Depression and Its Associated Socio-demographic Factors in An Urban Geriatric Population of Chattogram City of Bangladesh

Mukesh Kumar Dutta[1*] Farid Uddin Ahmed[1] Narayan Chandra Das[2]

ABSTRACT

Background: Depression is a common problem in the elderly which leads to poor quality of life. But it is often undetected and ignored as a medical problem. Bangladesh like many developing countries around the world is experiencing population ageing. This study was conducted to know the burden and associated socio-demographic factors of depression among the elderly of a selected urban area of Bangladesh.

Materials and methods: This community-based cross-sectional study was done from October 2015 to March 2016 in three selected areas of Chattogram City Corporation of Bangladesh. Total 220 elderly > 60 years were selected through a house-to-house survey, using non-probability sampling technique and interviewed for depression using a short form (15 item) Geriatric Depression Scale and other associated socio-demographic factors using a pretested questionnaire.

Results: A total of 58 (26.7%) elderly had depression. Increasing age ≥ 70 years (OR: 2.48, 95%CI:1.10-2.65) being widowed (OR:1.89, 95%CI:1.02-4.03), and living in a nuclear family (OR: 2.01, 95%CI:1.01-4.05) were found to be had independent association in logistic regression analysis. On the other hand sex, socio-economic status, education level and occupation had no significant association in multivariate analysis.

Conclusion: There is a considerable burden of depression in the elderly, reemphasizing the need for regular screening for this disorder and its risk factors. It is recommended that a nationally representative study is carried out to assess the actual figure of geriatric depression in Bangladesh for planning nationwide depression-reducing intervention programs.

Key words: Depression; Urban geriatric; Mental health.

INTRODUCTION

Depression is a major mental health problem, which is yet to be recognized as an important public health challenge[1]. The Global Burden of Disease study projections show that depression will be the single leading cause of Disability Adjusted Life Years by 2020 in the developing world[2]. Moreover, there is an apparent increase in the incidence and the prevalence of depression among the elderly[3]. Depression in older adults differs in both subtle and obvious ways from depression in the younger people in terms of presentation,

1. Assistant Professor of Community Medicine
   Chittagong Medical College, Chattogram, Bangladesh.
2. Medical Officer of Community Medicine
   Chittagong Medical College Hospital, Chattogram, Bangladesh.

   *Correspondence to:
   Dr. Mukesh Kumar Dutta
   Mobile : +88 01715 32 23 94
   Email: dr.mukeshdutta@yahoo.com

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etiology, risk and protective factors, and potential outcomes[4]. Depression not only decreases the quality of life but also influence prognosis of other chronic diseases that further aggravates disability[5]. Consequently, elderly persons with depression have significantly higher suicidal and non-suicidal mortality[6].

From any other age group the proportion of the aged population is growing faster. Although, sixty percent (279 million) of the world's older population lived in low-income countries in 2008 and this figure will increase to 71% (690 million) by 2030[7]. In terms of regions, over half of the world's older population is living in Asia and it is projected that the figure will increase over the next two decades[8]. It means that, though the process primarily began in high-income countries, it has recently been observed in low-income countries too[9]. In 2015 the number of elderly people in Bangladesh is around 13 million, while it will stand at 18 million in 2025, around 45 million in 2050 and 55 million in 2061[10].

Hence, the need for the hour is to set up special health services for geriatric population in accordance with the common health problems or morbidity profile. To meet this need, comprehensive information about the problem burden is essential, so that suitable planning and execution can be done for appropriate organization of health system.

In developed countries, many studies were conducted regarding depression among elderly but unfortunately very few are known about this problem in our country[11]. Contemplating these facts this study was conducted to estimate depression and its associated socio-demographic factors in an elderly population of a selected urban area of Bangladesh.

