Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Psychiatry

Unveiling the Sociodemographic Profile of Major Depressive Disorder in a Tertiary Care Setting

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DOI: https://doi.org/10.36347/sjams.2026.v14i07.003 | **Received:** 10.05.2026 | **Accepted:** 23.06.2026 | **Published:** 09.07.2026

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Abstract **Original Research Article**

Background: Major Depressive Disorder (MDD) is a major global health problem causing disability and reduced quality of life. It affects millions worldwide, with higher burden in low- and middle-income countries like Bangladesh due to limited mental health services and stigma. Sociodemographic factors such as age, gender, education, occupation, and residence significantly influence its occurrence and severity. This study explores the sociodemographic profile and clinical severity of MDD patients in a tertiary care setting. ***Objectives:*** To assess sociodemographic characteristics and clinical severity of Major Depressive Disorder patients attending a tertiary care hospital. ***Methods:*** This hospital-based cross-sectional study was conducted at Sylhet MAG Osmani Medical College Hospital from September 2018 to July 2019 among 68 MDD patients. Data were collected using a structured questionnaire and DASS depression scale through face-to- face interviews. Sociodemographic and clinical information was recorded. SPSS version 18 was used for analysis with descriptive statistics and Chi-square test. Ethical approval and informed consent were obtained, ensuring confidentiality and voluntary participation. ***Result:*** A total of 68 patients were included, with a mean age of 33.5 ± 7.98 years. Most were aged 31–40 years (45.6%) and 21–30 years (38.2%). Housewives were the largest occupational group (48.5%). Urban residents predominated (67.6%). Most had primary education (42.6%) and middle income (44.1%). Extremely severe depression was most common (57.4%). Among all subgroups, over half consistently showed extremely severe depression, and 48.5% had no prior treatment history. ***Conclusion:*** MDD predominantly affects young adults, especially housewives and unemployed, with severe illness and significant treatment gaps in care-seeking behavior.

Keywords: Major Depressive Disorder, sociodemographic profile, depression severity, DASS scale.

INTRODUCTION

Major Depressive Disorder (MDD) is a leading cause of disability worldwide and represents a major public health concern due to its high prevalence, chronicity, and impact on quality of life. [1] According to recent global estimates, depression affects more than 280 million people, contributing substantially to the global burden of disease.[2] In low- and middle-income countries, including Bangladesh, the burden is further exacerbated by limited access to mental health services, social stigma, and delayed diagnosis.[3] MDD is a multifactorial disorder influenced by biological, psychological, and social determinants. Among these, sociodemographic factors such as age, gender, education, occupation, income, and place of residence play a significant role in the onset, severity, and progression of the disorder. [4] Previous studies have shown that depression is more prevalent among young and middle-aged adults, particularly those experiencing socioeconomic stressors.[5] Similarly, individuals with lower educational attainment and unstable employment are at higher risk of developing depressive symptoms.[6] Urbanization and changing lifestyles have also been linked to increased rates of depression, with urban residents often experiencing higher stress levels compared to their rural counterparts.[7] Moreover, gender differences have been widely reported, with females generally exhibiting higher rates of depression due to a combination of hormonal, social, and cultural factors.[8] Understanding these sociodemographic variations is essential for identifying vulnerable populations and designing targeted interventions. In

clinical settings, patients often present with varying degrees of severity, ranging from mild to extremely severe depression. Early identification of severe cases is crucial, as untreated depression can lead to significant morbidity, impaired functioning, and increased risk of suicide.[9] The use of standardized tools such as the Depression Anxiety Stress Scale (DASS) has improved the assessment and classification of depression severity in both research and clinical practice.[10] Despite the growing recognition of depression as a major health issue, there remains a lack of comprehensive data on the sociodemographic profile of patients with MDD in tertiary care settings in Bangladesh. [11] Most existing studies are limited in scope or focus primarily on community-based samples, leaving a gap in hospital-based evidence.[12] Such data are essential for healthcare planning and resource allocation. Therefore, this study aims to unveil the sociodemographic characteristics and clinical severity of patients with Major Depressive Disorder attending a tertiary care hospital. By identifying key patterns and associations, the findings may contribute to improved understanding, early detection, and better management strategies for depression in similar settings.[13-15]

OBJECTIVES OF THE STUDY

General Objective: To assess the sociodemographic profile and clinical severity of patients with Major Depressive Disorder attending a tertiary care hospital.

