Research Paper

Psychosocial Factors as Predictors of Geriatric Depression

Md. Abdul Hannan Mondal[1]*, Md. Nur-E-Alam Siddique[2]

ABSTRACT

The present Study was conducted to explore the effects of gender, residence, nature of comorbidity and status of spouse on geriatric depression. Purposive sampling technique was followed to select 382 elderly people (210 elderly males and 172 elderly females) from Joypurhat and Rajshahi district. Bangla version (Rahman & et al., 2019) of Geriatric depression scale was used to measure depression of the respondents. Four hypotheses were proposed based on previous research. Obtained data were analyzed by employing independent sample t-test and univariate regression analysis with the help of IBM SPSS- 28 version. The results of the current study revealed that there is a significant effect of residence, gender, status of spouse and nature of comorbidity on geriatric depression. The strongest probable socioeconomic factors of geriatric depression, in the elderly were identified using univariate regression analysis. The results suggested that gender was the best determinant of geriatric depression (23%, $p < 0.05$).

Keywords: *Geriatric Depression, Gender, Residence, Comorbidity, Spouse, and Elderly People*

The end of one's life span is referred to as old age. It's a moment when people "move away" from prior, more ideal periods – or "usefulness" times. People tend to live in the present, avoiding the future as much as possible as they move away from previous times of their lives (Hass, K. B., 1976). Most developed Western countries put the retirement age between 60 and 65, which is also regarded the transition from middle to old age. To be eligible for senior social services, one's age must fall within this range (Barry, Patricia, 2016). Old age can begin as early as the mid- 40s or as late as the 70s in non – Western countries. Age classification changed by county and over time, reflecting social class disparities or functional competence in the workforce in some cases, but more frequently than not, the present political and economic position. The term is sometimes tied to the retirement age, which in certain cases was lower for women than for males. This change in lifestyle established the foundation for the notion of old age, which occurred between the ages of 45 and 55 for women and 55 and 75 for men (Thane, 1978). Depression is a low, sad state marked by significant levels of sadness, lack of energy, low self-worth, guilt, or related symptoms. (Comer, R. J., (2015). Critical alter in demography with increased rate of elderly individual has faced more problems of physical, mental and social issues of the elderly people. (Park k.,

[1]M.S. Student, Department of Clinical Psychology, University of Rajshahi, Rajshahi-6205, Bangladesh.
[2]Associate Professor, Department of Psychology, University of Rajshahi, Rajshahi-6205, Bangladesh.
*Corresponding Author

2005). According to the Bangladesh census, about 6.1 million elder people in 2000 however, this will reach double around the year 2025. In 1991, Bangladesh's average survival rate was 56.1 years but it is predicted to be reached 70 in2025 (Kabir MH., 1987). Universally, Geriatric Depression has been recognized to be one of the foremost predominant issues among the elderly. Geriatric Depression is a psychological and affective condition that affects older people.

52.5 percent of people had depression, with 43.2 percent having mild or moderate depression. Just 9.3% of the aged people experienced depressed heavily. Previous Research in rural regions of Bangladesh the rate of depression among all the older ranged from 36.9-45 percent, with 23% having suicidal ideation. (Wahlin et al., 2015; Disu et al.,2019). Research conducted on some countries such as France, Sweden, Lebanon, New Zealand, and the United States and found that depression diagnosed rate twice in women compare to men (Schuch et al., 2014; McSweeney, 2004). Is there really a difference between sexes in terms of depression. To know the answers some theories have been emerged. The artifact theory proposes that men and women are similarly inclined to depression. In case of men, depression is frequently misdiagnosed by professionals (Emmons, 2010; Brommelhoff et al., 2004). The hormone explanation theory proposes that in many women is triggered depression by hormone changes (Kurita et al., 2013; Parker & Brotchie, 2004). The body dissatisfaction theory proposes that nearly from birth females in western culture are instructed lower body mass index and slim body form goals that are outlandish, undesirable and regularly unreachable. But in males cultural value is much more tolerant. The life stress theory propose that in our community women are faced more burden than men (Astbury, 2010; Keyes & Goodman, 2006). The lack of control theory proposes that Women are more prone to learned helplessness than men. And this may be more prone to depression. The last theory for gender differences is rumination theory. Rumination is the propensity to keep centering on one's sentiments when depressed and to take into account over and over the causes and results of that depression. Research suggests that individual's who ruminate at whatever point they feel pitiful are prone to be depressed and to remain depressed longer. Rumination tendency is more in women than men and making them more vulnerable to the onset of intense depression (Johnson & Whisman, 2013; Nolen-Hoeksema, 2002, 2000). Object relations theorists suggest that depression occurs as people's connections take off them feel risky and unreliable. (Schattner & Sharar, 2011; Allen et al., 2004; Blatt, 2004). Changes in the result of rewards and punishments of individuals lives may linked to depression. (Dygdon & Dienes.,2013; Martell et al., 2010). Aaron Beck proposes that negative thinking, instead of basic clashes or a lessening in positive incentives is at the root of sadness (Beck & Weishaar, 2014; Beck, 2002, 1991, 1967). Automatic thoughts are linked to depression (Alcalar et al.,2012). The association between decreasing social advantages and depression is bidirectional (Nardi et al., 2013; Joiner, 2002). Research suggests that repeatedly lack of social assistance such as that seen in a successful ceremony tied with depression (Ito & Sagara, 2014; Kendler et al., 2005). Divorced or Separated individuals show at slightest three times the depression and double the rate of someone who hasn't been married (Schultz, 2007; Weissman et al., 1991). Researchers suggest that individual's who lives solitary and lonely are especially inclined to produce depressed during challenging occasions (Hölzel et al., 2011; Nezlek et al., 2000). Depression is very common all over the world. Some core symptoms appear to be consistent over the world. Except some core symptoms, researchers found that exact picture of depression shifts from nation to nation (Kok et al., 2012; Kleinman, 2004).

