ISSN: 2663-7537

Volume 6 | Issue 2
December 2023

ARCHIVES of NIMH

The Official Journal of National Institute of Mental Health, Dhaka

Archives of NIMH Volume 6 | Issue 2 | December 2023

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The Official Journal of National Institute of Mental Health, Dhaka

Editorial

Prioritizing mental health for undergraduate medical students in Bangladesh

Muhammad Zillur Rahman Khan

Undergraduate medical students in Bangladesh faces many mental health challenges, including anxiety, depression, and stress-related disorders. The severity of distress is influenced by various factors such as academic pressures, personal issues, and inadequate support systems. Urgent steps, including mental health training for teachers, awareness programs, and collaboration with stakeholders, are proposed to address the issue and prioritize the mental well-being of medical students.

Declaration of interest: None

There are more than hundred medical colleges including 37 public, 68 private and 6 military medical colleges in Bangladesh where a huge number of students (nearly more than 12,000 students) are studying. Undergraduate medical students have to face of difficulties such as academic, personal, financial, extra-curricular and other stresses. Evidence suggested that a substantial proportion of them suffers from different mental disorders such as anxiety, depression and other stress related disorder even severe mental disorder including bipolar mood disorder and psychotic disorder. They often remained undetected, unrecognized and untreated which causes morbidity, disability and even mortality. Very recently, few deaths of medical students by suicide have been reported in national media which is alarming. In this regard, prioritizing mental health of undergraduate medical students is an essential health and developmental agenda.

Majority of medical students suffer from mental distress which was used to describe depression, anxiety, burnout, and related mental health problems.[1] The severity of distress was related to different factors such as year of studying (first year versus 5th year), personality pattern, stress coping ability, accommodation facility, financial capability etc. Most commonly studied mental health issue was depression evident by literature. Systematic review revealed that pooled prevalence of depression among medical students was found 38.0% globally.[2] In Bangladesh, symptoms of depression, anxiety and stress were present in 49.9%, 59.9%, 44.8% respectively.[3] In terms of severity, 39.1% students were suffering from different levels of depression, female students suffered more (45.6%) than male students (31.3%) and suicidal tendency was present in 18.8% of Bangladeshi medical students.[4] Another local study revealed that, symptoms of depression, anxiety and stress were found among 54.3%, 64.8% and 59.0% of students respectively among the first year MBBS students.[5]

A significant proportion of medical students do not meet the criteria of a mental disorders but still they suffer from stress, mental agony and distress which warrants mental health assessment and treatment. But unfortunately, mental health issue is not a priority agenda for a medical college administration. Bullied by peers, political harassment from senior students, poor living condition and ragging in hostels, humiliation and critical comments from teachers and financial problems are not uncommon. These issues should be addressed in future research agenda seriously.

The Directorate General of Medical Education (DGME) has conducted 'Three days training on mental health for teachers of government medical colleges' which has created a new hope which will be definitely helpful to prioritize mental health issues of medical students and to make teachers sensitized. Most of the private medical colleges doesn't appoint a psychiatrist or doesn't have any psychiatry department. This is an extreme negative attitude to mental health issues of medical students by the

authority. DGME, Bangladesh Association of Psychiatrists (BAP) and medical college administration should take urgent steps to mitigate the problem for promoting better mental health of medical students. Regular mental health screening, treatment and follow up facilities should be incorporated. Awareness raising program such celebration of important mental health days (world mental health day, suicide prevention day etc.) advocacy meeting with local college authority is also essential to promote mental health among medical students where department of psychiatry should take a pivotal role. Collaboration with all necessary stakeholders and prioritizing and promoting mental health of medical students is an urgent issue. So, it is high time to act together to ensure better mental health for our future doctors to achieve sustainable development goals (SDGs).

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How to cite this article: Khan MZR. Prioritizing mental health for undergraduate medical students in Bangladesh. [Editorial] Arch NIMH. 2023; 6(2):1-2.

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ARCHIVES of NIMH
The Official Journal of National Institute of Mental Health, Dhaka

Original Article

A comparative analysis of emotional and behavioral problems in children with autism spectrum disorder and typically developing peers

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Background: Children with autism spectrum disorder (ASD) show higher level of emotional and behavioral problems compared to that of normal developed children. Only few studies have compared the level and types of difficulties of these two groups of children.

Objectives: To screen the emotional and behavioral problems in children with ASD and compared it with normally developing children.

Methods: This was a cross-sectional comparative study conducted in a tertiary hospital, two special schools and a normal school in Sylhet. Sampling technique was purposive and data were collected from 100 ASD children and from same number of age, sex matched normal children. Children with ASD was evaluated by the Development and Well-Bing Assessment (DAWBA) parent version-Bangla and confirmed by psychiatrist using DSM-IV criteria. Then emotional and behavioral problems were screened using the parent version of the Strengths and Difficulty Questionnaire (SDQ) and compared between two groups by unpaired t test.

Results: Emotional problems showed statistically significant difference ($p<0.001$) which were 53% in ASD compared to 27% of normal children. ASD children had significant conduct problem ($p=0.011$) than control (29% vs 15% respectively). Hyperactivity was found in 69% of ASD children compared to control as 21% ($p=0.031$). Emotional, conduct and hyperactivity problems showed significantly higher in 7-11 years age group; emotional problems were more in girls whereas conduct and hyperactivity in boys.

Conclusions: Children with ASD showed significantly higher prevalence of emotional, conduct and hyperactivity problems than normally developed children.

Declaration of interest: none

Keywords: Autism spectrum disorder, emotional and behavioral problems, DAWBA, neurodevelopmental disability, SDQ.

Introduction

ASD is a neurodevelopmental disorder which affects the emotions, behaviours, learning process and memory of a person.[1] It is the fastest growing serious developmental disability in the world. According to the Diagnostic and Statistical Manual of mental disorders, Fifth edition (DSM-5), ASD is characterized by persistent deficits in

social communication and interaction across multiple contexts.[2] Previously ASD was known as the pervasive developmental disorders (PDD) conceptualized as five discrete disorders including autism, Asperger's disorder, childhood disintegrative disorder, Rett's syndrome and PDD not otherwise specified (NOS).[3] Now ASD is an umbrella term used to describe a continuum of diagnoses includes autism, Asperger's Disorder and PDD-NOS.[4] The core areas of impairments are social communication and social-emotional reciprocity in children with ASD including little or no social interaction, no emotions sharing or imitative behaviours. Nonverbal communication is reduced like no use of eye contact, gestures, facial expression, body orientation or speech intonation.[2-4] Restricted, repetitive patterns of behaviours, interests or activities manifested by stereotyped motor movements, resistance to change, insistence on sameness as routines and rituals, hand flapping, twirling, ordering play, echolalia and hyper or hypo activity to sensory input can also be present.[2-4] These conditions are believed to be present at birth and typically recognized during the second year of life but may be seen earlier than 12 months if developmental delays are severe or noted later than 24 months if symptoms are subtle.[2]

The prevalence of autism varies in different countries and with different times. According to World Health Organization (WHO), worldwide 1 in 160 children affected by ASD and boys suffer more than girls. The South Asia region represents more than 20% of world's population and some studies reported prevalence of ASD, 0.09-0.23% in India and 1.07% in Sri Lanka.[5,6] Different studies in Bangladesh showed the rate of ASD was 0.2%, 0.9% and 0.15%.[7-9] The exact etiology of ASD is still unknown. There was higher concordance rate of ASD in a twin study (37-90%) and several studies proposed that ASD is a combination of genetic, biological, environmental and neurodevelopmental factors.[10-12] Some studies reported an association between autism with advanced maternal and paternal age.[13]

Children with ASD frequently have co-occurring conditions such as intellectual disability (ID), seizures, gastrointestinal problems, sleep disturbance, motor delay and dyspraxia.[14] A study revealed severe to profound ID-50%, mild to moderate ID-35%, seizures-25%, sleep disturbance 44-80% and adverse sensory reactions 90% among children with ASD.[14,15]

Emotional and behavioral problems are common in children with ASD. These problems often occur in other psychiatric disorders such as anxiety disorder, attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). Emotional and behavioral disorders are roughly divided into two main groups: internalizing and externalizing disorders. Internalizing disorders are characterized by behaviors and emotions that direct inwards like mood disorders, anxiety disorders etc, but externalizing disorders are characterized by behaviors and emotions that direct outwards including ADHD, ODD and conduct disorder (CD).[16] Other coexisting emotional and behavioral problems are aggression, temper tantrums, self injurious behavior.[17] The prevalence of anxiety disorder found was 42%, depression 1.4%, ADHD 28%, ODD 8.5% and CD 1.7% in children with ASD.[18] Girls with ASD had significantly more difficulties, especially hyperactivity/inattention, conduct and intellectual problems with greater risk for distress than that in boys.[18,19] Peer problems markedly increased with advancing age in both sex with ASD but girls could learn faster than their male counterparts.[19] ASD girls had more difficulties of verbal, non-verbal behaviors and reciprocal conversation while boys show more restricted repetitive and stereotype behaviours.[20,21] Language problems leading to poor functional outcome and behavioral problems negatively affect family and school function.[22,23]

In Bangladesh, the first child and adolescent mental health screening study reported a prevalence of mental health problems was 17.9% using the self-reported SDQ including emotional disorder 10.5%, conduct disorder 5.6% and hyperkinesis 3.1%. Among them with mental health problems 11-21% with 5-10 years age had emotional and behavioral problems from rural, urban and slum areas.[7] The present government of Bangladesh strongly committed to reduce the stigma related to autism and to improve its management. In 2010, "The Center for Neurodevelopment and Autism in Children" was inaugurated and ten "Shishu Bikash Kendra" were developed in the medical colleges and specialized centers. Moreover, 73 disability service centres and a special "autism corner" at upazila and district level were initiated.[24]

Failure to detect coexisting emotional and behavioral problems among ASD children hamper specific intervention, leading to increase the risk of further functional impairment and poor outcome. Thus, early detection of such problems is important to avoid suffering of the patient and their family. As per researcher's knowledge many studies have identified the emotional and behavioral problems of ASD children but very few studies have been done to compare emotional and behavioral problems between ASD and normally developing children. So, the present study was designed to compare such problems between the two groups. This study finding would cover

the relevant knowledge gap and help for early detection of such problems and making service plan for them.

Methods

This was a cross-sectional comparative study. Before commencement of this study, ethical approval was taken from ethical committee of Sylhet MAG Osmani Medical College (SOMCH). Prior permission was taken from the Director, SOMCH, Head of Department of Psychiatry and Pediatrics, consultant of Shishu Bikash Kendro, Principals of two special schools and a school for normal children. Children of both sexes and age ranged from 5 to 17 years were selected and normally developing child with any psychotic illness and chronic debilitating illness were excluded. After discussing the aim, objective, methodology and impact of the study, informed written consent was taken from those, who agreed to participate. Children with ASD were evaluated in psychiatry OPD by using the Bangla parent version of Development and Well-Bing Assessment (DAWBA) and subsequently assessed by psychiatrist. Autism in children was detected by consultant of Shishu Bikash Kendro and further evaluated by the above procedure. In special schools, ASD children were selected purposively from attendance register and then cases were taken by the diagnostic documents of ASD shown by their caregivers and finally confirmed thorough the above procedure.

The normal school was selected purposively on the basis of socio-economic status of institution, locality and sample availability, provision of co-education and co-operative attitude of the authority. The students of specific grade (class I to X) were stratified into two groups on the basis of gender from register books. Parents or caregivers who agreed were also respondents in this study. The sociodemographic data was collected from both ASD and normal children in a predesigned structured questionnaire by a face-to-face interview. Then the researcher applied Strength and Difficulties Questionnaire (SDQ) Bangla parent version among parents of ASD and normally developing children to screen emotional and behavioral problems in their children. It took about 10-20 minute to complete a session. Before using these questionnaires, 10% of the study populations were pretested by it with adequate training. Researcher approached 109 parents of ASD children and 112 parents of normal children but 9 parents of ASD children and 12 parents of normal children denied to participate for time constraint. Finally, 100 parents from each group completed this interview and included in this study. Statistical analysis was performed by using SPSS version 22. Quantitative data were summarized as mean and standard deviation and qualitative data as frequency and percentages. Comparisons were done by chi-square ($\chi 2$) and Fisher's exact tests. The probability (p) value below 0.05 was considered as statistically significant.

Results

In this study, a total of 200 children were enrolled (100 participants from each group). Most of the ASD children were within 7-11 years group (45%) with the mean age 8.36 (SD 3.21) and most of the controls were also in the same age group (50%) with the mean age 7.66 (SD 3.12). Only 17% of children were above 11 years in each group. The difference of age distribution between two groups was not significant (p=0.703). Among the ASD children, boys were 81%, girls 19%, Muslim 83% and Hindu 17%. About 71% of the ASD children lived in urban area and 83% of them came from nuclear family. Around 42% parents with ASD children completed secondary levels of education and that figure was 54% of the control group. Majority parents in both groups were service holders (38% vs. 32%) (Table 1). Most of the parents of ASD children (55%) and normally developed children (74%) had monthly income between 20001 and 30000 Tk with 35% parents with ASD children had income more than 30000 Tk and only 2% had income less than 10000 Tk.

Table 1: Sociodemographic characteristics of both groups of children (N=200)

Characteristics	Level	Case (ASD children) n (%)	Control n (%)
Age of child	<7 years	38 (38)	33 (33)
	7-11 years	45 (45)	50 (50)
	>11 years	17 (17)	17 (17)
Gender	Boy	81 (81)	81 (81)
	Girl	19 (19)	19 (19)
Religion	Islam	83 (83)	59 (59)
	Hinduism	17 (17)	41 (41)
Residence	Urban	71 (71)	83 (83)
	Rural	29 (29)	17 (17)
Family type	Nuclear	83 (83)	82 (82)
	Extended	17 (17)	18 (18)
Education of the parent	Illiterate	11 (11)	1 (1)
	Primary	38 (38)	43 (43)
	Secondary	42 (42)	54 (54)

Characteristics	Level	Case (ASD children) n (%)	Control n (%)
Education of the parent	Secondary	42 (42)	54 (54)
	Graduate	9 (9)	2 (2)
Occupation of parent	Service	38 (38)	32 (32)
	Business	20 (20)	14 (14)
	Farming	1 (1)	-
	Others	41 (41)	54 (54)

Regarding total difficulties score on SDQ, about 38% of ASD children found normal and 48% of them found abnormal score whereas normal score was found in 74% and abnormal score in 12% in control group (Figure 1).