MATERIALS AND METHODS

This cross sectional study was done from October 2015 to March 2016 after approval from Ethical Review Committee of Chittagong Medical College in an urban area of Chattogram City Corporation (Ward no-10, North Kattali). Inclusion criteria were age above 60 years, being resident of the area for more than 6 months, were not currently suffering from any kind of illness or sickness on the day of the interview (Excluding long-term chronic illnesses), and capable of giving informed written (or verbal) consent. Those who had Alzheimer's Disease, an inability to answer the assessment questionnaire due to serious hearing problems or severe communication disorder, those who refused to participate in the study and guests visiting the household were excluded.

A convenience sampling technique was utilized among 350 elderly individuals, where a total 240 participants met the inclusion criteria. Twenty elderly individuals declined to be interviewed for the study leaving a final sample size of 220 participants (91.7% response rate). Each interview was completed in approximately 30-40 min. Con dentiality of data and privacy of the participants was strictly maintained.After taking informed consent and explaining the nature of this study, each study subject was moved to a separate room in their home. Predesigned semi-structured questionnaire was used for the documentation of socio-demographic factors and presence of physical ailments. Geriatric Depression Scale (GDS) was used to measure depression which has been tested and widely used in both community and clinical settings[12]. GDS is a self-rating scale, including 30 items about cognitive complaints and social behavior. The 15 item short form has been developed which includes all key items for dysphoria but not cognitive items, which may be confused due to memory changes with aging[13,14]. The GDS-15 assesses depressive symptoms experienced in the preceding week with a binary ('Yes/no') response. Of the 15 items, 10 (Reduction of activities/

interests, feeling empty, getting bored often, being afraid of bad things, feeling helpless, prefer to stay home, have memory problems, feeling worthless, feeling hopeless and feeling most people are better off than him) indicate the presence of depression when answered positively, while the remainder (Feeling satisfied with life, feeling happy, having good spirits, wonderful to be alive, feel full of energy) indicate depression when answered negatively. This scale identifies individuals whose depressive symptoms exceed the norm. The scale has a total score of 15, where score of > 5 is suggestive of depression in this study[15]. The internal consistency of the scale in the present study was very good (Cronbach's alpha = 0.78).

GDS section of CRF was translated from its original English form to local language (Bengali) by following Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures[16]. Previous validation study suggested that, Bangla version of GDS can be applied by using interview technique in Bangladesh culture[17].

The data were analyzed using Statistical Package for Social Sciences version 20. Data were described using frequencies, percentages, means and standard deviations to summarize characteristics of the study subjects. Bivariate Association between two categorical variables was analyzed using Chi-square test.All the variables statistically significant in bivariate analysis, were entered into the binary logistic regression models. The results of logistic regression are reported as unadjusted and adjusted Odds Ratios (OR) with 95% Confidence Intervals (CI) and all association with a p-value less than 0.05 were regarded as significant for this study.

RESULTS

Out of 220 patients screened in this study, 58 (26.7%) scored more than 5, which is a score suggestive of depressive disorder. More than half of the participants (58.2%) were in 60-69 years age group and male to female ratio was almost 1. Majority (81.4%) were Muslims and 76.4% were married and living with their spouse. More than half (58.6%) lived in nuclear family, majority (73.6%) were literate. About 85% were unemployed and majority (79.1%) were from lower socio-economic class and economically dependent on other (8%). About 85% of the participants reported to have some sort of chronic health conditions.

In bivariate analysis, with regards to age, participants aged 70 years or more were more likely than participants aged < 70 years to have depression (p=0.016). Similarly, participants having their spouse alive were less likely to have depression than widow/widower participants. Present vocational status and family type also had significant association with depression. On the other hand gender, religion, socio-economic status, economic dependency and comorbid conations had no significant association with depression (Table I).

A binary regression analysis was carried out to examine the associations between GD and all the variables significant at 0.05 levels or below. It revealed that, age ≥ 70 years, being widow/widower and living in a nuclear family were the independent risk factors for GD (Table II).

