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Overall Care-Seeking Pattern and Gender Disparity at a Specialized Mental Hospital in Bangladesh

Nazmun Nahar Nuri[1], Malabika Sarker[1,2], Helal Uddin Ahmed[3], Mohammad Didar Hossain[4], Fekri Dureab[1], Faith Agbozo[1,5], Albrecht Jahn[1]

[1]Institute of Public Health, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany

[2]James P. Grant School of Public Health, BRAC University, Dhaka, Bangladesh

[3]National Institute of Mental Health, Dhaka, Bangladesh

[4]Foundation for Advancement of Innovations in Technology and Health, Dhaka, Bangladesh

[5]University of Health and Allied Sciences, Department of Family and Community Health, Volta Region, Ghana

Corresponding author:
Nazmun Nahar Nuri. PhD student at the Institute of Public Health, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany. E-mail: nuritia2006@yahoo.com. ORCID ID: https://orcid.org: 0000-0002-5177-1740.

ABSTRACT

Introduction: The National Institute of Mental Health (NIMH) is the only national level mental health institution in Bangladesh, with both academic and clinical functions, thus playing a crucial role in delivering specialized mental health care for the entire population. **Aim:** This study examined the overall pattern of mental health care seeking, age and sex distribution of patients and mental health problems diagnosed in the facility. **Methods:** Using a facility-based cross-sectional study design, secondary data was collected from various hospital records and reports from April 2001 to June 2016, and quantitatively analyzed. **Results:** There has been a steady increase in the number of patients at NIMH over the years. Typically, female patients were about half in number compared to male patients and fewer in each age group and all disease categories except inpatients with neurotic, stress-related and somatoform disorders. The highest number of inpatients and outpatients were 15-30 years old and those with schizophrenia, schizotypal and delusional disorders. **Conclusion:** Minors and females seeking care at NIMH were underrepresented, thus highlighting the need for interventions to improve access for these patients.

Keywords: Mental Health Services, Gender, Mental Health, Bangladesh.

1. INTRODUCTION

Although mental health is included in the World Health Organization's (WHO) definition of health, "a state of complete physical, mental and social well-being and not merely the absence of disease." (1), it is often neglected by health systems, particularly in developing countries (2). WHO estimates that more than 450 million people worldwide are suffering from mental, neurological or psychosocial disorders, and this number is constantly growing (2). In Europe, neuropsychiatric disorders rank as the leading cause of years lived with disability, accounting for 36.1% of all causes (3). According to WHO estimates, neuropsychiatric disorders contribute to 11.2% of the disease burden in Bangladesh (4).

Four of ten leading causes of disability worldwide are mental disorders and 12% of the global burden of disease is due to mental and behavioral disorders (2). Over 70% of this burden actually lies in low- and middle-income countries (5). Globally, a huge gap exists between treatment need and its provision as a consequence of an inadequate response to the real burden of mental health problems (6). Two-thirds of all persons suffering from mental illnesses worldwide are untreated, and in low-resource countries, this figure is estimated to be higher than 90% (7).

Many mental health problems actually start during childhood and adolescence, and adversely affect adulthood (8-10). It is estimated that globally, one in every five children and adolescents suffer from a disabling mental disorder. Among adolescents, suicide is the third leading cause of death. In Bangladesh, about 15.2% of 5-10-years old children have behavioral disorders (11). This situation necessitates prompt detection and treatment of these illnesses.

A national survey on mental health among adults in Bangladesh found that approximately 16.1% of adults have mental disorders, and women (19%) have a higher prevalence compared to men (12.9%) (12). But mental health care seeking is lower among women compared to men (13, 14). A WHO report has identified gender as

a factor limiting access to health care in Bangladesh (15).

Although many studies worldwide have noted that more women suffer from mental health problems than men, few have focused on gender disparity in care seeking.

2. AIM

This study aims to fill the gap by exploring patterns of mental health-care seeking at a specialized mental hospital and patient distribution according to age, sex and disease categories. The results of this study should enable Bangladeshi policy makers to plan effective interventions to improve access for under served patient populations.

