

# Morbidity Pattern and Health Seeking Behaviour among the Geriatric People of Rural Areas of Chattogram District in Bangladesh

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## Abstract

## Original Research Article

**Background:** Aging is inevitable process of life. In Bangladesh, the number of older people is growing rapidly due to falling fertility and increased expectancy of life. **Objective:** We aimed to determine the prevalence of self-reported morbidity, to describe the morbidity pattern, health-seeking behavior, and socio-demographic profile, among the rural elderly people of the Chattogram district of Bangladesh. **Methods:** A descriptive cross-sectional study was conducted at 16 villages under 8 unions of the Mirsarai upazilla of the Chattogram district conveniently. Households were selected by systematic random sampling. Data were collected through face-to-face interviews from 200 participants. We used a semi-structured questionnaire. It was divided into two parts: questions related to socio demographic characteristics, questions related to morbidity pattern and health seeking behavior. Descriptive statistics and chi-square test were done. Data was cleaned and prepared with Microsoft Excel and analysis was performed using SPSS, version 23. **Results:** Mean age of the respondents was 66.5 years. Only (10.5%) had no morbidity and more than two-thirds (70%) of the respondents had multimorbidity. Most common morbidities identified among them were osteoarthritis (66.5%) and hypertension (51%) followed by chronic obstructive pulmonary disease (29.5%), ischemic heart disease (25%), Diabetes mellitus (21%), etc. Among them, (80%) seek treatment for their health problems. The majority (27%) preferred going to the government hospital and one-fourth (25%) preferred a private doctor. Among older people not seeking treatment for their medical condition, a majority (47.5%) said they didn't feel the need to go to a doctor and (35%) said that they had financial problems. **Conclusion:** A high prevalence of morbidity among the elderly population is found, suggesting that geriatric care should become an integral part of primary health care. Regular screening and health education need to be provided for ensuring healthy aging.

**Keywords:** Elderly, Multi-Morbidity, Health-Seeking Behavior, Rural, Demography.

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## INTRODUCTION

Aging is inevitable, usually deleterious, and eventually leads to the death of the organism. Aging is a natural process. The biology of ageing is still a great mystery (Vijg & Campisi, 2008). Aging is the predominant risk factor for most diseases and conditions that limit health-span (Franceschi *et al.*, 2018). According to Seneca, 'Old age is an incurable disease'.

People are living longer than ever before in both high- and low-income areas. The net increase of the older population worldwide is about one million every month, two-thirds of them being from low-income countries

(Gorman, 2002). Concerns have emerged regarding development policy interventions appropriate for older people, especially in elderly health problems and health care (Biswas *et al.*, 2006).

Nearly 720 million people in the world are of age 65 and above; by 2050, their number will be 1.5 billion (Rahman, 2020). The proportion of older persons is increasing; comprising 7% of the world population in 1950 and 11% in 2007, and it has been estimated that it will increase to 22% by the year 2050 (Jabeen *et al.*, 2015). The growth rate of the population of older people is 2.6% per year. It is considerably faster than the

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population which is increasing at 1.1% yearly (Rahman *et al.*, 2012).

Bangladesh cannot be an exception. In Bangladesh, the census in 2021 estimated that the number of people aged older or equal to 65 years in Bangladesh was 5.9% (Bangladesh Bureau of Statistics, 2022). After another 30 to 35 years, the nation, which is currently in the intermediate stage of ageing, will reach the advanced stage, when 25% of its people will be 65 or older. The "dependency" of older people on the economically active population will increase significantly (Rahman, 2020). By 2050, people aged 60 and above in Bangladesh will number 3.6 crore and constitute 22 percent of the total population (UNFPA, 2015).

Old people are more vulnerable than younger people. Aging leads to the generalized deterioration of many organs and systems. Health-seeking behavior refers to those activities undertaken by individuals in response to symptom experiences (Oberoi *et al.*, 2016). Elderly patients need more health care than others. In Bangladesh, families and society typically look after the elderly. Rapid socioeconomic and demographic transitions, mass poverty, changing social and religious values, the influence of western culture, have broken down family values (Furstenberg, 2019).

