

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

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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 $\pm$ SD	95% CI (% or mean)
Age (years)	Mean	36.60 $\pm$ 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)
Occupations	Post-graduation	10 (2)	(0.7-3.0)
	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($\leq$ 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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