3. METHODS

Study design, site and sample

This quantitative study was conducted using a facility-based cross-sectional design whereby secondary patient data was retrospectively reviewed to examine the pattern of mental health-care seeking. The study site, the National Institute of Mental Health (NIMH) is the only national-level mental health institution in Bangladesh and is located in the capital city Dhaka. NIMH has academic functionalities and offers specialized mental health care for the whole country. It was established in April 2001, and currently has an attached 200 beds specialized mental hospital (16). At its inception, only outpatient services were offered and in May 2002, an inpatient department became operational. Since its start, the hospital has provided care to 286,215 patients in the OPD and 21,785 patients in the inpatient department. In 2015 alone, 42,703 patients received OPD services and 2,501 patients in the inpatient department of NIMH (16).

Disease categories	Outpatients (17 May-30 June 2016) n(%)			Inpatients (Jan-June 2016) n(%)		
	Female	Male	Total	Female	Male	Total
F00-09	0	0	0	1(0.2)	4(0.5)	5(0.4)
F10-F19	3(1.5)	26(4.3)	29(3.6)	2(0.4)	102(12.6)	104(8)
F20-F29	80(40.2)	265(44)	345(43.1)	215(43.5)	332(41)	547(42)
F30-F39	82(41.2)	205(34.1)	287(35.9)	147(29.8)	266(32.9)	413(31.7)
F40-F48	18(9)	71(11.8)	89(11.1)	109(22)	63(7.8)	172(13.2)
F50-F59	1(0.5)	1(0.2)	2(0.3)	1(0.2)	0	1(0.1)
F60-F69	1(0.5)	1(0.2)	2(0.3)	0	0	0
F70-F79	0	15(2.5)	15(1.9)	7(1.4)	22(2.7)	29(2.2)
F90-F98	1(0.5)	4(0.7)	5(0.6)	0	0	0
G40	7(3.5)	5(0.8)	12(1.5)	9(1.8)	16(10)	25(1.9)
R40.1	0	0	0	3(0.6)	3(0.4)	6(0.5)
Non-MH	0	3(0.5)	3(0.4)	0	0	0
Not-specific	6(3)	5(0.8)	11(1.4)	0	0	0
Total	199(100)	601(100)	800(100)	494(100)	808(100)	1302(100)

F00-09: Organic, including symptomatic, mental disorders, F10-19: Mental and behavioral disorders due to psychoactive substance use, F20-29: Schizophrenia, schizotypal and delusional disorders, F30-39: Mood disorders, F40-48: Neurotic, stress-related and somatoform disorders, F50-59: Behavioral syndromes associated with physiological disturbances and physical factors, F60-69: Disorders of adult personality and behavior, F70-79: Mental retardation, F90-98: Behavioral and emotional disorders with onset usually occurring in childhood and adolescence, G40: Epilepsy, R40.1: Stupor

Table 1: Distribution of NIMH outpatient and inpatient cases according to disease categories and sex

Data collection and analysis

NIMH patients are randomly distributed to four OPD consultation rooms upon purchasing consultation tickets. Each room has an outpatient register book in which individual patient information is recorded by the doctor while consulting with each patient. There is one record keeper who prepares all cumulative monthly and yearly reports.

For this study, three types of data were collected: outpatient aggregate data from monthly and yearly reports (April 2001 - June 2016), individual patient data from OPD registers (January-June 2016) and inpatient aggregate data from monthly and yearly reports (May 2002 - June 2016).

Individual patient data obtained from the OPD registers lacked many entry variables, particularly for diagnosis (17). Due to this high level of missing data (> 93%), it was statistically invalid to conduct further analysis to determine the distribution of presenting disease patterns among OPD patients. However, in one of the four reviewed OPD registers, the patients' diagnoses were recorded consistently from 17th of May to 30th of June 2016. The sex and age distributions of this particular group of patients were similar to all OPD patients from January-June 2016. Hence, data from these patients were considered to be representative of all patients seen from January-June 2016. Distribution of OPD patients according to ICD 10 disease categories was investigated in this sub-sample. Data was extracted onto excel sheets and exported into Stata (version 14) for analysis. Results were presented as summary statistics using tables and figures.

