Psychiatric Morbidity among Geriatric Patients Attending Psychiatric OPD of a Tertiary Care Hospital

Mohammad Tariqul Alam[1], Nadia Afroz[2], Md. Abdullah Al Mamun[3], Taiyeb Ibna Zahangir[4], Anika Basharat[5], Mohammad Shahadath Hossain[6], Ahsan Uddin Ahmed[7], Ahsan Aziz Sarkar[8]

[1]Professor (cc) of Psychiatry, Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [2]Registrar (Psychiatry), Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [3]Registrar (Psychiatry), Geriatric & Organic Psychiatry Department, National Institute of Mental Health, Dhaka, Bangladesh; [4]Assistant Professor (Psychiatry), Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [5]Assistant Registrar (Psychiatry), Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [6]Assistant Registrar (Psychiatry), Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [7]Associate Professor (Psychiatry), Department of Geriatric & Organic Psychiatry, National Institute of Mental Health, Dhaka, Bangladesh; [8]Assistant Professor, Department of Psychiatry, Pabna Mental Hospital, Pabna, Bangladesh

Abstract

Background: The global elderly population is rapidly increasing, with Bangladesh's elderly demographic expected to rise significantly. **Objective:** This study explored pattern of psychiatric disorders and associated sociodemographic factors among elderly patients in a psychiatric hospital OPD setting, aiming to inform targeted management strategies. **Methodology:** This cross-sectional descriptive study was conducted at the National Institute of Mental Health's geriatric outpatient clinic in Dhaka, Bangladesh, from February to April 2024. A sample of 260 elderly patients aged 60 and above was selected using simple random sampling. Data collection involved a semi-structured questionnaire, the Mini International Neuropsychiatric Interview (M.I.N.I) for diagnosing psychiatric disorders, and the Bangla Mini-Mental State Examination (MMSE) for assessing cognitive function. **Results:** Sleep problems (25.8%) and low mood (20.4%) were the most frequent complaints, followed by elevated mood (17.3%), and anxiety, worry, or apprehension (16.2%). Among the patients 94.6% had one or more psychiatric disorders. The most common psychiatric disorders were schizophrenia spectrum disorders (28.8%) and major depressive disorder (25.8%). Significant associations were found between psychiatric disorders and age, occupation, family type, and physical illness. **Conclusions:** The study reveals a high prevalence of psychiatric disorders among elderly patients, highlighting the need for targeted mental health interventions. *[Journal of National Institute of Neurosciences Bangladesh, January 2025;11(1):41-46]*

Keywords: Elderly; Psychiatric Disorders; Cognitive Function; Sociodemographic Factors

Introduction

The global elderly population is expanding due to increased life expectancy and improved lifestyles and it is estimated that from 2025 to 2050, the world's elderly population is projected to double, from one billion to two billion[1-2]. In Bangladesh, the 2022 Population and Housing Census reported around 15 million people aged 60 years or older, comprising 9.28% of the total population and with rapid aging, this proportion is expected to reach 18% by 2050[3-4]. The growing elderly population faces various physical and psychological challenges, including progressive loss of functional capacity and cognitive decline, which impose significant burdens on families and society[5].

Throughout life, individuals experience various physical and mental changes, with psychological disorders manifesting differently at each stage[6]. Although mental illness is more common among the elderly, its symptoms are sometimes misinterpreted as part of the aging process, or obscured by physical illness, leading to delayed seeking of mental health services[7-8]. Contributing factors such as lack of awareness, negligence, poverty,

family abuse, the breakdown of extended family structures, age discrimination, excessive concern about physical health, and loss of family support often lead to these disorders being overlooked[9-10].

In Bangladesh context, comprehensive data on geriatric disorders is limited. This hospital OPD-based descriptive study aimed to explore the types of psychiatric disorders in the elderly and the associated sociodemographic factors. In addition, we measured the cognitive function of elderly patients seeking psychiatric care. Given the distinct management needs of this age group, including drug selection, dosing, and consideration of comorbidities, the study sought to provide a clearer understanding of the psychiatric morbidity among the elderly. This knowledge will inform the development of targeted strategies for managing and supporting this vulnerable population.

Methodology

Study Settings and Population: This cross-sectional descriptive study was conducted at the National Institute of Mental Health (NIMH) Geriatric outpatient clinic in Dhaka, Bangladesh, from February 1 to April 30, 2024. The NIMH, centrally located in Dhaka, offers specialized outpatient services, including a geriatric clinic that serves an average of 25 to 35 patients daily. In 2023, the hospital treated 76,278 patients, with 10,552 aged 50 years and above. The study population was elderly individuals aged 60 years or older attending the clinic.

