

ISSN: 2663-7537

Volume 6 | Issue 1

June 2023

ARCHIVES of NIMH



The Official Journal of
National Institute of
Mental Health, Dhaka

Archives of NIMH

Volume 6 | Issue 1 | June 2023

of NIMH

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The crucial role of management guidelines for mental disorders: Bangladesh perspective

Helal Uddin Ahmed

In recent years, the significance of mental health has gained widespread recognition, prompting discussions on the need for effective management guidelines of common and major mental disorders. The development and implementation of comprehensive management guidelines for mental disorders are of utmost importance in addressing this global health challenge. For a country like Bangladesh mental health is an emerging issue in policy design, service delivery and capacity development and to ensure universal mental health coverage, a strategic plan has already been developed. In the 'National Mental Health Strategic Plan 2020-2030', the second objective aims 'To provide comprehensive, integrated and responsive mental health and social care services in community-based settings' and fourth objective aims 'To strengthen information systems, evidence and research for mental health'. Both objectives and the whole vision of the National Mental Health Strategic Plan demand development of uniform and holistic management guidelines for major and common mental health disorders.

Declaration of interest: None

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Bangladesh Association of Psychiatrists (BAP) came forward and took initiative to develop guidelines for common and major mental disorders. From 2021 to 2022 the several expert and technical committees developed five management guidelines for major and common mental disorders. These BAP guidelines are developed for the management of bipolar disorder, schizophrenia, obsessive compulsive disorders, depressive disorders, and anxiety disorders. These guidelines provide essential frameworks for assessment process, early intervention, evidence-based treatment, management for special population, management at non-specialized settings and support systems that can significantly improve the lives of those affected. All those guidelines considered the country context and cultural issues by following a rigorous scientific method during guideline development.

These five management guidelines are playing a crucial role in promoting early identification and intervention for five mental health conditions by establishing clear criteria and assessment process. The objectives of these guideline are to provide clear, concise and uniform information to all psychiatrists as well as other physicians on the current concept in the management of bipolar disorder,

schizophrenia, obsessive compulsive disorders, depressive disorders and anxiety disorders. The guidelines were intended to develop a uniform, updated, culturally compatible, contextualized evidence based and comprehensive management for those five mental health conditions. Timely identification facilitates early intervention, increases the chances of successful treatment and recovery. Early intervention can also help prevent the escalation of mental health conditions, reducing the burden on individuals, families, and healthcare systems as needed by Bangladesh.

These management guidelines were developed based on desk review of other clinical guidelines, systematic reviews, consensus among experts, focus group discussion with experts and clinical evidence, ensuring that individuals receive evidence-based treatment for their disorders. These guidelines outline the most effective and appropriate interventions, including pharmacological treatments, psychotherapies, and management for special population with mental disorders. By adhering to these guidelines, psychiatrists and other physicians can provide standardized, quality care that aligns with the best available evidence. The consistency offered here will enhance

treatment outcomes, reduce trial-and-error approaches, and minimize the risk of inappropriate or ineffective treatments. There are specific portions dedicated for the management of mentioned mental health conditions in non-specialized settings.

These management guidelines establish standardized care protocols, promoting consistency across healthcare settings and professionals. By following these guidelines, healthcare providers can ensure that individuals with five mental disorders receive equitable care, regardless of their geographic location or socioeconomic background. Uniformity of management process will help prevent variations in treatment approaches, improve coordination among healthcare professionals, and foster a cohesive system of care. Moreover, adherence to management guidelines will allow quality assurance, as the guidelines define benchmarks to assess the effectiveness and efficiency of mental health services from specialized settings to non-specialized settings.

The guidelines emphasized a holistic approach to care for bipolar disorder, schizophrenia, obsessive compulsive disorders, depressive disorders, and anxiety disorders, recognizing the multifaceted nature of these disorders. These guidelines emphasized the importance of comprehensive assessment, considering not only the individual's symptoms but also their personal circumstances, special presentation and situation, prognosis, social support, comorbid medical conditions, and environmental factors. By adopting a holistic approach, these management guidelines encourage professionals to address underlying causes, risk factors, and co-occurring conditions. This approach leads to more effective treatment plans, improved symptom management, and better overall well-being for individuals with five disorders.

Management guidelines also play a vital role in updating professionals, policymakers, and the public about the management of mental disorders. They provide evidence-based information that was got from focus group discussion on symptoms, risk factors, and appropriate management strategies. By disseminating this knowledge, guidelines contribute to reducing stigma, increasing awareness, and fostering a compassionate and supportive society. Education and awareness campaigns rooted in management guidelines can help challenge misconceptions surrounding mental health, empower individuals to seek help, and promote community engagement in mental health initiatives.

All the guidelines are available on the BAP website www.bapbd.org.

It is essential for governments, healthcare institutions, and stakeholders to prioritize the development, implementation, and continuous updating of management guidelines to address the crisis developed from major and common mental disorders.

The Bangladesh Association of Psychiatrists (BAP) represents the largest national association of mental health professionals in Bangladesh and works on promoting ethical and evidence-based psychiatric practice, health advocacy, policy formulation and medical research in the field of mental health, so the guidelines developed by BAP can be considered as national guidelines.

These guidelines are not for textbook use or an alternative to textbooks. The guidelines have been developed to give us a light to correct path for management. They have limitations and more scope for development, so will be updated from time to time according to clinical evidence.

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How to cite this article: Ahmed HU. The crucial role of management guidelines for mental disorders: Bangladesh perspective. [Editorial] Arch NIMH. 2023; 6(1):1-2.

Received 25 June 2023, revised 28 June 2023, accepted 30 June 2023.

Psychometric properties of the WHO-5 Well-Being Index among health care workers

Ahsan Aziz Sarkar, Rubina Hossain, Nafisa Tabassum

Background: Wellbeing is defined as a state of positive feelings and meeting full potential in the world. The WHO-5 Well-Being Index is a brief, widely used measure of psychological wellbeing. Health care workers (HCWs) exhibit higher rates of mental disorders than the general population. Psychometric properties of WHO-5 are yet to be assessed among HCWs of Bangladesh.

Objectives: To assess the psychometric properties of WHO-5 among HCWs.

Methods: This study was carried out as a part of a nationwide government hospital-based survey in 2022. A total of 775 HCWs (physicians, nurses, medical technologist) were interviewed in this survey. A semi-structured sociodemographic and relevant information questionnaire, WHO-5 Well-Being Index (WHO-5), Satisfaction with Life Scale (SWLS) and Basic Psychological Need Satisfaction & Frustration Scale (BPNSFS) were used to interview the participants.

Results: Mean (SD) total WHO-5 score found was 16.4 (± 5.12) for the total sample and the Cronbach alpha coefficient for the five items of the WHO-5 found was 0.890. Principal component analysis with varimax rotation identified a single component with eigenvalues of more than one (i.e., 3.47) and this one component in total explained 69.4% of the variance. Factor loading for each item was more than 0.71 and communality more than 0.30. Positive correlations were observed between WHO-5, SWLS and autonomy, competence, and relatedness satisfaction domains of BPNSFS scale scores.

Conclusions: The Bangla version of the WHO-5 Well-being Index 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.

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Keywords: ICD-10 4-digit code; psychiatric disorders; NIMH; indoor patient data sheet; computer database.

Introduction

Wellbeing is defined as a state of positive feelings and meeting full potential in the world and is theorized as having hedonic, eudemonic and social components.¹ It can be 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.² The WHO-5 Well-Being Index (WHO-5) is

a concise self-assessment tool used to evaluate an individual's current mental well-being. It was initially developed by the WHO Regional Office in Europe in 1998 as a component of the DEPCARE project, which aimed to establish well-being measurements in primary health care.³ The tool has been translated into more than 30 languages including Bangla but its psychometric properties among health care workers (HCWs) is yet to be investigated.

There is evidence that HCWs exhibit higher rates of mental disorders than general population.⁴ Poor state of wellbeing creates susceptibility to physical illness like stress increases susceptibility to viral infection, cardiovascular disease, etc.⁵ Smoking, drinking and the consumption of high fat foods could be the maladaptive coping strategy to relieve emotional distress.⁶ In systematic reviews, the prevalence of depressive symptoms in HCWs during the COVID pandemic ranged between 8.9% to 50.4%, anxiety symptoms between 14.5% to 44.6% and sleep disturbance found to be around 34%.⁷⁻⁹ Although the HCWs provides care and assistance to individuals who are ill or in need and the sector is recognized as one of the most hazardous industries. It is crucial to prioritize the occupational health of HCWs and wellbeing assessment tools like WHO-5 can help in this regard.

Methods

A nationwide government hospital-based survey of HCWs under 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' was carried out in 2022. Stratified random sampling technique was used to choose 56 health facilities— 24 primary level hospitals, 16 secondary level hospitals and 16 tertiary and COVID-dedicated hospitals. A total of 775 HCWs (doctors, nurses, medical technologists) were enrolled by systematic random sampling technique. A semi-structured sociodemographic and relevant information questionnaire, WHO-5 Well-Being Index (WHO-5),^{3,9} Satisfaction with Life Scale (SWLS)¹⁰ and Basic Psychological Need Satisfaction & Frustration Scale (BPNSFS)^{11,12} were used to interview the participants. The BPNSFS scale is composed of 24 items grouped in six factors measuring satisfaction and frustration of each one the basic psychological needs, proposed by the self-determination theory: satisfaction/frustration of the need for autonomy, competence and relatedness. Beforehand, ethical clearance was obtained from Bangladesh Medical Research Council. Statistical analysis of the results was done by using computer-based statistical software, SPSS-IBM version 22.

Confirmatory factor analysis was done on free online CBID software available at <http://biostats-shinyr.kumc.edu/CBID/>.

WHO-5 is a 5-item and 5-point Likert scale to measure the psychological well-being of the individual. Analysis according to item response theory model, confirmed it as a unidimensional measure of well-being where each item adds unique information regarding the level of well-being. The sensitivity/specificity of the WHO-5 for detecting likely depression was 0.44/0.96 for the ≤ 7 cut-off and 0.79/0.79 for the < 13 cut-off.¹³ Its raw score ranges from 0 to 25, 0 representing worst possible and 25 representing best possible wellbeing. To obtain a percentage score ranging from 0 to 100, the raw score is multiplied by 4. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life. The scale is already validated in Bangla among general population.⁹

Results

A total of 775 HCWs were interviewed in this nationwide hospital-based survey. Among them 264 (34.1%) were interviewed from primary, 256 (33%) from secondary and 255 (32.9%) from tertiary level hospitals. Among the HCWs 370 (47.7%) were physicians, 289 (37.3%) nurses and 116 (15%) medical technologists. The mean age of the HCWs was 36.9 ± 9.1 and the mean age of doctors was lower than nurses and technologists. Two-thirds of the participants were in the 18-40 years age range. Gender ratio was equal in overall sample— but nurses showed female predominance (83.7%) and medical technologists male (84.5%). Around 85% of the participants were married.

Reliability

Mean (SD) total WHO-5 score found was 16.4 (± 5.12) for the total study population with a range between 0 and 25. The Cronbach alpha coefficient for the five items of the WHO-5 found was 0.890.