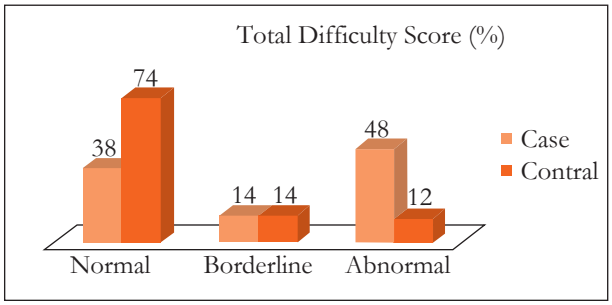

Figure 1: Distribution of total difficulty score among the cases and controls

In emotional domain, 53% of them children with ASD found to have emotional problems whereas 27% of controls had such problems (p=0.001). Conduct problems were present in 29% of ASD and 15% of control children (p=0.011). In case of hyperactivity, about 69% of ASD children and 21% of controls had abnormal scores (p=0.031). Peer problems were found in 65% of ASD and 35% of control children (p=0.027). Regarding prosocial behavior, 52% of ASD children and 12% of control children had abnormal scores (p=0.000). Similarly, the difference of impact score was highly significant (p=0.000) between the two groups.

Table 2: Comparison of SDQ subscale score categories between two groups

SDQ	ASD n (%)	Control n (%)	X^2	P value
Emotional				
Normal	39 (39)	65 (65)	3.69	0.001
Borderline	8 (8)	8 (8.0)		
Abnormal	53 (53)	27 (27)		
Conduct				
Normal	40 (40)	82 (82)	5.47	0.011
Borderline	31 (31)	3 (3)		
Abnormal	29 (29)	15 (15)		
Hyperactivity				
Normal	13 (13)	68 (68)	7.61	0.031
Borderline	18 (18)	11 (11)		
Abnormal	69 (69)	21 (21)		
Peer problem				
Normal	21 (21)	48 (48)	3.68	0.027
Borderline	14 (14)	17 (17)		
Abnormal	65 (65)	35 (35)		
Pro-social				
Normal	24 (24)	79 (79)	7.92	0.000
Borderline	24 (24)	9 (9)		
Abnormal	52 (52)	12 (12)		
Impact				
Normal	0 (0)	78 (78)	24.97	0.000
Borderline	0 (0)	10 (10)		
Abnormal	100 (100)	12 (12)		
Total difficulty score				
Normal	38 (38)	74 (74)		
Borderline	14 (14)	14 (14)		
Abnormal	48 (48)	12 (12)	6.68	0.001

In ASD children group higher prevalence of emotional problems were observed in 7-11-year age group (p=0.002) and girls showed higher prevalence of emotional problems than boys with ASD (p=0.030). In the control group, higher prevalence of emotional problems was observed in children less than 7 years of age and the difference was significant (p=0.003). No significant differences were found across family type and income (Table 3). Regarding conduct problems higher prevalence was observed in again on 7-11-year age groups (p=0.001) with no differences observed across gender, family type and income in both groups (Table 4). Lastly, in reference to hyperactivity

problems higher prevalence were observed in 7-11-year age group (40%) (p=0.001) and among boys (58%) (p=0.020) of ASD children but no significant differences were observed with regarding age and gender in control group (Table 5).

Table 3: Associations of emotional problems with demographic variables

Demography	ASD children		P value	Control		P value
	Present	Absent		Present	Absent	
Age						
<7	14 (14)	36 (36)	0.002	20 (20)	43 (43.0)	0.003
7-11	22 (22)	10 (10)		5 (5)	17 (17)	
>11	17 (17)	1 (1)		2 (2)	13 (13)	
Gender						
Boy	37 (37)	44 (44)	0.030	23 (23)	57 (57)	0.53
Girl	16 (16)	3 (3)		4 (4)	16 (16)	
Family type						
Nuclear	46 (46)	47 (47)	0.214	22 (22)	60 (60)	0.76
Extended	7 (7)	10 (10)		5 (5)	13 (13)	
Family income						
<10000	0 (0)	0 (0)	0.889	0	0	0.888
10000-20000	7 (7)	2 (2)		3 (3)	9 (9)	
20001-30000	25 (25)	25 (25)		18 (18)	49 (49)	
>30000	21 (21)	13 (13)		6 (6)	15 (15)	

Cell values are n (%); P values obtained from chi-square/Fisher's exact test

Table 4: Associations of conduct problems with demographic variables

Demography	ASD children		P value	Control		P value
	Present	Absent		Present	Absent	
Age						
<7	7 (7)	36 (36)	0.001	8 (8)	23 (23)	0.062
7-11	15 (15)	20 (20)		6 (6)	47 (47)	
>11	7 (7)	5 (5)		1 (1)	15 (15)	
Gender						
Boy	26 (26)	54 (54)	0.081	14 (14)	66 (66)	0.138
Girl	3 (3)	7 (7)		1 (1)	19 (19)	
Family type						
Nuclear	21 (21)	52 (52)	0.984	11 (11)	71 (71)	0.142
Extended	8 (8)	9 (9)		4 (4)	14 (14)	

Demography	ASD children		P value	Control		P value
	Present	Absent		Present	Absent	
Family income						
<10000	1 (1)	1 (1)	0.816	0	0	0.949
10000-20000	5 (5)	3 (3)		1 (1)	8 (7)	
20001-30000	13 (13)	34 (34)		12 (12)	60 (60)	
>30000	10 (10)	23 (23)		2 (2)	17 (17)	

Cell values are n (%); P values obtained from chi-square/Fisher's exact test

Table 5: Associations of hyperactivity problems with demographic variables

Demography	ASD children		P value	Control		P value
	Present	Absent		Present	Absent	
Age						
<7	23 (23)	15(15)	0.001	9 (9)	22 (22)	0.503
7-11	40 (40)	2 (2)		10 (10)	38 (38)	
>11	6 (6)	14 (14)		2 (2)	19 (19)	
Gender						
Boy	58 (58)	22 (22)	0.020	17 (17)	64 (64)	0.394
Girl	11(11)	9 (9)		4 (4)	15 (15)	
Family type						
Nuclear	58 (58)	25 (25)	0.105	19 (19)	63 (63)	0.203
Extended	11 (11)	6 (6)		2 (2)	16 (16)	
Family income						
<10000	1 (1)	1 (1)	0.811	0	0	0.846
10000-20000	7 (7)	1 (1)		2 (2)	6 (6)	
20001-30000	33 (33)	19 (19)		14 (14)	60 (60)	
>30000	28 (28)	7 (7)		5 (5)	13 (13)	

Cell values are n (%); P values obtained from chi-square/Fisher's exact test

Discussion

Children with ASD often present with emotional and behavioral problems, which could change the clinical course and affect future quality of life. Prevalence rates for emotional and behavior problems have been as high as 50–75% in several studies and Totsika et al. (2011) found that ASD children were associated with a greater risk for hyperactivity, conduct and emotional problems.[18,25,26]

In this study, the mean age of ASD children was 8.36 years and of control was 7.66 years. Most of the children with ASD were within 7-11 years (45%), 81% were boys, 71% lived in urban area and 83% came from nuclear family whereas the controls were mostly (83%) from urban background and from nuclear family (82%). Similar age distribution was noted in a study conducted in Japan where the mean age of ASD children was 7.92 years. Male predominance in ASD was noticed 74.6% and sex ratio was M:F= 4.3:1.[19,27,28] A study in Malaysia showed the emotional response were different among autism and normally developing children using the Mood and Feelings Questionnaire Short (MFQS) parent version. In autism's respondents, male was 66% and female 34% while female

gender of typical developing children were higher (56%) than males (44%). The age distribution of children was 8-12 years, 13-15 years and 16-18 years but a higher proportion of Autism (64.0%) within 8-12 years compared to typical developing children (27.0%).[27]

A descriptive study like present study was done in 2000 to assess the pattern of presentation of autism at Child Mental Health Clinic Bangabandhu Sheikh Mujib Medical University, Dhaka using ICD-10 diagnostic criteria. Among the patients, 84% were male; 73% were urban resident and maximum were in middle- or high-income group.[29] However, recent study found no connection with other socioeconomic status and reported inconsistent results in associations with race or ethnicity. Another study found similar finding where, 98 respondents were male among 112 children and 50 children had other pervasive developmental disorders and 62 children had autism.[18]

Present study showed the comparison of ASD and controls children with all subscales of SDQ found, 53% of ASD children had emotional problem that were more between 7-11 years age group and girls having more association with emotional problem which was statistically significant (p=0.030). Present study finding also matches with the findings of a study mentioned that children with autism had the most emotional disturbance in regards to the emotional competence and emotional regulation and a Norway study, where emotional problem was 56.5%.[27,30] A teacher-reported emotional and behavioral problem study using the SDQ in a sample of 5–13-years child with language impairment and child with ASD showed similarly elevated levels of emotional symptom 40.48% in ASD group.[31]

In the present study emotional problems were present in 27% of the normally developed children that was statistically significant (p=0.003) below the 7 years age group. Boys were suffering more and majority of children came from nuclear family. A study carried out at the Pediatric Outpatient Department of 3 tertiary level hospitals in Dhaka, Bangladesh showed the mean age of normal children was 9.0 and among them emotional disorder was 15%.[32]

The hyperactivity among the ASD children were 69% which was significantly varies between boys and girls in this study (p=0.020) and was also statistically significant (p=0.001) in the age ranged 7-11 years. A relevant in Dhaka found that 64% of them had hyperkinesis.[29] A study of ASD children between 6 and 15 years showed hyperactivity/inattention in 87% cases.[30] Charman et al. (2015) conducted a study to compare the emotional and behavioral problems between children with language impairment and ASD children and found hyperactivity in 21.43% cases.[31] This difference may be due to variation of using different versions of instruments and sociodemographic characteristics.

In the present study, 21% of control had hyperactivity and it was predominant in boys of 7-11 years old and in nuclear family but was insignificantly associated with age and sex (p=0.503; p=0.394). A Sri Lankan study of normally developing children reported, hyperactivity in 3.4% by self-version, 9.04% parent's version and 16.19% by teacher's version of SDQ.[33] The first study in child and adolescent of Bangladesh reported a prevalence of hyperkinesis in 3.1%.[34] Conduct problem found in 29% of ASD children and in 15% of control in the present study which is almost similar to a study showed 22% conduct problem in ASD children using SDQ.[31] Another study investigated and compared emotional and behavioral profiles in children with ASD and in children with language impairments showed conduct problems 34.8%.[30] This study revealed that conduct problem was higher between 7-11 years in ASD children and higher below 7 years age group in normal children. Conduct problems of boys with ASD did not increase with age and there were no significant differences between ASD and control children. In contrast, conduct problems in girls with ASD increased significantly with age and the score for boys and girls of control children significantly decreased with age.[19] This difference may be due to different sample size, screening tools and culture. Conduct problems in normal children was found in 15.6% cases in a study carried out in Sri Lanka according to parent's version of SDQ which is relevant to the findings of control child in present study.[33] Explorative study suggests that around 10-20% of Bangladeshi 5-10 years old children have ODD and CD (ODD= 3.4-10%, C= 1.3-6.4%).[7] The frequency of co-existing conditions, including such emotional and behavioral problems, in children with ASD has implications for designing appropriate support services for children and families.[35] A study found the emotional difficulties and conduct problems were same in children (4–11years) and in adolescents (12–19 years) reported by both teachers and parents, though teachers reported hyperactivity significantly higher in children than adolescents.[36] Another study reported elevated level of hyperactivity, emotional and conduct problems among children with ASD with or without ID.[26]

This study noted that, statistically significant difference of peer problem between ASD and control children were

65% vs 35%, (p=0.027), and prosocial behaviors was 52% vs 12%. Two other studies reported peer-problems 87% and prosocial behavior 47.8% vs peer-problem 66.67% and prosocial behavior 21.95% in ASD children that are consistent with present study.[30,31]

A Swedish study on emotional and behavioral problems in adolescents (14-15 years) using self reported version of SDQ found that more emotional symptom and more prosocial behavior in girls and more conduct problems and more peer problems in boys.[37] Present study shows total difficulty score was 48% in ASD and 12% in control children which was dissimilar with the findings of two studies revealed total difficulty score 65.2% and 41.46% in ASD children.[30,31] this inconsistency may be due to variation in sample size and sociocultural difference.

Researcher used SDQ to evaluate emotional and behavioral problems in ASD children because it is easy to complete by caregivers due to the size of the questionnaire, and it is a suitable screening tool for emotional and behavioral problems. Moreover, the proportions of children with ASD not only in the clinical range but also in the borderline range were significantly higher than those of controls, especially for emotional problems, hyperactivity/inattention, and conduct problems. Considered together, the division of the SDQ score into three ranges, clinical, borderline and normal, is meaning-full, highlighting the need to pay attention to children with ASD in both clinical and borderline ranges of the SDQ. The use of the SDQ was potentially useful to prevent such co-existing problems in advance. Limitations were - distinguishing the emotional and behavioral problems from the main features of ASD by using SDQ and clarifying differences between developmental disorders, such as ASD and ID were difficult. Taking information through parental reports was also troublesome because of illiteracy and low education of some of the parents. Further large scales studies are required to evaluate the real scenario.

