Original Article

Prevalence of Generalized Anxiety Disorder and its effect on Daily Living in the Rural Community of Rajshahi

Haque MJ[1], Das CK[2], Ara R[3], Alam MEU[3], Ullah SKRKMASSA[4], Hossain ZMM[5]

Abstract

This cross-sectional type of descriptive study was conducted in three villages of Puthia Upazila under Rajshahi district to find out the prevalence of Generalized Anxiety Disorder (GAD) and its effect on their daily living. A total of 876 adult people of aged 18 years and above, were selected purposively. Data were collected by face to face interview with the help of a semi-structured questionnaire which contained Hamilton's 7-point anxiety scale. Out of 876 respondents, 80% had GAD, where mild, moderate and severe GAD being 42.5%, 31.8% and 5.7% respectively. GAD was found to be more frequently associated in the 3rd and 5th decades of life, which constituted 27% and 12.9% respectively (p < 0.001). Having GAD, females have more ability to cope with daily living than males, though GAD was not found to be associated with sex (p >0.05). Illiterate and primary level educated respondents were more often associated with GAD (40.4 and 25% respectively) than the SSC and higher level educated people (p < 0.001). Businessmen were found to be significantly associated with GAD (29.7%) than the other occupations (p < 0.001). Poor people tend to be associated with GAD significantly more than the middle class and the rich (p < 0.01). Widow(er) and married and living together were likely to have GAD than the single or divorced or separated (p < 0.001). Activities of daily living gradually becoming more difficult when intensity of anxiety status increased which is statistically significant (p<0.001).The association between sex and problem facing in everyday life shows that over 40% of the females did not have any difficulty in dealing with problem situation as compared to only 25.8% of the males, while nearly half (48.6%) of males had quite difficulty in dealing with a problem as compared to 37.3% in females (p < 0.001). The present study concluded that majority rural adult people (4 in every five) suffer from generalized anxiety disorder (GAD). The ability of coping with a problem is higher in females than the males. This study might be the basis for further in depth study in this regard.

Key Word: GAD, Hamilton's 7-point anxiety scale, daily living.

Introduction

An anxiety disorder involves an excessive or inappropriate state of arousal characterized by feelings of apprehension, uncertainty or fear. It often starts during teen years or young adulthood and continues to old age.[1] Constant state of worry and anxiousness may seriously affect older people's quality of life by causing them to limit their daily activities and have difficulty in sleeping. If untreated, GAD may lead to depression. The prevalence of anxiety disorders has been reported to range from 5.3 - 21.3% for

[1] Professor, Department of Community Medicine, Rajshahi Medical College, Rajshahi.
[2] Associate Professor, Department of Community Medicine, Rajshahi Medical College, Rajshahi.
[3] Assistant Professor, Department of Community Medicine, Rajshahi Medical College, Rajshahi.
[4] Medical Officer, Department of Community Medicine, Rajshahi Medical College, Rajshahi.
[5] Assistant Professor Department of Community Medicine, Khulna Medical College, Khulna.

gero-psychiatric patients in India.[2] A cross-sectional epidemiological, community-based study conducted in rural area of Singanodi, Richur district and Karnataka found that generalized anxiety was present in 10.7% of study population.[3] Another study on prevalence of anxiety disorders among higher secondary students was 56.8%.[4]

In Bangladesh, a study reported prevalence of mental disorder varied from 6.5 to 31.0% among adults and from 13.4 to 22.9% among children.[5] A rural community based study showed an overall prevalence of psychiatric disorders to be 16.5%, notably half of the sufferers had depressive disorders (8%) and a third had anxiety disorder (5%).[5] The 1st national survey on mental health documented that 16% of adult population had mental disorders and prevalence was higher in women.[6] These figures strongly suggest that mental disorders constitute a big public health problem in Bangladesh.

Old age is a time for reflection on death and withdrawal from the world.[7] A significantly higher prevalence of mental disorder is found in the economically poor people, particularly those over 45 yrs of age.[8] The anxiety occurs on most days during a period of more than 6 months despite the lack of an obvious or specific stressor. Patients with GAD may experience physical symptoms such as gastrointestinal complains. Given these conditions, a diagnosis of GAD is confirmed if three or more of the following symptoms are present (Only one for children) on most days for 6 months: being on edge or very restless, feeling tired, having difficulty with concentration, being irritable, having muscle tension and experiencing disturbed sleep.