Table 1: Distribution of item characteristics of WHO-5

Item	Mean	SD	Item-total correlation	Cronbach's alpha if item deleted
Item1	3.26	1.23	0.75	0.858
Item2	3.35	1.20	0.77	0.854
Item3	3.61	1.13	0.72	0.866
Item4	3.35	1.25	0.72	0.864
Item5	2.90	1.33	0.67	0.879

Validity

We proposed a single factor model for the scale and found that chi-square value of 48.3 ($p=0.000$) with chi-square/df value of 9.6 and Root Mean Square Error of Approximation (RMSEA) value of 0.106; Comparative Fit Index (CFI) found was 0.997 and Tucker-Lewis Index (TLI) 0.993.

In exploratory factor analysis, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy - KMO coefficient found was 0.860 for the sample and the χ^2 value in the Bartlett test was 2133 (df=10; $p=0.000$), indicating that factor analysis could be conducted. Principal component analysis with varimax rotation identified a single component with eigenvalues of more than one (i.e., 3.47) and this one component in total explained 69.4% of the variance.

Table 2: Factor structure of WHO-5 obtained by varimax rotation

Item	Factor loading	Extracted communalities
Item1	0.868	0.729
Item2	0.854	0.752
Item3	0.829	0.688
Item4	0.829	0.687
Item5	0.786	0.617

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

Table 3: Convergent and divergent validity of WHO-5

Item	Pearson's correlation coefficient	P value
SWLS	0.537	0.000
Autonomy satisfaction	0.319	0.000
Relatedness satisfaction	0.176	0.000
Competence satisfaction	0.223	0.000
Autonomy frustration	-0.170	0.000
Relatedness frustration	-0.016	0.652
Competence frustration	-0.237	0.000

Discussion

In this study, WHO-5 was standardized in a sample of HCWs consisted of physicians, nurses and medical technologists of different ages across different levels of geographical and hospital settings. Item-total correlation determines the correlation of each item with the total score of the scale. We observed for each item, item total correlation values were more than 0.30, suggesting satisfactory correlation values.¹⁴ Also, the Cronbach's alpha for the resulting scale showed a high level of internal consistency at 0.890, which exceeded the recommended minimum criterion of 0.70 or above for determining internal consistency.¹⁵

On confirmatory factor analysis, a value of χ^2/df ranging from 2 to 1 or 3 to 1 suggests an acceptable fit.¹⁶ CFI and TLI values can range between 0 and 1; values greater than 0.90 indicate good fit.¹⁷ RMSEA values of 0.01, 0.05 and 0.08 indicate excellent, good and mediocre fit respectively, some go up to 0.10 for mediocre.¹⁸ In this study, CFI and TLI values indicated good fit whereas χ^2/df and RMSEA values indicated poor fit of the single component structure. However, model fitness value cannot be considered infallible due to their subjective judgment.¹⁹ Previously, the WHO-5 has been analysed with the item response theory model formulated by Rasch in both younger persons and in elderly persons which confirmed that the five items constitute a unidimensional scale.²⁰ On exploratory factor analysis, we also identified a single component with eigenvalues of more than one. Factor loading of each item was more than 0.71 indicated very strong correlations with the component.²¹ Similarly, acceptable cut off value for extracted communalities is 0.3 and in our study lowest communality extracted was 0.61.

From the self-determination theory perspective, wellbeing is preserved when an individual follows his intrinsic motivations and, in the process, learn, grow and thrive.²² The three needs for self-determination are: autonomy (needing to be self-regulating; to own one's actions and to identify one's self with one's behavior); competence (needing to be effective; to be moving towards greater mastery and skill); and relatedness (needing to feel psychological connection with important others; to support, and be supported by, those others). Positive correlation between the WHO-5 and life satisfaction of the SWLS and self-determination satisfaction domains scores in the BPNSFS suggests good convergent validity. On the other hand, negative correlation between the WHO-5 and self-determination frustration domains scores in the BPNSFS suggests good divergent validity. Relatedness

domain showed weak correlation with the WHO-5; in highly competitive health sector workplaces autonomy and competence might be more important than relatedness in ensuring wellbeing.

Conclusions

Findings of this study will act as eye-opener for the psychiatrists regarding wide variation in patterns of psychiatric diagnoses. It will also help the policy makers for future planning and policy making in the field of mental health.

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How to cite this article: Sarkar AA, Alam MT, Hossain R, Tabassum N. Psychometric properties of the WHO-5 Well-Being Index among health care workers. Arch NIMH. 2023; 6(1): 3-7.

Received 20 May 2023, revised 31 May 2023, accepted 07 June 2023.

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Risk factors for developing mental health disorders among different socio-economic populations of Dhaka City in Bangladesh

Atiya Sharmeen, Salim Mahmud Chowdhury, Mohammad Soful Islam, Fahim Ahmed, Ashraful Islam Khan

Background: There is a persistent lack in detecting the vulnerability and care for mental health disorders among the populations of low-and-middle-income countries like Bangladesh. Socio-economic factors have been the key determinant for this negligence. Also, a suitable screening tool is essential to assess the disorders to ultimately plan for a mental health action.

Objectives: In this study, we aimed to assess the vulnerability and distribution of mental health disorders in various socio-economic populations using modified Self Reporting Questionnaire 20 (SRQ-20) as a potential questionnaire-based screening-tool.

Methods: A total of 576 participants having various socio-economic backgrounds were screened to assess the vulnerability and detect the mental health disorders through the questionnaire-based survey. It was a prospective community-based data collection

Results: Middle-income group had significant-level ($p < 0.05$) of vulnerability (having SRQ score > 7) to develop mental health disorders (61.8%). In a similar way, highest number of somatic and cognitive disorders and anxiety and depression ($n = 21$) were detected among the same income group. Treatment seeking behavior for mental health disorder is high in middle and richest group. The symptoms of mental health disorders were more in middle income comparing with richest household except headache, thinking ability and lost interest. Cognitive disorder was same in middle & richer household. Lower income group has low prevalence.

Conclusions: Taken together, modified SRQ-20 could be an effective survey tool to detect vulnerability to develop mental health disorders. However, a large group study including confirmatory psychiatric assessment by physician would be essential to further validate the result of the study.

Declaration of interest: None

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Keywords: Survey-tool; mental health; vulnerability; modified SRQ-20; socio-economic factor.

Introduction

According to the World Health Organization (WHO), mental health is “a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and

fruitfully, and is able to make a contribution to his or her community.” The main contributor to the mental ill-health burden is depression, which along with anxiety and somatic complaints affects one in three people within their

lifetime.¹ Mental health disorder is one of the most neglected disease categories that have contributed to 13% of global morbidities, when present as a comorbidity with other chronic diseases, it can reduce the life expectancy by 20 years.² In Bangladesh to some extent; the situation is alarming. All of the community studies identified a very high prevalence of mental health disorders. Self-Reporting Questionnaire 20 (SRQ-20) is a screening tool, which is a valid tool for screening of mental health disorder according to WHO.³ With the help of this screening tool, early detection of mental health disorder can be done at community level. In 2006 Bangladesh mental health policy, strategy and plan was approved. The policy addressed the prevention & surveillance of non-communicable disease & community-based activity in mental health.³ This screening tool can be adapted in the surveillance system of mental health.³ With this screening tool we can compare the prevalence of mental health disorder between the lower and middle socio economic group of Dhaka city.⁴

Methods

It was a prospective study carried out by obtaining data from the household by using the SRQ-20. The sociodemographic data and other relevant variables of the participant were collected from household. From each household one trained research assistant collected the data from the participants. The questionnaires were translated in Bengali. The questions of SRQ-20 were explained to the participants by the field research assistant. Yes answer to more than 7 questions is considered as vulnerability to develop mental disorders. Most of the similar study in our country, the data was captured in hospital setup or in private chamber. There is no comparison study by using the similar variables in household level. From May 2018 to December 2018 data was collected from different locations of Dhaka city. Data was entered by data entry operator, was analyzed by using statistical package for Social Science (SPSS) Version -20. Research proposal was approved by the Ethical Committee of CIPRP for this study but the participant was not informed about the purpose of filling the data sheet.

Results

The socio-demographic characteristics of the participants (N=576) are shown in Table 1. Mean age for the participants is 36.6 years where 54% are female and 65% of the participants live in a nuclear family. Almost all (98%) are from Muslim religion, 86% of them are married, 36% of them completed higher secondary level of education whereas 23% have no education and 21% have secondary level educations respectively. Among the participants 27%

of them are house-wife and 35% are involved in other occupations. Majority (52%) of the participants were from middle-income category and 42% were from richest household.

Table 1: Socio-demographic characteristics of the participants (N=576)

Characteristics	Categories	n(%) / mean ± SD	95% CI (% or mean)
Age (years)	Mean	36.60 ± 14.85	(35.39, 37.79)
	Sex	Female	310 (54) (49.8-57.6)
	Male	266 (46) (42.4-50.2)	
Type of the family	Nuclear	372 (65)	(60.6-68.4)
	Extended	204 (35)	(31.6-39.4)
Religion	Islam	564 (98)	(96.7-99.1)
	Hinduism	12 (2)	(0.9-3.3)
Marital status	Single	52 (9)	(6.8-11.1)
	Married	493 (86)	(83.0-88.4)
	Separated	17 (3)	(1.6-4.3)
	Divorced	1 (0.1)	(0.0-0.5)
	Widow/ widower	13 (2)	(1.2-3.5)
Level of education	No education	134 (23)	(19.6-26.6)
	Primary	66 (11)	(8.9-14.2)
	Secondary	122 (21)	(18.1-24.8)
	Higher	210 (36)	(32.5-40.5)
	Secondary		
	Graduation	34 (6)	(4.0-8.0)
	Post-graduation	10 (2)	(0.7-3.0)
Occupations	Unemployed	37 (6)	(4.5-8.5)
	Day-labourer	76 (13)	(10.4-16.0)
	Garment worker	46 (8)	(5.9-10.2)
	Government job	6 (1)	(0.3-1.9)
	Private job	43 (7)	(5.4-9.9)
	Housewife	153 (27)	(23.1-30.2)
	Part-time job	16 (3)	(1.6-4.2)
	Other job	199 (35)	(30.6-38.4)
Monthly Income (BDT)	Low-income(≤10)	37 (6)	4.5-8.3
	Middle-income (10-30)	300 (52)	48.1-56.1
	Richest household (>30)	239 (42)	37.7-45.5

Table 2: Factor structure of WHO-5 obtained by varimax rotation

Questions asked	Low-income n (%)	Middle-income n (%)	Richest household n (%)	Total
Do you often have headaches?	15 (7)	119 (56)	78 (37)	212
Do you have uncomfortable feelings in your stomach?	10 (8)	72 (59)	40 (33)	122
Is your digestion poor?	7 (7)	57 (58)	35 (35)	99
Is your appetite poor?	13 (8)	88 (58)	52 (34)	153
Are you easily tired?	18 (9)	124 (59)	69 (33)	211
Do you feel tired all the time?	8 (11)	41 (54)	27 (36)	76
Do you sleep badly?	11 (7)	79 (53)	58 (39)	148
Do your hands shake?	12 (11)	67 (59)	35 (31)	114
Are you easily frightened?	7 (10)	44 (61)	21 (29)	72
Do you find it difficult to make decisions?	6 (10)	31 (52)	23 (38)	60
Is your daily work suffering?	-	17 (61)	11 (39)	28
Do you have trouble thinking clearly?	1 (4)	8 (32)	16 (64)	25
Do you find it difficult to enjoy your daily activities?	2 (7)	17 (63)	8 (30)	27
Do you cry more than usual?	11 (13)	42 (49)	33 (38)	86
Do you feel unhappy?	8 (13)	37 (62)	15 (25)	60
Do you feel nervous, tense or worried?	7 (11)	37 (56)	22 (33)	66
Do you feel that you are a worthless person?	7 (13)	32 (60)	14 (26)	53
Are you unable to play a useful part in life?	3 (14)	13 (59)	6 (27)	22
Has the thought of ending your life been in your mind?	2 (11)	11 (61)	5 (28)	18
Have you lost interest in things?	-	7 (44)	9 (56)	16
Do you feel that somebody has been trying to harm you in some way?	4 (11)	21 (58)	11 (31)	36
Are you a much more important person than most people think?	3 (8)	19 (47)	18 (45)	40
Have you noticed any interference or anything else unusual with your thinking?	2 (12)	8 (50)	6 (38)	16
Do you ever hear voices without knowing where they come from out which other people cannot hear?	1 (7)	10 (72)	3 (21)	14

According to the modified SRQ-20, each of participants were assessed for mental health through the predefined 24-questions. Answers received from the participants were noted and counted accordingly (Table 2).