LITERATURE REVIEW

Alam M.R., & et al., (2021) Conducted research on "Geriatric Malnutrition and depression". They found that the prevalence of depression was higher among males than females. Alves De Rezende et al., (2009) studied on "Dependence of the geriatric depression scores on age, nutritional status, and haematologic variables in elderly institutionalized patients" and the study result showed that the prevalence of depression was higher among females than their male respondents. Carayanni V et al., (2012) conducted a research titled "Sex differences in depression among older adults: are older women more vulnerable than men in social risk factors? The case of open care centers for older people in Greece" and the researchers found that elderly women have higher depressive symptoms than elderly men. The study result also showing that depression was exceedingly predominant within the Greek urban elderly individuals. Bergdahl, E. et al.,(2007) studied on the issue "Gender differences in depression among the very old" and the study result showing that women were more likely than men to experience depression. Nolen-Hoeksema, S. (2002) conducted a research on "Gender differences in depression" and found that women have higher depression score than their male counterparts. Lydia W. Li & et al.,(2017) studied on "Understanding Rural-Urban Differences in Depressive Symptoms Among Older Adults in China" the result suggested that In China, rural elderly are more depressed than their urban counter parts. Probst J.C & et al. (2006) concluded after studied on "Rural-urban differences in depression prevalence: implications for family medicine" that Depression is modestly but markedly more common in rural people than in urban ones, presumably due to differences in demographic features.

Namkee G. Choi, Jung-Hwa Ha (2013) wanted to know about the "Relationship between spouse/partner support and depressive symptoms in older adults: Gender difference" and they suggested that depressive symptoms are much less common among partnered or with spouse older persons than among without spouse divorced, or widowed counterparts. St John P.D & Montgomery P. R., (2009) have been conducted a research on the topic "Marital Status, Partner Satisfaction, and Depressive Symptoms in Older Men and Women" and their study found that lower levels of depressive symptoms common who have spouse compared with individuals without spouse. Lee Y. et al., (2001) studied the research title "Association of Comorbidity with Depressive Symptoms in Community-Dwelling Older Persons" they found that elderly people with comorbidity showed higher depressive symptoms compared without comorbidity of elderly people.

Rational of the study:

Older people are valuable members of all societies and, such as, have the right to live in dignity in old age. In addition, the projected increase in the number of older people in the coming decades is seen as a valuable resource for all societies, so they have the skills, knowledge and experience to continue to contribute effectively to society. The process of maintaining a positive attitude in old age is referred to as positive aging. It entails psychological and physical perspective, as well as attempting to engage in society and ensuring a stable source of income. An older person is defined as someone who has reached the age of 60, according to United Nations and World Health Organization standards. In some developed world countries, old age begins at the age of 65. Mentioning that there are presently more than 700 million people over the age of 60; the number will grow to 2 billion by 2050, implying that more than 20% of the world population will be 60 or older. The growth in the population of elderly individuals will still be the fastest increasing in the developing world, necessitating an appropriate response to meet older peoples need and address the challenges they face, as the number of individuals older than 60 and up will surpass that of children by 2050. Reaffirming the elders' right to health care and reaffirming their capacity and productivity at this stage of life through

early precautions or in relation to elderly cares medical service, psychosocial support, pensions and housing services.