Symptoms can cause significant distress and impair normal functioning. It typically occurs along with another type of anxiety disorder, depression or substance abuse.[9] GAD is a common disorder worldwide and incidence is gradually increasing in developing countries. An anxiety disorder may give rise to cardiovascular disorder. The prevalence of GAD has not been clearly known in our country. So, this cross-sectional study was conducted among the rural adult people of Rajshahi to determine the prevalence of Generalized Anxiety Disorder, and its effect on their daily living.

Material and Methods

This cross-sectional, descriptive study was conducted in three villages of Puthia Upazilla under Rajshahi district during March, 2016 to find the prevalence of Generalized Anxiety Disorder and its effect on their daily living. A total of 876 rural people of aged 18 years and above, were selected purposively. Data were collected by face to face interview with the help of a semi-structured questionnaire having Hamilton's 7-point anxiety scale as follows:

The Hamilton's 7-point anxiety scale:

Sl. No.	Anxiety related questions: Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all (0)	Several days (1)	More than half the days (2)	Nearly every day (3)
1)	Feeling nervous, anxious or on edge	0	1	2	3
2)	Not being able stop or control worrying	0	1	2	3
3)	Worrying too much about different things	0	1	2	3
4)	Trouble relaxing	0	1	2	3

5)	Being so restless that it is hard to sit still	0	1	2	3
6)	Becoming easily annoyed or irritable	0	1	2	3
7)	Feeling afraid as if something awful might happen	0	1	2	3
	Total				
	Grand Total				
If you checked off any problems, how difficult have these problems made it for you to do your work, take care of thinks at home or get along with other people?					
Not difficult at all ☐		Somewhat difficult ☐	Very difficult ☐		Extremely difficult ☐

Based on the Hamilton's 7-point anxiety scale a diagnosis was provisionally made as (1) No anxiety (0-4), (2) Mild GAD (5-9), (3) Moderate GAD (10-14), (4) Severe GAD (15-21). Descriptive statistics and Chi-square (χ^2) test were applied at appropriate probably level.

Result:

Table I: Distribution of respondents by level of GAD by Hamilton's 7-point anxiety scale

Level GAD	Frequency	Percent
No anxiety (0-4)	175	20.0
Mild anxiety (5-9)	372	42.5
Moderate anxiety (10-14)	279	31.8
Severe anxiety (15-21)	50	5.7
Total	876	100.0

Table no. I showed that out of 876 respondents, 80% had GAD with mild, moderate and severe GAD being 42.5%, 31.8% and 5.7% respectively.

Table II: Distribution of respondents by their socio- demographic characteristics (n = 876)

Socio-Demographic characteristics	GAD		p-value
	Present (n = 701)	Absent (n = 175)	
Age (years) Mean ± SD = 39.19 ± 10.98 years			
18-30	189(27.0)	44(25.1)	
31 – 40	196(28.0)	30(17.1)	< 0.001
41 – 50	226(32.2)	88(50.3)	
> 50	90(12.9)	13(7.4)	
Sex			
Male	430(61.3)	99(56.6)	0.248

Female	271(38.7)	76(43.4)	
Educational status			
Illiterate	283(40.4)	42(24.0)	
Up to PSC	175(25.0)	31(17.7)	
Up to SSC	127(18.1)	58(33.1)	< 0.001
Up to HSC	83(11.8)	17(9.7)	
Graduate +	33(4.7)	27(15.4)	
Occupation			
Jobless	64(9.1)	25(14.3)	
Student	6(0.9)	18(10.3)	
House wife	177(25.2)	46(26.3)	< 0.001
Businessman	208(29.7)	26(16.9)	
Service	38(5.4)	47(26.9)	
Labour & others	208(33.7)	51(29.2)	
Monthly Family Income (Taka)	**Mean ± SD = 11,300/- ± 9036/-**		
Up to taka 10000 (poor)	478(68.2)	104(59.4)	
10001 – 30000 (middle class)	213(30.4)	62(35.4)	0.003
≥ 30001 (rich)	10(1.4)	9(5.1)	
Marital status			
Single or never married	59(8.4)	42(24.0)	
Divorced/separated	31(4.4)	19(10.9)	< 0.001
Widow(er)	25(3.6)	0(0.0)	
Married and living together	586(83.6)	114(65.1)	