Vulnerability and mental health disorders among the participants were screened based on modified SRQ-20. Vulnerability for developing mental health disorders were highest among middle-income people (n= 47 and 13). Richest households showed vulnerability and prevalence of

mental health disorders next to middle-income (n= 20 and 11). Low-income group showed the vulnerability and prevalence at lowest (n= 9 and 2). Pearson's chi-square test showed significant association ($p<0.05$) between vulnerability and economic groups while richest households and middle-income groups were considered.

Table 3: Vulnerability and distribution of mental health disorders among different economic groups

Variable	Low-income	Middle-income	Richest-household	Chi-square	P-value
Vulnerability					
Yes (%)	9 (11.8)	47 (61.8)	20 (26.3)	10.46	0.005
No (%)	28 (5.6)	253 (50.6)	219 (43.8)		
Somatic disorders					
Yes (%)	1 (5.6)	10 (55.6)	7 (38.9)	0.09	0.954
No (%)	36 (6.4)	290 (52.1)	232 (41.5)		
Anxiety & depression					
Yes (%)	1 (25)	1 (25)	2 (50)	2.80	0.246
No (%)	36 (6.3)	299 (52.3)	237 (41.4)		
Cognitive disorders					
Yes (%)	1 (5.6)	10 (55.6)	7 (38.9)	0.09	0.954
No (%)	36 (6.4)	290 (52.1)	232 (41.5)		

Discussion

Mental disorder as a disorder that has increased by 41% worldwide between 1990 to 2010.³ The percentage of old age people is increasing. With the increase of aging population depression, anxiety, mental & neurological disorder has increased. An article on Lancet Psychiatry says that, the number of mental health disorder among old age have been not reported correctly.⁵ There is no documentation of suicidal cases in many countries.⁶

The modified version of SRQ-20 was used to screen the vulnerability of developing mental health disorder. Both the vulnerability of mental health disorders was highest among middle-income people 47 (8%) and prevalence of mental health disorders is 3 %. Richest household have prevalence of mental health disorder 4% and Prevalence 2 % among the whole population.⁷ In Some Studies shows that Four out of every ten people suffering from mental disorders such as schizophrenia, depression, intellectual disability, alcohol use disorders, epilepsy, and those committing suicide are living in low-and middle-income countries.⁸

The burden of mental health disorder of low and middle-income countries is higher than developed country. Among the cause of the disease burden, mental health disorder ranks four out of ten. Still, it remains less important in the agenda of policy planning in middle- and lower-income country. There is immediate need to address the social stigma regarding illness associated with mental health. The mental

health care needs to be available and accessible to everyone of the community.⁹ Bangladesh also does not have appropriate human resources to give the mental health services. Dhaka based National Institute of Mental Health has given significant effort on mental health. The health care system also has to address the disease burden regarding mental health. WHO has defined mental health as a state of wellbeing on which people can realize their potentials, can cope up with the stress of life. In this way, they can contribute to the community.¹⁰

Conclusions

The findings of this study can be utilized to establish the modified SRQ 20 as a screening tool for early detection of mental health disorders. These cases can be identified and treated earlier. This tool can be used as a preventive measure and basic screening tool at community level. This can be used in college & university level for early detection of suicide and prevention of suicide.

The limitation in this study was that we could not reach all economic groups of Dhaka city. We have searched for but could not obtain similar data in ultra-poor group. As the perception about mental health is very limited in this group. They do not notify the symptoms of the disease.

It is recommended that there should be a simple screening tool that can be used at community level & in low resource set up. This screening tool should be understandable to all the members of the community. Anxiety and depression are the leading causes of disability around the world and contribute greatly to the global burden of diseases. Bipolar depression and major depressive disorder are quite different with differing treatment algorithms and prognosis; Special emphasis should be given to reduce suicide rates. If this screening tool can detect it early, then special emphasis can be given to reduce suicidal rates. These cases can be referred for institutional care or to psychiatrist.

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How to cite this article: Sharmeen A, Chowdhury SM, Islam MS, Ahmed F, Khan AI. Risk factors for developing mental health disorders among different socio-economic populations of Dhaka City in Bangladesh. Arch NIMH. 2023; 6(1): 8-12.

Received 12 Jan 2023, revised 20 Feb 2023, accepted 08 Apr 2023.

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Determinants of conduct disorder in children attending a psychiatric hospital

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Background: Prevalence of conduct disorder (CD) is high in child population. A number of biological, psychological and social factors were reported to be associated with CD.

Objectives: To find out the determinants of CD in child population.

Methods: A cross-sectional study was conducted in National Institute of Mental Health (NIMH), Dhaka and by convenient sampling technique 84 parents of children with and without CD were enrolled in the study. Sociodemographic, lifestyle and family life related information were collected by a structured questionnaire.

Results: Boys (OR=3.75), school dropout children (OR=2.17) and children who came from nuclear families (OR=20.4) showed higher risk of having CD. We observed, presence of domestic violence (OR=7.65), violence in front of children (OR=1.15), marital conflict between parents (OR=2.64), substance use of parents (OR=4.95), mental illness in parents (OR=5.2) and having criminal history of parents (OR=2.44) had significantly increased risk of CD in children.

Conclusions: A number of sociodemographic and family life related factors conferred greater risk of having CD in children.

Declaration of interest: None

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Keywords: Conduct disorder; determinants; Bangladesh.

Introduction

Conduct disorder (CD) is identified by a consistent and recurring behavior pattern that involves breaking important societal rules or infringing upon the rights of others that are appropriate for someone of that age.¹ In the National Mental Health Survey of Bangladesh prevalence of disruptive, impulse control and conduct disorders reported was 1.7% according to DSM-5 criteria in 7-17-year-old.² Previously, Rabbani and Hossain reported its prevalence as 8.9% in Bangladeshi child population between Grade I and V.³ Mullick and Goodman (2005) assessed psychiatric disorders by Development and Well-Being Assessment (DAWBA) scale in 5-10-year-old children and found the prevalence of conduct disorder as

2.9%.⁴ The disorder has profound social implications and is closely linked to chronic antisocial behavior in adulthood. According to Robins' research, around 30% to 50% of children with CD fulfill the criteria for antisocial personality disorder (APD) when they reach adulthood and virtually all adult cases of APD have a history of severe CD during their childhood.⁵

There are several key risk factors that have been shown to be highly predictive of conduct disorder (CD) and delinquent behavior. These include impulsive tendencies, low intelligence quotient (IQ), poor academic performance, inadequate parental supervision, inconsistent

or harsh parental discipline, unemotional or neglectful parental behavior, physical abuse of the child, parental conflicts, family disruption, presence of antisocial parents, large family size, low household income, association with delinquent peers, attending schools with high rates of delinquency and residing in high-crime neighborhoods.⁶ However, it is not yet clear whether these factors have a direct causal effect on CD and delinquency. Children are the future of the world and need to be raised and educated in conditions most favorable to their personal growth and development. Onset, course and prognosis of CD show addressing biological, psychological and social risk factors can prevent it. Keeping this in mind, this study was carried out to find out the determinants of CD in child population attending the National Institute of Mental Health (NIMH), Dhaka.

Methods

A cross-sectional comparative study was carried out at NIMH, Dhaka. Beforehand, ethical clearance was taken from the authorities. Parents of children with or without conduct disorder where children were aged below 18 were conveniently approached for this study. 84 parents were interviewed face-to-face and among them 42 were parents of children with CD. For comparison age matched parents were approached from the outdoor who brought their children with other mental disorder or without any. CD was diagnosed by psychiatrists working in the outdoor of NIMH according to DSM-5 criteria. Following enrollment sociodemographic and some other relevant data were collected from each parent. Statistical analysis of the results was done by using computer-based statistical software, SPSS-IBM version 22.

Results

The mean age of the children with CD was 13.1 ± 3.3 and children without CD 10.3 ± 3.3 . As for CD groups, boys were predominant (83.3%), most came from nuclear families (97.6%) and around one-third of the respondents had no formal education. As for non-CD groups, girls had higher number compared to CD group, one-third came from extended families and a higher percentage of respondents had honors or higher than that education (50%).

Table 1: Characteristics of respondents participated in this study (N=84)

Characteristic	CD group	Non-CD group
Gender of the child		
Male	35 (83.3)	24 (57.1)
Female	7 (16.7)	18 (42.9)
Occupation of the child		
Student	36 (85.7)	39 (92.9)
School dropout	6 (14.3)	3 (7.1)
Residence		
Urban	32 (78.6)	34 (81)
Semi-urban	2 (4.8)	2 (4.8)
Rural	8 (19)	6 (4.3)
Family type		
Nuclear	41 (97.6)	28 (66.7)
Extended	1 (2.4)	14 (33.3)
Educational status of the respondent		
No formal education	14 (33.3)	-
Primary	6 (14.3)	-
Secondary	7 (16.7)	4 (9.5)
Higher Secondary	4 (9.5)	2 (4.8)
Graduate or higher	11 (26.2)	21 (50)
Others	-	15 (35.7)
Profession of the respondent		
Businessman	1 (2.4)	-
Farmer	4 (9.5)	2 (4.8)
Service holder	12 (28.6)	32 (76.2)
Housewife	23 (54.8)	8 (19)
Others	2 (4.8)	-

Table 2 shows the associations of sociodemographic factors with conduct disorder in children. Male children and school dropouts were more likely to present with CD. Also, children from nuclear families showed higher risk of having CD. No formal and primary educational status of parents confer greater risk of CD, whereas honors and above education non-CD. No significant association was found between residents and occupation of the parents with CD.

Table 2: Association of sociodemographic factors with CD (N=84)

Variable	Level	CD group	Non-CD group	OR	P value
Gender of the child	Male	35 (59.3)	24 (40.7)	3.75	0.016
	Female	7 (28)	18 (72)		
Occupation	Student	36 (48)	39 (52)	0.46	0.010
	Dropout	6 (66.6)	3 (33.3)		
Residence	Urban	32 (48.5)	34 (51.5)	-	0.101
	Semi-urban	2 (50)	2 (50)		
	Rural	8 (57.1)	6 (42.8)		
Family type	Nuclear	41 (59.4)	28 (40.6)	20.4	0.000
	Extended	1 (6.7)	14 (93.3)		
Respondent's education	No formal	14 (100)	-	-	0.000
	Primary	6 (100)			
	Secondary	7 (63.6)	4 (36.4)		
	Higher secondary	4 (66.7)	2 (33.3)		
	Honors and above	11 (34.4)	21 (65.6)		
	Others	-	15 (100)		

P values obtained from chi-square tests, OR-Odds ratio, cell values are n (%)

Table 3 shows the association of various characteristics of parents and family life with CD. We observed, presence of domestic violence (OR=7.65), violence in front of children (OR=1.15), marital conflict between parents (OR=2.64),

substance use of parents (OR=4.95), mental illness in parents (OR=5.2) and having criminal history of parents (OR=2.44) had significantly increased risk of CD in children.