Objectives of the study

To consider the literature and theoretical background the current study was conducted on elderly people of Rajshahi division and analyzes the relationship among geriatric depression with the following objectives –

- To investigate the effect of gender on geriatric depression.
- To inquiry into the effect of residence on geriatric depression.
- To explore the effect of comorbidity on geriatric depression.
- To observe the effect of spouse on geriatric depression.

Hypothesis of the study

- On the basis of the literature review and theoretical evidence the following hypotheses were formulated to test in the current study:
- Elderly females have higher geriatric depression than their male participants.
- Rural older adults have higher levels of depressive scores than their urban counterparts.
- Elderly individuals with comorbidities have more geriatric depression scores than without comorbidities
- Elderly people with spouse would have lower geriatric depression score than without spouse.

METHOD AND PROCEDURE

In this section, deals with the description of the target population, the sample of the study, description of the scales and the data collection procedures.

Target population: The older people (age above 60 years) of Rajshahi division are the target population of the present study.

Sample

A total of 382 participants of the study were selected purposively from Joypurhat and Rajshahi district of Bangladesh among them 210 male and 172 female. The age ranged of the participants from 60 to 87. Other details of the respondents are shown in

Table-2.1: Distribution of participants by Gender, Residence, nature of Co-morbidity, Status of Spouse.

Variables	Label	Number of participants	Percentage (%)
Gender	Male	210	55
	Female	172	45
	Total	382	100
Residence	Rural	241	63.1
	Urban	141	36.9
	Total	382	100
Nature of Comorbidity	Yes	263	68.8
	No	119	31.2
	Total	382	100
Status of Spouse	With Spouse	264	69.1
	Without Spouse	118	30.9
	Total	382	100

2.3 Variables

- **Independent variables:** Gender, type of resident, nature of comorbidity, and present status of spouse.
- **Dependent variables:** Geriatric depression

2.4 *Measuring instruments*

Any kind of study, it is very essential to collect data by used some measuring instruments. Depends on the objective of the study; the amount of time available for the researchers; scoring accuracy and result interpretation, the instruments are used to collect data. To germane of the objectives of the study, for the conducting of the current research, the following measuring instruments were used:

- A personal information blank
- Geriatric depression Scale originally developed by Brink et al.,(1982), adapted by Rahman & et al., 2019).

2.4.1 *The personal information blank*

Personal information was collected including age, gender, district, profession, type of residents, present status of spouse and the nature of Comorbidity of the elderly people.

2.4.2 *Geriatric Depression Scale (GDS)*

Bangla version of Geriatric Depression Scale was used for the current study which was adapted by Rahman & et al., (2019). The original Geriatric Depression Scale was developed by Brink et al., (1982). Geriatric Depression Scale (GDS) was used to assess depression which has been tested and widely used in both community and clinical settings (Yesavage J.A., 1982). The GDS Extended Format is a 30 item series of questions in which respondents are asked to respond yes or no questions about how they felt in the previous week. The correlation of the scale, r= 0.873 is significant and this correlation is same in both English and Bengali version. The cronbach alpha is 0.851 which ranges from 0.842 to 0.860. The original scale's inter-item correlation was 0.36 and split half reliability was 0.94 and test-retest reliability was 0.85. An answer of "Yes" on questions 2, 3, 4, 6, 8, 10,11 12,13, 14, 16,17,18, 20,22,23,24,25,26,28 or a "No" response to questions 1, 5, 7,9, 15,19,21,27,29 and 30 are indicative of depressive symptoms in an older adult. Depressive answers are each given 1 point, and points are summed to obtain a total score. Total score may be ranged from 0-30 for the particular individual. Normal depression ranges from 0 to 10, mild depression ranges from 11 to 20, and moderate to severe depression ranges from 21 to 30.

2.5 *Procedure*

Cross sectional study was directed among elderly individuals of Rajshahi division (Two districts) and collected data from December to April 2022. The sample size was 382.The inclusion of the participants was voluntary. With the help some of my friend's data collection was possible from two districts of Rajshahi division. After the necessary rapport was established with the research participants the written informed consent was taken before supplying the questionnaires. The participants were given the purpose of the study and brief description about the research. Data collectors also ensured that the data obtained from the participants was only used for academic purposes and will be kept confidential. When the respondents agree to provided the information then the questionnaires were provided to the participants to fill up sincerely. They were asked to answer very carefully and not to omit any item of the questionnaires as soon as possible. After completing the answer of questionnaires

were collected and checked out carefully. Finally, the respondents were given thanked by the collector of data for participating into the research.