Conclusions

In light of discussion, it can be concluded that coexisting emotional and behavioral problems such as anxiety, hyperactivity, conduct and peer problems are higher in ASD children. These problems are associated with poor clinical outcome and cause high levels of stress for family members. Early intervention can reduce extra burden on the children and improve their quality of life. So, knowledge about emotional and behavioral problems in ASD and normal children help the clinicians to discuss all with caregivers and offer management advice for adapting the environment.

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How to cite this article: Talukdar S, Royle RKS, Chowdhury AR, Basak PK, Motin MA, Azam AKSS, et al. A comparative analysis of emotional and behavioral problems in children with autism spectrum disorder and typically developing peers. Arch NIMH. 2023; 6(2):3-12

Received 28 Oct 2023, revised 16 Nov 2023, accepted 13 Dec 2023.

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ARCHIVES of NIMH
The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Quality of life among the patients attending psychiatry OPD in a tertiary care military hospital

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Background: Previously syndromic recovery was the usual measure of treatment outcome but the subjective experiences of the patients were ignored.

Objectives: To assess quality of life (QOL) of psychiatric patients attending OPD.

Methods: This is a descriptive cross-sectional study with 200 psychiatric patients who attended psychiatric OPD of a tertiary care military hospital. To assess the quality of life the WHOQOL-BREF, Bangla version was used.

Results: Among the participants, 48.5% rated their overall QOL (Q1) as good and 31.5% patients were satisfied with their health (Q2). Mean scores of physical health, psychological, social relationships and environmental domains of WHOQOL-BREF were 55.07, 49.91, 51.96 and 63.92 respectively.

Conclusions: Overall the quality of life among the participant was near the middle of the possible score range. During measuring the treatment outcome these factors should also be assessed and we recommend to conduct this type of surveys to get the actual scenario.

Keywords: Outpatients, Mental disorders, Quality of life, WHOQOL-BREF

Introduction

The definition of health was made by WHO as long as a half century ago, but it has been measured narrowly and from a deficit perspective, often using only measures of morbidity or mortality. But, health is seen by the public health community as a multidimensional construct that includes physical, mental and social domains and it usually includes subjective evaluations of both positive and negative aspects of life.[1] This multidimensional concept is assessed by Quality of life (QOL). WHO (World Health Organization) also defines Quality of Life as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns".[2]

Increasing tendency of prevalence of different mental disorders is evident, in 2019, 1 in every 8 people, or 970 million people around the world were living with a mental disorder, mostly with anxiety and depressive disorders.[3] In 2020, the number of people living with anxiety and depressive disorders rose significantly because of the COVID-19 pandemic. Initial estimates show a 26% and 28% increase respectively for anxiety and major depressive disorders in just one year.[4] In India estimated prevalence rate of psychiatric illness is 58.2 per thousand populations and in Pakistan it was found around 27%.[5,6]

Mental disorders constitute a major public health problem and contribute to 13% of the global burden of disease measured as disability adjusted life years.[7] According to WHO, depressive and anxiety disorders contributed to 7·5% and 3·4% of years lived with disability (YLD).[8] It is also important to measure the quality of life among the mentally ill patients than only calculating disability-adjusted life years (DALYs) and YLD. To evaluate the extent of QOL, the WHOQOL Group developed an assessment instrument called WHOQOL-BREF.[9,10]

QOL has been shown to be considerably impaired among individuals with various mental illnesses including schizophrenia spectrum disorders, depressive disorders, anxiety disorders, and pathological gambling in studies conducted on clinical populations.[11] In order to improve outcomes for people with mental illness, it is important to understand what affects functioning and how functional impairments in areas such as social, occupational or role and psychological aspects may be associated with other outcomes such as quality of life (QOL).[12]

Materials and methods

Study design

This is a descriptive cross-sectional study. General objective of this study was to assess the quality of life among the patients attending psychiatry OPD for treatment. Specific objectives were to find the frequencies of psychiatric disorders along with their score on different domains of quality of life.

Participants

Sample size was calculated by the formula used for cross-sectional study with the prevalence of psychiatric morbidity of 16.5%,[13] it was found to be 212 and for the study it was sample size was taken 200. Purposive convenient consecutive sampling technique was used and after screening of the respondents by the inclusion-exclusion criteria and taking their consent the assessments were done.

Measurements

Demographic and clinical variables: We collected the following socio-demographic data. on the participants: age, which was classified into three groups (18–30 years, 31–40 years, 41-50 years, 51-60 years, 61-70 years and 71 years and older); gender as male and female; education, which was classified as no formal education, secondary school certificate, higher secondary certificate, graduate, and post-graduate; marital status, which was classified as unmarried, married, divorced and widow; residence, which was classified urban and rural; religion, which was classified as Muslim, Hindu, Buddha, Christian and others; occupation, which was classified as unemployed, service holder, housewife, student and business; total number of family members; annual income in taka; number of comorbid physical illness.

Psychiatric illness: Psychiatric disorders were diagnosed by psychiatrists using DSM 5 criteria and their duration was calculated in months. All the patients were stable with good insight in their illness.

Quality of life (QOL): The World Health Organization (WHO) initiated a cross-cultural project to develop the standard 100-item World Health Organization Quality of Life instrument (WHOQOL-100) in 1991. Then, the WHOQOL research group simplified the WHO-QOL-100 into a brief version called the WHOQOL-BREF.[9] This measure was culturally

adapted into a Bangla version.[14] The WHOQOL-BREF includes 2 general items and 24 items that represent 24 specific facets of the WHOQOL-100. The 24 items are categorized into four domains: physical, psychological, social relationships and environmental. Each facet is scored from 1 to 5 points, with a higher score indicating a better QOL. Each domain score ranges from 4 to 20 and is calculated by multiplying the average score of all facets of the respective domain by 4.

Statistical analysis

SPSS version 24 software was used to analyze the data. The significance level was set at 5% which is equivalent to a p-value ≤ 0.05. In a typical descriptive statistical study, the mean and standard deviation for quantitative data, as well as frequency and percentage for qualitative variables, were employed.

Ethical approval

This study was approved by the ethical committee of Combined Military Hospital, Dhaka and performed according to the Helsinki declaration guideline.[15]

Results

Socio-Demographic characteristics: The participant characteristics are presented in Table 1. Total numbers of participants were 200 (132 female and 68 male). The mean age of participants was 36.58 (SD=11.69, range 18-79). Most of the respondents were married (88%) and 97.5% were Muslim. Highest number of respondents were HSC (higher secondary) passed (41.5%) and 55% were housewife. Most of the participants lived in urban area (60%) and most of the respondent's annual income were less than 5 Lac Tk (83%). Only 2% participants had 4 or more comorbid physical illness, but most of them were without any medical condition (59%).

Table 1: Sociodemographic and relevant profile of patients (N=200)

Characteristics	Level	n (%)
Age group (years)	18-30	68 (34)
	31-40	68 (34)
	41-50	37 (18.5)
	51-60	20 (10)
	>60	7 (3.5
Gender	Female	132 (66)
	Male	68 (34)
Marital status	Unmarried	24 (12)
	Married	176 (88)
Education	Illiterate	1 (0.5)
	Primary	19 (9.5)
	Secondary	50 (25)
	Higher secondary	83 (41.5)
	Graduate	34 (17)
	Post-graduate	13 (6.5)
Residence	Urban	120 (60)
	Rural	80 (40)
Religion	Islam	195 (97.5)
	Hinduism	5 (2.5)
Employment status	Unemployed/retired	18 (9)
	Student	22 (11)
	Service holder	45 (22.5)
	Business	5 (2.5)
	Housewife	110 (55)
Annual family income	Less than 5 lac	166 (83)
	More than 5 lac	34 (17)
Numbers of physical comorbidity	No physical illness	118 (59)
	One	43 (21.5)
	Two	24 (12)
	Three	11 (5.5)
	Four or more	4 (2)

Psychiatric disorders: Table 2 shows the frequencies of different psychiatric disorders among the study population. Generalized anxiety disorder was the most frequent psychiatric illness (33%), followed by depressive disorders (27.5%). Bipolar mood disorders were present in 8% and schizophrenia in 6% cases.

Table 2: Psychiatric disorders among patients attending OPD (N=200)

Psychiatric disorders	n (%)
Generalized anxiety disorder	66 (33)
Depressive disorders	55 (27.5)
Bipolar mood disorders	16 (8)
Somatic symptom related disorders	16 (8)
Schizophrenia	12 (6)
Obsessive compulsive disorder	12 (6)
Adjustment disorder	5 (2.5)
Panic disorder	5 (2.5)
Sexual disorders	4 (2)
Sleep related disorders	3 (1.5)
Phobic disorder	2 (1)
Substance related disorders	2 (1)
Personality disorders	2 (1)

Quality of life: Overall, 48.5% participants rated their quality of life (Q1) as good, which was followed by 41% rated as neither poor nor good (Figure 1). When asked to rate their satisfaction regarding their health (Q2), most of the answer were neither satisfied nor dissatisfied (40%), followed by satisfied (31.5%) (Figure 2).

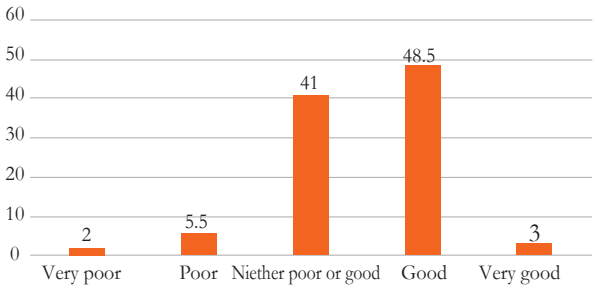

Figure 1: Responses in percentages to the question -How would you rate your quality of life? (Q1)

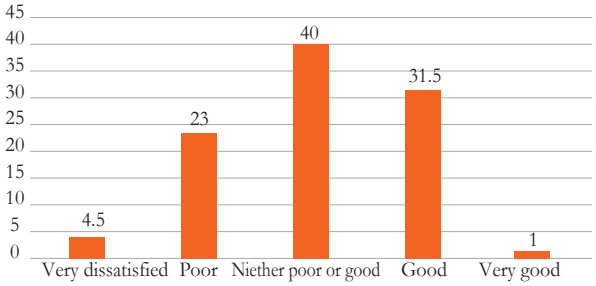

Figure 2: Responses in percentages to the question - How satisfied are you with your health? (Q2)

Mean scores of the four domains (physical health, psychological, social relationship and environmental) are shown in Table 3. Highest mean was in the environmental domain (63.92), followed by physical health domain (55.07). Lowest mean was in the psychological domain (49.91).

Table 3: Mean scores of physical health, psychological, social relationships and environmental domains of WHOQOL-BREF

Domain	Mean (S.E.)	SD
Physical health	55.07 (1.21)	17.15
Psychological	49.91 (1.14)	16.16
Social relationships	51.96 (1.14)	15.43
Environmental	63.92 (0.90)	12.75

Mean scores of quality-of-life domains among different socio-demographic subgroups are shown in Table 4.

Table 4: Mean scores of quality-of-life domains among different subgroups

Variable	Domains of quality of life (mean±SD)			
	Physical	Psychological	Relationship	Environment
Age group				
18 – 30	52.57±18.06	45.03±17.60	51.71±14.72	62.40±13.09
31 – 40	57.19±17.03	51.89±15.79	51.34±16.26	64.04±12.28
41 – 50	59.45±13.52	54.72±12.92	56.75±15.32	67.73±12.41
51 – 60	50.35±16.00	52.70±12.70	48.33±12.85	63.43±11.95
>61	48.97±24.63	44.64±19.50	45.23±18.54	58.48±16.30
Sex				
Female	52.29±16.13	47.79±15.89	51.32±14.87	64.01±12.61
Male	60.45±17.89	54.04±15.96	53.18±16.48	63.74±13.10
Marital status				
Unmarried	60.11±18.29	43.22±21.02	54.51±15.73	67.70±12.21
Married	54.38±16.93	50.82±15.22	51.60±15.39	63.40±12.76
Education				
Illiterate	32.14	29.16	33.33	40.62
Primary	53.57±17.49	52.19±16.15	50.87±10.70	67.10±8.79
Secondary	55.85±18.23	51.41±17.52	53.50±18.97	63.18±14.14
Higher secondary	56.45±16.90	49.79±14.46	50.40±14.31	63.81±12.82
Graduate	55.25±15.03	48.40±16.21	51.22±13.62	64.54±11.45
Post graduate	46.70±18.69	47.11±21.47	60.89±15.73	62.98±14.59
Residence				
Urban	55.77±15.85	50.17±15.45	53.81±16.23	62.81±11.70
Rural	54.01±18.99	49.53±17.24	49.16±13.75	65.58±14.08
Religion				
Muslim	55.34±17.18	50.12±16.28	52.13±15.45	64.02±12.78
Hindu	44.28±13.02	41.66±6.58	45.00±13.94	60.00±12.75

Variable	Domains of quality of life (mean±SD)			
	Physical	Psychological	Relationship	Environment
Employment				
Unemployed/ retired	50.79±16.77	45.37±14.56	47.22±15.12	57.29±13.72
Student	58.76±18.23	40.90±19.90	53.40±15.14	66.61±11.70
Service	61.98±16.96	56.75±15.16	52.40±16.63	65.76±12.62
Business	62.14±17.23	59.16±12.63	70.00±13.94	65.00±11.77
Housewife	51.88±16.25	49.24±14.99	51.43±14.71	63.66±12.70
Annual family income				
< 5 Lac tk	55.35±16.72	50.40±15.75	51.35±15.08	64.38±12.78
>5 Lac tk	53.67±19.31	47.54±18.06	54.90±16.93	61.67±12.53
Numbers of physical comorbidities				
No physical illness	58.38±16.62	51.37±15.36	53.46±15.07	65.49±11.49
Only one	52.74±16.67	49.22±17.37	49.61±13.35	61.55±12.98
Two	45.98±17.18	44.09±17.75	48.26±19.03	60.93±15.47
Three	49.35±17.62	49.24±15.68	53.03±17.97	64.20±16.67
>Four	52.67±15.53	51.04±16.79	52.08±17.17	60.15±15.59

Mean scores of quality of life domains among different psychiatric disorders are shown in Table 5.