Table 3: Association of various characteristics of parents and family life with CD (N=84)

Variable	Level	CD group	Non-CD group	OR	P value
Single parent	Yes	4 (33.3)	8 (66.7)	0.43	0.111
	No	38 (52.7)	34 (47.3)		
Violence in front of children	Yes	23 (79.3)	6 (20.7)	1.15	0.000
	No	19 (34.5)	36 (65.4)		
Mental illness in parents	Yes	12 (80)	3 (20)	5.2	0.010
	No	30 (43.5)	39 (56.6)		
Substance use in parents	Yes	19 (76)	6 (24)	4.95	0.002
	No	23 (39)	36 (61)		
Marital conflict	Yes	19 (65.5)	10 (34.5)	2.64	0.029
	No	23 (41.8)	32 (58.1)		
Domestic violence	Yes	27 (77.1)	8 (22.9)	7.65	0.000
	No	15 (30.6)	34 (69.4)		
Criminal history	Yes	13 (100)	-	2.44	0.000
	No	29 (40.8)	42 (59.2)		

P values obtained from chi-square tests, OR-Odds ratio, cell values are n (%)

Discussion

We observed boys were at higher risk of having CD. Previous studies also reported that boys are more frequently diagnosed with CD than girls and the prevalence ratio can vary from approximately 4:1 to as high as 12:1.⁷ Boys are more likely to show physical aggression and risky sexual behavior than girls both of which are symptoms of CD; such, having more chances of being diagnosed with CD.⁸ They are also more likely than girls to receive harsh physical discipline, particularly by their fathers. Like our study, a Brazilian study, found that CD is higher among school dropouts even after adjustment for age, estimated IQ, school repetition, family structure and income.⁹ Behavioral issues in children can hinder their learning opportunities due to the fact that these children are often subjected to disciplinary actions for their behavior.¹⁰ This can result in strained relationships with teachers and the development of negative attitudes towards school, ultimately leading to diminished academic achievements and even dropout. In this study, CD children also showed higher chances of having parents with lower educational levels. The educational levels of parents, particularly when they are low, can have an impact on negative patterns of interaction within the family. These patterns, in turn, can influence the development of behavior problems in children, specifically aggression.¹⁰ Also, higher educational levels have been linked with positive parenting.

National Mental Health survey of Bangladesh, 2018-2019 also found that prevalence of disruptive, impulse control and conduct disorders were more in urban children than rural children (2.7% vs. 1.7%).² We didn't find any association between CD and place of living. Regarding family issues, we observed domestic violence, violence in front of children and marital conflict raised the chances of having children with CD. Children exposed to these issues are found to have negative impact in behavioral, cognitive and emotional functions. For instance, Sajadi et al.¹¹ theorized that couples who are emotionally disconnected tend to neglect the necessary discussions and management of conflicts related to their child. In such families, physical punishment is frequently employed, which not only poses significant health risks to the child but also perpetuates a harmful cycle of domestic violence and conflict. Marital conflicts characterized by physical aggression, nonverbal or verbal hostility or threats to the family's unity are often referred to as destructive due to their association with the child's reactive distress and aggressive behavior.

We found that parental substance use, crime history and history of having mental illness conferred greater risk of

having CD in children. The presence of substance use problem within a household can place a significant burden on economic resources, leading to financial strain as well as breakdown of relationships among family members.¹² These factors collectively serve as social determinants that influence the health of children. When parents engage in criminal behaviors, it can have detrimental effects on the family environment and parenting practices, leading to a higher probability of conduct problems in their children.¹³ The exposure to criminal behaviors and the associated social and environmental factors, such as instability, violence, and substance abuse, can negatively impact the child's development and increase the risk of engaging in delinquent and antisocial behaviors.¹³ Finally, when parents themselves have mental illness children may face various inappropriate environmental stimuli that can adversely affect their development. These include instances of parental rejection, insufficient parental affection and support, excessive indulgence, lack of clear family goals, emotional distance within the family, absence of maternal love and nurturing, insecure childhood attachments, and parental stress.¹⁴ These factors can have negative consequences on the child's well-being and may contribute to the development of behavioral issues.

Conclusions

Several sociodemographic and family life related factors conferred greater risk of having CD in children.

This study had some limitations. Limitations include cross-sectional study design, which limits the strength of causal relationship. Also, samples were enrolled from a single center, so generalizability might be an issue.

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How to cite this article: Lopa AR, Yasmin M, Afrin A, Zahangir TI, Hasan M. Determinants of conduct disorder in children attending a psychiatric hospital. *Arch NIMH*. 2023; 6(1): 13-17.

Received 20 May 2023, revised 31 May 2023, accepted 07 June 2023.

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Sociodemographic determinants of marital satisfaction in married adults attending a tertiary care hospital

Shaafi Raaisul Mahmood, Ahsan Aziz Sarkar, Mahbub Hasan, Nadia Afroz

Background: Being in a happy marital relationship is associated with better psychological and physical health. Recently, divorce rate has increased several folds in Bangladesh which alarmed the mental health professionals. Knowing the determinants of satisfaction and the proportion of maritally satisfied couple will help to employ strategies to improve the quality of marriage and to reduce marital distress.

Objectives: To estimate the proportion of maritally satisfied adults and to identify the sociodemographic factors associated with marital satisfaction.

Methods: A cross-sectional study was carried out at National Institute of Mental Health and Hospital in 2020 among 155 married adults attending the hospital and the sample was collected by convenient sampling. A semi-structured sociodemographic questionnaire along with Bangla validated version of Revised Dyadic Adjustment Scale (RDAS-B) were applied to collect the data.

Results: Out of 155 participants, 65.8% were found to be maritally satisfied and 34.2% showed marital distress. Male adults showed higher satisfaction ($t=2.72$, $p=0.007$) than females; secondary and higher educated respondents were more satisfied ($F=8.76$, $p=0.000$); urban participants were more satisfied than rural ($t=4.67$, $p=0.000$) as well as service holders found to be more satisfied than other occupants ($F=4.76$, $p=0.000$). Respondents with higher income showed greater satisfaction ($r=0.300$, $p=0.000$) and mentally ill participants were less satisfied ($t=-6.59$, $p=0.000$).

Conclusions: A significant proportion of married adults attending the hospital showed marital adjustment problems and sociodemographic factors have prominent influence on marital satisfaction.

Declaration of interest: None

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Keywords: Marital satisfaction; adjustment; determinants; Bangladesh.

Introduction

Marital satisfaction is often referred as the attitude an individual has toward his or her marital relationship.¹ It is an important area of interest for both researchers and married couples. For researchers the important goal is to understand the workings of relationships that contributes to higher satisfaction.¹ Moreover being in a happy marital

relationship is associated with better psychological and physical health. There are important factors which influence the attitude of the individual towards this relationship. Recently divorce rate has increased several fold in Bangladesh.² Unsatisfactory marital relationship increasing the rate of depression, anxiety, suicide and other

mental illness.³ Identification of contributing factors to satisfaction will allow the married couples and mental health professionals to employ strategies that may contribute to a more satisfying marriage, and to avoid the behaviors that leads to decrease in marital satisfaction.¹ Keeping this in mind this study was carried out to determine how sociodemographic factors are related with marital satisfaction and to estimate the proportion of maritally satisfied adults attending in a tertiary care hospital.

Methods

A cross-sectional study was carried out at the National Institute of Mental Health and Hospital, Dhaka between January 2020 and October 2020. Beforehand, ethical clearance was taken from the respected authority and informed written consent was taken from the participants. The study population was married adults aged between 18 to 50 years, who were in a monogamous relationship and were married for the first time. The sample size was 155 and it was collected by convenient sampling from inpatient and outpatient departments of the hospital. Individuals whose first language was not Bangla, who were unable to understand the questionnaire due to severe mental or physical illness and whose partner had psychotic illness were excluded from the study.

A semi-structured sociodemographic questionnaire was used to collect the sociodemographic data along with Bangla validated version of Revised Dyadic Adjustment Scale (RDAS-B) which was used to measure marital satisfaction. Statistical analysis of the results was done by using computer-based statistical software, SPSS-IBM version 22.

Results

In this study, most of the participants (48.4%) were in the 30–39-year age group, female (58.1%), came from nuclear families (62.6%), had urban background (89.2%), completed secondary or higher than that level of education (88.4%) and were service holders (52.3%). Table 1 shows the sociodemographic characteristics of participants.

In the RDAS scale, the cut off score is 48 and higher score indicates more satisfaction. Out of 155 participants, 102 (65.8%) were found to be maritally satisfied and 53 (34.2%) showed marital distress. Mean score of the non-distressed couples 53.6 ± 5.2 and distressed couples 37.7 ± 9 . We observed male adults were more satisfied than females ($t=2.72$, $p=0.007$) and urban couples than rural ones

Table 1: Sociodemographic characteristics of responding married adults (N=155)

Characteristic	Frequency (n)	Percentage (%)
Age group (year)		
20-29	37	23.9
30-39	75	48.4
40-49	34	21.9
50	9	5.8
Gender		
Male	65	41.9
Female	90	58.1
Family type		
Nuclear	97	62.6
Extended	58	37.4
Education		
Illiterate and primary	18	11.6
Secondary	11	7.1
Higher secondary	22	14.2
Honors and higher	104	67.1
Residence		
Urban	138	89
Rural	17	11
Religion		
Islam	143	92.3
Hinduism	12	7.7
Occupation		
Business	17	11
Housewife	30	19.4
Service	81	52.3
Others*	27	17.4

*Others include the unemployed, students, retired persons, other occupations, etc.