2.6 *Data processing and Statistical Analyses*

By using Geriatric Depression Scale the data were collected. After data collection process the scores of each respondent were calculated. The scores of each individual were coded and entered into data analysis software (IBM SPSS version 28) in order to analyze the obtained scores. To investigate the effect of Gender, Residence, nature of Comorbidity, and Status of Spouse on Geriatric Depression of the respondents' independent *t* test were applied. Regression analysis also applied in order to select which socio-economic variables have greatest impact on geriatric depression of older adults.

RESULTS

The raw data were coded and entered into data analysis software (IBM SPSS statistics version 28) to analyze the obtained scores. To investigate the effect of Gender, Residence, nature of comorbidity, and Status of Spouse on Geriatric Depression of the respondents' independent t test were applied. To identify the strongest possible socio-economic predictors for geriatric depression of aged people regression analysis were applied.

Results of Gender
Table-3.1: Geriatric Depression of the respondents regarding Gender

DV	IV	N	Mean	Mean Difference	SD	df	t
Geriatric Depression	Male	210	15.07	2.71	2.424	380	10.640**
	Female	172	17.78		2.547		

**Significant at 0.01 level

The result presented in Table-3.1 shows that mean and standard deviation of geriatric depression score for male respondents is 15.07 and 2.424, on the other hand mean and standard deviation of geriatric depression score for female respondents is 17.78 and 2.547. The result reveals that elderly males have less depression level than elderly female counterparts, which is significant at 0.01 level ($t = 10.640$, $df = 380$).

Results of Residence
Table-3.2: Geriatric Depression of the respondents regarding Residence

DV	IV	N	Mean	Mean Difference	SD	df	t
Geriatric Depression	Rural	241	16.71	1.13	2.868	380	3.838**
	Urban	141	15.58		2.600		

**Significant at 0.01 level

The result presented in table-3.2 indicates that the mean and std. deviation of geriatric depression score for urban respondents is 15.58 and 2.60 and mean and std. deviation of geriatric depression score for rural respondents is 16.71 and 2.868. The result suggests that elderly urban participants have less depression level than elderly rural participants which is also significant at 0.01 level ($t = 3.838$, $df = 380$).

Results of Co-morbidity
Table-3.3: Geriatric Depression of the respondents regarding Co-morbidity

DV	IV	N	Mean	Mean Difference	SD	df	t
Geriatric Depression	Yes	263	16.94	2.07	2.771	262.330	7.478**
	No	119	14.87		2.383		

**Significant at 0.01 level

The result table-3.3 suggests that mean and standard deviation of geriatric depression score for participants with comorbidity is 16.94 and 2.771, on the other hand mean and std. deviation of geriatric depression score for respondents without comorbidity is 14.87 and 2.383. The result reveals that participants elderly participants who have comorbidity feel more depression level than elderly respondents who have not and the result is significant at 0.01 level (t=7.478, df= 262.330).

Results of status of Spouse
Table-3.4: Geriatric Depression of the respondents regarding Status of Spouse.

DV	IV	N	Mean	Mean Difference	SD	df	t
Geriatric Depression	With Spouse	264	15.70	1.91	2.591	204.853	6.156**
	Without Spouse	118	17.61		2.882		

**Significant at 0.01 level

The result presented in table-3.4 describes that mean and standard deviation of geriatric depression score for subjects without spouse is 17.61 and 2.882, on the other hand mean and std. deviation of geriatric depression score for respondents with spouse is 15.70 and 2.591. The result reveals that the significant difference (t=6.156, α<0.05) of geriatric depression of elderly people with spouse and without spouse.

Results of Univariate Regression Analysis
Table- 3.5 Regression of four socio-demographic variables (Gender, Residence, Nature of Comorbidity and Status of Spouse) linked to geriatric depression in the research participants.