Specific Objectives:

- To determine the age distribution of patients with Major Depressive Disorder.
- To identify the occupational status of the study participants.
- To assess the residential distribution (urban vs rural) of the patients.
- To evaluate the educational status of patients with Major Depressive Disorder.

METHOD AND MATERIALS

Study Design:

This was a hospital-based cross-sectional descriptive study conducted at Sylhet MAG Osmani Medical College Hospital over a period of 11 months from September 2018 to July 2019. The study population consisted of 68 patients diagnosed with Major Depressive Disorder (MDD) who attended the outpatient and inpatient departments of the study center during the study period. The objective was to evaluate the sociodemographic profile and clinical severity distribution among these patients.

Data Collection and Study Procedure:

Data were collected using a pre-structured and pre- tested questionnaire through face-to-face interviews with the patients after obtaining informed consent. Sociodemographic information such as age, occupation, education, income, and residence was recorded. Clinical assessment of depression severity was performed using the Depression subscale of the DASS (Depression Anxiety Stress Scale). Relevant clinical history, including treatment status and drug history, was also documented. All collected data were checked daily for completeness and accuracy before entry into the database.

Inclusion Criteria:

Patients were included in the study if they were clinically diagnosed with Major Depressive Disorder (MDD) by a qualified physician or psychiatrist, aged 18 years and above, and willing to participate in the study by providing informed consent. Both newly diagnosed and previously diagnosed patients attending the hospital during the study period were considered eligible.

Exclusion Criteria:

Patients were excluded if they had severe cognitive impairment, were unable to communicate effectively, or had comorbid severe psychiatric disorders such as schizophrenia or bipolar disorder that could interfere with assessment. Additionally, patients who refused to give consent or had incomplete data were excluded from the study.

Statistical Analysis:

All collected data were entered, cleaned, and analyzed using Statistical Package for Social Sciences (SPSS), version 18. Descriptive statistics were presented as frequency, percentage, mean, and standard deviation where appropriate. Analytical statistics were performed using the Chi-square test to assess associations between categorical variables. A p-value of <0.05 was considered statistically significant.

Ethical Consideration:

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Sylhet MAG Osmani Medical College. Written informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity of patient information were strictly maintained throughout the study. Participants were assured that their involvement was voluntary and that they could withdraw from the study at any time without any impact on their treatment.

RESULT

Table 1: Baseline Sociodemographic Profile of Patients with Major Depressive Disorder (n = 68)

Variable	Category	n	%
Age (years)	≤20	1	1.5
	21–30	26	38.2
	31–40	31	45.6
	41–50	8	11.8
	>50	2	2.9
Mean ± SD		33.5 ± 7.98	
Occupation	Housewife	33	48.5
	Service	10	14.7
	Business	10	14.7
	Unemployed	11	16.2
	Student	4	5.9
Residence	Urban	46	67.6
	Rural	22	32.4
Religion	Islam	63	92.6
	Hindu	5	7.4

Table 1 shows a total of 68 patients were included in the study. The mean age of the participants was 33.5 ± 7.98 years, with the majority belonging to the 31–40 years age group (31 patients, 45.6%), followed by 21–30 years (26 patients, 38.2%). Only 1 patient (1.5%) was aged ≤20 years, while 2 patients (2.9%) were above 50 years. In terms of occupation, housewives constituted the largest group (33 patients, 48.5%), followed by unemployed individuals (11, 16.2%), service holders (10, 14.7%), and businesspersons (10, 14.7%), while students accounted for 4 patients (5.9%). The majority of participants were from urban areas (46 patients, 67.6%), whereas 22 patients (32.4%) were from rural areas. Regarding religion, 63 patients (92.6%) were Muslim and 5 patients (7.4%) were Hindu.