Table 5: Mean scores of quality-of-life domains among different psychiatric disorders

Variable	Domains of quality of life (mean±SD)			
	Physical	Psychological	Relationship	Environment
Generalized anxiety disorder	54.76±16.30	51.57±15.73	54.41±17.61	64.63±12.84
Depressive disorders	54.22±19.20	47.27±17.22	50.15±15.00	62.10±12.92
Bipolar mood disorders	68.97±10.57	60.41±13.26	59.89±11.47	72.65±09.98
Somatic symptom related disorders	45.31±14.73	49.73±16.69	50.52±15.35	67.96±09.37
Schizophrenia	52.08±16.85	47.91±15.43	46.52±09.03	59.89±13.38
Obsessive compulsive disorder	55.95±15.10	47.56±12.62	54.86±11.49	64.84±12.99
Adjustment disorder	58.57±10.28	50.83±13.30	43.33±09.12	71.25±05.13
Panic disorder	63.57±10.22	53.33±11.56	50.00±08.33	61.87±09.21
Sexual disorders	66.96±17.82	53.12±07.11	39.58±10.48	61.71±14.29
Sleep related disorders	53.57±22.30	48.61±14.63	63.88±12.72	51.04±11.83
Phobic disorder	57.14±20.20	54.16±17.67	58.33±11.78	56.25±13.25
Substance related disorders	28.57±00.00	31.25±08.83	37.50±17.67	43.75±00.00
Personality disorders	41.07±02.52	10.41±02.94	25.00±00.00	45.31±11.04

Discussion

The present study was performed to assess the subjective Quality of life (QOL) among psychiatric patients attending the psychiatry OPD. To the best of our knowledge, this is one of the first studies using WHOQOL-BREF measuring QOL among the patient group.

In our study 48.5% participants mentioned their quality of life (Q1) as good, which was followed by 41% mentioning as neither good nor bad. Regarding their satisfaction about health, 40% mentioned as neither satisfied nor dissatisfied followed by 31.5% were satisfied with their health. A study among patients with DM in Bangladesh found 22.2% had overall poor QoL (Q1) and one-quarter of patients had general dissatisfaction about their health (Q2).[16]

Our study revealed that the overall QoL of psychiatric patients in the physical health, psychological, social relationship, and environmental domains was at or below the middle (i.e., 50) of the possible score range (0 – 100 for WHO-QOL-BREF at a scale of 100). Mean scores of physical, psychological, social, and environmental domain scores were 55.07, 49.91, 51.96 and 63.92 respectively. A study conducted in Dhaka among general population, it was found that mean scores in physical, psychological, social, and environmental domain in men were 63.37, 61.18, 66.12 and 50.0 respectively, in women it was 70.43, 60.06, 69.37 and 56.62.[14] In respect to this study, our finding were low and this may be due the psychiatric disease condition. However, the mean score of environment domain was higher in our study (63.92 vs 50.0/56.62). This may be explained by different arrangement of the study population.

In a study conducted in Egypt among the both in-patient and out-patient of a psychiatric hospital, it found that the mean scores of physical, psychological, social, and environmental domain scores were 53.3, 48.9, 36.2 and 50.7 respectively.[17] The mean scores of social relationship domain and environmental domain were less than our study. The difference may be due to the nature of psychiatric disorders and including in-door patients in study. However, a study in Singapore, which was carried among the out-patient department the mean scores for the physical health, psychological health, social relationships and environment domains of the WHO-QOL-BREF were 54.0, 49.8, 54.2 and 61.1 respectively.[18] The findings of the study is quite similar to our study.
Among the psychiatric disorders, the lowest mean score for psychological and social relationship domains was with personality disorders (10.41 and 25.00 respectively), and followed by substance related disorders (31.25 and 37.50 respectively). But in case of both disorders, the number of respondents were 02 and which may have produced drastic results.

The mean scores of physical, psychological and environment domains were highest in bipolar mood disorder patients (68.97, 60.41 and 72.65). Where as in schizophrenia these were found 52.08, 47.91 and 59.89. The results in the present study support the findings of study by Chant et al.[19] and Akvardar et al.[20] where patients with bipolar disorder had significantly higher scores than a schizophrenia group. The different scores of patients with bipolar disorder may be due to less impairment than those of patients with schizophrenia and this perhaps may be the indicator of a positive impact of extensive remission periods on the quality of their lives. It can also be due to 'mood bias' or cognitive distortions regarding self-concept and functioning.

Limitations

This study was carried out among population of different background, which may not be similar to general population of Bangladesh. Beside this, due to purposive sampling method, it may not be representative of actual distribution psychiatric disorders.

Conclusion

From the findings of the current study, it can be said, most of psychiatric patients have low QOL. The benefit of carrying out studies related to quality of life may shed light on these patients with an opportunity to express what is and isn't working in their lives. From the clinical viewpoint, this study implies that, in general, treatment programs should encourage patients and staff to work jointly to identify strategies for promoting the patient's quality of life along with their disorders.

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How to cite this article: Shaikh MAK, Meraj MFR, Alam MT, Ibrahim I, Nayeem ASMN. Quality of life among the patients attending psychiatry OPD in a tertiary care military hospital. Arch NIMH. 2023, 6(2): 13-19

Received 15 July 2023, Revised 11 Nov 23, Accepted 23 Nov 23

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ARCHIVES of NIMH
The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Problematic internet use, sleep quality and depressive symptoms among students of Caregiver Medical Training Center

Md. Abdullah Sayed, Suchitra Talukdar, Mubin Uddin, Rezwana Habiba, Md. Abul Khaer Chowdhury, Md. Sadequr Rahman

Background: There is a close association between problematic internet use with sleep quality and depressive symptoms. It is a major concern among students because problematic internet use (PIU) as well as its association with sleep and depression affects their studies and career goals.

Objectives: Assessment of prevalence and associations of PIU, insomnia and depression in students of the Caregiver Medical Training Center.

Methods: A cross-sectional study was conducted in the Global Caregiver Medical Training Institute, Sylhet. Fifty students were included in this study. They were interviewed using a semi-structured questionnaire, Bangla versions of the Internet Addiction Test (IAT), Insomnia Severity Index (ISI) and Patient Health Questionnaire (PHQ-9).

Results: Most of the participants fell into the moderate PIU 50%, followed by mild 46% and severe 4%. The majority with mild depression have mild PIU 80%, moderately severe depression had moderate PIU 73.3%, significant majority with severe depression fell under moderate PIU 63.6%. For subthreshold insomnia, the majority 63.6% had mild PIU, while 36.4% had moderate PIU. Individuals with clinical insomnia of moderate severity are predominantly categorized as having moderate PIU 71.4%, followed by mild PIU 28.6%. For those with clinical insomnia of severe nature, 50% have moderate, 30% have mild, and 20% have severe PIU.

Conclusions: The study revealed a strong correlation between problematic internet use with disturbed sleep quality and depression. The findings suggest the need for intervention to prevent the negative consequences of problematic internet use.

Declaration of interest: None

Keywords: Problematic internet use, insomnia, depression, students

Introduction

The internet is an important part of technological developments and has become an integral part of people's daily lives.[1,2] Excessive internet use can lead to unhealthy phenomenon called 'Problematic Internet Use (PIU)' which is described as excessive usage of the internet characterized by spending long periods online, accompanied by physical, behavioral, and psychosocial negative consequences.[3] PIU use is synonymous with pathological internet use, excessive internet use and internet addiction.[4] PIU is a major public health problem have negative impact on mental health. Its higher prevalence in adolescents and young adults can negatively affect their studies and career goals.[5]

Different studies show the prevalence of PIU varies a wide

range from 0.8% to 26.7% and from 03% to 38%.[5,6] Prevalence of internet addiction in India 44% and 42.7%, [7,27] in Bangladesh is 36% and 24%.[8,9] PIU negatively affects psychological health and well-being and can cause sleep disturbance, depression, anxiety and somatic symptoms.[10-12] It affects both sleep quality and quantity.[13] PIU leads to alteration of sleep patterns and excessive day-time sleepiness.[14,15] Previous studies have shown relationships between PIU and psychological problems like anxiety,[16] dissociative symptoms,[17] shyness,[18] and personality and self-esteem problems,[19] depression[20] and sleep disturbance.[21] A longitudinal study reported depressive symptoms are about 2.5 times higher in those with PIU, in comparison to those with non-PIU population.[22] PIU also increases the risk of anxiety and stress.[23] Clinical observations indicate that PIU have impact on biological and psychological functioning. This study tried to ascertain this problem.

Methods

It was a cross-sectional conducted in the Global Caregiver Medical Training Institute, Sylhet. A prior permission was taken from principal of this institute. Fifty students were included in this study. All students aged 18 years and above, and willing to participate in the study were included. Those who have already diagnosed psychiatric and medical condition were excluded from this study. After taking informed written consent data collection was started. Socio-demographic information of the students was obtained by using a semi-structured questionnaire. Bangla version of Internet Addiction Test (IAT) was applied to assess problematic internet use. Quality of sleep and depressive symptoms was assessed by Bangla versions of Insomnia Severity Index (ISI) and of Patient Health Questionnaire (PHQ-9) respectively. Statistical analysis was performed by using SPSS (Statistical package for social science) for windows version 25. Relationship between PIU with depressive symptom and quality of sleep were assessed by Pearson's correlation coefficient. One-way ANOVA and Linear by Linear association test were applied to assess relationship between PIU and sociodemographic variables of respondent. A probability (p) value of <0.05 was considered statistically significant

Measures

A pre-designed semi structured questionnaire for socio-demographic and other relevant information

This semi structured questionnaire contained socio-demographic variables which includes age, sex, religion, education, occupation, monthly family income, habitat, residential place, country, family history of psychiatric illness and relevant history.

Internet Addiction Test (IAT) Bangla

The IAT total score is the sum of the ratings given by the participant for the 18 item responses. Each item is rated on a 5-point scale ranging from 0 to 5. Validated Bangla Version of IAT was used in this study where maximum score is 90 points.[24] The higher the score is, the higher is the severity of problem. Total scores that range from 1 to 18 points are considered to reflect a normal level of internet usage; scores of 18 to 35 indicate the presence of a mild level of Internet addiction; 36 to 62 reflect the presence of a moderate level; and scores of 63 to 90 indicate a severe dependence upon the Internet.

Insomnia Severity Index (ISI)

The seven-item validated Bangla version of the ISI[25] evaluates the severity of insomnia on a five-point Likert scale, with "0" defining no problem and "4" defining a major problem. A total score of 0–7 indicates "no clinically significant insomnia," 8–14 means "subthreshold insomnia," 15–21 is "clinical insomnia (moderate severity)," and 22–28 means "clinical insomnia (severe).

The Patient Health Questionnaire (PHQ-9)

The Bangla version of the PHQ-9 used to assess severity of depression.[26] It consists of nine items and four-point responses to each item range from 0 to 3, so that total scores are between 0 and 27. The PHQ-9 total score ranges from 0 to 27 (scores of 0-4 are no depression, 5–9 are classified as mild depression; 10–14 as moderate depression; 15–19 as moderately severe depression; ≥ 20 as severe depression)

Results

Of the fifty students, majority were females (70%), urban residents (70%), in service profession (34%), completed higher secondary level of education (62%) and had monthly family incomes between 10K to 30K BDT (Table 1).

Table 1: Sociodemographic Characteristic of respondent (N=50)

Characteristics	Level	Frequency (n)	Percentage (%)
Sex	Male	15	30
	Female	35	70
Religion	Muslim	46	92
	Other	4	8
Education	Secondary	10	20
	Higher Secondary	31	62
	Graduate	9	18
Occupation	Service	17	34
	Business	3	6
	House wife	7	14
	Other	23	46
Family income	<10000	13	26
	10000-30000	24	48
	30000-50000	7	14
	>50000	6	12
Habitant	Urban	35	70
	Rural	15	30
Residential place	Hostel	8	16
	Own home	29	58
	Others	13	26
Family history of Psychiatric illness	Present	16	32
	Absent	34	68

Table 2 shows the prevalence of PIU, depression and insomnia.

Table 2: PIU, depression and insomnia among students (N=50)

Characteristics	Severity	Frequency (n)	Percentage (%)
Problematic internet use	Mild	23	46
	Moderate	25	50
	Severe	2	4
Depression	No depression	5	10
	Mild depression	10	20
	Moderate depression	9	18
	Moderately severe depression	15	30
	Severe depression	11	22
Insomnia	No clinically significant insomnia	8	16
	Subthreshold insomnia	11	22
	Clinical insomnia (moderate severity)	21	42
	Clinical insomnia (severe)	10	20

Table 3: Relationship between PIU with sleep quality and depressive symptoms

Problem	Level	PIU severity			P value
		Mild	Moderat	Seevere	
Depression	No	5 (100)	-	-	<0.001
	Mild	8 (80)	2 (20)	-	
	Moderate	4 (44.4)	5 (55.6)	-	
	Moderately severe	3 (20)	11 (73.3)	1 (6.7)	
	Severe	3 (27.3)	7 (63.6)	1 (9.1)	
Insomnia	Not clinically significant	7 (87.5)	1 (12.5)	-	0.001
	Subthreshold	7 (63.6)	4 (6.4)	-	
	Moderate severity	6 (28.6)	15 (71.4)	-	
	Severe	3 (30)	5 (50)	2 (20)	

Cell values are n (%); p values obtained from Fisher's exact test

The provided cross-tabulation data (Table 3) compares the Internet Addiction Test Score categories (mild, moderate, severe) against Patient Health Questionnaire-9 (PHQ-9 score category) and Insomnia Severity Index (ISI score category). The data suggests a potential correlation between the severity of depression and insomnia and the severity of internet addiction.