($t=4.67$, $p=0.000$). Regarding educational level, those whose educational level was below primary appeared most dissatisfied ($F=8.76$, $p=0.000$). As for occupation, on post-hoc analysis, service holders appeared statistically more satisfied than others and unemployed fared worst ($F=4.76$, $p=0.000$). Those with psychiatric disorders also scored lower than those without ($t=-6.59$, $p=0.000$). On Pearson's correlation test, monthly expenditure positive correlated with marital satisfaction ($r=0.30$, $p=0.000$). (Table 3)

Table 2: Differences in RDAS score across various study variables

Characteristic	Level	RDAS score Mean±SD	t/F value	P Value
Group	Non-distressed	53.6±5.2	13.8	0.000
	Distressed	37.7±9		
Gender	Male	50.8±8.8	2.72	0.007
	Female	46.3±10.6		
Education	Primary	31±4.8	8.76	0.000
	Secondary	51.1±4.7		
	Higher secondary	44.2±13.2		
	Graduate	50±8.8		
Family type	Nuclear	48.8±9.5	1.01	0.313
	Extended	47.1±10.9		
Residence	Urban	49.4±9.6	4.67	0.000
	Rural	38.0±8.3		
Occupation	Service	51.3±8.3	4.76	0.000
	Student	45.3±4.4		
	Business	46.5±10.7		
	Housewife	44±11.7		
	Unemployed	37±5.4		
Psychiatric disorder	Yes	38.5±10	-6.59	0.000
	No	50.5±8.6		

P values obtained from ANOVA and t test, RDAS-Revised dyadic adjustment scale

Table 3: Pearson correlation test between study variables and RDAS score

Variable	Correlation coefficient	P value
Age of the participant	0.053	0.515
Number of family members	-0.048	0.557
Monthly expenditure	0.300	0.000
Duration of marriage	-0.085	0.295

Discussion

In this study, out of 155 participants, 65.8% were found to be maritally satisfied and 34.2% showed marital distress. Male adults showed higher satisfaction than females; women’s subordinate role in family, male dominance within families, unequal balance of power and unequal control of family money may lead to low level of female

marital satisfaction.⁴ As for education, secondary and higher educated respondents were more satisfied. Previous studies also reported that level of educational attainment significantly influences marital satisfaction.⁵ Education has been associated with enhanced adaptability, communication skills, and resilience in dealing with life challenges. As a result, a positive relationship has been observed between education and marital contentment.⁵ Regarding residence status, urban participants were more satisfied than rural ones. Greater challenges in daily activities, lower income, cultural norms might have been the reasons behind lower level of satisfaction among the rural couples.⁶

We observed service holders were more satisfied than other occupants and unemployed individuals scored lowest in terms of satisfaction. Similarly, respondents with higher income showed greater satisfaction. The presence of a job is highly significant in a person's life and has an impact on different facets of their overall well-being, including their marriage. Stress, insecurity, and dissatisfaction stemming

from work can extend into one's marital life, resulting in conflict and decreased satisfaction.⁷ Conversely, experiencing job satisfaction and a feeling of job security can contribute to elevated levels of contentment within a marriage. Higher marital quality is more likely related with higher income.⁶ Also, unemployment causes some degree of marital distress.⁸

Finally, we found those with psychiatric disorders were less satisfied. Poor mental health and wellbeing are linked to weaker personal and social connections for individuals, families, and societies.⁹ Individuals facing severe mental health challenges may encounter difficulties in expressing themselves or conveying their emotions, leading to communication obstacles and potential strain on their relationships. Depression can lead to a lack of motivation or indifference towards communication, while anxiety can foster unwarranted mistrust, hindering effective communication and potentially destabilizing the relationship. The presence of mental illness can disrupt a relationship as the partner without mental illness often assumes increased responsibilities compared to before. This can expose the partner without mental illness to various risks, such as heightened stress and the burden of caregiving.¹⁰

The study had its limitations like we recruited a small sample. In addition, several sample demographics like the study population which were mostly Dhaka city based, educated, employed, and belonged to nuclear type family that might have made the findings less generalizable.

Conclusions

A significant proportion of married adults attending the hospital showed marital adjustment problem and several sociodemographic factors were influencing the outcome. Gender, level of education, financial status, unemployment, mental illness had played important roles in marital satisfaction.

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How to cite this article: Mahmood SR, Sarkar AA, Hasan M, Afroz N. Sociodemographic determinants of marital satisfaction in married adults attending a tertiary care hospital. Arch NIMH. 2023; 6(1): 18-21.

Received 20 May 2023, revised 31 May 2023, accepted 07 June 2023.

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Pattern of sociodemographic characteristics in relation with caregivers' burden of intellectually disabled children

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Background: Caregivers of any chronic, life-long, debilitating condition experience severe burden. There are various sociodemographic variables of caregivers associated with Intellectual Disability (ID) as it is a life-long disability and has a major impact, not only on the lives of the children who suffer but also affects several aspects of caregiver's life negatively including poor physical and emotional state. These suggest that stress occurs in a broader context than simply the provision of care for a child with an intellectual disability.

Objectives: The aim of this study was to find out the sociodemographic profiles of the caregivers and see the relation with the level of burden experienced by them.

Methods: A descriptive, cross-sectional study was conducted among the caregivers of intellectually disabled children attending the child psychiatry clinic in the outpatient department and admitted as inpatients in the National Institute of Mental Health (NIMH), Dhaka. A pre-designed structured questionnaire to identify the sociodemographic characteristics was prepared after doing literature review and with the help of expert opinion was applied on the caregivers of 66 intellectually disabled children whose diagnoses were already confirmed by a psychiatrist using the Diagnostic and Statistical Manual-5 (DSM-5). The Bangla version of the Zarit Burden Interview (ZBI-B) scale was applied to measure the level of burden by the caregivers of the intellectually disabled children. T-test, one-way ANOVA, Pearson correlation test were done to compare the relation of caregivers' burden with different sociodemographic variables of the caregivers. Data analysis was done by Statistical Package for Social Sciences (SPSS) version 24.0.

Results: A total of 66 respondents were interviewed for the study (N=66). The results for the gender of the caregiver, nuclear and joint family type were clinically significant ($p \leq 0.05$). However, residence, history of mental disorder of the caregivers, and respite care did not show any clinical significance ($p > 0.05$). It was also revealed that burden of the caregiver increased with age which was clinically significant ($p \leq 0.05$), but it was found that an increase in family income, an increase in the number of family members, and more time spent by the caregivers caring for the intellectually disabled did not clinically increase the burden ($p > 0.05$).

Conclusions: Caring for those who are intellectually disabled is often itself stressful as caregiving affects several aspects of caregiver's life negatively including poor physical and emotional state. It has now been demonstrated in this study that caregivers are always family members, mostly mothers of children. Various intervention measures should not only be directed towards handicapped people, but also towards their family who also suffer to a great extent. Only then there will be a change of viewpoint about the care of such children.

Declaration of interest: None

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Keywords: Caregiver burden; intellectually disabled children; sociodemographic variables.

Introduction

The term "Caregiver" as used in Nesmith Library policies¹ is defined as a person who meets one of the following criteria:

- a. family member or helper who regularly looks after a child or a sick, elderly, or disabled person.
- b. has significant responsibility for managing the behavior and or well-being of the individual diagnosed.
- c. is designated as such by the child's parent or legal guardian.

There is no published study solely on caregivers' burden on intellectually disabled children in Bangladesh. The caregivers are usually the mother of the child, elderly family members, or the unemployed members of the family. A study in India found that mothers of children with intellectual disability displayed lower physical health, impairment in social relationships, psychological state and poorer perception of their environment.² The possible reasons for this could be that most mothers were home-makers and comparatively spent a lot more time with the children without additional help and also restricted to home with no time or provision for leisure activity.³ Mothers, elderly or unemployed family members do not normally plan to be caregivers but find the need unavoidable, they do not receive any preparation for the role and as they once get engaged to it, they then find it to be very demanding.⁴ The caregiver may find lack of control of what happens in their own lives which eventually takes a toll on their health. Mbuaga et al (2011)⁵ studied the prevalence of depression among 114 family caregivers of children with intellectual disability in a rural setting in Kenya. 79% of the caregivers were at risk of having clinical depression, where severe were 31.6%, moderate 21%, mild 26% and caregivers suffering from minimal depression were 21.1%. Factors that have been shown to contribute to poor health outcomes of the caregivers include child's behavior, temperament, level of communication ability, severity of the disability, low self-esteem of the caregiver and poor social support.⁵ Moreover, the characteristics of the caregiver (e.g. age, marital status, coping ability), the shared history between the caregiver and the child, economic factors (e.g. socioeconomic status, ability to access formal care, employment) and cultural context also influence the outcome of the care giving situation.⁶ Factors that reduce psychological distress include a positive belief and non-critical family network. Other coping factors include stress management strategies, family functioning and support from the spouse.⁷ The objective of this study was to find out the sociodemographic profiles of the

caregivers and see their relationship with the level of burden experienced by them.

Methods

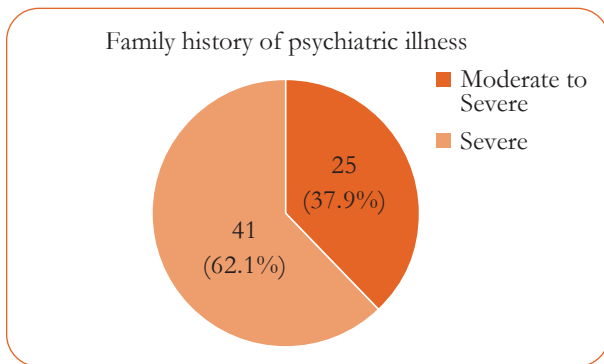
A descriptive, cross-sectional study was conducted among the caregivers of intellectually disabled children attending the child psychiatry clinic in the outpatient department and admitted as inpatients in the National Institute of Mental Health (NIMH), Dhaka. A total of 66 caregivers were selected purposefully and informed written consent was taken from each respondent. A pre-designed structured questionnaire to identify the sociodemographic characteristics was prepared after doing literature review and with the help of expert opinion. This questionnaire was prepared to determine the sociodemographic characteristics of the respondents, including age, sex, residence, marital status, family type, family income, provision of respite care, etc. A pre-testing was done among 5% of the sample size. According to the findings of pre-testing, the questionnaire was finalized after necessary modifications. It was applied on the caregivers of the intellectually disabled children whose diagnoses were already confirmed by a psychiatrist using the Diagnostic and Statistical Manual-5 (DSM-5). The Bangla version of the Zarit Burden Interview (ZBI-B) scale was applied to measure the level of burden by the caregivers of the intellectually disabled children. T-test and one-way ANOVA were done to compare the relation of caregivers' burden with different sociodemographic variables of the caregivers. The Pearson correlation test was applied to see the correlation between age of the caregiver, family monthly income, number of family members and time spent on caregiving with the burden of the caregivers of the ID children. Data analysis was done by Statistical Package for Social Sciences (SPSS) version 24.0.

Results

The level of burden measured using the Zarit Burden Interview (ZBI) scale among the 66 caregivers of the intellectually disabled children, found that 41 (62.1%) of the respondents experienced severe burden and 25 (37.9%) experienced moderate to severe burden. None of the respondents experienced mild to moderate, little or no burden. (Figure 1)

Comparison of mean ZBI Score results showed that the t-value obtained for the independent variables, gender of the caregiver and family type were clinically significant ($p \leq 0.05$) whereas residence, history of mental disorder of the

Figure 1: Severity of burden among caregivers (N=66)



caregivers and respite care did not show any clinical significance ($p>0.05$). (Table1)

Table 1: Comparison of mean ZBI Score of independent variables of two levels (N=66)

Independent variable	Mean±SD ZBI Score	T	p value
Caregivers' gender			
Male	62.1 ± 5.1	2.0	.047
Female	66.4 ± 9.9		
Family type			
Nuclear	68.2 ± 9.2	-2.7	.008
Joint	62 ± 8.6		
Residence			
Urban	66.1 ± 10.1	0.5	.562
Rural	64.7 ± 7.5		
History of mental disorder			
Yes	66 ± 8.5	0.09	.925
No	65.7 ± 9.6		
Provision of respite care			
Yes	71.3 ± 5.9	2.2	.055
No	65.2 ± 9.6		

***p value was calculated by independent samples t-test*

The mean ZBI Score of the male caregivers was less than the female indicating severe burden in both males and females (ZBI Score > 60=severe burden). The difference was clinically significant ($t=2.0$, $p=.047$), stating that the burden experienced by the female caregivers was more than the males in this study.