Table 2: Educational and Economic Status of the Study Population (n = 68)

Variable	Category	n	%
Education	Illiterate	5	7.4
	Primary	29	42.6
	Secondary	20	29.4
	≥Higher Secondary	14	20.6
Monthly Income	Low	22	32.4
	Middle	30	44.1
	High	15	22.1
	Missing	1	1.5

Table 2 presents regarding educational status, the largest proportion of patients had primary education (29 patients, 42.6%), followed by secondary education (20 patients, 29.4%). A total of 14 patients (20.6%) had education at or above higher secondary level, while 5 patients (7.4%) were illiterate. In terms of monthly income, 30 patients (44.1%) belonged to the middle-income group, followed by 22 patients (32.4%) in the low-income group and 15 patients (22.1%) in the high-income group. Income data was missing for 1 patient (1.5%).

Table 3: Clinical Severity Distribution of Depression (DASS Score) (n = 68)

Severity Level	n	%	P-value
Mild	3	4.4	<0.001
Moderate	13	19.1	
Severe	13	19.1	
Extremely Severe	39	57.4	

Table 3 shows assessment of depression severity revealed that the majority of patients were suffering from extremely severe depression (39 patients, 57.4%). Both moderate and severe depression were observed in 13 patients each (19.1%), while only 3 patients (4.4%) had mild depression. This indicates that

most patients presented with advanced stages of the disorder.

Table 4: Age Group and Severity of Depression (Cross-tabulation) (n = 68)

Age Group	Mild n (%)	Moderate n (%)	Severe n (%)	Extremely Severe n (%)	Total
≤20	0	0	0	1 (100)	1
21–30	1 (3.8)	6 (23.1)	5 (19.2)	14 (53.8)	26
31–40	2 (6.5)	5 (16.1)	6 (19.4)	18 (58.1)	31
41–50	0	2 (25.0)	2 (25.0)	4 (50.0)	8
>50	0	0	0	2 (100)	2

Table 4 shows in the 21–30 years age group (n = 26), 14 patients (53.8%) had extremely severe depression, while 6 (23.1%) had moderate and 5 (19.2%) had severe depression. Among patients aged 31– 40 years (n = 31), 18 patients (58.1%) had extremely severe depression, followed by 6 (19.4%) severe and 5 (16.1%) moderate cases. In the 41–50 years group (n = 8), 4 patients (50.0%) had extremely severe depression. Both patients aged >50 years (n = 2) had extremely severe depression (100%). The only patient aged ≤20 years also had extremely severe depression. Overall, extremely severe depression predominated across all age groups.

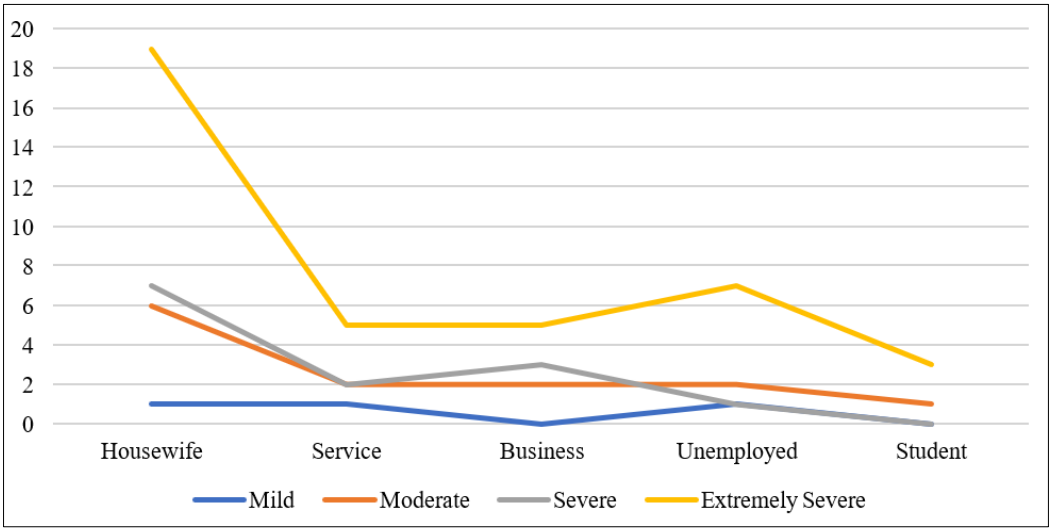

Figure 1: Occupation and Severity of Depression

Figure 1 shows among housewives (n = 33), 19 patients (57.6%) had extremely severe depression, followed by 7 (21.2%) severe and 6 (18.2%) moderate cases. In the unemployed group (n = 11), 7 patients (63.6%) had extremely severe depression. Among service holders (n = 10), 5 (50.0%) had extremely severe depression. Similarly, in the business group (n = 10), 5 patients (50.0%) had extremely severe depression. Among students (n = 4), 3 patients (75.0%) had extremely severe depression.

