depression among the elderly population, policymakers can improve the overall health and well-being of the geriatric population and promote healthy aging.

The World Health Organization has estimated that the overall prevalence rate of depressive disorders among the elderly generally varies between 10% and 20%, depending on cultural situations [1]. The life expectancy of an average Indian has increased from 54 years in 1981 to 64.6 years in 2002 [3]. The geriatric population is defined as the population aged 60 years and above, and is expected to constitute 10.2% of the total world population by 2025. The phenomenon of population aging is already a major social and health problem in developed countries [2].

The Beck Depression Inventory (BDI), created by Dr. Aaron T. Beck in 1961, is a 21-question multiple-choice self-report inventory [6]. A nationwide survey conducted by the National Sample Survey Organization in India found that 45% of the elderly population suffered from chronic diseases [7]. Lifetime prevalence of depression varies across countries. Studies from developed countries tend to report higher rates, while lower rates are reported in lower- and middle-income countries. A population-based study in Colombo reported a lifetime prevalence of depression of 6.6% [8]. Rates of depression are higher in females, persons who are divorced, and those of lower socioeconomic status [8]. Therefore, this study aimed to assess the socio-demographic profile and depression among the elderly population attending psychiatric outpatient departments (OPDs) in a tertiary care hospital.

## 2. Materials and methods

The current study aimed to investigate the prevalence of depressive features in elderly individuals aged 60 years and above attending psychiatric OPD at a tertiary care teaching hospital. The study utilized a cross-sectional design and convenient sampling (duration method of 6 months) was used to select a total sample of 206 participants. Informed consent was obtained from all participants prior to the study.

The socio-demographic parameters such as age, sex, education, occupation, socioeconomic status, and marital status were noted. Only elderly individuals who were willing to participate in the study were included, while those who were severely ill were excluded.

The basic socio-demographic data was collected from the participants, and the prevalence of depressive features was assessed using Beck's Depression Inventory (BDI). A BDI score of less than 10 was indicative of

depressive disorder. The collected data was analyzed, and the results were presented as the percentage of elderly patients with various diseases.

### Depression

Depression means feeling low and it is a state of low mood as well as aversion to the activities that can affect person's thoughts [5].

### 3. Results

Table 1 reveals that the majority of study participants (55.9%) belonged to the age group of 66 to 70, while 28% and 16% were between 60 to 65 and 71 and older, respectively. Of the total sample, 52% were male and 48% were female. In terms of religion, 68% were Hindu, 18% belonged to other religions, and 14% were Muslim. About 28% of the participants were illiterate and 43% had completed primary school. Among the participants, 49.5% were unemployed, 35.9% were manual workers, and 14.6% were state pensioners. The majority of the participants (57%) were widowed, and 72% lived in joint families. In terms of socioeconomic status, 34% of the participants were in the upper-middle class, 36% were in the middle class, and 30% were in the lower-middle class.

**Table 1.** 1 Socio-demographic features of the subjects

Distribution	N=206	(%)
Age distribution (Years)		
60-65	58	28.1
66-70	115	55.9
71 and above	33	16
Sex Distribution		
Male	107	51.9
Female	99	48.1
Religion distribution		
Hindu	140	67.96
Muslim	29	14.08
Others	37	17.96
Educational status		
Illiterate	57	27.7
Primary Education	89	43.2
Secondary Education	29	14.1
Higher secondary Education	04	1.9
Graduate	27	13.1
Occupation		
Unemployed	102	49.5
Labourer	74	35.9
Govt. Pensioner	30	14.6
Marital status		
Married	89	43.2
Widowed	117	56.8
Type of family		
Nuclear	58	28.2
Joint	148	71.8
Socioeconomic status		
Upper class	00	00
Higher Middle	70	34
Middle	74	36
Lower Middle	62	30
Lower class	00	00

Table 2 demonstrates that the majority of study participants, approximately 50%, were classified as having moderate depression using the Beck's Depression Inventory Score. Additionally, 35%, 11%, and 4%

of participants were classified as having borderline clinical depression, mild mood disorders, and severe depression, respectively. Remarkably, this study did not report any cases of people classified as normally or extremely depressed.