Variable	Parameter	R Squared	β	Std. Error	t
Gender	Male	0.230	-2.713	0.189	94.055**
	Female			0.255	10.640**
Residence	Rural	0.036	1.128	0.233	66.746**
	Urban			0.294	3.838**
Nature of Comorbidity	Yes	0.116	2.074	0.243	61.053**
	No			0.293	7.066**
Status of spouse	With	0.098	-1.906	0.247	71.278**
	Without			0.297	6.412**

**Significant at 0.01 level

The result table 3.5 suggests that R Squared and **β** value of geriatric depression for gender, residence, nature of comorbidity and status of spouse are 0.230 and -2.713, 0.036 and 1.128,

0.116 and 2.074 and, 0.098 and -1.906 respectively. The results also reveals that residence, gender, status of spouse and nature of comorbidity predicts 3.6%, 23%, 9.8% and 11.6% consequently. The results also indicate that elderly females have 2.7 time's higher depression scores than elderly males and the rural individuals of the study feel 1.1 times more depression level than urban areas. The elderly people with comorbidity showed 2 times more depression level than without comorbidity. Participants without spouse express1.9 times more geriatric depression than respondents with spouse. The result also significant at 0.01 level.

DISCUSSION

The current study was aimed to look into the "Psychosocial factors as predictors of Geriatric Depression". Three hundred and eighty two elderly participants were selected purposively from different areas of Bangladesh as a sample for the study. Out of the 382 participants, 210 were older males and 172 older females. Depression in the elderly was measured by using a Bengali-adapted version of the Geriatric Depression Scale (Brink et al. 1982). Four hypotheses were formulated to observe the effect of gender, residence, comorbidity and spouse on geriatric depression. To analyze the data of the studying dependent sample t- tests and regression analysis were applied.

The **first** hypothesis of the study was elderly females have higher geriatric depression than their male participants. And the result table presented in table-3.1 revealed that significant difference was found between older males and older females in terms of geriatric depression (t=10.64, $\rho < 0.05$). The study's results confirmed the first hypothesis. This finding is obvious because some theories explained in this matter. According to the diathesis-stress model, the interplay of stress and specific personality vulnerabilities raises the chance of depression, with females experiencing stressors at a higher rate than males. The transactional model argues the cyclical nature of depression and claims that people with depression partake in actions that exacerbate symptoms, with women being more prone than men to participate in such activities. Lots of studies have been carried out on geriatric depression regarding gender differences among elderly people. The finding of the study is supported by the prior study such as Alves De Rezende et al., 2009.

The **second** hypothesis stated that rural older adults have higher levels of depressive scores than their urban counterparts. And the results showed in table-3.2 indicated that (t= 3.838, ρ <0.05) clearly showed that there was a significant difference found between rural and urban elderly individuals in terms of depression. So, the hypothesis of the study was confirmed by the study result. This result is inevitable because rural dwellers have fewer opportunities to advance in society and accumulate wealth, and they are more likely to be poor in old life (Chai & et al., 2012). Previous study also found the same result (Li, L. W., & et al., 2016).

The **third** hypothesis of the present study was elderly individuals with comorbidities have more geriatric depression scores than without comorbidities. The results of the t- test, as shown in table 3.3, revealed that significant difference exists between elderly people with and without comorbidities for the dependent variable of geriatric depression (t= 7.478, $\rho < 0.05$). The fourth hypothesis is supported by the study's findings. The result indicated that elderly people who do not have comorbidities have a lower geriatric depression score than those who do. However, many elderly people have chronic illnesses that can affect their health in many ways. Elder with many illnesses may be especially prone to depression's crippling effects. This is actually appropriate because this finding is supported by prior research of Lee Y. et al., (2001).

The **fourth** hypothesis was elderly people with spouse would have lower geriatric depression score than without spouse. In this context, the results presented in table-3.4 showed that depression level of elderly individuals who have spouse was lower than the elderly participants without spouse (t= 6.156, ρ < 0.05). The hypothesis of the study also resembles of the study result. This result is apparent because elders who have lost husband or wife may encounter feelings of solitude. If the surviving spouse lived autonomously rather than in an assisted living facility, they would be solitary. Older couples spend so much time together that they don't see the need to expand their peer circle. The loss of their long-term friend affects every area of their lives, including having to sleep alone for the first time in decades. Meals, rituals, and trips such as afternoon walks may be overlooked, trapping the surviving spouse in a cycle of depression. These findings also resembled with the findings of Namkee G. Choi, Jung-Hwa Ha (2013), St John P.D & Montgomery P. R., (2009).

Regression analysis was used to recognize the strongest possible socioeconomic determinants of geriatric depression in the elderly. From the table-3.5 it was clearly mentioned that gender was the strongest predictors for geriatric depression (23%, ρ<0.05).

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