Study Procedure: Data were collected using a semi-structured questionnaire designed to gather socio-demographic and other relevant information. The Mini International Neuropsychiatric Interview (M.I.N.I)12 version 7.0 was employed to diagnose psychiatric morbidities, while the Bangla version of the Mini-Mental State Examination (MMSE)13 was used to assess cognitive function. Each interview lasted approximately 25 to 30 minutes.

Statistical Analysis: The sample size was calculated to be 260, considering a 20.2% prevalence of mental disorders among the elderly, as reported in the National Mental Health Survey11 and a 5.0% precision level. Simple random sampling was used to select participants who met the inclusion criteria. Data were analyzed using SPSS version 26.

Ethical Consideration: All procedures of the present study were carried out in accordance with the principles for human investigations (i.e., Helsinki Declaration) and also with the ethical guidelines of the Institutional research ethics. Formal ethics approval was granted by the Ethics Review Committee of Local Institute. Participants in the study were informed about the procedure and purpose of the study and confidentiality of information provided. All participants consented willingly to be a part of the study during the data collection periods. All data were collected anonymously and analyzed using the coding system.

Results

The sociodemographic characteristics of the 260 elderly persons enrolled from the geriatric OPD show that the majority were aged 60-64 years (40.8%), with a significant proportion aged 70 years or older (34.6%).

Table 1: Sociodemographic Characteristics of Elderly Patients Enrolled from Geriatric OPD (N=260)

Variables	Frequency	Percent
Age Group		
• 60 to 64 Years	106	40.8
• 65 to 69 Years	64	24.6
• ≥70 Years	90	34.6
Gender		
• Male	150	57.7
• Female	110	42.3
Education		
• None	98	37.7
• Primary	90	34.6
• Secondary	39	15
• Higher secondary	19	7.3
• Graduation	14	5.4
Occupation		
• Retired	106	40.8
• Housewife	80	30.8
• Farmer	30	11.5
• Others	44	16.9
Marital status		
• Married	226	86.9
• Others	34	13.1
Residence		
• Urban	113	43.5
• Rural	147	56.5
Family type		
• Nuclear	95	36.5
• Joint	165	63.5
Living with family		
• Yes	246	94.6
• No	14	5.4
Income (thousand)		
• <15	55	21.2
• 15-30	128	49.2
• >30	77	29.6

Mean±SD age was 67.03±7.48 with a range between 60-97. The sample was predominantly male (57.7%). A substantial number had no formal education (37.7%). Most participants were married (86.9%), and a larger proportion resided in rural areas (56.5%) compared to urban areas (43.5%). The majority lived in joint family setups (63.5%) and with their families (94.6%). Income distribution indicated that nearly half of the participants earned between 15,000 to 30,000 BDT per month (49.2%), with 29.6% earning more than 30,000 BDT and 21.2% earning less than 15,000 BDT (Table 1).

The pattern of physical comorbidities were recorded. Hypertension was the most common condition, affecting 83 individuals (31.9%), followed by diabetes, reported by 68 participants (26.2%) (Figure I).
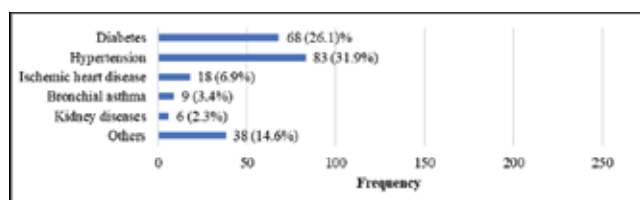

Figure I: Pattern of Physical Comorbidity in Elderly Patients Seeking Psychiatric Care (N=260)

Physical illness was present in 148 (56.9%) elderly. In 71 (27.3%) persons two or more physical illness was present. The main complaints of elderly patients attending the geriatric OPD reveal that sleep problems were the most common issue, reported by 25.8% of patients. Low mood was the next most frequent complaint (20.4%), followed by elevated mood (17.3%), and anxiety, worry, or apprehension (16.2%) (Table 2).