Table 4: Pearson correlation between IAT, PHQ-9 and ISI total scores

	IAT score	PHQ-9 score	ISI score
IAT score	1	0.498**	0.575**
PHQ-9 score	0.498**	1	0.680**
ISI score	0.575**	0.680**	1

**Correlation is significant at the 0.01 level (2-tailed); IAT-Internet Addiction Test, PHQ-9-Patient Health Questionnaire Nine Items, ISI-Insomnia Severity Index

The Pearson's correlation test results suggest that there is a significant positive relationship between Internet addiction and both depressive symptoms (as measured by the PHQ-9) and insomnia severity (as measured by the ISI) (Table 4). Similarly, there's a significant relationship between depressive symptoms and insomnia severity among the participants in this study.

Table 5: Associations between PIU and sociodemographic variables of respondent

Problem	Level	PIU severity			P value
		Mild	Moderat	Seevere	
Age	Mean±SD	26.4±9.8	25.0±3.1	28.0±14.1	0.730
Sex	Male	6 (40)	8 (53.3)	1 (6.7)	0.490
	Female	17 (48.6)	17 (48.6)	1 (2.9)	
Religion	Muslim	21 (45.7)	23 (50)	2 (4.3)	0.770

Problem	Level	PIU severity			P value
		Mild	Moderat	Seevere	
	Other	2 (50)	2 (50)	-	
Education	Secondary	4 (40)	5 (50)	1 (10)	0.570
	Higher Secondary	15 (48.4)	15 (48.4)	1 (.2)	0.001
	Graduate	4 (44.4)	5 (55.6)	-	
Occupation	Service	4 (23.5)	13 (76.5)	-	0.150
	Business	2 (66.7)	-	1 (33.3)	
	House wife	5 (71.4)	2 (28.6)	-	
	Other	12 (52.2)	10 (4.5)	1 (4.3)	
Family income	<10000	7 (53.8)	4 (30.8)	2 (15.4)	0.510
	10000-30000	9 (37.5)	15 (62.5)	-	
	30000-50000	4 (57.1)	3 (42.9)	-	
	>50000	3 (50)	3 (50)	-	
Habitant	Urban	17 (48.6)	17 (48.6)	1 (2.9)	0.490
	Rural	6 (40)	8 (53.3)	1 (6.7)	
Residential place	Hostel	4 (50)	4 (50)	-	0.970
	Own home	13 (44.8)	14 (48.3)	2 (6.9)	
	Others	6 (46.2)	7 (53.8)	-	
Family H/O Psychiatric illness	Present	11 (68.7)	5 (31.2)	-	0.020
	Absent	12 (35.2)	20 (58.8)	2 (5.8)	

*P- value for age based on one-way ANOVA and P-values for other variables obtained from Linear-by-Linear Association

Discussion

The present study evaluated the relationship between internet addiction, poor sleep quality and depression among the students of Caregiver Medical Training Center. In this study most of the participants fall into the moderate PIU category 50%, followed by minimum user 46%. A very small portion showed excessive PIU (4%). This result is comparable with Karmy et al. who reported 60.9% were regular users of the internet, 34.7% were moderate users, 4.3% severe.[27] Uddin et al. reported the prevalence of severe PIU among 475 students to be 47.7% for males and 44.5% for females.[28] This study is also comparable with Chaudhary et al. and Sharma et al. who reported prevalence of PIU as 58.87% and 42.7% respectively.[29,30] In the present study, males were found to be more PI user compared to females which have similarity with previous studies like Paul et al. and Sharma et al.[30,31] Morahan-Martin and Schumacher also found male predominance and explained males are involved in more online activities such as gaming, pornography and gambling which can lead to pathological internet use.[32]

In this study, the percentage of poor sleep quality was 62%. Gupta et al. and Shadzi, et al. reported sleep problem in internet addiction are 26.7% and 40% respectively.[33,34] The higher percentage of poor sleep quality in this study may be attributed to the higher prevalence of PIU. Individuals with 'clinical insomnia of moderate severity' having moderate PIU 71.4%, followed by mild PIU 28.6%. For those with 'clinical insomnia of severe nature', 50% have moderate PIU, 30% have mild PIU, and 20% have severe PIU. Poor sleep quality is closely associated with lifestyle habits including Internet use. Excessive internet use behaviors may have significant influence on the sleep–wake schedule, leading to insomnia and other sleep disturbances.[13,35,36] In this study 18%, 30% and 22% students had moderate, moderately severe and severe depression.

It is also seen that for mild depression, a majority 80% have mild internet addiction. Among individuals with severe depression, the majority 63.6% have moderate user and excessive user 9.1%. Gupta et al. reports 11.7%, 5.4%

and 0.5% participants had moderate, moderately severe and severe depression.[33] Also it was seen that 9.9% participants who had internet addiction also had depressive symptoms. Different study show there is relationship between problematic internet use and depression.[37,38,39] This study showed a significant correlation between internet use, alteration of sleep quality and depressive symptoms. Similar findings reported in other studies.[11,12] There is no statically significant relationship between problematic internet use and sociodemographic variable like age, sex, religion, education, occupation, family income, habitant, residential place but there is statically significant relationship between problematic internet use and family history of psychiatric illness (p=0.020)

Conclusions

This study revealed a strong correlation between PIU with disturbed sleep quality and depression. PIU can lead to different biological and psychological problem. The findings suggest that need for intervention to prevent the negative consequences of problematic internet use. Further metacentric studies with large sample size are required to evaluate actual scenario.

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How to cite this article: Sayed MA, Talukdar S, Uddin M, Habiba R, Chowdhury MAK, Rahman MS. Problematic internet use, sleep quality and depressive symptoms among students of Caregiver Medical Training Center. Arch NIMH. 2023; 6(2): 20-26

Received 15 Dec 2023, revised 23 Dec 2023, accepted 27 Dec 2023.

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ARCHIVES of NIMH
The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Psychometric properties of the Bangla version of Satisfaction with Life Scale (SWLS) in a sample of health care workers

Ahsan Aziz Sarkar

Background: While the Satisfaction with Life Scale (SWLS) has established itself as a valid and reliable tool for assessing life satisfaction across diverse populations in different languages, there is a notable absence of research on satisfaction with life and the validation of various measurement instruments in Bangladesh context.

Objectives: To adapt the SWLS in Bangla language and assesses its psychometric properties among health care workers (HCWs).

Methods: As part of a nationwide survey conducted in 2022 within government hospitals, this study involved interviewing a total of 775 HCWs (including physicians, nurses, and medical technologists). The participants were administered a semi-structured questionnaire covering sociodemographic details and relevant information. Additionally, interviews were conducted using the Bangla version of Satisfaction with Life Scale (SWLS), WHO-5 Well-Being Index (WHO-5), and Basic Psychological Need Satisfaction & Frustration Scale (BPNSFS).

Results: The total sample exhibited a mean (SD) SWLS score of 25.3 (±5.35), and the Cronbach alpha coefficient for the SWLS's five items was determined to be 0.811. Both confirmatory and exploratory factor analyses revealed a single component, explaining 58.9% of the variance. Positive correlations were noted between SWLS scores, WHO-5 scores, and satisfaction domains of autonomy, competence, and relatedness in the BPNSFS scale.

Conclusions: The Bangla version of the SWLS demonstrated reliable and valid psychometric properties among HCWs in Bangladesh context.

Declaration of interest: The survey was funded by Non-Communicable Diseases Control Program of Directorate General of Health Services, Bangladesh.

Keywords: Adaptation and validation, psychometric properties, health care workers, SWLS

Introduction

In the past few decades, there has been a substantial rise in research on subjective well-being, offering a valuable complement to traditional psychology by focusing on positive aspects rather than solely on negative emotions. Subjective well-being is assessed by measuring: the presence of (1) positive emotions and the absence of negative emotions (2) mature character traits (3) life satisfaction or quality of life, and (4) character strengths and virtues, such as hope, compassion and courage.[1] So, life satisfaction is a component of broader concept of subjective well-being. It has been linked with longer life, better physical and mental health, and better interpersonal

relationships.[2,3] One well established way of measuring life satisfaction is the five-item Satisfaction with Life Scale (SWLS).[4]

The SWLS evaluates overall life satisfaction, without focusing on specific domains like health or finances, enabling individuals to integrate and prioritize these aspects based on personal weighting. The items are broad, not specific, enabling respondents to evaluate life domains based on personal values and form an overall judgment of life satisfaction. The items are said to address the cognitive component of well-being rather than the affective one.[5] Normative data for the SWLS is accessible across various populations, including older adults, prisoners, individuals in inpatient care for alcohol abuse, abused women, psychotherapy clients, elderly caregivers of demented spouses, individuals with physical disabilities, and college student samples.[5] The scale has been employed in research encompassing varied samples in terms of sex, age groups, occupations, etc. and has been validated in multiple languages such as Spanish, French, Dutch, Portuguese, Turkish, and Chinese.[6] In review of multiple studies across different languages and population it has shown good convergent validity with various scales and assessments of subjective well-being along with considerable level of temporal stability (e.g., 0.54 over 4 years) while maintaining sensitivity to detect changes in satisfaction during clinical interventions.[5] Additionally, the scale differentiates itself from measures of emotional well-being, indicating discriminant validity.

While there has been a substantial increase in information and studies related to mental health in Bangladesh, there is a notable scarcity of population-level studies concerning psychosocial well-being. The psychometric characteristics and application of the SWLS in the adult population of Bangladesh remain unexplored and can be of great help in research and clinical field if the tool had been validated. The current research was aimed at adapting and validating the Bangla version of SWLS within a nationally representative sample of health care workers (HCWs) of Bangladesh as part of a broader study of assessment of mental well-being of HCWs.

Methods

Sample

A nationwide survey was conducted in government hospitals in Bangladesh focusing on the mental well-being of frontline health workers during the COVID-19 era. The study, titled 'National Assessment of the Current Status of Mental Wellbeing of the Frontline Health Workers and Identifying the Needs for Additional Support in the Era of COVID-19 in Bangladesh,' employed a stratified random sampling method to select 56 health facilities, including 24 primary level hospitals, 16 secondary level hospitals, and 16 tertiary and COVID-dedicated hospitals. A total of 775 healthcare workers (doctors, nurses, medical technologists) were included using systematic random sampling. Participants were interviewed using a semi-structured sociodemographic questionnaire, SWLS,[4] WHO-5 Well-Being Index (WHO-5)[7] and Basic Psychological Need Satisfaction & Frustration Scale (BPNSFS).[8] The BPNSFS measures satisfaction and frustration of basic psychological needs based on the self-determination theory. Ethical clearance was obtained from the Bangladesh Medical Research Council, and statistical analysis was conducted using SPSS-IBM version 22. Confirmatory factor analysis was performed using the free online CBID software available at http://biostats-shinyr.kumc.edu/CBID/.

The SWLS

The SWLS assesses subjective life satisfaction through a five-item questionnaire with multiple-choice responses. The items on the scale are as follows: i. My life is close to my ideal in most aspects; ii. The conditions of my life are excellent; ii. I am content with my life; ii. I have achieved the important things in my life so far; and iv. If I had the chance to start over, I would change almost nothing in my life. The original SWLS provides seven multiple-choice options, ranging from "1=Strongly disagree" to " 7 = Strongly agree." The scores can be understood in both absolute and relative terms.[5] A score of 20 indicates a neutral position, where the respondent is approximately equally satisfied and dissatisfied. For instance, scores ranging from 21 to 25 signify slight satisfaction, while scores between 15 and 19 suggest a slight dissatisfaction with life. Scores in the range of 26 to 30 indicate satisfaction, whereas scores from 5 to 9 imply an extreme dissatisfaction with life.

Adaptation

Two translators independently translated the English questionnaire into Bangla then collaborated to create a preliminary Bangla version of SWLS. One professor of Psychiatry, proficient in both languages, translated it back into English and experts confirmed its equivalence with the original. Pre-testing involved administering the Bangla version to 20 HCWs aged 22 to 60. The respondents were carefully instructed and any confusion or concerns about the questionnaire were noted and addressed, leading to necessary revisions before assessing the inventory's reliability.

Results

Participants

In this nationwide hospital-based survey, 775 healthcare workers (HCWs) were interviewed, with 34.1% from primary, 33% from secondary, and 32.9% from tertiary level hospitals. Of the HCWs, 47.7% were physicians, 37.3% were nurses, and 15% were medical technologists. The mean age of HCWs was 36.9±9.1, and doctors were younger on average than nurses and technologists. Two-thirds of participants were in the 18-40 years age range. While the overall gender ratio was equal, nurses exhibited a female predominance (83.7%), and medical technologists were mostly male (84.5%). Approximately 85% of the participants were married.

Reliability

Mean (SD) SWLS score found was 25.3 (±5.35) for the total study population with a range between 7 and 35. The Cronbach alpha coefficient for the five items of the SWLS found was 0.811.

Table 1: Distribution of item characteristics of SWLS

Item	Mean	SD	Item-total correlation	Cronbach's alpha if item deleted
Item1	5.07	1.32	0.67	0.753
Item2	5.11	1.25	0.64	0.764
Item3	5.74	1.18	0.58	0.783
Item4	5.12	1.42	0.63	0.763
Item5	4.33	1.82	0.52	0.815

Validity

We proposed a single factor model for the scale and found that chi-square value of 13.8 (p=0.000) with chi-square/df value of 2.76 and Root Mean Square Error of Approximation (RMSEA) value of 0.048; Comparative Fit Index (CFI) found was 0.998 and Tucker-Lewis Index (TLI) 0.997.

In factor analysis, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy - KMO coefficient found was 0.844 for the sample and the $\chi 2$ value in the Bartlett test was 1278 (df=10; p=0.000), indicating that factor analysis could be conducted. Principal component analysis identified a single component with eigenvalues of more than one (i.e., 2.94) and this one component in total explained 58.9% of the variance.