Table 3 presents that of all study participants with mild mood disorder to borderline clinical depression, approximately 64% belonged to the upper-middle class socioeconomic status, 12% belonged to the middle class, and 24% belonged to the lower-middle class. While of all study participants with moderate to severe depression, 57% belonged to the middle class socioeconomic status, 35% belonged to the lower-middle class, and only 8% belonged to the upper-middle class. The association between socioeconomic status and the Beck's Depression Inventory Score was found to be statistically significant (p-value < 0.001).

**Table 2.** Distribution of study participants according to Beck's Depression Inventory score

BDI score	Interpretation	Number	Percentage
1-10	Normal	00	00
11-16	Mild mood disturbance	23	11.2
17-20	Borderline clinical depression	72	34.9
21-30	Moderate depression	103	50
31-40	Severe depression	8	3.9
Above 40	Extreme depression	00	00

**Table 3.** Association between Socio economic status & Beck's Depression Inventory score

Beck's Depression Inventory Score	Socio-economic status			Total
	Higher middle class	Middle class	Lower Middle Class	
Mild Mood Disturbances + Borderline Clinical Depression	61 (64.2)	11 (11.6)	23 (24.2)	95
Moderate Depression + Sever Depression	9 (8.1)	63 (56.8)	39 (35.1)	111
Total	70 (34)	74 (36)	62 (30)	206 (100)

( $\chi^2 = 39.685$ , p-value < 0.001)

#### 4. Discussion

The majority of study participants (55.9%) were in the age group of 66 to 70 years, which is consistent with the findings of a previous study by Nautiyal *et al.* [10], where 58.75% of geriatric subjects were in the 60-69 age group. The present study found that based on the Beck's Depression Inventory Score, 50% of study participants had moderate depression, while 35%, 11%, and 3.9% had borderline clinical depression, mild mood disorders, and major depression, respectively. In contrast, Nautiyal *et al.* [10] found that 70% of subjects were normal, 27.11% had mild depression, and 2.82% had major depression. The difference in findings could be attributed to the fact that the present study was conducted in a psychiatric outpatient department, while the previous study was conducted through door-to-door interviews using the Geriatric Depression Scale (GDS).

More than 90% of the study participants suffered from depression, which is higher than the overall prevalence of depression (45%) reported by Goel [2], although Goel found that depression increased with age (p-value = 0.009). The study by Akhatar *et al.* [11] found that 61.4% (95% CI: 57.6-65.1%) of 678 study participants screened positive for depression. Bodhare *et al.* [3] reported that 15.8% of the total sample met criteria for major depression, while 28.9% met criteria for mild depression. In terms of depression severity, 17.9% of study participants reported moderate depression, 14.2% reported moderate depression, and 1.1% reported severe depression.

About 66% of subjects with mild mood disorders and borderline clinical depression were in the upper-middle socioeconomic class, while more than 80% of study participants with moderate-to-severe depression were in the middle or lower-middle socioeconomic class. The association between socioeconomic status and the Beck's Depression Inventory score was found to be statistically significant (p-value < 0.001).

## 5. Conclusion

In this study, the majority of participants were in the age range of 66 to 70 years, male, and of Hindu religion. Most participants had primary education or were illiterate. The participants were predominantly unemployed and belonged to the middle or upper-middle socioeconomic class. Based on the Beck's Depression Inventory score, a majority of the participants exhibited moderate depression, followed by borderline clinical depression. Additionally, there was a statistically significant association (p-value <0.001) between socioeconomic status and the Beck's Depression Inventory score, indicating that socioeconomic status played a crucial role in the development of depression among the elderly.

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**Conflicts of Interest:** "Authors declare no conflict of interests."

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