In this study an attempt was taken to identify the specific symptoms of depression in elderly population, which can be used for case identification at primary health care centre levels. These are summarized in Table III. Majority of those who screened positive for depression reported had given up on their activities and interest, feeling bored, not in good spirits, not experiencing happiness, and were not happy about being alive.

Table I : Socio-demographic profile of the study population (n=220).

Characteristics	Total (n=220)	Depression status Present (n=58)	Depression status Absent (n=162)	p value
Age				
60-69 years	128 (58.2)	26 (44.4)	102 (63.0)	0.016
70-79 years	92 (41.8)	32 (55.2)	60 (37.0)	
Gender				
Male	111 (50.5)	30 (51.7)	81 (50.0)	0.822
Female	109 (49.5)	28 (48.3)	81 (50.0)	
Religion				
Muslim	179 (81.4)	50 (86.2)	129 (79.6)	0.269
Hindu	41 (18.6)	8 (13.8)	33 (20.4)	
Marital status				
Married	168 (76.4)	38 (65.5)	130 (81.2)	0.024
Widow/widower	52 (23.6)	20 (34.5)	32 (19.8)	
Family type				
Nuclear	91 (41.4)	31 (53.4)	60 (37.0)	0.029
Joint/extended	129 (58.6)	27 (46.6)	102 (63.0)	
Education				
Illiterate	58 (26.4)	18 (31.0)	40 (24.7)	0.347
Literate	162 (73.6)	40 (69.0)	122 (75.3)	
Vocational status				
Working	34 (15.5)	16 (27.6)	18 (11.1)	0.003
Not working	186 (84.5)	42 (72.4)	144 (88.9)	
Socio-economic status				
Middle	46 (20.9)	17 (29.3)	29 (17.9)	0.067
Lower	174 (79.1)	41 (70.0)	133 (82.1)	
Economic dependency				
Independent	44 (20.0)	12 (20.7)	32 (19.8)	0.878
Dependent	176 (80.0)	46 (79.3)	130 (80.2)	
Comorbid condition				
Present	185 (84.1)	45 (77.6)	140 (86.4)	0.115
Absent	35 (15.9)	13 (22.4)	22 (13.6)	

Data are expressed as frequency (Percentage) significant p values are in bold faces.

Table II : Binary logistic regression analysis of the variables with depression (n=220).

Variables	Unadjusted model OR (95% CI of OR)	p value	Adjusted model OR (95% CI of OR)	p value
Age				
60-69 years	Reference		Reference	
≥ 70-79 years	2.09 (1.13-2.04)	0.017	2.48 (1.10-2.65)	0.024
Marital status				
Married				
Widow/widower	2.13 (1.09-4.16)	0.025	1.89 (1.02-4.03)	0.042
Family type				
Joint/extended	Reference		Reference	
Nuclear	1.95 (1.06-3.58)	0.030	2.01 (1.01-4.05)	0.038
Vocational status				
Working	Reference		Reference	
Not working	0.39 (0.15-0.69)	0.039	0.71 (1.15-0.48)	0.087

OR: Odds Ratio, CI: Confidence Interval.

Table III : Responses of depressed and non-depressed study population to various questions in GDS-15.

No.	Question	Answer Affirming Depression (n, % total)	Number depressed (d, % n)
1	Are you basically satisfied with your life?[a]	14 (24.14)	13 (92.86)
2	Have you dropped many of your activities and interests?	28 (48.28)	18 (64.29)
3	Do you feel your life is empty?	24 (41.38)	19 (79.17)
4	Do you often get bored?	27 (46.55)	20 (74.07)
5	Are you in good spirits most of the time?[a]	17 (29.31)	15 (88.24)
6	Are you afraid that something bad is going to happen to you?	11 (18.97)	9 (81.82)
7	Do you feel happy most of the time?[a]	17 (29.31)	14 (82.35)
8	Do you often feel helpless?	23 (39.66)	20 (86.96)
9	Do you prefer to stay home, rather than going out and doing new things?	20 (34.48)	13 (65.00)
10	Do you think you have more memory problems than most?	23 (39.66)	12 (52.17)
11	Do you think it is wonderful to be alive?[a]	16 (27.59)	15 (93.75)
12	Do you feel pretty worthless the way you are now?	12 (20.69)	10 (83.33)
13	Do you feel full of energy?[a]	21 (36.21)	16 (76.19)
14	Do you feel that your situation is hopeless?	14 (24.14)	8 (57.14)
15	Do you feel most people are better off than you are?	23 (39.66)	19 (82.61)