The mean ZBI Score of the caregivers living in a nuclear

family was more than the caregivers living in a joint family. This shows that caregivers living in a joint family experienced severe level of burden but less than those living in a nuclear family, and this was clinically significant ($p=.008$)

The mean ZBI Score of the urban residents was more than the rural residents, which was severe in both categories, but since the t-value was not found to be clinically significant ($t=0.5$, $p=.562$), the residence had no impact on the level of burden.

Similarly, the mean ZBI score of the caregivers who also had a history of mental disorder was more than the caregivers with no history of mental disorder which was also severe in both categories but not clinically significant in this study ($t=0.09$, $p=.925$).

The caregivers who received respite care had a mean ZBI Score which was more than those who did not receive any indicating severe level of burden experienced in both categories, whether respite care was provided to them or not. However, the difference in their burden was not found to be clinically significant in this study ($t=2.2$, $p=.055$).

The mean ZBI Score in every category of independent variable was more than 60, indicating severe burden experienced by the caregiver irrespective of their gender, type of family, residence, history of mental disorder of the caregiver or whether respite care was provided to them.

Table 2: Comparison of mean ZBI Score independent variables of three or more levels (N=66)

Independent variable	Mean±SD ZBI score	F	df	p value
Educational status				
Illiterate	67.4 ± .5	1.51	5	.199
Primary	67.2 ± 8.4			
Secondary	58.4 ± 6			
SSC	67.3 ± 13.9			
HSC	68 ± 12.7			
Graduate and higher	66.3 ± 9.4			
Occupation				
Unemployed	65.1 ± 11.1	0.4	2	.671
Service	65.7 ± 7			
Self-employed	68.5 ± 4.8			

Independent variable	Mean±SD ZBI score	F	df	p value
Educational status				
Illiterate	67.4 ± .5	1.51	5	.199
Primary	67.2 ± 8.4			
Secondary	58.4 ± 6			
SSC	67.3 ± 13.9			
HSC	68 ± 12.7			
Graduate and higher	66.3 ± 9.4			
Occupation				
Unemployed	65.1 ± 11.1	0.4	2	.671
Service	65.7 ± 7			
Self-employed	68.5 ± 4.8			
Relationship with the patient				
Mother	66.8 ± 9.9	2.04	2	.138
Father	62.1 ± 5.1			
Sibling	57 ± .00			
Marital status				
Single	57 ± .00	1.96	2	.149
Married	65.4 ± 9.8			
Others	70.8 ± 2.6			
Age group				
21-30	62.6 ± 8.7	.58	3	.629
31-40	66.4 ± 9.0			
41-50	66.2 ± 11.4			
51-60	68 ± .00			
Income group				
0-15K	67.2 ± 10.2	1.41	2	.251
15-30K	64.5 ± 6.8			
>30K	62.0 ± 9.1			
Total	65.7 ± 9.4			

*p value was calculated by one-way ANOVA

Table 2 showed the comparison between variables at three or more levels.

The mean ZBI Score at all levels of educational status was more than 60, except those who completed up to secondary education had moderate to severe burden. But these results were not clinically significant (F=1.51, p=.199).

The occupation of the caregivers, whether unemployed, service holders or self-employed had mean ZBI Score of more than 60 which was also not clinically significant (F=0.4, p=.671).

Fathers and mothers as caregivers experienced severe

burdens, however siblings experienced moderate to severe burdens, but the results were not found to be clinically significant (F=2.04, p=.138).

ANOVA test showed that single caregivers had moderate to severe burden but married and caregivers with other marital status (widowed, divorced, etc.) experienced severe burden. These findings, however, were not clinically significant (F=1.96, p=.149).

The mean ZBI Score for all age groups, between 21 to 60 experienced severe burden but the result was not clinically significant (F=0.58, p=.629).

The severity of the burden did not vary with the family income of the caregivers, as the mean ZBI Score among all income groups was more than 60, which again, was not found to be clinically significant (F=1.41, p=.251).

Pearson correlation test was applied to see the correlation between age of the caregiver, family monthly income, number of family members and time spent on caregiving with the burden of the caregivers of the intellectually disabled children. (Table 3)

Table 3: Pearson correlation test of age, income, number of family members, time spent on caregiving with ZBI score (N=66)

Variable	Caregiver burden	
	r value	p value
Age of the caregiver	.273	.026
Monthly income	.222	.073
Number of family members	.194	.118
Time spent on caregiving (hours/day)	.183	.142

Σr= Pearson correlation coefficient

The burden of the caregiver increased with age or the older caregivers experienced more burden than the younger ones, which was found to be clinically significant (r=.273, p=.026).

It was found that with an increase in family income, the burden of the caregiver decreased but this finding was not clinically significant (r=-.222, p=.073) and that with an increase in the number of family members, the burden decreased, which was also not found to be clinically significant (r=-.194, p=.118).

When the time spent by the caregivers caring for the intellectually disabled child was more, the burden was also more. However, the results were not found to be significant ($r=.183$, $p=.142$).

Discussion

Intellectual Developmental Disorder (IDD) imposes psychological, social and financial distress among the caregivers. Out of 66 respondents interviewed for the study, 50% of the respondents were in the age group of 31-40 years, close to the findings of other studies.^{2,5,8,9}

This study indicates that older caregivers feel greater burden than younger ones as well as the severity of the burden felt by the caregivers increase with age. Physical health deterioration of the caregivers with age is a major reason for this.⁸

A great majority of the respondents (83.3%) were females in the current study who were mostly mothers of the children (80.3%), others were grandmothers and elder sisters. The remaining 16.7% were males, mostly fathers. Almost every study on caregivers of ID children showed that females, especially mothers, were the primary caregivers. Mothers of children with intellectual disability displayed poor physical health and psychological state, impairment in social relationships and poorer perception of their environment.¹⁰ An African study showed it is more acceptable for the woman to take up the role of the caregiver as the women are responsible for the emotional care of the children¹¹ which may result in low self-esteem and loss of self and eventually be associated with maternal depression due to subjective care-giving burden among them.¹²

The mean time spent by the caregiver in the current study was found to be 9.5 hours per day \pm 3.3 SD, where the minimum time spent was 4 hours and maximum 18 hours per day. As more time is spent on the disabled children, mothers are restricted to home with no time or provision for leisure activity.¹³

40 (60.6%) of the respondents in this study belonged to nuclear family and 26 (39.4%) to joint family type. The finding was close to a similar study by Sethi, et al.¹³ The average number of family members was 5.5 ± 2.4 SD, with a minimum of 3 and maximum of 10 family members. Caregivers in both categories experienced severe level of burden but caregivers living in a joint family experienced less burden than those living in a nuclear family. A reason for this may be that a larger number of family members

divided the task load and care-giving hours spent by the primary caregiver every day. The caregiver found time for rest and recreation, their level of stress is reduced to an extent and hence, the burden. Family caregivers who provide care to other family members also need supervision or assistance in illness or disability.⁷

Among the respondents in the current study, 40 (60.6%) had a monthly family income of around 15,000 BDT, 16 (24.2%) earned between 16,000- 30,000 BDT and 10 respondents (15.2%) earned more than 30,000 BDT. This showed that the majority of the respondents belonged to lower socioeconomic class. In another similar study in India,¹⁴ found that most of the families, 67%, belonged to the poorer section with total family income less than Rs. 5000/month. Around 30% of the families had a reasonably good income in the range of 5000-15000/month. These findings as well as the current findings were similar to other studies in India,^{2,15,16} Kenya,⁵ Qatar¹⁷ and Australia¹⁸. The majority of the respondents were poor, and they do not have other sources of income other than their monthly income to take care of their special children with special needs. It is a known fact that income is the ultimate need of all families to fulfill their basic needs as well as special needs. Studies showed that respondents had borrowed money to meet the household expenses and treatments. They used to borrow money from their neighbors, relatives, and mortgage their jewels and some got money from the money lenders for their urgent needs.⁸

A study in India found that great majority (85%) of the respondents received the stipend of Rs. 1000/- given by the government to the children as well as care takers, got the equipment, and access to day care centers for their children with special needs.⁸ Only 6 (9.1%) of the respondents admitted having respite care provision, while the remaining 60 (90.9%) respondents did not have any respite care in the current study. The burden related to financial costs is further aggravated by insufficient public resources at the community level, such as lack of schools for the intellectually disabled and proper health facilities to meet their health needs.⁵

Burden is experienced on various aspects such as poor financial support, lack of accessibility, poor usage of appliances, lack of knowledge and understanding about intellectual disability, lack of support from family, poor skill in disability management, physical health deterioration of caregivers, etc., all play a major role in causing burden.⁸ Studies also show that level of burden increase when there is more than one disabled child in the family¹⁹ and also presence of physical disabilities, other co-morbidities

along with intellectual disability, further increase the burden²⁰. This association was reported by many studies^{21,22} which can be attributed to the degree of child dependency on the mother in daily activities of life, such as toileting, bathing, feeding, clothing and mobility, which increase the burden of caring.

Conclusion

Caring for those who are intellectually disabled is often itself stressful as caregiving affects several aspects of caregiver's life negatively including poor physical and emotional state. It has now been demonstrated in this study that caregivers are always family members, mostly mothers of the children, who are usually homemakers and spend a large amount of time solely caring for the intellectually disabled. Financial problems, difficulty enjoying leisure activities due to lack of additional help and poor family support, older age and various degree of distress while trying to understand the behaviors of the children are all associated with and increase the burden on the caregivers. The negative consequences of burden on caregivers harm their care-giving effectiveness, whereas experiencing subjective gains and satisfaction may enhance their care-giving ability. Various activities including education about the child's condition, encouragement, improving the mental health of the mothers of disabled children, focusing on poverty reduction, enhancing the resilience of mothers in the face of adversity, and improving the social, emotional and behavioral development of disabled children, counselling services, treatment if required are needed. Regular screening of mothers, community-based approaches to help in reach people who are not even aware of hospital settings for the intellectually disabled children will help to reduce stigma among the people in the community. Educational activities for parents on parenting a disabled child, the availability of services, and how to utilize them should start from the time the mentally disabled child is born. Welfare programs have been started for the mentally handicapped individuals by the government and voluntary organizations, but families of these handicapped children are ignored. Intervention should not only be directed towards handicapped people, but also towards their family who also suffer to a great extent. Only then there will be a change of viewpoint about the care of such children.

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How to cite this article: Hossain R, Alam MT, Alam MF, Sarkar AA, Zannat H, Lopa AR. Pattern of sociodemographic characteristics in relation with caregivers' burden of intellectually disabled children. Arch NIMH. 2022; 6(1): 22-28.

Received 12 Feb 2023, revised 27 April 2023, accepted 23 May 2023.

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Prevalence of sexual dysfunction among substance use disorder

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Background: The prevalence of substance use among the population is increasing day by day. After controlling for demographics, health status variables, and psychiatric co-morbidity, different types of sexual disorder is found to be related with substance use disorder.

Objectives: The objective of this study was to find out the prevalence of sexual dysfunction among substance use disorder attending outpatient department & indoor patient of Central Drug Addiction Treatment Centre, Tejgaon, Dhaka and Psychiatry Department of Combined Military Hospital, Dhaka.