Table 2: Factor structure of SWLS obtained by principal component analysis

Item	Factor loading	Extracted communalities
Item1	0.816	0.666
Item2	0.798	0.636
Item3	0.788	0.556
Item4	0.746	0.620
Item5	0.685	0.469

Convergent validity was assessed by correlating the SWLS scores with the WHO-5 scores and scores in autonomy, relatedness and competence satisfaction domains of the BPNSFS. Divergent validity was assessed by correlating the SWLS scores with scores in autonomy, relatedness and competence frustration domains of the BPNSFS. Table 3 outlines the findings of correlations between scale scores.

Table 3: Convergent and divergent validity of SWLS

	Pearson's correlation coefficient	P value
WHO-5	0.537	0.000
Autonomy satisfaction	0.454	0.000
Relatedness satisfaction	0.330	0.000
Competence satisfaction	0.246	0.000
Autonomy frustration	-0.229	0.000
Relatedness frustration	-0.204	0.000
Competence frustration	-0.307	0.000

SWLS- Satisfaction with Life Scale, WHO-5- WHO-5 Well-Being Index

Discussion

The primary objective of this study was to share findings from the research employing a sample of HCWs in Bangladesh to validate the SWLS within the local context.

The SWLS, a concise assessment of life satisfaction, has been validated and extensively utilized in diverse samples and languages worldwide. Analysis results suggest that the Bangla version of the SWLS proves to be a reliable and valid measure for assessing life satisfaction within the specific context of Bangladesh. For each item, we noted that the item total correlation values surpassed 0.30, indicating favourable correlation values.[9] Additionally, the resulting scale exhibited a strong level of internal consistency with a Cronbach's alpha of 0.811, surpassing the recommended minimum criterion of 0.70 or higher, indicative of robust internal consistency.[10]

From the perspective of self-determination theory, maintaining wellbeing involves three components - autonomy, competence and relatedness.[18] The positive correlation observed between the SWLS scores, with WHO-5 scores, and the self-determination satisfaction domain scores in the BPNSFS indicates robust convergent validity. Conversely, the negative correlation between the SWLS score and self-determination frustration domain scores in the BPNSFS suggests sound divergent validity.

This research holds significance as it represents the first study to validate the SWLS scale in a representative sample of Bangladeshi adults. Nonetheless, there are certain limitations associated with the study. The study encountered limitations in its exploration of additional psychometric properties, specifically the inability to assess test-retest reliability of the scale. Moreover, the research did not delve into the predictive validity of life satisfaction concerning adverse outcomes. The absence of such examinations constrains a comprehensive understanding of the scale's reliability and its potential utility in predicting critical outcomes, warranting consideration in future research endeavours.

Conclusions

The Bangla version of the SWLS demonstrated reliable and valid psychometric properties among HCWs in Bangladesh context.

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How to cite this article: Sarkar AA. Psychometric properties of the Bangla version of Satisfaction with Life Scale (SWLS) in a sample of health care workers. Arch NIMH. 2023; 6(2): 27-31

Received 22 Aug 2023, revised 11 Oct 2023, accepted 21 Oct 2023.

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ARCHIVES of NIMH
The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Validation of the Bangla version of Clinical Global Impression - Schizophrenia scale in a sample of schizophrenia patients

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Background: : The Clinical Global Impression - Schizophrenia (CGI-SCH) scale is a brief, straightforward, well-established tool with acceptable psychometric properties and demonstrable sensitivity to change. It is intended for use by psychiatrists in both research and clinical settings.

Objectives: To adapt and validate the CGI-SCH in Bangla language in a sample of patients with schizophrenia.

Methods: A validation study of the Bangla version of CGI-SCH was carried out in 49 patients of schizophrenia with predominantly negative symptoms at National Institute of Mental Health (NIMH), Dhaka. Concurrent validity and sensitivity to change were evaluated by comparing the results with the Positive and Negative Syndrome Scale (PANSS), which is widely acknowledged as the gold standard tool for assessing individuals with schizophrenia.

Results: Significant correlations were observed between Total PANSS and CHI-SCH scores at Day 0 (r=0.576, p=0.000), Day 30 (r=0.736, p=0.000), and Day 90 (r=0.887, p=0.000) during the study, indicating moderate to strong associations. Within the CGI-SCH severity of illness domain, individual items (positive, negative, depressive, cognitive, and global) exhibited moderate to strong positive correlations with corresponding domains of PANSS. Additionally, the CGI-SCH degree of change domain demonstrated a similar direction of change compared to PANSS over the specified time period.

Conclusions: The Bangla adaptation of the CGI-SCH scale proves to be a valid and reliable tool for evaluating the severity of schizophrenia and assessing treatment responses.

Declaration of interest: This study was sponsored by Bangladesh Association of Psychiatrists (BAP) with scientific support and research grant from Beacon Pharmaceuticals Limited.

Keywords: Adaptation and validation, psychometric properties, Clinical Global Impression - Schizophrenia (CGI-SCH)

Introduction

Schizophrenia is a chronic and complex mental disorder marked by a variety of symptoms such as delusions, hallucinations, disorganized speech or behavior, and impaired cognitive function. The symptoms of schizophrenia can be categorized as positive, negative, cognitive and depressive while heterogeneity in presentation is common.[1] A number of scales are commonly used to rate schizophrenia symptoms including the Positive and Negative Symptom Scale (PANSS), The Scale for the Assessment of Negative Symptoms and the Scale for the Assessment of Positive Symptoms (SANS and SAPS), Brief Psychiatric Rating Scale (BPRS), Negative symptoms assessment 16 (NSA-16), etc. However, most these scales were designed for utilization in research settings, though effective for evaluating treatment

outcomes in clinical trials, requires a significant amount of time for administration.

The Clinical Global Impression - Schizophrenia (CGI-SCH) scale is a concise assessment tool derived from the Clinical Global Impression (CGI) scale and the CGI-Bipolar Patients (CGI-BP) scale.[2] Initially adapted for assessing the impact of antipsychotic treatment on schizophrenia, it was specifically created for use in the Schizophrenia Outpatient Health Outcomes (SOHO) Study,[3] an observational research initiative. The CGI-SCH scale assesses the positive, negative, depressive, cognitive symptoms, and overall severity of schizophrenia.[4] During the development of the scale, Haro et al.[4] stated that it was designed to encompass the assessment of positive, negative, depressive, and cognitive symptoms and it is straightforward, can be rapidly administered, possesses acceptable validity and reliability, and demonstrate sensitivity to changes.

Psychiatrists encounter challenges when utilizing rating scales that lack translation and validation in Bangla, especially in clinical settings. Therefore, providing a straightforward, easily administered, and precise scale for assessing patients with schizophrenia in Bangladesh is crucial. In this study, a Bangla version of the CGI-SCH was prepared and validated for use among individuals with schizophrenia. Our focus was on the analysis of its concurrent validity and sensitivity to changes.

Methods

The CGI-SCH comprises two sections: severity of illness and degree of change. The severity of illness assesses the clinical condition in the week preceding the evaluation, while the degree of change category evaluates alterations in the disorder's severity between two time points. Both categories consist of five different ratings that assess positive, negative, depressive, cognitive, and global symptoms, and a seven-point ordinal scale is utilized for these evaluations. The CGI is rated on a 7-point scale, with the severity of illness scale using a range of responses from 1 (normal) through to 7 (amongst the most severely ill patients). The degree of change domain scores ranges from 1 (very much improved) through to 7 (very much worse).

This was a longitudinal study and part of the clinical trial investigating comparative efficacy of amisulpride and risperidone in schizophrenia with predominantly negative symptoms.[5] The CGI-SCH original English version was translated into Bangla by two independent translators who then collaborated to produce an initial Bangla version of CGI-SCH. Subsequently, a Psychiatry professor, proficient in both languages, back-translated it into English, and experts verified its equivalence with the original. Prior to the reliability assessment, the Bangla version underwent pre-testing in patients with schizophrenia. Respondents received thorough instructions, and any confusion or concerns regarding the questionnaire were documented and resolved, resulting in essential revisions.

The study population used in validation of CGI-SCH was patients with schizophrenia (based on DSM-5) who had predominantly negative symptoms and aged 18 and more. The patients were assessed three times, Day 0, Day 30 and Day 90 of the study using PANSS and CGI-SCH along with some other tools. Three groups of psychiatrists completed the assessment on three different periods.

Concurrent validity was evaluated by examining the agreement between CGI-SCH and PANSS ratings. Statistical analysis employed Pearson correlation coefficients, with significance determined at a threshold of $p < 0.05$. To assess sensitivity to change, evaluation was conducted by comparing changes in CGI-SCH domains (severity of illness and degree of change) and PANSS from Day 0 to Day 30 and Day 90 of the trial. Pearson's correlation test was applied to see the changes. At first, PANSS total score on Day 30 and 90 were subtracted from Day 0 score, then percentage of change was calculated. Then correlation was made between five items of degree of change domain of CGI-SCH with percentage of change in PANSS score at Day 30 and Day 90. Similar procedure was followed for measuring correlation with CGI-SCH severity of illness domain.

Results

A total of 49 patients were included in the study. The mean age of the schizophrenia patients was 30.8 years, mean years of completed education 8.6 years, mean age of onset for schizophrenia 24.4 years and 40.8% were urban residents. Gender-wise 57.1% were males and occupation-wise 32.7% were unemployed.

Total PANSS and CHI-SCH scores showed moderate to strong correlations at Day 0 ($r=0.576$, $p=0.000$), at Day 30 ($r=0.736$, $p=0.000$) and at Day 90 ($r=0.887$, $p=0.000$) of the study. Table 1 shows the strength of correlation between item 1 (positive symptoms) of CGI-SCH severity

of illness domain with PANSS positive symptoms domain, between item 2 (negative symptoms) of CGI-SCH severity of illness domain with PANSS negative symptoms domains and so on at three different periods. Majority of the correlation strengths fell in moderate (0.40-0.69) to strong (0.70-0.89) category. All correlations were statistically significant, as presented in Table 1. Strengths were lowest for cognitive symptom domain and strengths increased on Day 90 compared to Day 0 and Day 30 for all domains except depression.

Table 1: Pearson correlation between the five items of CGI-SCH severity of illness domain with corresponding domains of PANSS (N=49)

PANSS domain	Day 0	Day 30	Day 90
PANSS positive symptoms	0.631	0.668	0.819
PANSS negative symptoms	0.645	0.780	0.883
PANSS depressive symptoms	0.384	0.713	0.628
PANSS cognitive symptoms	0.456	0.416	0.588
PANSS total symptom score	0.558	0.443	0.781

Table 2 shows the degree of changes observed in PANSS and two domains of CGI-SCH. Over the study period both scales showed near similar percentages of score change in schizophrenia patients. Table 3 shows the correlations between degree of changes observed in this study; a negative correlation indicated changes were occurring in the same direction. The CGI-SCH appeared more sensitive to changes in negative, depressive and overall symptoms domains as evidenced by moderate to strong correlations between changes in these domains. For positive domain it shows moderate correlation on Day 90 but not on Day 30. For cognitive domain it shows weak to moderate correlation.

Table 2: Degree of change in PANSS and two domains of CGI-SCH (N=49)

Tool	Day 0 Mean±SD	Day 30 Mean±SD	Day 90 Mean±SD	Mean % of change between Day 0 and Day 30	Mean % of change between Day 0 and Day 90
PANSS	75.3±24.5	41.7±21.1	37.9±20.4	34.7	45.5
CGI-SCH severity of illness	24.3±.3	16.8±4.5	16.4±5.1	28.1	32.5
CGI-SCH degree of change	-	14.9±4.4	15.7±5.8	-	-

Table 3: Pearson's correlations between items of degree of change domain of CGI-SCH with PANSS and CGI-SCH severity domain

CGI-SCH degree of change	Change in PANSS on Day 30	Change in CGI-SCH on Day 30	Change in PANSS on Day 90	Change in CGI-SCH on Day 90
Positive symptoms	-0.249*	-0.066*	-0.545	-0.547
Negative symptoms	-0.426	-0.388	-0.515	-0.715
Depressive symptoms	-0.576	-0.467	-0.607	-0.771
Cognitive symptoms	-0.432	-0.330	-0.166*	-0.447
Overall symptoms	-0.632	-0.706	-0.296*	-0.616

* denotes non-significant correlations, all others are statistically significant

Discussion

The CGI-SCH scale is a concise tool designed for assessing various facets of schizophrenia, characterized by its simplicity, ease of administration, and minimal time requirement. It is suitable for utilization in both clinical and research environments. We observed moderate to strong correlations (0.40-0.69)[7] between items of severity domain of CGI-SCH with PANSS corresponding domains at three time periods except for depression item at Day 0. Also, correlation strengths increased as the patients improved with treatment. During the original study,[4] correlation values for five items with corresponding domains of PANSS were calculated as 0.86, 0.80, 0.61, 0.78 and 0.75 (lowest for depression) respectively. Also, we have observed like the individual items and domains, total PANSS and total CGI-SCH scores exhibited moderate to strong correlations (0.576-0.887) at three time periods. Similar strengths of correlations were recorded in Portuguese language validation study of the scale.[8]

The Bangla CGI-SCH scale demonstrated a sensitivity to change comparable to that of the PANSS. At Day 30 similarity was observed in all domains except for positive symptoms and Day 90 for all but cognitive and global symptoms. The difference in positive symptom domain could be attributed to the fact that patients enrolled were of predominantly negative symptoms. Again, the CGI-SCH global score evaluates the overall severity of the disorder, encompassing both symptoms and their impact on functioning; in contrast, the PANSS total score specifically assesses symptoms without considering their interference with functioning.[4] The Portuguese validation study also reported similar sensitivity to changes between the two tools.[8]

Based on these properties, we believe Bangla version of CGI-SCH is a straightforward and convenient tool suitable for application in patients with schizophrenia as it exhibited comparable characteristics to more intricate and time-intensive scales like the PANSS. Moreover, specific training is not necessarily required for administering the scale, as the items are straightforward, and the evaluation of patients' symptoms relies on clinical judgment. However, its applicability by professionals other than psychiatrists may be restricted.