Table II showed the Distribution of respondents by their socio- demographic characteristics . To find out the association between GAD and demographic characteristics Chi-square test was done. GAD was found to be more frequently associated in the 3rd and 5th decades of life (27% and 12.9%) (p < 0.001). However, GAD was not found to be associated with sex (p = 0.248). In terms of education, illiterate and primary level educated respondents were more often associated with GAD (40.4% and 25% respectively) than the SSC and higher level educated (p < 0.001). Businessmen were found to be significantly associated with GAD (29.7%) than the other occupations (p < 0.001). Poor people tend to be associated with GAD significantly more than the middle class and the rich (p = 0.003). Widow(er) and married and living together were likely to have GAD than the single or divorced or separated (p < 0.001)

Table III: Distribution of respondents by GAD-7 Questions

GAD-7 Variables	Frequency	Percentage
Feeling nervous or anxious		
Not at all	391	44.6
Few days	232	26.5
More than half the days	167	19.1
Almost daily	86	9.8
Not being able to stop or control worrying		
Not al all	242	27.6
Few days	223	25.5
More than half the days	302	34.5

Almost daily	109	12.4
Worrying too much about different things		
Not al all	323	36.9
Few days	185	21.1
More than half the days	239	27.3
Almost daily	129	14.7
Trouble in relaxing		
Not al all	171	19.5
Few days	293	33.4
More than half the days	229	26.1
Almost daily	183	21.0
Being so restless that it is hard to sit still		
Not at all	252	28.8
Few days	373	42.6
More than half the days	101	11.5
Almost daily	150	17.1
Becoming easily annoyed or irritable		
Not al all	280	32.0
Few days	185	21.1
More than half the days	300	34.2
Almost daily	111	12.7
Feeling afraid as if something awful might happen		
Not at all	394	45.0
Few days	179	20.4
More than half the days	259	29.6
Almost daily	44	5.0

Table no. III showed that 44.6% of the respondents were not anxious and rest (55.4%) was anxious. About 28% were not worried and among worried (72%) 12.4% were severely worried. Among the worried (63.1%) about different things, 14.7% were in severe condition. About 80% felt trouble in relaxing. Among the restless people (71.2%), 17.1% felt restless almost daily and 68% of them became easily irritable. More than a half (55%) were suffering from fear without justifiable cause.

Table IV: Distribution of respondents by having problem in daily activities due to GAD

Problems	Frequency	Percent
Not at all	222	31.6
Quite difficult	310	44.2
Very difficult	146	20.9
Extremely difficult	23	3.3
Total	701	100.0

Table no. IV showed that 31.6% of the respondents had no problems in their daily activities due to GAD, 44.2 % of them faced little difficulties in daily activities, 20.9% got hampered (moderate) in daily activities and only a few (3.3%) had extremely difficulty in their daily life.

Table V: Distribution of respondents by education and GAD Status by score number

Level of Education	GAD Status by score number			Total	p value
	Mild anxiety (5-9)	Moderate anxiety (10-14)	Severe anxiety (15-21)		
Illiterate	96 (33.9%)	157 (55.5%)	30 (10.6%)	283 (40.4%)	
Up to PSC	106 (60.6%)	59 (33.7%)	10 (5.7%)	175 (25.0%)	
Up to SSC	85 (66.9%)	32 (25.2%)	10 (7.9%)	127 (18.1%)	p< .001
Up to HSC	73 (88.0%)	10 (12.0%)	0 (0.0%)	83 (11.8%)	
Graduate +	12 (36.4%)	21 (63.6%)	0 (0.0%)	33 (4.7%)	
Total	372 (53.1%)	279 (39.8%)	50 (7.1%)	701	

Table no. V showed that among the illiterate respondents, 55.5% had moderate anxiety followed by 33.9% and 10.6% as mild anxiety and severe anxiety respectively. Among the respondents having primary education, 60.6% had mild anxiety followed by 33.7% and 5.7% as moderate and severe anxiety. Trend of anxiety status among SSC & HSC level educated respondents were same as like as that of Primary level education. Among the graduate+ respondents, 63.6% had moderate anxiety followed by 36.4% as mild anxiety. The relationship between education level of the respondents and GAD status was found statistically significant (p<0.001).