Table 5: Residence and Severity of Depression (n = 68)

Residence	Mild	Moderate	Severe	Extremely Severe	Total
Urban	2	9	8	27	46
Rural	1	4	5	12	22

Table 5 illustrates among urban residents (n = 46), 27 patients (58.7%) had extremely severe depression, while 9 (19.6%) had moderate and 8 (17.4%) had severe depression. In contrast, among rural residents (n = 22), 12 patients (54.5%) had extremely severe depression, followed by 5 (22.7%) severe and 4 (18.2%) moderate cases. Mild depression was observed in 2 urban (4.3%) and 1 rural patient (4.5%).

Table 6: Educational Status and Severity of Depression (n = 68)

Education	Mild	Moderate	Severe	Extremely Severe	Total
Illiterate	0	1	1	3	5
Primary	1	6	6	16	29
Secondary	1	4	4	11	20

≥Higher Secondary	1	2	2	9	14

Table 6 shows among illiterate patients (n = 5), 3 (60.0%) had extremely severe depression. In the primary education group (n = 29), 16 patients (55.2%) had extremely severe depression, followed by 6 (20.7%) moderate and 6 (20.7%) severe cases. Among patients with secondary education (n = 20), 11 (55.0%) had extremely severe depression. Similarly, among those with higher secondary or above education (n = 14), 9 patients (64.3%) had extremely severe depression.

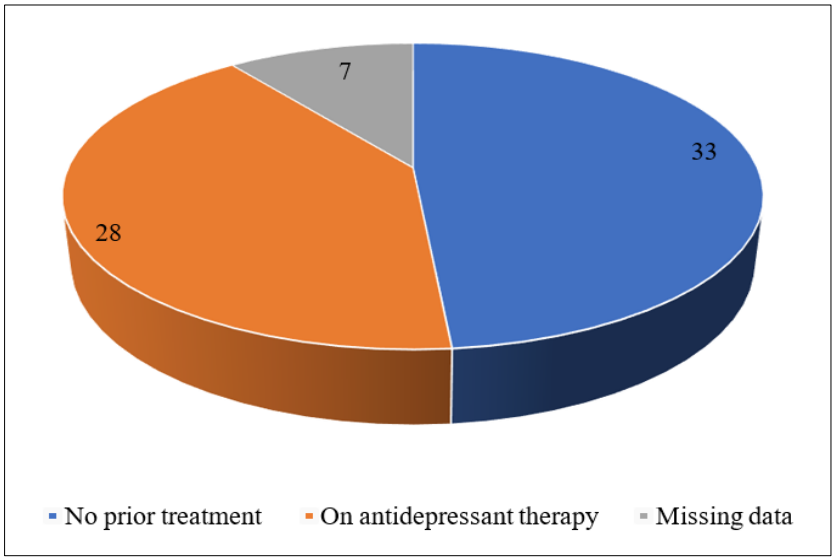

Figure 2: Treatment History of Patients

Figure 2 presents out of 68 patients, 33 patients (48.5%) had no prior treatment history, indicating a large proportion of untreated cases. A total of 28 patients (41.2%) were receiving antidepressant therapy at the time of assessment. Treatment data was missing for 7 patients (10.3%).