Table 2: Main Complaints of The Elderly Patients at Geriatric OPD (N=260)

Complaints	Frequency	Percent
Aggression	27	10.4
Anxiety, worry, apprehension	42	16.2
Body ache	13	5.0
Bed wetting	3	1.2
Elevated mood	45	17.3
Fearful	37	14.2
Forgetfulness	33	12.7
Headache	18	6.9
Hearing voices	19	7.3
Low mood	53	20.4
Odd behavior	15	5.8
Repeated activities	37	14.2
Sleep problems	67	25.8
Talkative	23	8.8

The cognitive assessment using the MMSE revealed that 66.5% of the elderly patients had no cognitive impairment. Mild cognitive impairment was observed in 10.0% of the patients, while 18.1% had moderate cognitive impairment. Severe cognitive impairment was present in 3.1% of the patients. MMSE couldn't be performed on six patients. Mean±SD MMSE score of the sample was 23.46±5.79 with a range between 3 and 30 (Figure II).
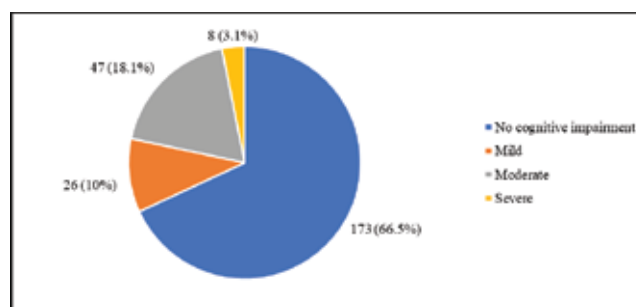

Figure II: Cognitive Functioning of Elderly Patients Attending Geriatric OPD (N=260)

Among the patients 94.6% were diagnosed with one or more psychiatric disorders. The pattern of psychiatric morbidity among elderly patients at the geriatric OPD

Table 2: Main Complaints of The Elderly Patients at Geriatric OPD (N=260)

Pattern	Frequency	Percent
Diagnosis		
Schizophrenia spectrum disorders	75	28.8
Bipolar and related disorders	52	20.0
Major depressive disorder	67	25.8
Social anxiety disorder	2	0.8
Panic disorder	5	1.9
Agoraphobia	2	0.8
Generalized anxiety disorder	32	12.3
Obsessive-compulsive disorder	25	9.6
Binge eating disorder	1	0.4
Insomnia disorder	1	0.4
Substance use disorder	5	1.9
Delirium	1	0.4
Dementia	22	8.5
Principal diagnosis		
None	14	5.4
Neurotic	96	36.9
Psychotic	127	48.8
Neurocognitive	23	8.8
Number of disorders		
None	14	5.4
Single	222	85.4
Two or more	24	9.2

Table 4: Associations of Different Characteristics of Elderly Patients with Psychiatric Disorder (N=260)

Variables	Psychiatric Disorder				P value
	Neurotic	Psychotic	Neurocognitive	None	
Age Group					
● 60 to 64 Years	43 (40.6%)	54 (50.9%)	5 (4.7%)	4 (3.8%)	0.029
● 65 to 69 Years	20 (31.3%)	37 (57.8%)	4 (6.3%)	3 (4.7%)	
● More Than 70 Years	33 (36.7%)	36 (40.0%)	14 (7.8%)	7 (7.8%)	
Gender					
● Male	56 (37.3%)	73 (48.7%)	14 (9.3%)	7 (4.7%)	0.929
● Female	40 (36.4%)	54 (49.1%)	9 (8.2%)	7 (6.4%)	
Education					
● None	28 (28.6%)	54 (55.1%)	11 (11.2%)	5 (5.1%)	0.154
● Primary and above	68 (42%)	73 (45.1%)	12 (7.4%)	9 (5.6%)	
Marial State					
● Married	85 (37.6%)	112 (49.6%)	17 (7.5%)	12 (5.3%)	0.279
● Others	11 (32.4%)	15 (44.1%)	6 (17.6%)	2 (5.9%)	
Residence					
● Urban	46 (40.7%)	49 (43.4%)	11 (9.7%)	7 (6.2%)	0.489
● Rural	50 (34.0%)	78 (53.1%)	12 (8.2%)	7 (4.8%)	
Occupation					
● Retired	34 (32.1%)	51 (48.1%)	15 (14.2%)	6 (5.7%)	0.038
● Employed	62 (40.3%)	76 (49.4%)	8 (5.2%)	8 (5.2%)	
Family Type					
● Nuclear	46 (48.4%)	38 (40.0%)	5 (5.3%)	6 (6.3%)	0.009
● Joint	50 (30.3%)	89 (53.9%)	18 (10.9%)	8 (4.8%)	
Monthly Income					
● Less than 15k BDT	19 (34.5%)	32 (58.2%)	3 (5.5%)	1 (1.8%)	0.158
● 15 to 30k BDT	44 (34.4%)	67 (52.3%)	10 (7.8%)	7 (5.5%)	
● More than 30k BDT	33 (42.9)	28 (36.4)	10 (13)	6 (7.8)	
Physical Illness					
● Yes	64 (43.2)	59 (39.9)	16 (10.8)	9 (6.1)	0.006
● No	32 (28.6)	68 (60.7)	7 (6.3)	5 (4.5)	

