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RESEARCH ARTICLE

Factors affecting psychological stress of elderly in urban Bangladesh

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ABSTRACT

The aim of the study is to assess the psychological stress of urban elderly living in the Sylhet district, Bangladesh. A total of 390 urban aged people have been interviewed from February 2016 to April 2016 through a structured questionnaire. Basic statistical tools, along with logistic regression model, have been applied for analysis. It is found that 58.2% of the elderly are suffering from psychological stress. From the logistic regression analysis, it is observed that sex, religion, age, income, blood pressure, physical exercise, and sleeping pattern are significant factors associated with the psychological stress of the elderly. Non-Muslim's elderly are suffering more than that of a Muslim counterpart. Females are more prone to psychological stress than male. Poor elderly are suffering more than middle- and high-income elderly. Oldest elderly are more suffering than the young elderly. Therefore, measures should be taken to create awareness among the elderly populations about psychological stress.

Keywords: Urban aging, Psychological stress, Religion, Family type

INTRODUCTION

The world's population is aging rapidly. People 60 years old and above will be around 650 million in 2025. In 2050, more than 2 billion people worldwide will be 60 years of age or beyond.[1] Aging is a stage in human life that is normally associated with a decrease in physical and mental abilities. The reduction in these abilities together with inactiveness, present-day lifestyle, increases the problems facing the elderly and imposes economically, socially, and psychologically heavy costs to a given society.[2] Health is not only about physical well-being but also involves both social and psychological well-being. The psychological distress affects the patient's quality of life for assessment and treatment.[3] According to the WHO, depression is a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration.[4]

The elderly person residing in old age homes have more stress due to their staying away from children, and they do not have anyone's support to carry their works and to share their feelings.[5] One of the important indices in elderly people, which make them have a good quality of life, is their mental health. Some of the most important factors determining their state of mental health are loneliness and lack of social connections.[6] Stress is an issue for the elderly, in part due to other health problems and their reaction to them, and in part due to their loss of identity and a role in society. Stress is associated with certain particular life events, though stress can be caused by a number of different factors. Elderly people residing at old age home experience moderate to severe level of stress.[7] Psychological distress among males depends on socio-demographic characteristics. The risk factor of it among the respondents is the history of divorce due to male infertility. Twenty-eight percent of respondents were found to be psychologically distressed. The most common

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form of psychological distress was depression.[8] Psychiatric disorders such as depression, stress, and anxiety are factors that affect the quality of life, suicide, and many physical problems, and socioeconomic in elders. Anxiety disorders, depression, and stress prevail among the elderly in Iran. Some factors, such as education, housing, medical condition, and marital status had significant effects on anxiety disorders, depression, and stress.[9] Stress and psychosocial resources play a crucial role in late-life depression. Changes in positive life events, daily hassles (worries), and mastery were significantly associated with changes in late-life depression among the oldest-old.[10] Socio-economic as well as demographic factors seem to affect the mental health of the elderly people, which, in turn, can influence the whole society in different ways. It is necessary to be aware of the psychological conditions of the elderly people and take necessary steps to find solutions and effective strategies through intervention programs to reduce stress disorder, anxiety, and depression in society, especially, in the elderly population.[9]

For change over time in depression, a number of researchers have examined the relationship between age and depression, but the findings are inconsistent. Some researchers found a curvilinear relationship between age and depression, showing that the youngest age groups and the oldest age group reported greater depressive symptoms than other age groups.[11,12]

Elderly people are suffering from many physical, social, emotional, and psychological problems which enhance the level of stress. Most of the studies carried out on this subject mainly focus on the socio-economic and health condition of the elderly in Bangladesh. However, the psychological aspect of elderly people and its treatment is often neglected. Therefore, the present study is an attempt to identify the factors that affect the psychological problem of the elderly in an urban area of Sylhet district in Bangladesh.

MATERIALS AND METHODS

The empirical data of this study are collected from 390 randomly selected respondents in the urban area of Sylhet district in Bangladesh from February 2016 to April 2016. The respondents are persons aged 60 and over. A structured questionnaire is administered to collecting the required information. Different statistical tools such as percentage frequency distribution, Chi-square test, and logistic regression model have been applied for data analysis.