DISCUSSION

A total of 68 patients with Major Depressive Disorder (MDD) were included in the present study. The mean age of the participants was 33.5 ± 7.98 years, with the majority belonging to the 31–40 years age group (31 patients, 45.6%), followed by the 21–30 years group (26 patients, 38.2%). This finding is consistent with a study by Zhang *et al.,* (2019), which reported that the age group of 45-59 years showed a significantly higher odds of MDD (OR = 3.206, 95% CI: 1.693-6.072) in the general adult population. [16] The predominance of younger to middle-aged adults in the present study suggests that MDD commonly affects individuals during their economically productive years, which has significant implications for workplace productivity and socioeconomic burden. In terms of occupation, housewives constituted the largest group (33 patients, 48.5%), followed by unemployed individuals (11, 16.2%). A study by Zhang *et al.,*(2019) found that employment status was significantly associated with MDD (P = 0.010, OR = 2.305, 95% CI: 1.220-4.353), indicating that occupational factors play a crucial role in the manifestation of depressive disorders.[16] The high proportion of housewives and unemployed individuals in the current study population may reflect the psychological stressors associated with financial dependency, lack of social recognition, and limited occupational engagement. Regarding residential distribution, the majority of participants were from urban areas (46 patients, 67.6%), whereas 22 patients (32.4%) were from rural areas. A study by Stewart *et al.,*(2023) reported that people living in urban and rural municipalities have a similar need for mental health treatment, and access to care may explain occasional rural- urban differences in rates of psychiatric disorders.[17] The predominance of lower education levels in the present study cohort suggests that limited educational attainment may be a vulnerability factor for developing MDD, possibly due to reduced health literacy, limited coping strategies, and lower socioeconomic opportunities. In terms of monthly income, 30 patients (44.1%) belonged to the middle-income group, followed by 22 patients (32.4%) in the low-income group. A study by Das *et al.,* (2023) found that lower socioeconomic status was significantly associated with the diagnosis of MDD in patients with chronic kidney disease undergoing hemodialysis. [18] The high proportion of low to middle-income individuals in the present study underscores the strong association between MDD and lower socioeconomic status, which may be mediated by financial stress, limited access to healthcare resources, and reduced social support networks. Regarding religion, 63 patients (92.6%) were Muslim and 5 patients (7.4%) were Hindu. The predominance of extremely severe depression in the

present study is consistent with tertiary care settings, where patients typically present with more advanced illness stages. This finding highlights the need for early detection and intervention strategies at primary healthcare levels. In the 21–30 years age group (n = 26), 14 patients (53.8%) had extremely severe depression. Among patients aged 31–40 years (n = 31), 18 patients (58.1%) had extremely severe depression. Among housewives (n = 33), 19 patients (57.6%) had extremely severe depression. A study by Altamura *et al.,* (2008) reported that a longer duration of untreated illness was associated with an earlier age at onset (P = 0.006) and a higher total number of depressive episodes before first antidepressant treatment (P < 0.03). [19] The high severity across all age groups and occupations in the present study suggests delayed treatment-seeking behavior, which may contribute to illness progression and chronicity. Among urban residents (n = 46), 27 patients (58.7%) had extremely severe depression, while among rural residents (n = 22), 12 patients (54.5%) had extremely severe depression. A study by dos Santos *et al.,* (2022) found that the presence of any mental disorder was highest in tertiary care facilities (62.5%) compared to primary care settings (48.4%). [20] The similarly high severity in both urban and rural patients in the present study reflects the tertiary care setting, where patients are typically referred for specialized management of severe psychiatric conditions regardless of their residential background. Out of 68 patients, 33 patients (48.5%) had no prior treatment history, indicating a large proportion of untreated cases, while 28 patients (41.2%) were receiving antidepressant therapy at the time of assessment. A study by Wang (2004) reported that in a 6-year follow-up period, 49.8% of participants with treated depression developed subsequent major depressive episodes, while 28.7% of those with untreated depression reported major depressive episodes.[21]

Limitations of the study:

The present study has some limitations that must be acknowledged. The sample size was relatively small and drawn from a single tertiary care center, which limits the generalizability of findings to the broader population of MDD patients. A marked gender imbalance was observed, which does not reflect the true population prevalence of MDD and likely represents gender-based treatment-seeking bias rather than actual disease distribution.

CONCLUSION

This study successfully unveiled the sociodemographic profile of Major Depressive Disorder (MDD) in a tertiary care setting. The findings reveal that MDD predominantly affects young to middle-aged adults, with a notable predominance of housewives and unemployed individuals, suggesting that occupational and economic factors play a significant role in the manifestation of depression. A striking observation was that the majority of patients presented with extremely severe depression, yet nearly half had no prior treatment history, indicating substantial delays in help-seeking behavior.

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