Methods: In this descriptive type of observational study, 400 respondents were evaluated in a period of 6 months from 1st January to 30th June 2016. The respondents included in the study purposively were of ages above 18 years who fulfilled the criteria for substance use disorders according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5). Scale for the assessment of sexual dysfunction, International Index of Erectile Function Questionnaire (IIEF), Premature Ejaculation Diagnostic Tool (PEDT) were used to assess the sexual dysfunction among substance used disorder patients.

Results: The study showed the prevalence of sexual dysfunction is 94.2% in patients with substance use disorders. Of 400 respondents, 54.5% were having premature ejaculation, 34.2% having sexual arousal disorder, 5.5% having sexual desire disorder and only 5.8% denied having any sexual dysfunction.

Conclusions: Psychological, physiological, environmental, or cultural factors may be associated with use of a particular substance and may have independent or intervening effects on sexual dysfunction. So early detection of sexual dysfunction & effective treatment will reduce the poor outcome among substance used disorders.

Declaration of interest: None

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Keywords: Sexual dysfunction; drug abuse; substance use disorders.

Introduction

For much of the past century, scientists studying drug abuse labored in the shadows of powerful myths and misconceptions about the nature of addiction. When scientists began to study addictive behavior in the 1930s, people addicted to drugs were thought to be morally flawed and lacking in willpower. Those views shaped society's responses to drug abuse, treating it as a moral

failing rather than a health problem, which led to an emphasis on punishment rather than prevention and treatment. Today, thanks to science, our views and our responses to addiction and other substance use disorders have changed dramatically. Groundbreaking discoveries about the brain have revolutionized our understanding of compulsive drug use, enabling us to understand the

problem effectively.¹ Substance use disorder (SUD) occurs when a person's use of alcohol or another substance (drug) leads to health issues or problems at work, school or home.² SUDs are commonly associated with a variety of psychiatric disorders. Community-based studies have found a significant association between SUDs and sexual dysfunction in men, with a possible causal relation in the case of nicotine.³ In men, 'normal' stages of sexual function are arousal, erection, the sexual act, and ejaculation, followed by a latency period. In women, these stages are arousal, the sexual act and orgasm. Dysfunction can occur at any of these stages. In addition, both men and women can experience pain during the sexual act. Both ICD-10 and DSM IV-TR use these stages to classify sexual dysfunction. Sexual dysfunction (SD) is quite common in the community population. Large epidemiological community survey from the United States report >40% of women and 30% of men as suffering from some form of SD, with low sexual desire in women (22%) and premature ejaculation in men (21%) being the most common.⁴ These figures are not very different from those of 34% women and 15% men from eight European countries reporting low sexual desire.⁵ Substance abuse is widely prevalent in the community. World Health Report in 2002 reported that 8.9% of the total burden of disease worldwide in 2000 came from the use of psychoactive substances.⁶ The objective of this study was to find out the prevalence of sexual dysfunction among substance use disorder.

Methods

This was a descriptive cross-sectional study with purposive sampling. All available respondents aged above 18 years old were included who were willing to participate in the research on different working days and fulfilled the criteria for substance use disorders according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) in Central Drug Addiction Treatment Centre, Tejgaon and Department of Psychiatry in Combined Military Hospital (CMH), Dhaka from 1st January 2016 to 30th June 2016. Patients aged 18 and above of both sexes were included and patients with severe cognitive impairment, those who were unwilling to give informed consent and those with no formal education were excluded. After a brief explanation about the study to the patients an informed consent was taken. Total sample size was 400. For demographic assessment, every patient was interviewed by a semi-structured questionnaire prepared by the interviewer after taking informed consent. Scale for the assessment of sexual dysfunction, International Index of Erectile Function Questionnaire (IIEF), Premature Ejaculation Diagnostic Tool (PEDT) were used to assess

the sexual dysfunction among substance used disorder patients. The 15-question International Index of Erectile Function (IIEF) Questionnaire is a multi-dimensional, self-administered, and validated investigation by Rosen RC et al (1997)⁷ that has been found useful in the clinical assessment of erectile dysfunction and treatment outcomes in clinical trials. Question no 1, 2, 3, 4, 5 & 15 indicate assessment of erectile dysfunction. For the assessment of PE status, the PEDT was used. This five-item questionnaire was developed according to the DSM-IV-TR criteria used to diagnose PE. The questionnaire covers the following five domains: ejaculation control, frequency of PE, ejaculation with minimal sexual stimulation, distress, and interpersonal difficulty. The psychometric properties of the PEDT were confirmed in the original validation study conducted by Symonds et al (2007)⁸. Bangla scale of IIEF which is adapted and pretested by Parvez MKH was used. Bangla validated scale of PEDT by Islam T (2017)⁹ was used. Ethical clearance was taken from the ethical clearance committee of all above mentioned institutes. Data analysis was performed by using computer Software Program Statistical Package for Social Science (SPSS) version 19.

Results

Out of 400 samples, the mean age was found to be 27.9 ± 6.7 years and all respondents were male. Here 350 (87.5%) of the respondents had no family history of psychiatric illness. 388 (97%) respondents were smokers and 12 (3%) were non-smokers because all respondents were diagnosed case of SUD. About 41.5% of the respondents have been suffering from cannabinoid use disorder, 8.5% suffering from opioid use disorder, 22% suffering from amphetamine use disorder, 3% suffering from alcohol use disorder, 3% suffering from benzodiazepines use disorder, 16% suffering from multi drugs use disorder and 6% have been suffering from other SUD. The prevalence of sexual dysfunction was 94.2% in patients with substance use disorders. Of 400 respondents, 54.5% were having premature ejaculation, 34.2% sexual arousal disorder, 5.5% sexual desire disorder and 5.8% denied having any sexual dysfunction. Premature ejaculation was more common in multi drugs and opioid use disorder (65.6% and 64.7%, respectively) whereas sexual arousal disorder was more prevalent among alcohol and benzodiazepine use disorder (41.7% and 41.7%, respectively).

Table 1: Distribution of the study patients by socio-demographic variable (N=400)

Socio-demographic variable	Number of patients	Percentage
Age (in years)		
≤20	56	14.0
21-30	242	60.5
31-40	94	23.5
>41	8	2.0
Sex		
Male	400	100.0
Female	0	0.0
Religion		
Muslim	360	90.0
Hindu	32	8.0
Christian	4	1.0
Buddhist	4	1.0
Educational status		
Primary	138	34.5
JSC	75	18.8
SSC	59	14.8
HSC	100	25.0
Graduate	24	6.0
Postgraduate	4	1.0
Occupational status		
Unemployed	163	40.8
Service	78	19.5
Businessman	51	12.8
Student	52	13.0
Others	56	14.0
Marital status		
Unmarried	208	52.0
Married	151	37.8
Separated	21	5.3
Divorce	16	4.0
Widower	4	1.0
Resident of respondents		
Urban	275	68.8
Rural	125	31.3
Socio-economic status		
Lower	186	46.5
Lower middle	154	38.5
Middle	54	13.5
Higher middle	2	0.5
Higher	4	1.0

Figure 1: Distribution of respondents according to family history of psychiatric illness (n=400)

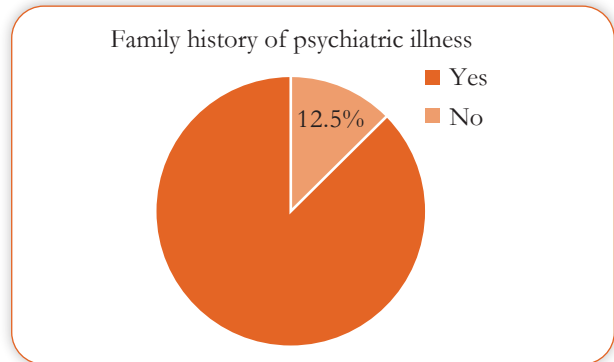


Figure 1 shows distribution of respondents according to family history of psychiatric illness. Here 350 (87.5%) of the respondents had no family history of psychiatric illness, 50 (12.5%) had family history of psychiatric illness.

Figure 2: Distribution of respondents according to history of smoking (N=400)

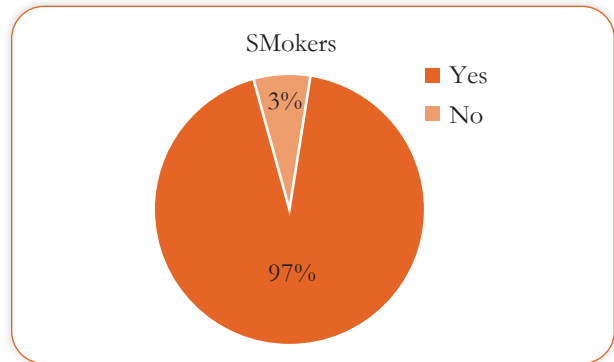


Figure 2 shows 388 (97%) respondents were smokers and 12(3%) were non-smokers.

Table 2: Distribution of the study respondents according to types of substance use (N=400)

Types of substance use	Number of patients	Percentage
Cannabinoid	166	41.5
Opioid	34	8.5
Amphetamine	88	22.0
Alcohol	12	3.0
Benzodiazepine	12	3.0
Multi drugs	64	16.0
Others	24	6.0
Total	400	100.0

Table 2 illustrates that most of the respondents have been suffering from Cannabinoid and Amphetamine use disorder (41.5% and 22%, respectively). Rest of them have been suffering from multi drugs-16%, opioids-8.5%, others-6%, alcohol and benzodiazepines-3%.

Figure 3: Prevalence of sexual dysfunction among the respondents (N=400)

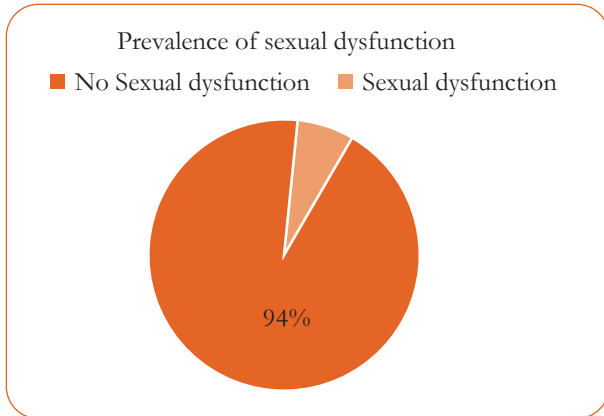


Figure 3 shows that the prevalence of sexual dysfunction is 94 % among the respondents.

Table 3: Distribution of the study respondents according to types of sexual dysfunction (N=400)

Types of sexual dysfunction	Number of patients	Percentage
Premature ejaculation	218	54.5
Sexual arousal disorder	137	34.2
Sexual desire disorder	22	5.5
Denied sexual dysfunction	23	5.8
Total	400	100.0

Table 3 illustrates distribution of the study respondents according to types of sexual dysfunction. Premature ejaculation and sexual arousal disorder are more common (54.5% and 34.2%, respectively) followed by 5.5% having sexual desire disorder and 5.8% denied having any sexual dysfunction.