RESULTS AND DISCUSSION

Socio-economic and socio-demographic characteristics of the urban aging

The percentage distribution of selected socio-demographic characteristics of urban elderly is demonstrated in Table 1. It is observed that most of the respondents (60.77%) are falling in the age group of 60–69 years and rest of the respondent (39.23%) in the age group 70 years and over. The mean age of the elderly is 69.33 years. About 72.56% of elderly are male and the rest (27.44%) are female. Most of the elderly (94.10%) are married. About 58.2% of elderly are suffering from psychological stress. Education is one of the most important factors, which affects the socio-demographic condition of the elderly. It is obvious that a literate person lives a better life than an illiterate person. Over half of the elderly (56.41%) are illiterate. Religion is an important community characteristic. It is observed that 82% are Muslim. The socio-economic condition may influence the psychological situation of a person. The majority (74.10%) of the respondents have income less than 10000 Tk. It is observed that the average monthly income of the elderly is 6446 Tk. Family type and take care are also two important factors of elderly. Most of the elderly (61%) receive to take care by themselves followed by 35.64% from their son and a few (3.33%) from their daughter. About 62% live in a joint family and the rest (38%) live in a nuclear family. About two-third elderly (73.85%) of the elderly take physical exercise sometimes and only a few (26.15%) of the elderly take physical exercise regularly. Body mass index (BMI) is an important indicator to assess the nutritional status of a person. It is observed that most (72.31%) of the elderly belong to well-nourished group

Table 1: Percentage distribution of selected socio demographic characteristics of the urban aging

Characteristics	Frequency (%)
Age	
60–69	237 (60.77)
70–79	96 (24.62)
80 and above	57 (14.62)
Sex	
Female	107 (27.44)
Male	283 (72.56)
Religion	
Muslim	320 (82.05)
Non-Muslim	70 (17.95)
Marital status	
Married	367 (94.10)
Other (divorce or widow)	23 (5.90)
Education	
Illiterate	220 (56.41)
Literate	170 (43.59)
Smoking habit	
Regular	125 (32.05)
Not regular	34 (8.72)
No habit	231 (59.23)
Income	
Poor (<10000 Tk.)	289 (74.10)
Middle (10000–19500 Tk.)	70 (17.95)
Rich (>20000 Tk.)	31 (7.95)
BMI	
Well-nourished	282 (72.31)
Undernourished	16 (4.10)
Overweight	92 (23.59)
BP	
High	145 (37.18)
Low	125 (32.05)
Normal	120 (30.77)
Take care	
Daughter	13 (3.33)
Son	139 (35.64)
Self	238 (61.03)
Psychological stress	
Yes	227 (58.20)
No	163 (41.80)
Sleeping pattern	
Not good	156 (40.00)
Good	108 (27.69)
Average	126 (32.31)
Physical exercise	
Regular	102 (26.15)
Sometimes	288 (73.85)
Family type	
Nuclear	148 (37.95)
Joint	242 (62.05)

followed by 4.10% in undernutrition and 23.59% in overweight [Table 1]. The level of perceived stress of the geriatric patients with hypertension in India was assessed using the Perceived Stress Scale and found that 67.3% of the elderly patients with hypertension had moderate perceived stress. It was also found that 51.8% elderly belongs to a joint family in India[13] while 62% of elderly lives with joint family in Bangladesh.

A study on psychological stress among elderly in Iran was conducted and found that 57.4% of elderly are suffering from moderate to severe psychological distress.[6]

Determinants of psychological stress of urban aging using logistic regression model

Results of the logistic regression model, where psychological stress is taken as dependent variable and sex, age, marital status, income, religion, education, BMI, take care, type of family, blood pressure (BP), physical exercise, sleeping pattern, and smoking habit are considered as independent variables.

From the logistic regression analysis, it is observed that sex, religion, age, income, BP, physical exercise, and sleeping pattern are significant factors associated with the psychological stress of the elderly. Female elderly have double psychological stress (2.12 times) than male elderly. Religion is an important factor for mental peace. Our analysis also supports this idea. Non-Muslim elderly are suffering from psychological stress 1.95 times more than Muslim elderly. Old (70–79 age group) and oldest old (80 + age) are suffering from psychological stress 2.71 times and 2.85 times more than the young elderly (60–69 age group). Poor elderly as well as middle-income elderly are suffering from psychological stress 2.71 and 1.31 times more than rich elderly. It implies that poor and middle income elderly are more prone to psychological stress. Therefore, income is an important factor associated with psychological stress. It is observed that aged people who are living alone and who are living along with their son are suffering 3.80 and 3.60 times more than the elderly who live with their daughter, respectively. Elderly who have

high and low BP are suffering from psychological stress more than the elderly who have normal BP. Age people whose sleeping arrangement are not good and average are suffering 3.48 and 1.69 times more than the aged people who have good sleeping arrangement, respectively [Table 2]. Psychological distress among elderly women was more than elderly men. The rate of psychological stress increased with increased age, specifically in 60–79 years old, however, this rate declined from the age of 80 years and over.[6]