Cell values are frequency (row percentage); p value obtained from chi-square and Fisher's test

shows that schizophrenia spectrum disorders were the most prevalent, affecting 28.8% of the sample. Major depressive disorder was the second most common, reported by 25.8%, followed by bipolar and related disorders at 20.0%. Generalized anxiety disorder was present in 12.3% of patients, while 9.6% had obsessive-compulsive disorder and dementia affected 8.5% of the elderly (Table 3).

The associations between various characteristics of elderly patients (N=260) and the prevalence of different psychiatric disorders were recorded. The table categorizes disorders into neurotic, psychotic, neurocognitive, and none. The analysis reveals significant associations with age, occupation, family type, and physical illness. Specifically, neurotic and psychotic disorders are more common among those aged 60-64 (p=0.029), with retired individuals showing higher rates of neurocognitive disorders (p=0.038). Nuclear family residents show a higher prevalence of neurotic disorders (p=0.009), while those with physical illnesses have a higher prevalence of neurotic and neurocognitive disorders (p=0.006). Other factors, including gender, education, marital status, residence, and monthly income, do not show significant associations with the type of psychiatric disorder (p>0.05) (Table 4).

Discussion

The study revealed high prevalence (94.6%) of psychiatric disorders among the elderly population attending the psychiatric OPD. A Nepalese study on OPD patients identified that 93.8% had psychiatric

disorders[14]. The study's findings are specific to a psychiatric OPD setting, where patients typically present with more severe or persistent psychiatric symptoms. The high prevalence rates observed may not generalize to the broader elderly population, as those attending OPD services are likely to be more symptomatic. Schizophrenia spectrum disorders (28.8%) emerged as the most prevalent psychiatric condition, followed closely by major depressive disorder (25.8%) and bipolar and related disorders (20.0%). Similarly, other studies reported prevalence of mood disorders as 44.9% and schizophrenia spectrum disorder as 9.6% cases14. Sleep disturbances (25.8%) were the most frequently reported complaints. Sleep disorders in the elderly are well-documented and often associated with comorbid depression, anxiety, or underlying medical conditions like diabetes or hypertension. Compared to 15.9 to 22.3% of the general population, up to 50% of older persons report having trouble sleeping[15]. Another study reported, of older individuals, 13.7% reported having at least one sleep issue[16]. This highlights the need for a holistic approach to assessing geriatric patients, where sleep hygiene and associated factors are prioritized.

Cognitive assessment using MMSE revealed that while most participants (66.5%) had no impairment, 33.5% exhibited varying degrees of cognitive deficits. In population research, cognitive impairment rates can range from 3.0% to 42.0%, but in clinical settings, they can range from 6.0% to 85.0% cases[17]. The prevalence of mild and moderate impairment aligns with the natural aging process, comorbid physical illnesses, and the presence of neurocognitive disorders. This finding supports the integration of cognitive screening in routine psychiatric evaluations for the elderly.

Younger elderly patients (60 to 64 years) showed a higher prevalence of neurotic and psychotic disorders, possibly due to the challenges of transitioning into retirement or dealing with aging-related health issues. Retired individuals had a higher prevalence of neurocognitive disorders, which could be linked to reduced mental stimulation or social isolation post-retirement[18]. Patients with comorbid physical illnesses had significantly higher rates of neurotic and neurocognitive disorders, reaffirming the intricate interplay between physical and mental health in the elderly[7-8].

The study's strengths include its use of validated diagnostic tools, such as the M.I.N.I and Bangla MMSE, ensuring reliable assessment of psychiatric disorders and cognitive function. The inclusion of a representative sample through simple random sampling enhances its generalizability to geriatric patients attending similar OPDs. Additionally, the study provides valuable insights into the under-researched area of geriatric mental health in Bangladesh, shedding light on the interplay of sociodemographic factors and psychiatric morbidity. However, its cross-sectional design limits the ability to establish causal relationships, and findings are restricted to OPD attendees, potentially overrepresenting severe cases.