[a]Reverse scoring.

DISCUSSION

Geriatric Depression (GD) has recently been more in focus due to the increasing population of the elderly. In this study, we found the proportion of elderly subjects having depression was 26.7%. Recentmeta-analyses demonstrated that, the estimated pooled prevalence of depression in the elderly population in India was as high as 34.4%, and in China was 22.7%[17,18]. A cross-national study among 13 cities of nine lower and middle income countries estimated the prevalence rate of GD to be 1.0% to 38.6% among those aged 65 years and over, whereas a study among ten European Union countries reported GD rates ranging from 18.1% to 36.8%[19,20]. In a recent systematic review and meta-analysis, the prevalence of major depression was reported as being 7.2% (Ranging from 4.6% to 9.3%) and the prevalence of depressive disorders was reported as being 17.1% (Ranging from 4.5% to 37.4%) among those aged 75 years and older[21,22]. These differences in the results may be explained by different culture, genetics, and environmental factors or even methodological sampling differences. Present study was limited to comment on prevalence of GS due to its small sample size and non-probability sampling design.

There was a significant association of depression with increasing age and age 70 years or more was revealed as an independent predictive factor for GD in the current study. The association of depression with age can be due to organic diseases but can also be due to exogenous factors as advancing age is often accompanied by loss of social support systems due to the death of the spouse or siblings, retirement, or relocation of residence. Other studies have reported similar risk of depression with increasing age[23,24]. Other two independent socio-demographic predictors of GD in this study were being widowed/widower and living in nuclear family. However, studies are not in agreement regarding different risk factors for GD like female gender, marital status, nuclear family, co-living, financial dependency, and socioeconomic status[23-25].

Assessment of elderly people in a simple culture should be done in a sensitive way by the primary care physician. This can lead the way to management of depression in the elderly in Bangladesh. In the current study, we have tried to identify the frequencies of various symptoms of depression as detected using questions asked in this GDS-15. Questions with high sensitivity and specificity could have been identified if diagnostic assessment with structured interviews of these patients was completed. Structured diagnostic assessment was not possible in this study due to remoteness of area and inability of the subjects to visit a distant hospital. According to the present study, question about feeling bored, not in good spirits, not experiencing happiness, had given up

on their activities and interests and were not happy about being alive can become a part of routine screening for depression by general physicians for elderly people.

Caution should be exercised in generalizing our study's findings due to the use of convenience sampling from a selected urban area of Bangladesh. The sample size used in our study was relatively small. Moreover, social desirability bias could have resulted in an underestimation of depression prevalence.

CONCLUSION

In conclusion this study demonstrated that, one in every 4 geriatric person of urban area reported having depression. The significant factors that affected depression were identified as being older, widowed and living in nuclear family. These results may be useful for the development of strategies to identify the individuals at higher risk for depression can help the health care providers to plan for the better care of the elderly and reduce the frequency and severity of the occurrence of depression among them. This study was a small first step to draw the attention of health sector towards this problem of public health significance. The solution to GD has to be practical and located in the vicinity. Thus, culturally sensitive appropriate measures of diagnosis and treatment need to be researched and current study findings are expected to add some evidence in this regards.

DISCLOSURE

The author declared no competing interest.

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