Association of psychological stress with selected socio-demographic characteristics

There may be an association between socio-demographic characteristics and psychological stress. For this, a set of socio-demographic variables such as income, education, sex, religion, age, family type, marital status, sleeping pattern, physical exercise, smoking habit, take care, BP, and BMI are considered in this study.

It is found that there exists a significant ($P < 0.00$) association between income and psychological stress. Poor elderly are suffering more than middle and rich elderly, which implies that economic condition is one of the most influential factors of psychological stress.

It is observed that educational status is significantly ($P < 0.02$) associated with psychological stress. Psychological stress among illiterate elderly (63.2%) is higher than that of literate elderly (51.8%).

Religion is significantly ($P < 0.03$) associated with psychological stress. Psychological stress among

Table 2: Logistic regression estimates of the effects of selected socio-demographic characteristics on psychological stress

Characteristics	Reference	B	S.E.	Wald	df	Sig.	Exp. (B)	95% C.I. for EXP(B)	
								Lower	Upper
Sex (Female)	Male	0.752	0.347	4.714	1	0.030	2.122	1.076	4.185
Marital status (Married)	Unmarried	−0.394	0.550	0.512	1	0.474	0.675	0.229	1.984
Religion (Non-Muslim)	Muslim	0.665	0.336	3.924	1	0.048	1.945	1.007	3.755
Education (Illiterate)	Literate	0.323	0.265	1.485	1	0.223	1.382	0.821	2.324
Family type (unit)	Joint	−0.227	0.267	0.722	1	0.396	0.797	0.472	1.345
Age	Young old (60–69)			11.665	2	0.003			
Old (70–79)		0.996	0.321	9.613	1	0.002	2.706	1.442	5.078
Oldest old (80+)		1.048	0.435	5.802	1	0.016	2.851	1.216	6.685
BMI	Well-nourished			1.010	2	0.604			
Undernourished		−0.361	0.581	0.387	1	0.534	0.697	0.223	2.177
Overweight		−0.246	0.283	0.758	1	0.384	0.782	0.449	1.361
Income	Rich (>20,000)			7.308	2	0.026			
Poor (<10,000)		0.997	0.494	4.067	1	0.044	2.709	1.028	7.138
Middle (10,000–19,500)		0.273	0.532	0.263	1	0.608	1.313	0.463	3.725
Take care	Daughter			4.253	2	0.119			
Son		1.335	0.654	4.170	1	0.041	3.802	1.055	13.696
Self		1.282	0.654	3.839	1	0.050	3.603	1.000	12.985
BP	Normal			6.552	2	0.038			
High		0.719	0.295	5.925	1	0.015	2.053	1.150	3.663
Low		0.568	0.300	3.583	1	0.058	1.764	0.980	3.176
Physical exercise (Sometimes)	Regular	0.981	0.312	9.870	1	0.002	2.667	1.446	4.919
Smoking Habit	Regular			2.941	2	0.230			
Sometimes		0.476	0.303	2.476	1	0.116	1.610	0.890	2.915
No habit		−0.067	0.447	0.022	1	0.882	0.936	0.390	2.245
Sleeping Pattern	Good			13.896	2	0.001			
Not good		1.247	0.340	13.432	1	0.000	3.479	1.786	6.778
Average		0.527	0.316	2.786	1	0.095	1.693	0.912	3.143
Constant		−3.842	0.905	18.015	1	0.000	0.021		

Table 3: Association of psychological stress with selected socio-demographic characteristics