Ethical consideration

The Ethical Commission of the Medical Faculty at Heidelberg University, Germany and the Ethical Review Committee of the James P. Grant School of Public Health at BRAC University, Bangladesh approved this study (approval no S271/2016 and 80, respectively). The director of NIMH also granted written permission for data collection.

4. RESULTS

Overall trend in mental health care seeking

Over the last 15 years, the number of patients seeking care through the OPD and being admitted as inpatients has increased steadily. The OPD recorded an over 17 fold increase from the initial 2,432 patients in 2001 to 42,703 clients in 2015. Inpatients also increased 7 fold from 428 admitted in 2002 to 3085 in 2015 (Figure 1). Sex-segregated data available from 2008 to 2015 revealed almost twice the number of male patients compared to female patients for both the OPD and inpatient department each year. For example, OPD female patients were 42% in 2008 and 42.4% in 2015 and inpatient female patients were 36.3% in 2008 and 35.8% in 2015.

Distribution of patients as per disease categories

Data on disease category available for analysis only in-

cluded a sub-sample of OPD data from 17 May - 30 June 2016 and inpatient from January-June 2016. F20-29 (schizophrenia, schizotypal and delusional disorders) was the most frequent diagnosis in both the OPD (43%) and inpatient department (42%) followed by F30-39 (mood disorders) for 36% of the outpatients and 32% of the inpatient cases (Table 1).

Age distribution of the patients

During the first half of 2016, a total of 19311 patients received services in the OPD. The age range was 2-96 years (mean: 32.12 years). More than half (53.1%) were 15-30 years, and 34.8% were between 31-50 years old. A small fraction (8.8%) were >50 years, 3.3% were 5-14 years, while 0.1% were <5 years. For inpatients, a total of 1,302 patients received care between January-June 2016. About two-thirds (62%) were 15-30 years old, 29% were 31-50 years, 6.5% were >50 years and 2.6% were 5-14 years. No patient was <5 years. The overall age distribution of Bangladesh in the same order is 27.5% are 15-30 years, 24.1% are 31-50 years, and 13.8% are above 50 years, 24.1% are 5-14 years, and 10.5% are <5 years. Figure 2 presents the distribution of all patients with the age distribution of general population.

Sex distribution of the patients

Males were seen more frequently in the OPD than females for all ICD 10 categories except F50-59 (behavioral syndromes associated with physiological disturbances and physical factors). For ICD 10 categories F60-69 (disorders of adult personality and behavior), there were equal numbers by sex. Males were more frequently seen as inpatients in all ICD 10 categories except F40-48 (neurotic, stress-related and somatoform disorders) for which the rate of females was almost double. For the F10-19 disease category (substance-related disorder), only 0.1% were females (2 females and 102 males) (Table 1).

From January-June 2016, about two-thirds of outpatients (63%) and inpatients (62%) were male. Figure 2 shows that males predominated in each of the four age groups except the 5-14-year-old inpatient group for which the rate of females was 0.3% higher. In the 0-4 years group, no patient was admitted to the inpatient department and outpatients were negligible (<1%), hence this age group was excluded from Figure 2.

Disease categories	Outpatient (%)			Inpatient (%)	
	Our study	NIMH in 2001 (18)	A tertiary public hospital in 2008 (13)	Our study	A private psychiatric clinic in 2007 (19)
F00-09	0	0	0	0.4	2.0
F10-19	3.6	7.7	0	8.0	29.6
F20-29	43.1	37.4	26.0	42.0	39.4
F30-39	35.9	20.1	34.0	31.7	18.8
F40-48	11.1	22.7	32.0	13.2	1.6
F50-59	0.3	0	2.0	0.1	0
F60-69	0.3	0	4.0	0	5.0
F70-79	1.9	4.1	0	2.2	0
F90-98	0.6	0	2.0	0	2.3

F00-09: Organic, including symptomatic, mental disorders, F10-19: Mental and behavioral disorders due to psychoactive substance use, F20-29: Schizophrenia, schizotypal and delusional disorders, F30-39: Mood disorders, F40-48: Neurotic, stress-related and somatoform disorders, F50-59: Behavioral syndromes associated with physiological disturbances and physical factors, F60-69: Disorders of adult personality and behavior, F70-79: Mental retardation, F90-98: Behavioral and emotional disorders with onset usually occurring in childhood and adolescence