Table VI: Distribution of respondents by income and GAD Status by score number

Monthly family income	GAD Status by score number			Total	p value
	Mild anxiety (5-9)	Moderate anxiety (10-14)	Severe anxiety (15-21)		
Up to taka 10000	251 (52.5%)	177 (37.0%)	50 (10.5%)	478 (68.2%)	
Taka 10001 - 30000	111 (52.1%)	102 (47.9%)	0 (0.0%)	213 (30.4%)	**p< .001**
Taka 30001+	10 (100.0%)	0 (0.0%)	0 (0.0%)	10 (1.4%)	
Total	372 (53.1%)	279 (39.8%)	50 (7.1%)	701	

Table no. VI showed that among the monthly income up to taka 10000, 52.5% had mild anxiety followed by 37.0% and 10.5% as moderate anxiety and severe anxiety respectively. Among the respondents having monthly income 10001-30000 taka, 52.1% had mild anxiety followed by remaining 47.9% have moderate anxiety and none of them has severe anxiety. Trend of anxiety status among monthly income above taka 30000, all (100%) have only mild anxiety. The relationship between monthly income of the respondents and GAD status was found statistically significant (p<0.001).

Table VII: Distribution of respondents by occupation and GAD Status by score number

Occupation	GAD Status by score number			Total	p value
	Mild anxiety (5-9)	Moderate anxiety (10-14)	Severe anxiety (15-21)		
Jobless	10 (15.6	25 (39.1%)	29 (45.3%)	64 (9.1%)	
Student	3 (50.0%)	3 (50.0%)	0 (0.0%)	6 (0.9%)	
Housewife	153 (86.4%)	24 (13.6%)	0 (0.0%)	177 (25.2%)	
Businessman	109 (52.4%)	99 (47.6%)	0 (0.0%)	208 (29.7%)	
Service	9 (23.7%)	19 (50.0%)	10 (26.3%)	38 (5.4%)	p< .001
Agricultural worker	68 (39.3%)	105 (60.7%)	0 (0.0%)	173 (24.7%)	
Day laborer	20 (80.0%)	4 (16.0%)	1 (4.0%)	25(3.6%)	
Others	0 (0.0%)	0 (0.0%)	10 (100.0%)	10 (1.4%)	
Total	372 (53.1%)	279 (39.8%)	50 (7.1%)	701	

Table no. VII showed that among the jobless respondents, 45.3% had severe anxiety followed by 39.1 % and 15.6% as moderate anxiety and mild anxiety respectively. Student had similar pattern mild anxiety (50%) and moderate anxiety (50%). Trend of anxiety status among housewife, 86.4% had mild anxiety and 13.6% had moderate anxiety. Among the businessman respondents, 52.4 % had mild anxiety followed by 47.6% as moderate anxiety. Among service holder ,50% had moderate anxiety and almost similar percentage had mild and severe anxiety. Most (60.7%) agricultural worker had moderate anxiety remaining 39.3% had mild anxiety. Among day laborer 80% had mild anxiety. Among student, housewife, businessman, agricultural worker, none had severe anxiety. The relationship between occupation of the respondents and GAD status was found statistically significant (p<0.001).

Table VIII: Distribution of respondents by marital status and GAD Status by score umber

Marital status	GAD Status by score number			Total	p value
	Mild anxiety (5-9)	Moderate anxiety (10-14)	Severe anxiety (15-21)		
Single and never married	24 (40.7%)	16 (27.1%)	19 (32.2%)	59 (8.4%)	
Divorced	9 (100.0%)	0 (0.0%)	0 (0.0%)	9 (1.3%)	
Widow(er)	0 (0.0%)	4 (16.0%)	21 (84.0%)	25 (3.6%)	p< .001
Married but living separated	13 (59.1%)	9 (40.9%)	0 (0.0%)	22 (3.1%)	
Married and living together	326 (55.6%)	250 (42.7%)	10 (1.7%)	586 (83.6)	
Total	372 (53.1%)	279 (39.8%)	50 (7.1%)	701	

Table VIII showing that Distribution of respondents by marital status and GAD Status by score number. It reveals that among maximum respondent, who are married and live together, 55.6% belongs to mild anxiety and 42.7% had moderate anxiety. Least respondent, All (100%) divorced has only mild anxiety. Severe anxiety (84%) most common found in widow(er).