Characteristics	Psychological stress		Total (%)	Chi-square value	*P*-value
	No (%)	Yes (%)			
Sex					
Female	33 (30.8)	74 (69.2)	107 (100)	7.27	0.01
Male	130 (45.9)	153 (54.1)	283 (100)		
Marital status					
Married	155 (42.2)	212 (57.8)	367 (100)	0.49	0.48
Unmarried	8 (34.8)	15 (65.2)	23(100)		
Religion					
Muslim	142 (44.4)	178 (56.6)	320 (100)	4.88	0.03
Non-Muslim	21 (30)	49 (70)	70 (100)		
Education status					
Illiterate	81 (36.8)	139 (63.2)	220 (100)	5.14	0.02
Literate	82 (48.2)	88 (51.8)	170 (100)		
Family type					
Nuclear	68 (45.9)	80 (54.1)	148 (100)	1.67	0.19
Joint	95 (39.3)	147 (60.7)	242 (100)		
Income					
<10,000	98 (33.9)	191 (66.1)	289 (100)	29.32	0.00
10,000–19,500	43 (61.4)	27 (38.6)	70 (100)		
>20,000	22 (71)	9 (29)	31 (100)		
Age					
60–69	120 (50.6)	117 (49.4)	237 (100)	19.52	
70–79	28 (29.2)	68 (70.8)	96 (100)		0.00
80 and above	15 (26.3)	42 (73.7)	57 (100)		
BMI					
Well-nourished	110 (39)	172 (61)	282 (100)	3.47	0.18
Undernourished	7 (43.8)	9 (56.2)	16 (100)		
Overweight	46 (50)	46 (50)	92 (100)		
Sleeping pattern					
Good	61 (56.5)	47 (43.5)	108 (100)	23.87	0.00
Not good	43 (27.6)	113 (72.4)	156 (100)		
Average	59 (46.8)	67 (53.2)	126 (100)		
New take care					
Daughter	7 (53.8)	6 (46.2)	13 (100)		
Son	46 (33.1)	93 (66.99)	139 (100)		
Self	110 (46.2)	128 (53.8)	238 (100)		
BP					
High	50 (34.5)	95 (65.5)	145 (100)	14.19	0.00
Low	46 (36.8)	79 (63.2)	125 (100)		
Normal	67 (55.8)	53 (44.2)	120 (100)		
Physical exercise					
Regular	40 (39.2)	62 (60.8)	102 (100)	0.38	0.54
Sometimes	123 (42.7)	165 (57.3)	288 (100)		
Smoking habit					
Regular	33 (26.4)	92 (73.6)	125 (100)	0.61	0.74
Not regular	7 (20.6)	27 (79.4)	34 (100)		
No habit	62 (26.8)	169 (73.2)	231 (100)		

BP: Blood pressure, BMI: Body mass index

non-Muslim elderly (70%) is higher than that of the Muslim community (55.6%).

Psychological stress is significantly ($P < 0.01$) associated with sex. Female elderly (69.2%) are suffering from psychological stress more than male (54.1%) elderly.

It is noted that sleeping pattern is significantly ($P < 0.00$) related to psychological stress. The elderly whose sleeping pattern is not good are suffering from psychological stress more than the elderly whose sleeping pattern is good and average. This indicates that good sleeping pattern is an important factor of psychological stress of the elderly.

The study shows that take care of the elderly is an important factor of psychological stress. There is a significant ($P < 0.03$) association between take care and psychological stress of the elderly. The elderly who have received take care of their son are suffering more than the elderly who lives with their daughter.

It is found that there is a strong association ($P < 0.00$) between psychological stress and BP of elderly. The elderly who has unusual BP (low and high) are more suffering from psychological stress than the elderly whose BP is normal.

It is observed that the psychological stress of the elderly is significant ($P < 0.00$) associated with their age. The oldest age group (80+) is suffering more than other groups [Table 3].

Thus, it is clear from the analysis that socio-economic and socio-demographic characteristics influence the psychological stress of the elderly.

A study on depression, anxiety, and stress disorders among elderly in Iran indicate that gender, education, and marital status are significantly associated with psychological stress.[9]

It was observed that perceived psychological stress of elderly was significantly associated with gender, marital status, income, and treatment compliance.[13]

CONCLUSION AND RECOMMENDATION

This sample profile indicates that the majority (60.77%) of the elderly belongs to the young elderly group. Poor and middle income elderly are more prone to psychological stress. It is found that female elderly have suffered from psychological stress more than male elderly. Similarly, Non-Muslim elderly are suffering more than Muslim elderly. It is observed that age people who are living alone (self) and who are living along with their son are suffering more than the elderly who live with their daughter, respectively. Education is significantly associated with psychological stress. The educated elderly are suffering less than illiterate elderly.

The findings of this study may have some policy implications that would help the stakeholders as well as the government to take necessary steps to improve the mental condition of the elderly. The elderly may live with their daughter to reduce psychological stress. The government should take steps to educate the aged population to lead a healthy life.

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