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How to cite this article: Hasan M, Mamun AA, Islam SN, Hossain R, Hossain MS. Validation of the Bangla version of Clinical Global Impression - Schizophrenia Scale in a sample of schizophrenia patients. Arch NIMH. 2023; 6(2): 32-36

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The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Assessment of depressive disorder among coronary artery disease patients attending at Cardiology Department of MAG Osmani Medical College Hospital, Sylhet

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Background: Coronary artery disease has emerged as the leading cause of death and disability. Depression is known to be an independent risk factor for mortality in medically ill patients in general and patients with myocardial infarction. There is a bidirectional relationship between depression with coronary artery disease (CAD).

Objectives: To determine the prevalence of depression in patients with CAD in a tertiary care hospital in Bangladesh.

Methods: One hundred and sixteen (116) patients of CAD (86 males and 30 females) were selected from Department of Cardiology of MAG Osmani Medical College Hospital, Sylhet and module for depressive episodes of clinician version of SCID-I was applied for diagnosis. Every SCID positive cases were assessed for severity of depression by Hamilton Rating Scale for Depression (HAM-D). Basic demographic data and disease variables were also collected.

Results: The point prevalence of depression in the sample was 23.2% (22% males and 26.6% females). More depression was found in myocardial infarction patients. The socio-demographic variables of the CAD patients were similar in both depressed and non-depressed cardiac patients. Statistically no significant difference was found.

Conclusions: Depression is prevalent in CAD patients in Bangladesh. Economic conditions and lack of awareness may pose additional threats on these patients. Treating physicians (especially cardiologists) need to be aware of this co-morbidity so as to be able to diagnose and adequately manage such patients.

Declaration of interest: None

Keywords: Depression; coronary artery disease.

Introduction

Coronary artery disease (CAD) is a condition in which there is an inadequate supply of blood and oxygen to a portion of myocardium. It is also known as ischemic heart disease (IHD) or coronary heart disease (CHD). Clinical manifestations of CAD includes stable angina, unstable angina, myocardial infarction, heart failure, arrhythmia.[2] Depression is a mental state characterized by feeling of sadness, loneliness, despair, low self-esteem, accompanying signs includes psychomotor retardation or agitation, withdrawal from interpersonal contracts and vegetative symptoms, such as insomnia and anorexia.[3] Depression and Coronary Artery Disease have a bidirectional relationship, i.e. coronary artery disease can cause depression and depression is an independent risk

factors for coronary artery disease and it's complications. Depression may contribute to unhealthy lifestyle and poor adherence to treatment and sudden cardiac death. According to an estimate by the World Health Organization (WHO), by the year 2020, both CAD and depression will be the two major causes of disability.[4]

Recently new risk factors for CAD have been identified, among them emotional distress and depression taking into account that lifetime prevalence of depression is high as 17%.[5] Relative risk for myocardial infarction in patients with depressive symptoms versus non-depressive patients within the same cohort ranged from 1.5 to 4.5.[6-9] In a cohort of 2832 subjects who participated in the National Health Examination Follow-up study (mean follow-up=12.4 years) and who had no history of CAD or serious illness at baseline, 11% had depressed affect; 10.8% reported moderate hopelessness, and 2.9% reported severe hopelessness. These findings were confirmed by several prospective studies. In patients with angiographically proven CAD and no evidence of myocardial infarction or unstable angina the prevalence of depression was approximately 18%.[12] In patients following acute myocardial infarction, up to 25% had severe, often recurrent major depression, while 27-65% manifested symptoms diagnostic of depression.[8,9,14,15] The evidence that depression affects prognosis in patients with CAD, especially in patients after myocardial infarction is growing: reported relative risks for adverse outcome (mainly cardiac death) range from 2.5 to 5.7.[16]

Recently, it has been suggested that depression had a similar impact on prognosis in patients with unstable angina as in patients post myocardial infarction.[18] Higher prevalence of ventricular tachycardia during 24-h Holter monitoring among patients with CAD and depression than among CAD patients without depression has been noted which may contribute to the explanation of the increased risk for cardiac mortality in depressed patients with CAD.[20] In patients with coronary artery bypass graft surgery, it has been shown that depression diagnosed before surgery was related to higher hospital re-admission rates[21] and was an independent risk factor for cardiac events after surgery[22] suggesting that positive emotions may promote better recovery.[23]

In summary, there is considerable evidence suggesting that depression and co-morbid CAD may lead to an increased risk of death, regardless of which illness occurred first.[5] This study was conducted to assess the co morbidity of depression among coronary heart disease patients, to find out the severity of depression, to delineate socio-demographic characteristics of coronary heart disease patient, to find out the relationship between the duration of coronary heart disease and depression.

Methods

It was a descriptive cross-sectional study conducted in the Department of Psychiatry in collaboration with Cardiology Department of Sylhet MAG Osmani Medical College Hospital, Sylhet from April 2011 to September 2011. After taking approval from the Institutional Ethics Committee, the study was conducted. A convenient sampling technique was applied. 116 patients of above 18 years attending department of cardiology suffering from coronary heart disease confirmed by a cardiologist for at least two months (to see spontaneous recovery of depressive symptoms of acute stress) irrespective of their sex, ethnicity or religion were conveniently included in the study. Informed written consent was taken. Clinical manifestations of CAD include stable angina, unstable angina, myocardial infarction, heart failure, and arrhythmia. In this study stable angina, unstable angina, myocardial infarctions were taken. The exclusion criteria were chronic debilitating diseases like Cancer, Diabetes mellitus, Leukemia, Endocrine Disorders, recent bereavement. Patients who had been diagnosed to be depressed ever in their lives or were taking anti-depressants.

A semi-structured questionnaire containing items to elicit socio-demographic (e.g. age, gender, resident, marital status, occupation, monthly income, level of education etc.) and relevant information about co-occurring physical illnesses prepared by researcher. SCID-I clinician version, module for depression were used to interview the coronary heart disease patients. Here both English version & Bangla version of SCID, module for depression were used by the researchers themselves. The diagnosis of depressive disorders was made as per DSM-IV-TR criteria. After confirmation of diagnosis the severity of depression was assessed by Hamilton Rating Scale for Depression (HAM-D). Severity was scored as mild depression (8-13), moderate depression (14-18), severe depression (19-22) and very severe depression (> 23).

Results

Of the 116 patients, 74% were males. Highest number of patients were in 41 to 50 years group (40, 34.4%). The CAD type of patients was stable angina (15.5%), unstable angina (32.8%) and myocardial infarction (51.7%).

Total patients with depression were 27 (23.2%) and according to their severity mild depression was highest

(55.5%) followed by moderate (25.9%) and severe (18.5%) which is shown in table 1. Depression among the male patients was 22% and among the female patients was 26.6%. Severe depression was more common in females (4, 80%) and moderate depression in male patients (5, 71.43%) than female patients 2 (28.5%) No significant association was observed between the sex of the patients and presence of depression (X^2=0.261, p=0.610). Highest percentage of depression was observed in 71 to 80 years group (50%, 2 out of 4 patients). There was no significant association between age of the patients and presence of depression (X^2=2.570, p=0.766).

It was found that rural patients suffered more from depression 28% (14 out of 50) than urban patients 19.7% (13 out of 66). There was no significant difference between the residence of the patients and presence of depression (X^2=1.098, p=0.295). No significant difference was found between the educational status of the patients (X^2=2.639, p value=0.620), economic status of the patients (X^2=1.297, p=0.730), type of particular heart disease (X^2=4.984, p=0.083) and the duration of the cardiac diseases (X^2=8.684, p=0.279) with depression (Table 2).

Table 1: Frequencies and percentages of depression in different types of heart disease

Type of heart disease	Severity of Depression			Total patient with depression
	Mild	Moderate	Severe	
Stable Angina	3 (11.1)	-	-	3 (11.1)
Unstable Angina	1 (3.7)	1 (3.7)	3 (11.1)	5 (18.5)
Myocardial Infarction	11 (40.7)	6 (22.2)	2 (7.4)	19 (70.3)
Total	15 (55.5)	7 (25.9)	5(18.52)	27 (100)

Cell values are n (%)

Table 2: Association of depression with demographic factors and clinical status of the CAD patients (N=116)

Variable	Level	Depression	No depression	P value
Gender	Male	19 (22)	67 (77.9)	0.610
	Female	8 (26.7)	22 (73.3)	
Residency	Urban	13(48.1)	53 (59.5)	0.295
	Raral	14 (51.8)	36(40.4)	
Education	Illiterate	-	2(2.2)	0.620
	Primary	11 (40.7)	39 (43.8)	
	Secondary	10 (37)	31 (34.5)	
	Higher Secondary	5 (18.5)	9 (10.1)	
	Degree and above	1 (3.7)	8 (8.9)	
Income	<5000	8 (29.6)	26 (29.2)	0.730
	5,000-10,000	12 (44.4)	32 (35.9)	
	10,000-20,000	7 (25.9)	29 (32.5)	
	>20,000	-	2 (2.2)	

Variable	Level	Depression	No depression	P value
Type of CAD	Stable angina	3 (11.1)	15 (16.8)	0.083
	Unstable angina	5 (18.5)	33 (37.07%)	
	Myocardial infarction	19 (70.3)	41 (46)	
Duration of CAD	< 1 year	10 (37)	55 (61.7)	0.279
	1-2 years	11 (40.7)	24 (26.9)	
	2-3 years	4 (14.8)	4 (4.4)	
	3-4 years	-	1 (1.1)	
	4-5 years	1 (3.7)	2 (2.2)	
	5-6 years	-	1 (1.1)	
	6-7 years	1 (3.7)	1 (1.1)	
	>7 years	-	1 (1.1)	

Cell values are n (%)

Discussion

Among all respondents 23.28% had depression but prevalence of major depressive disorders in general population in Bangladesh is 4.6%.[22] The effect of coronary artery disease may be the cause of increased frequency of depression. In patients with angiographically proven CAD and no evidence of myocardial infarction or unstable angina the prevalence of depression was approximately 18% in one study.[10] In patients following acute myocardial infarction, up to 25% had severe, often recurrent major depression, while 27-65% manifested symptoms diagnostic of either major or minor depression.[11,12] So, the result is quite Similar.

In our study, despite the notable prevalence of depression accompanying myocardial infarction (31.6%), it's crucial to note that the observed association was not statistically significant. These findings align with multiple studies that have reported similar non-significant associations between depression and myocardial infarction.[21] Additionally, our study uncovered no significant associations between depression and various demographic factors such as age, sex, residence, and economic status. To further contextualize our results, a study conducted in Pakistan found varying prevalence rates of depression between males (31%) and females (54%).[23] This study also revealed higher depression scores in individuals with lower literacy levels and vice versa. While our findings contribute to the growing body of evidence, the lack of significant associations prompts further exploration into the complex interplay of factors influencing the relationship between depression and myocardial infarction.

Conclusions

Depression is common in patients with CAD and is independently associated with increased cardiovascular morbidity and mortality. Routine screening tests for depressive symptoms should be applied to all CAD patients. This multispecialty consensus document reviews the evidence linking depression with CAD and provides recommendations for healthcare providers for the assessment, referral and treatment of depression. It should be major concern for CAD patients as well as treating physicians to pay adequate attention while treating CAD patients. Further studies are needed for thorough evaluation and find out future course of action.

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How to cite this article: Uddin M, Ahmed K, Sayed MA, Chowdhury AR, Roy S, Sagor, MGU, et al. Assessment of depressive disorder among coronary artery disease patients attending at Cardiology Department of MAG Osmani Medical College Hospital, Sylhet. Arch NIMH. 2023; 6(2): 37-42

Received 29 Nov 2023, revised 23 Dec 2023, accepted 27 Dec 2023.

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The Official Journal of National Institute of Mental Health, Dhaka

Original Article

Distribution of mental health problems in different socioeconomic groups of Dhaka city

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Background: Mental health and socio-economic conditions are deeply intertwined, with low-income group more vulnerable to mental health disorders. A lack of public mental health facilities, scarcity of skilled mental health professionals, insufficient financial resource distribution and stigma contribute to making current mental healthcare inadequate in Bangladesh.

Objectives: To assess the distribution of mental health problems in various socio-economic populations of Dhaka city.

Methods: This cross-sectional study was conducted to evaluate the types and distribution of mental health problems among lower and middle socio-economic groups in Dhaka city. A total of 576 adults who gave informed written consent were included and interviewed using the modified SRQ-20 questionnaire.

Results: The mean age of the respondents was 36.6±14.8 years. The mean total SRQ score was 4.27± 3.91, 3.34 ±3.18 and 2.57 ±3.26 in low- income, lower-middle-income and upper-middle-income groups respectively. Our analysis revealed, 24.3%,15.7% and 8.4% of low-income, lower-middle and upper-middle class had the vulnerability of developing mental disorders.

Conclusions: Our findings suggest that income is an important factor associated with vulnerability to developing mental disorders. Those in the lower income categories were at a higher risk of developing mental disorders compared to those in the higher income category. However, confirmatory psychiatric assessment by physician would be essential to further validate the diagnosis of the disorders.

Declaration of interest: None

Keywords: Mental health problems, socio-economic status

Introduction

Mental disorders are diagnosable conditions characterized by changes in thinking, mood, or behavior (or some combination of these) that can cause a person to feel stressed out and impair his or her ability to function.[1] About 1 in 4 people will be affected by a mental illness at some point in their lives and 14.3% of deaths worldwide, or approximately 8 million deaths each year, are attributable to mental disorders. Depression and anxiety are two common mental health problems and have been widely recognized as having important implications for individual productivity, individual and family-level well-being, and overall economic development, especially in resource-poor context.[2] People who struggle financially are more prone to develop depression, anxiety and stress in general life. Low- and middle-income class population suffers more with several mental health condition than

higher income group, as they don't pursue proper help or treatment as they already economically burdened. Recent data of 2018-19 showed, poverty rate is about 21.8% and extreme poverty rate is 11.3% in Bangladesh.[3] Nevertheless, this population are very prone to develop mental health disorder that is yet to discover in our countries context.