The reliance on self-reported data may also introduce recall bias, and the absence of longitudinal follow-up precludes understanding of disorder progression or treatment outcomes. Based on the findings we can recommend that geriatric mental health services should be strengthened by developing multidisciplinary care teams and implementing early detection and awareness programs. Social support systems should be promoted, and research and policies addressing the mental health needs of the elderly must be prioritized.

Conclusion

This study highlighted the high prevalence of psychiatric disorders among elderly patients attending a psychiatric hospital OPD in Bangladesh, with schizophrenia spectrum disorders, major depressive disorder and bipolar disorder being the most common. The findings underscored the significant associations between these disorders and sociodemographic factors such as age, occupation, family type, and physical illness. These results emphasize the need for tailored mental health interventions and support systems for the elderly, addressing both psychiatric and cognitive challenges, to improve their quality of life and overall well-being.

ORCID:
Mohammad Tariqul Alam: https://orcid.org/0000-0003-1581-7366
Nadia Afroz: https://orcid.org/0009-0005-3000-7507
Md. Abdullah Al Mamun: https://orcid.org/0009-0008-8774-2395
Taiyeb Ibna Zahangir: https://orcid.org/0009-0001-8347-3780
Anika Basharat: https://orcid.org/0009-0002-7799-7438
Mohammad Shahadath Hossain:
https://orcid.org/0009-0007-4183-5687
Ahsan Uddin Ahmed: https://orcid.org/0009-0008-6674-8835
Ahsan Aziz Sarkar: https://orcid.org/0000-0002-8800-8669

References

1. Khavinson V, Popovich I, Mikhailova O. Towards realization of longer life. Acta Biomed. 2020;91(3):e2020054.
2. Nepal S, Sapkota N, Kumar R, Deo BK. Psychiatric disorders in elderly patients attending OPD of tertiary care centre in eastern region of Nepal. J Psychiatr Assoc Nepal. 2017;5(1):43-48.
3. Bangladesh Bureau of Statistics. Population and Housing Census (Preliminary report). 2022.
4. United Nations Population Division Department of Economic and Social Affairs. Population ageing. 2019. Available at: http://www.un.org.
5. Kabir R, Khan HTA, Kabir M, Rahman MT. Population ageing in Bangladesh and its implication on health care. Eur J Sci Res. 2013;9(33):34-47.
6. Barikdar A, Ahmed T, Lasker S. The situation of the elderly in Bangladesh. Bang Jour of Bioe. 2016;7(1):27-36.
7. Deka D. Geriatrics; typical presentation of health problems and management: a review. J Biol Sci Opin. 2017;5(4).
8. Skoog I. Psychiatric disorders in the elderly. Can J Psychiatry. 2011;56(7):387-397.
9. Tanira S, Sahriah S, Amin R, Sharmin S, Shaikh MAK, Taha SF. Mental healthcare of elderly population of Bangladesh: current situation and challenges. J Psychiatrist's Association of Nepal. 2022;11(1).
10. Bhatia MS, Shruti S, Moon V. Prevalence of cognitive dysfunction, psychological morbidity, and abuse in the community-based elderly population in India. Gen Psychiatr. 2020;33(5):e100207.
11. Alam MF, Ahmed HU, Alam MT, Sarkar M. National Mental Health Survey 2019. National Institute of Mental Health, NIMH Press, Dhaka. 2021.
12. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. J Clin Psychiatry. 1998;59 Suppl 20:22-33;quiz 34-57.
13. Kabir ZN, Herlitz A. The Bangla adaptation of Mini-mental state Examination (BAMSE): an instrument to assess cognitive function in illiterate individuals. Int J Geriatr Psychiatry. 2000;15(5):441-50.
14. Poudel R, Belbase M. Prevalence and nature of psychiatric disorders in geriatric people attending psychiatry outpatient department. J Psychiatrists' Assoc Nepal. 2019;8(1):33-38.
15. Tatineny P, Shafi F, Gohar A, Bhat A. Sleep in the Elderly. Mo Med. 2020;117(5):490-495.
16. Sagayadevan V, Abdin E, Binte Shafie S, Jeyagurunathan A, Sambasivam R, Zhang Y, et al. Prevalence and correlates of sleep problems among elderly Singaporeans. Psychogeriatrics. 2017;17(1):43-51.
17. Eshkoor SA, Hamid TA, Mun CY, Ng CK. Mild cognitive impairment and its management in older people. Clin Interv Aging. 2015;10:687-93.
18. Cornwell EY, Waite LJ. Social disconnectedness, perceived isolation, and health among older adults. J Health Soc Behav. 2009;50(1):31-48.