Table 2: Distribution of mental hospital patients in various disease categories reported by multiple studies conducted in Bangladesh

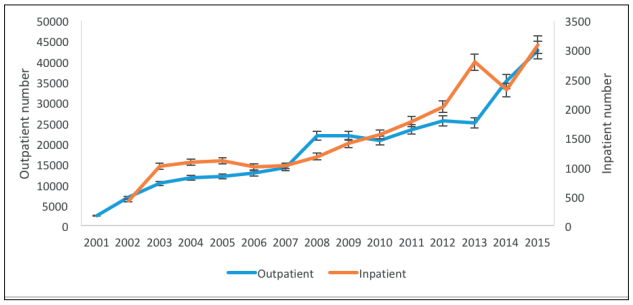

Figure 1: The 15-year trend of total inpatients and outpatients at NIMH from 2001-2015

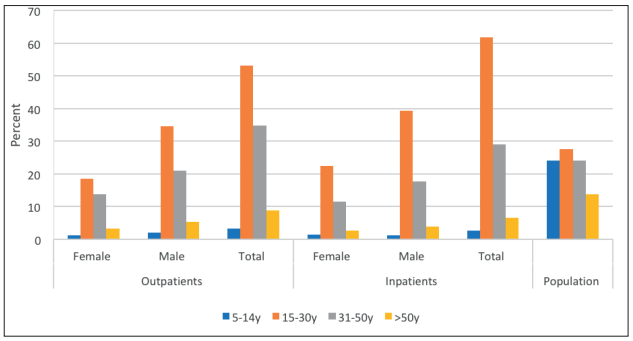

Figure 2: Distribution of all NIMH patients according to age group (compared to the general population) visiting by outpatient and inpatient department (Jan-June 2016)

5. DISCUSSION

The key findings of this study show a pattern of diagnosis consistent with other studies conducted in Bangladesh in regard to age and gender disparities. The steady increase in the annual total number of patients at NIMH might be due to information spread among the general population over time regarding the availability of mental health care services in this specialized hospital. Patients treated at NIMH and their family/friends, as well as media, might be playing a vital role in this process. The rising patient volume might also be due to increasing awareness about mental health problems and appropriate care. In addition, the population of the country has also increased steadily in recent years.

The pattern of diagnosis

Our findings indicate that F20-29 (schizophrenia, schizotypal & delusional disorders) is the most frequent NIMH diagnosis for OPD and the inpatient department. The patient distribution in this study for the various disease categories compared to other studies conducted in Bangladesh is presented in Table 2.

A WHO report shows that among all patients treated in mental health outpatient facilities in Bangladesh, 30% are primarily

diagnosed with schizophrenia, 20% with mood disorders and 20% with neurotic disorders (14). For inpatients, 70% are primarily diagnosed with schizophrenia and 30% with mood disorders (14). This finding is in line with a study among inpatients in a German and a Japanese hospital that found schizophrenia and related psychosis to be the most common diagnosis (20).

Disparities with respect to age

As per our study, the highest numbers of patients at both the OPD (53.1%) and inpatient department (61.8%) were those who were 15-30 years old. A nationwide survey in Bangladesh reported that the highest percentage of mental health patients (42.7%) were 18-30 years old (12). Similar to our findings, 77% of patients in a private psychiatric clinic in Bangladesh were 18-37 years old (19). This study also reported that 7.6% of all patients were below 18 years (19), whereas our study only found 2.6% below 15 years at NIMH. According to WHO, 7% of all treated in mental health outpatient facilities in Bangladesh are children and adolescents (14).

Considering the 15.2% prevalence of mental disorders among 5-10 year old (11), the percentage of child and adolescent (below 15 years) patients seeking care at NIMH found in our study is very low. A possible reason might be that they are taken to a private pediatrician or to a pediatric hospital instead. Few tertiary pediatric hospitals in Bangladesh provide psychiatric care services. This might be due to lack of detection of the patients' conditions or the lack of importance given to their symptoms by family members (21). A German study among 7-17 year old children and adolescents reported that about half of the patients did not receive treatment, despite resource availability (22). The NIMH inpatient department has no separate ward for children and adolescents. So those patients are admitted and treated with adult psychiatric patients (14, 16), which might not provide a favorable environment.