Table 4: Association between the type of substance use disorder with the type of sexual dysfunction (N=400)

Types of substance use disorder	Denied sexual dysfunction (n=23)		Sexual desire disorder (n=22)		Sexual arousal disorder (n=137)		Premature ejaculation (n=218)		Total (N=400)	
	n	%	n	%	n	%	n	%	N	%
Cannabinoid	8	4.8	10	6.0	65	39.2	83	50.0	166	100.0
Opioid	1	2.9	2	5.9	9	26.5	22	64.7	34	100.0
Amphetamine	7	7.6	5	5.7	32	36.4	44	50.0	88	100.0
Alcohol	0	0.0	1	8.3	5	41.7	6	50.0	12	100.0
Benzodiazepines	0	0.0	0	0.0	5	41.7	7	58.3	12	100.0
Multi drug use	5	7.8	4	6.3	13	20.3	42	65.6	64	100.0
Others	2	8.3	0	0.0	8	33.3	14	58.3	24	100.0

$\chi^2 = 15.0, p > 0.05$

Discussion

In this study the age group of the patients were from 18 to 50 years with mean age of 27.9 years (SD ± 6.7). Age distribution of the patients showed that maximum patients were between 21-30 years because substance use disorder

is more common among unemployed, unmarried, frustrated people who mostly belong to this age group. Similar observation was found in Diehl et al.¹⁰ study which was conducted among 508 male drug users in an inpatient

addiction treatment unit in Sao Paulo, Brazil. They showed the mean age was 34.8 years (SD = 12.1), and age range of 18-65 years ($t = -1.41$, $p = 0.16$) and a median age of 31 years (second quartile). In the study of Rajkumar et al¹¹, the mean age was 29.08 ± 6.1 .

In the current study 100% respondents were male. This does not mean that there is no female substance user. From where data were collected there were no female respondents and there was no easy access to female respondents either. Moreover, psychoactive substance dependence is a predominantly male activity. Similar study was conducted by Rajkumar et al.¹¹ where all respondents were male. That study was conducted among 105 male respondents who attended the Marital and Psychosexual Disorders (MAPS) Clinic at the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER).

The present study reveals the prevalence of sexual dysfunction is 94.2% in patients with substance use disorders. Most of them use cannabis and amphetamine; chronic use of them often causes sexual dysfunction like sexual arousal disorder and premature ejaculation. Moreover, almost all of them smoke which causes sexual dysfunction, especially erectile dysfunction.¹² In this study, premature ejaculation was more common in multi drug and opioid use disorder (65.6% and 64.7%, respectively) whereas sexual arousal disorder was more prevalent among alcohol and benzodiazepines use disorder (41.7% and 41.7%, respectively) though the difference was not statistically significant ($p > 0.05$).

Jakka and Ramesh¹³ showed prevalence of various types of sexual dysfunction among 42 males. It was found that erectile dysfunction was the most common (92.9%), followed by orgasmic dysfunction (38.1%) and premature ejaculation (52.4%). Though a meta-analytic review found that the association between alcohol use and erectile dysfunction was inconsistent¹⁴, an Indian study found a significant link between alcohol dependence and sexual disorders.¹⁵ Psycho stimulants (amphetamine) tend to increase sexual desire in the short term, but long-term use may result in reduced sex drive. Amphetamine use is also associated with ejaculatory disturbance in the long term.¹⁶ It alters libido and can increase sex drive at the expense of impaired sexual performance (delayed orgasm and erectile dysfunction), possibly due to increased prolactin secretion.^{17,18} Smith et al.¹⁹ studied the effects of cannabis on sexual dysfunction which showed that daily cannabis use compared with no use was associated with an increased likelihood of reporting two or more sexual partners in the previous year in both men and women. Heroin reduces

sexual feelings and may decrease desire and cause erectile and ejaculatory dysfunction. High-dose methadone is well known to be associated with sexual dysfunction. Buprenorphine is also associated with sexual dysfunction.²⁰ Opioids reduce testosterone level resulting in decreased libido and erectile dysfunction. Many men who are taking prescribed or illicit opioids suffer from several side effects including sexual dysfunction like erectile dysfunction and decreased libido. These unwanted side effects have been correlated to hypogonadism and likely hypogonadotropic hypogonadism.²¹⁻²³

Conclusions

The relationship between psychoactive substance & sexual behavior are complex. Caution should be taken when interpreting research on the effects of substance on sexual function. Psychological, physiological, environmental, or cultural factors may be associated with use of a particular substance and may have independent or intervening effects on sexual dysfunction. Given the negative impact of sexual dysfunction in substance used disorder patients, it is essential that a psychiatrist accurately determine which patients have sexual dysfunction and then effectively manage that dysfunction. So early detection of sexual dysfunction and effective treatment will reduce the poor outcome among patients with substance use disorder.

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How to cite this article: Gofur TB, Hasan MK, Bhuiyan SMAU, Islam MR. Prevalence of sexual dysfunction among substance use disorder. Arch NIMH. 2022; 6(1): 29-34.

Received 10 Jan 2023, revised 20 Mar 2023, accepted 07 May 2023.

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Parasomnia overlap disorder: a complex sleep disorder presentation

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Abstract: Parasomnia overlap disorder is a rare sleep disorder characterized by the simultaneous occurrence of two or more different parasomnias, resulting in complex and disruptive sleep related behaviors. Here is a case about 68 years old Muslim retired government employee from urban background presenting with the complaints of repeated episode of rising from bed and walking during sleep, history of being found under bed after sleep, recurrent dysphoric dreams for 11 years. This case report presents the clinical profile and management of a patient diagnosed with parasomnia overlap disorder, highlighting the challenges faced in diagnosis, treatment and long-term management of this complex sleep disorder.

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

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Keywords: Parasomnia overlap disorder; somnambulism; dysphoric dream; complex sleep disorder.

Introduction

Parasomnia overlap disorder (POD) occurs when a patient demonstrate features of both non-rapid eye movement (NREM) sleep parasomnias (e.g. confusional arousals, sleep walking, sleep terrors and sleep sex) and rapid eye movement (REM) sleep parasomnia (REM sleep disorder (RBD) and nightmares).¹ POD is classified by the International Classification of Sleep Disorder (ICSD-2) as a variant of REM sleep behavior disorder (RBD).² POD was first described in 1997 as a special form of parasomnia³ and is a variant of RBD.⁴ In a literature among 139 POD cases, 62.2% were found idiopathic based on ICSD-2 criteria.⁵ In adults, the life time prevalence of various parasomnia ranges from 4%-67% summarized in Table 1.⁶ In a series, approximately 21% of all RBD cases and 28% of all sleep walking or sleep terror were later determined to have POD.⁷ In another report of 93 patients with RBD, 10 patients also had a history of sleep walking or nocturnal wandering behavior.⁸ The POD can be seen secondary to narcolepsy, rhombencephalitis, multiple sclerosis, brain tumor, spinocerebellar ataxia type-3, psychiatric disorder, substance abuse and alcohol withdrawal.⁹

Treatment of POD should first be focused on resolving co-morbid conditions that fragment sleep, such as sleep disordered breathing and periodic limb movements with

arousals and the elimination of suspected precipitating pharmacology. Clonazepam is often effective, particularly for patients with violent dream-enactment behavior. For medication resistant patients a customized bed alarm may help prevent sleep-related injury.¹⁰

Case Report

A 68-year-old, Muslim, widower, educated up to HSC, retired government employee from urban background, visited NIMH outdoor with the complaints of repeated episodes of walking during sleep, recurrent dysphoric dreams and being often found under the bed while sleeping by family members for the last 11 years. His sleep pattern was previously normal. On several occasion he went from his room to another room while asleep, was found under the bed, fell from bed, and punched and fractured his finger within an hour of sleep onset. His family members tried to wake him up at the time, and while he was partially awakened, he could not remember the whole dream. The dream was not associated with any abrupt arousal and panicky scream, palpitation, sweating or rapid breathing. These types of behaviors occurred repeatedly. There was no history of difficulty in initiating and maintaining sleep, daytime sleepiness, snoring, gasping, or

breathing pause during sleep. There was no history of substance use, psychiatric illness, hypoglycemia, medication related to these symptoms.

On general examination and other systemic examination, no abnormality was revealed. On mental state examination, no abnormality was found. Regarding insight, patient admitted that he had some sleep related problems and he needed treatment for that.

A complete neurological examination was performed which revealed no abnormality. All routine investigations, including MRI of brain were normal. His laboratory screenings and DOPE test were normal. Polysomnography (PSG) with video recording was performed in sleep lab. Sleep apnea and periodic limb movement disorder, as possible additional triggers for parasomnias, were excluded. PSG findings, such as RSWA (REM sleep without atonia) and repeated transition from N3 sleep to wake with simultaneous motor behavior, co-related with physiological mechanisms of REM as well as non-REM parasomnia. However, no characteristic diagnostic behavioral manifestations (somnambulism and sleep terrors) were seen in the video in sleep lab. For the lack of a more accurate sleep disorder diagnosis, we diagnosed the patient with POD.

Psychoeducation, reassurance, behavioral guidance (risk minimization, optimal sleep timing, relaxation) and cognitive methods (stress and anxiety management) were offered. The risk to the patient and family members were addressed by counseling and education, avoiding violent consequences by locking the doors, etc.

A different treatment approach had to be considered since the traditional treatment option of Clonazepam, with efficacy for both non-REM and REM parasomnia, had shown no response, while Mirtazapine, a typical treatment option for RBD and sometimes used in somnambulism, had yielded no response, nor adverse effect. Finally, the patient reported partially symptomatic relief with Quetiapine (50 mg) at night. Parasomnia episodes did not recede, but the frequency at which they occurred almost every night reduced, and the severity reduced as well.

Discussion

Here we present an adult non-REM parasomnia patient who presented with comorbid RBD symptoms. Non-REM parasomnia is uncommon in adult without predisposing neurological, psychological, or pharmacological factors. Non-REM parasomnias manifesting as partial arousals are sleep walking (2-4% of

adults) and confusional arousals (3-15% of adults).^{11,12}

Our patient started to experience frequent disturbing somnambulism and dysphoric dreams from the age of 57 years and came to us after 11 years of onset of these symptoms. His sleep pattern was previously normal. Then he started to show abnormalities during sleep on several occasions before they came to a psychiatrist. No serious accident took place, but the person was overwhelmed, frightened, and worried about his parasomnia symptoms. Neurological examination, all routine investigations, including MRI of brain, laboratory screenings, DOPE test were normal. Sleep apnea and periodic limb movement disorder, as possible additional triggers for parasomnias, were excluded. No characteristic diagnostic behavioral manifestations (somnambulism and sleep terrors) were seen in the video in sleep lab. For the lack of a more accurate sleep disorder diagnosis, we diagnosed the patient with POD.

In ICSD-3¹³ POD is classified as a subtype of RBD occurring with non-REM parasomnias. However, considering the predominant non-REM parasomnia symptoms, older age of onset and lack of underlying neurological disease, POD was most likely a distinct entity instead of a RBD subtype.¹⁴ Two third of PODs are idiopathic, whereas a third is related to neurological morbidity, especially alpha-synucleinopathies. Other pathologies linked to POD are multiple sclerosis (MS), brain stem structural anomalies or lesions, head trauma, ethanol abuse and PTSD.¹⁵

There is no established treatment for POD. Benzodiazepines have been commonly used for POD and usually the response has been good. Lower grade evidence for medication are antidepressants (e.g., Mirtazapine, Trazodone, TCA), atypical antipsychotics (Quetiapine, Risperidone), Prazosin, Gabapentin, etc.¹⁶

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How to cite this article: Islam MS, Khan MR, Islam MR. Parasomnia overlap disorder: a complex sleep disorder presentation. *Arch NIMH*. 2023; 6(1): 35-37.

Received 15 Apr 2023, revised 17 May 2023, accepted 01 June 2023.

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