Several classifications are used by mental health experts to recognize the wide variety of mental disorders. The broad categories of mood disorders (such as depression and bipolar disorder), behavioral disorders (such as acting-out behaviors, including aggression, property destruction, and some problems with attention and hyperactivity), and anxiety disorders (such as social anxiety disorder, obsessive-compulsive disorder (OCD), post-traumatic stress disorder, and phobias) encompass the majority of mental disorders.[4] The majority of mental problems may be treated, though the best methods may differ depending on the patient. Medication combined with psychosocial therapy, or individual or group counseling with a psychotherapist, is frequently successful.[5]

Several studies have shown a clear link between socioeconomic status (SES) and mental health.[6] People with lower SES are more likely to experience mental health problems due to factors such as financial hardship, unemployment, and housing unaffordability. For instance, children and adolescents with low SES are two to three times more likely to develop mental health problems than their peers with high SES.[7] This association is attributed to the increased pressure, negative emotions, and potential stress experienced by individuals with adverse SES, which can have a negative effect on mental health.[6] Additionally, a low SES is known to be associated with more frequent mental health problems, with individuals of the lowest SES being particularly affected. In this research we applied the modified Self-Reporting Questionnaire (SRQ- 20) for early detection & screening of mental health disorder. The vulnerable group has been detected by using this screening tool. We believed this study will help us to understand the state of mental health in different SE groups of the

Methods

This cross-sectional study was conducted in the slum areas and urban areas of Dhaka city. Participants were taken from selected locations of Kamrangirchar, Mirpur, Basundhara, Bonosree, Dhanmondi area of Dhaka city. The households were randomly selected based on a household census and a total of 576 adults above the age of 18 years were selected and interviewed after taking written informed consent. The socio-economic status of the respondents was assessed and the respondents were categorized into three groups: low-income group (≤15000 Taka), lower middle-income group (16000-30000 Taka) and upper middle-income group (>30000 Taka). Data regarding the distribution of mental health problems were assessed by modified SRQ-20 questionnaire. After collecting the data, all the data were analyzed using SPSS version 26.

Results

The distribution of mental health problems, cognitive problems, anxiety, depression, somatic symptoms were measured in each income groups. The mean SRQ-20 score was also significantly higher for low-income participants (4.27) compared to lower-middle-income (3.34) and upper-middle-income (2.57) participants. In the low-income group (n=37), 2.7% experienced anxiety and depression, while a similar percentage reported somatic disorders. Notably, 24.3% demonstrated vulnerability to developing mental health disorders (total SRQ score ≥7). Moving to the lower-middle-income group, 3.3% had somatic disorders, 15.7% showed vulnerability to developing mental health disorders. In the upper-middle-income group (n=239), cognitive problems were reported in 0.8%, anxiety and depression in 0.8%, somatic disorders in 2.9%, and vulnerability to developing mental health disorders in 8.4%. Table 1- suggests that low-income individuals were more vulnerable to mental health disorders than lower-middle-income and upper-middle-income individuals were ($p=0.005$). These findings underscore the intricate relationship between income categories and the prevalence of distinct mental health disorders, providing valuable insights for targeted interventions and support systems.

The univariate and regression analysis demonstrated that age, gender, education status, family type employment status and marital status were not significantly associated with vulnerability to developing mental disorders ($p>0.05$). However, income categories were significantly associated with vulnerability to mental disorders (Table 2).

Table-1: Association of income categories with mental health problems according to the SRQ questionnaire (n=576)

Variable	Low-income n=37	Lower-middle income n=300	Upper-middle income n=239	Total n=576	P value
	n (%)	n (%)	n (%)	n (%)	
Cognitive problems (SRQ-8, 12 ,13)	-	2 (0.7)	2 (0.8)	4 (0.7)	0.847
Anxiety & depression (SRQ-4,6,9,10)	1 (2.7)	1 (0.3)	2 (0.8)	4 (0.7)	0.246
Somatic problems (SRQ-1,2,3,7)	1 (2.7)	10 (3.3)	7 (2.9)	18 (3.1)	0.954
SRQ Score ≥7	9 (24.3)	47 (15.7)	20 (8.4)	76 (13.1)	0.005

Table-2: Regression analysis demonstrating factors associated with vulnerability of developing mental disorder

Variable	Adjusted odds ratio (95%CI)	P value
Age (in years)		
≤37	1.13 (0.68-1.88)	0.639
>37	ref	
Gender		
Male	ref	0.622
Female	1.64 (0.91-2.93)	
Education status		
≤ secondary level	1.27 (0.76-2.14)	0.522
> secondary level	ref	
Employment status		
Unemployed	0.96 (0.54-2.24)	0.804
Employed	ref	
Family type		
Nuclear	ref	0.277
Joint	1.34 (0.79-2.27)	
Marital status		
Married	ref	0.804
Single/widow/separated	1.09 (0.53-2.24)	
Income categories		
Low income	3.73 (1.47-9.42)	0.005
Lower-middle income	2.16 (1.21-3.84)	0.009
Upper-middle-income	ref	

Discussion

A significant percentage of individuals in each group exhibited vulnerability to developing mental health problems, with 24.3% in the low-income group, 15.7% in the lower-middle-income group, and 8.4% in the upper-middle-income group. The recent global economic recession has sparked concern about the link between reduced income and mental health issues, including suicidal behavior.[8] Evidence suggests that poverty and mental illness often feed into each other in a negative cycle , which not only increases the risk of mental illness among people living in poverty but also makes it more likely for those with mental illness to stay in or fall into poverty.[9] In the past two decades there is emerging epidemiological data confirming the trend in low-income and middle-income countries. However, evidence regarding low-income and middle – income remain sparse and precise causal mechanisms are difficult to identify.[10]

For the current study we used the SRQ-20 questionnaire. The present study found that the mental health problems was common in all the three income groups which was much higher compared with rural-based Bangladeshi study that estimated prevalence at 6.5%,[11] but much lower than the prevalence of 28% reported in an urban based study.[12] Our study also showed that low-income participants had a higher vulnerability to developing a mental health disorder compared to lower-middle and upper-middle income participants. The relationship between poverty and mental health holds great interest for both health and economic policy makers. For most mental health disorders, the association between low socioeconomic status and psychiatric morbidity is strong and significant.[11] Socio-economic status has been identified as a significant factor in the development of mental disorders. Research consistently shows that individuals from lower socio-economic backgrounds are at a higher risk of experiencing mental health problems.[13]

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How to cite this article: Sharmeen A, Chowdhury SM, Islam MS, Ahmed F, Khan AI. Distribution of mental health problems in different socioeconomic groups of Dhaka city. Arch NIMH. 2023; 6(2): 43-47

Received 9 Dec 2023, revised 24 Dec 2023, accepted 29 Dec 2023.

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Case Report

Long term institutionalization: how the system has failed those who need it most

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Abstract: Schizophrenia is a chronic mental illness with high disease burden and variable prognosis. Institutionalization although is beneficial for short time, long-term institutionalization may cause more disease burden and result in poor prognosis. This case report describes cases who have been in Pabna Mental Hospital for more than 10 years. In most cases reluctance from family member resulted in their institutionalization. Even though in some patient improvements were noted initially, later extinguish after years of institutionalization. There have been episodes of death of elderly patients being in this facility for over a decade. Although authorities have recently implemented various measures, more comprehensive measures with collaboration with other agencies may be need along with strict implementation of law.

Declaration of interest: none

Keywords: Schizophrenia, long-term institutionalization, Pabna Mental Hospital

Introduction

Schizophrenia is a chronic mental illness ranked 13th in the global burden of study[1] and 3rd among all mental illnesses.[2] Its prognosis is variable; about 20-30% of patients get some symptomatic remission while 20% patients recover.[2] Many patients need institutionalized care due to severity of the illness. In-hospital treatment can be needed and cause rapid improvement due to supervised and systemic treatment protocol. But while short time institutionalization can be of great value, long term institutionalization can disrupt disease remission, causes significant financial burden and ultimately put burden on entire health care system.[4] In this case series, we will discuss some of the cases who are admitted in Pabna mental health hospital for more than last 10 years; some of which despite having symptomatic improvement, never taken home by their family members.

Case Report

For this case report, patients who have been admitted for 10 years or longer in Pabna Mental Hospital were selected. Interviews were performed with respective patients, doctors, nurses and other ward staffs, other patients, ward master and statistician. Relevant documents were also searched. Relatives of these patients could not be reached via phone.

One such patient was a 70 years female, admitted in the facility for last 34 years (since 1989). She was a diagnosed case of resistant schizophrenia. She couldn't get up from bed, couldn't communicate with others and needed help of others due to her frail physical condition. According to nursing staff, her symptoms improved at times, but she could not go home as her address, attendant's phone number and details, all were false. She could not tell properly her address. Social welfare service and hospital authorities lost hope after numerous futile attempts. Similar pattern was noted for four other female patients. They have been stuck here since 1999. Although all are labelled as resistant schizophrenia, two had substantially improved mentally. But both of them had some physical disability and one of them was mute and had hearing impairment. Two among these four were found in street and admitted by non-governmental organization (NGO). All of these four patients wanted to communicate with their family members but due to false information provided by their relatives and inability of social welfare services to establish contact with family members, they got stuck in the hospital. Staff of the hospital expressed their sadness as they feel whatever improvement these patients had showed at times; whenever they failed to go home, gradually their

condition had deteriorated again.

There were also four other females staying here for ten years and another nearly for fourteen years. All of them shared a similar story; couldn't say properly their addresses, were either found by an NGO or were admitted by relatives with fraudulent information. During interviews, all these ten female patients were in unstable physical and/or mental condition, all harboring some kind of physical illness and their appeal to go home is a painful reminder of a failed system. Interestingly, only two male patients were found with admission duration of 10 year or more. According to record section, there were 23 of them; all but two either reunited or died with their family after frantic effort of media, social welfare service and hospital authority. One of them was in state of partial remission, but no one was found to live at the address he provides and the phone number that was given during admission time was untraceable. Another patient was staying since 1996. His story was even heart-warming. He was admitted via another person who found him wondering around. Later his sister could be traced and was willing to take the patient as he showed some improvement. But initial contact person who got him admitted was difficult to reach. After several years, hope of ever finding him was gone and decision was made to send him to his sister. But meanwhile, his sister fell ill and was no longer interested to take his brother in. The patient later suffered multiple physical injuries making him bed ridden and later his psychological condition deteriorated. He simply resorted to mumbling incoherent words and needed assistance in everyday task; from toileting to feeding. Multiple back and forth letters, telegrams and official notices proved the long complicated bureaucratic process made not only ensured that no legal norms were broken but also ensured permanent stay of this patient at this facility.

According to death registrar of last 10 year: in 2015 two patients died, one male and one female after being in this facility for 21 years and 12 years respectively. In 2018 a female who has been in this facility for 23 year and in 2022 a male patient who was admitted here for 17 years also died. All deaths were due to natural causes; two bodies were later claimed by their family soon after-testament that, they knew about their patients' condition all along. Most surprisingly, these patients both dead and alive come from all regions of Bangladesh and from all socio-economic spheres; a prove of widespread stigma across all cultural, ethnic, religious and socio-economic background in this country.

Discussion

Pabna Mental Hospital is one of the important tertiary centers for mental health service in Bangladesh. Being in a low-to-middle-income country it has to face many obstacles to provide adequate mental health service with its limited resources. Unnecessary long-term admission of relatively stable patients has made its journey more complicated. Beside this, the pain and sufferings of those patients are really unbearable. Failure of the system and law implication along with scarcity of proper guiding manual for managing such cases are responsible for this situation. According to Vagrant and Destitute Persons (Rehabilitation) Act, 20115 those who are homeless and without social support are facilitated with a safe home, a fund for their rehabilitation and a high-level committee to look after their affairs. Similarly, in The Bangladesh Mental Health Act 2018, patients with psychiatric disorders who have no caregiver are supposed to be taken upon by social welfare services. They are to be responsible for linking with source of help and future rehabilitation. But unfortunately, none of these projects ran successfully. Beside this, there are no mid-way home for rehabilitation of psychiatric patients in Bangladesh. Although in recent years hospital authorities followed some innovative techniques to minimize such occurrences. National ID card, testimonial from local authorities, family members information including address and mobile number are declared as compulsory for admission in this hospital. Those documents are checked thoroughly by doctors and relevant staff to ensure valid information. Now the overall condition of long-term management of psychiatric patients in this hospital improved a lot.

Recommendations

1. Pabna mental hospital, social welfare organization and local authorities must work as a team to improve the mental health service and provide proper rehabilitation system for those psychiatric patients who need no more hospitalization.

2. Accountability of different social welfare organizations and NGOs and patientss caregivers must be ensured.

3. The existing Mental health act, 2018 and Vagrant and Destitute Persons (Rehabilitation) Act, 2011 should be implemented strictly.

4. Private vocational rehabilitation center must be promoted.

5. Government and private sector should collaborate each other to ensure a secure rehabilitation program for psychiatric patients in a longitudinal aspect. Mean-

while stigma and discriminations that a patient with psychiatric disorder faces should be eliminated.

Conclusion

Many of the psychiatric disorders are hard to treat in comparison to other non-fatal diseases. But when a psychiatric patient recovers from his illness, he or she should be ensured a proper maintenance management and in suitable cases rehabilitation program. If these can't be ensured, he or she may go for a chronic course eventually. The outcome of those patients may hamper the prognosis of those patients who are treated along with them. For the sake of all psychiatric patients treated in a mental hospital setting, undue long-term admission should be prohibited by ensuring their rehabilitation, social integration process and proper accountability of related authorities, organizations and NGOs.

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How to cite this article: Magfur I, Hasan MM, Singha ST, Azam AKMS. Long term institutionalization: how the system has failed those who need it most. Arch NIMH. 2023; 6(2): 48-50

Received 11 Aug 2023, revised 8 Oct 2023, accepted 14 Oct 2023.

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