Disparities with respect to gender

According to our findings, the total number of female patients has been about half the number of male patients at NIMH every year. Females were few in each individual age group and in most of the disease categories for the OPD and inpatient department. However, according to the nationwide survey, Bangladeshi women have a higher overall prevalence of mental illnesses (19% compared to 12.9% among men) (12). The predominance of male patients was also reported among psychiatric outpatients (58%) in a study conducted in a teaching hospital in Bangladesh (13) and among inpatients (60.5%) at a private psychiatric clinic in Bangladesh (19). WHO report also stated that 44% of all patients treated in mental health outpatient facilities in Bangladesh are women (14).

Women have a higher prevalence of neurotic and stress-related disorders in Bangladesh (12) and also in India (23). This might explain our finding regarding female predominance in this particular disease category among NIMH inpatients. On the contrary, the prevalence of a substance-related disorder is not only significantly lower among women (3.6%) than men (96.4%) in Bangladesh (12), but also in India (23), Europe (3) and Germany (8).

In Bangladesh, the male to female ratio is 105 to 100 (24) with no sex difference concerning children's vaccination coverage and childhood nutritional status (25). As in many other countries, life expectancy is higher for females in Bangladesh (71.6 years) compared to males (69.1 years) (26). Other factors that might hinder women's access to mental health care in Bangladesh, such as low awareness, immense stigma, discrimination and social isolation for mentally ill persons, are common in Bangladesh and many other countries (12, 15, 23). In a conservative, male-dominated society like Bangladesh, women are usually more vulnerable for mental illness considering that the sense of honor imposed on them by the family is higher (27). In Bangladesh, marriage is an obligatory social custom, especially for women, and the stigma of mental illness has the greatest negative impact on marriages (23). Therefore, families might avoid taking girls/women to a mental health care provider due to the fear of disclosure and obvious social consequences.

In a patriarchal system like Bangladesh, women often experience a lack of support from their husband, a lack of freedom and are controlled by their husband or in laws, and the fear of being abandoned by their husband if disobedient. All these social norms restrict women's freedom and mobility (27). The vast majority (90%) of Bangladesh's population is Muslim (15). Religious Muslim families usually practice a "Purdah" system (covering the female body in a certain way and discouraging women from going out of home without male company) and strict gender divide (women are prohibited from interacting with strange men under any circumstances) and this too may hinder women's access to mental health care (27).

Although adult female literacy has recently improved and is now close to male literacy in Bangladesh (58% and 65% respectively) (28), there is a big gap between both sexes in terms of employment. The employment to population ratio for males is 53.8% and females is 21.7% (26). A lack of financial capability and independence may also hinder women's access to mental health care. Not being financially productive may cause women to have less value to their family and society and thus their health care needs might be ignored.

6. CONCLUSION

This paper has presented overall trends of an increasing number of patients, diagnosis patterns, and age and gender disparities in mental health-care seeking at NIMH. A wider understanding of factors contributing to the disparities in mental health care could allow for interventions to improve the situation. An unreasonably low number of child and adolescent patients at NIMH calls for a more elaborate follow up study among this population group and in various types of health facilities offering mental health care to understand mental health care availability and access. Similarly, a constant lower percentage of female patients seen in NIMH is a matter of concern. Although the literature provides some possible reasons, to achieve a clearer understanding of all influencing factors, a follow up qualitative study in the community is recommended.

Our findings add critical evidence to the neglect Bangladeshi women face for receiving mental health care. To improve women's access to mental health services, policy makers in Bangladesh need to actively design and implement appropriate interventions for improvement.

- **Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms**

- **Authors' contributions:** NNN conceptualized this study, designed the methodology for data collection, collected and analyzed the data, and wrote the manuscript. AJ extensively supported the development of the study concept, data analysis, and the writing, editing and finalizing of the manuscript. MS and MDH intensively supported the process of designing the field study, and planning data collection. HUA provided valuable support in data collection. FD assisted in data entry and data analysis. FA assisted in presenting the findings and critically reviewed the manuscript. All authors read and approved the final manuscript.
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