Table I X: Distribution of respondents by having problem in daily activities in relation to GAD status by score number

Distribution of the respondents by having problem in daily activities	GAD Status by score number			Total	p value
	Mild anxiety (5-9)	Moderate anxiety (10-14)	Severe anxiety (15-21)		
Not at all	149 (67.1%)	60 (27.0%)	13 (5.9%)	222 (31.7%)	
Quite difficult	175 (56.5%)	124 (40.0%)	11 (3.5%)	310 (44.2%)	
Very difficult	43 (29.5%)	84 (57.5%)	19 (13.0%)	146 (20.8%)	
Extremely difficult	5 (21.7%)	11 (47.8%)	7 (30.4%)	23 (3.3%)	**p< .001**
Total	372 (53.1%)	279 (39.8%)	50 (7.1%)	701	

Table IX showed distribution of respondents by having problem in daily activities in relation to GAD status. It reveals that 67.1% had no problem in their daily activities suffering from mild anxiety. Activities of daily living gradually becoming more difficult when intensity of anxiety status increased which revealed by 57.5% had very difficulties in their daily living suffered from moderate anxiety and who facing extreme difficulties in their daily life suffered from 47.8% and 30.4% had moderate and severe anxiety respectively.GAD status and having problem with daily activities has statistically significant relationship (p<0.001).

Table X : Association between sex and coping with problem

Demographic characteristics	Sex		*p-value
	Male (n = 430)	Female (n = 271)	
Not at all	111(25.8)	11(41.0)	
Quite difficult	209(48.6)	101(37.3)	< 0.001
Very difficult	95(22.1)	51(18.8)	
Extremely difficult	15(3.5)	8(3.0)	

Figures in the parentheses denote corresponding percentage

*Data were analyzed using Chi-Square Test

The table X showed the association between sex and problem facing in everyday life and found that 41% of the females did not have any difficulty in dealing with problem situation as compared to only 25.8% of the males, while nearly half (48.6%) males had quite difficulty in dealing with a problem as compared to 37.3% in females (p < 0.001).

Discussion

By using GAD-7 score scale, the present study demonstrated the level of Generalized Anxiety Disorder among the rural people of Rajshahi. Nearly 80% of the population had anxiety (GAD). Regarding age distribution, GAD was more in the 3rd and 5th decades of life (27% and 12.9%)

(p < 0.001), which is almost similar to the findings of a previous study.[16] However, no significant difference in GAD was not found with sex. But in a previous study, 62.5% females were suffering from GAD.[6] In relation to educational status, GAD was more in illiterate and primary level educated persons (p < 0 .001). Regarding economic condition, GAD was significantly more in low income group (p = 0.003). This finding is also similar to the study done by Iffat & Farhana[10]. Regarding occupational status, it was found that prevalence of GAD was more in Businessman than that in other occupations and next to it was housewives (p < 0.001).

It was also like another study where mental illness was found high in females.[11]In this study, GAD was more in married and living together, about 80% (p < 0.001). Regarding coping of problem during daily performance in individuals with GAD, males more often faced difficulty in coping with a problem than their female counterparts (p < 0.001). A review study suggested that in both rural and urban settings there is a high vulnerability of mental disorder among economically poor respondents.[12] specifically among women from large families .[5] Those findings were consistent with another rural study[13] which reported that social stigma inhibits women from seeking medical treatment for their mental problems. Prevalence of psychiatric disorders in adult population is more or less similar in socio-culturally similar settings in India[14] and Pakistan[15]. A multitude of factors such as poverty, social isolation, loss of independence, loneliness and losses of different kinds can affect mental health and physical disability.[1]The relationship between GAD severity and functional impairment was seen more in moderate anxiety. Activities of daily living gradually becoming more difficult when intensity of anxiety status increased which is statistically significant (p<0.001)[16].

Overall, the findings of our study are consistent with previous studies in Bangladesh perspective.[5,6,8,10,11,12,13,16] However, there were few limitations in this study. The following limitations deserve mention.

Limitations:

1. Firstly the GAD-7 scale focuses only on generalized anxiety disorder, although there are many individuals with other anxiety disorders such as social phobia and post traumatic stress disorder, which might have underestimated the prevalence.

2. Secondly, those who are unwilling to participate in study were excluded which also might have affected the findings of the study. Thus, results may not be generalized to all reference population.

Conclusion

The present study concluded that majority rural adult people (one in every five) suffers from generalized anxiety disorder (GAD). GAD is more common in certain age group. People in their 3rd and 5th decades of life, illiterates and primary level educated, businessmen, widow(er) and married people living together are generally associated with GAD. The ability of coping with a problem is higher in females than the males.

Acknowledgement:

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All corresponds to
Dr. Entekhab-Ul-Alam,
E mail: ealam4@gmail.com,
Mobile: 01713-228388