Most of the elderly people in Bangladesh suffer from some basic human problems, such as poor financial support, senile diseases (cataract, glaucoma, bony changes affecting mobility, diabetes, hypertension, failure of special senses, etc.), absence of proper health and medicine facilities, exclusion and negligence, deprivation, and socio-economic insecurity (Islam & Nath, 2012). However, older women, especially widows and those who are without sons are also facing economic vulnerability and the consequence of health problems (Barikdar *et al.*, 2016).

The increase in the proportion of elderly persons is increasing economically non-productive dependent individuals. The presence of several illnesses and their accompanying signs and symptoms is one of the key features of old age (Gladyshev & Gladyshev, 2016). The prevalence of multiple chronic conditions is increasing medical and social problems in our society (Wolff *et al.*, 2002). It remains a significant ongoing problem and the number of affected people, especially elder people, is continuously rising. As a result, health service demand is increasing day by day. Increased multimorbidity also adversely affects health-related quality of life in primary-care adult patients (Fortin *et al.*, 2006). Multimorbidity affects processes of care and may result in complex self-care needs and challenging organizational problems (Bayliss *et al.*, 2003).

In developed countries, many studies have been performed to find the pattern of morbidity and health-

seeking behavior among older people. But in developing countries, there are few studies (Gutierrez-Robledo, 2002). This study will help get more information about the morbidity pattern and health-seeking behavior and will help implement better health service policies for older people in rural areas of Bangladesh.

## MATERIALS AND METHODS

### Study Type, Study Area and Study Population

A cross sectional type of descriptive study was carried out to find out morbidity pattern and health-seeking behavior of elderly people in Mirsarai upazila of Chittagong district. It was a one-year study commencing from January 2022 to December 2022. All geriatric people living in Mirsarai upazila of Chittagong district of Bangladesh were the study population.

#### *Sampling Technique and sample size:*

To estimate the prevalence following formula will be used to determine the sample size:

$$n = \frac{z^2 pq}{d^2}$$

Where, n= required sample size,

z= z-value of standard normal distribution at a given level of significance,

p= Prevalence of geriatric morbidity (56.4%) from previous study (Sara *et al.*, 2018), q=100-p,

d= allowable error/precision in the estimate of 'p'= usually 10% of p. The result was 301.

Due to resource constraints, 200 elderly subjects were selected from villages in Mirsarai upazila of the Chattogram district.

### Data Collection Tool and Process

Data were collected from 16 villages under 8 unions of Mirsarai upazila by face-to-face interview of the respondents. In a village one house was selected randomly then from this house every alternative house was visited for data collection. Informed written consent was obtained from each eligible subject after a full explanation of the ultimate outcome, complications, and purpose of the study. The research instruments were a semi structured questionnaire which was divided into two distinct parts. 1. Questions related to socio-demographic characteristics and 2. Questions related to morbidity patterns and health-seeking behavior. To assess morbidity patterns, relevant history was taken, the subjects were asked to display all medications they were taking and asked to show all the medical reports that they possessed. The questions were phrased to elicit whether the patient had ever been told by a doctor or any other healthcare provider that they had any of the listed chronic health problems. Respondents were asked question in Bangle so that they could understand easily. Respondents were given liberty to discontinue participation at any time if they would like to. They were ensured about the maintenance of their confidentiality.

### Data Processing and Analysis

Data were collected, compiled, and tabulated according to key variables. Different variables were analyzed according to standard statistical analysis using SPSS version 23. Prevalence rates of different morbidity and health-seeking behavior of geriatric people in rural areas were calculated. Demographic and socio-economic factors (Age, sex, religion, family type, marital status, etc.) were used as independent variables, and morbidity status and health-seeking behavior were used as dependent variables.  $P < 0.05$  was considered statistically significant. Categorical variables were compared by means of the Chi-square test.

### Data Presentation

Suitable figures and tables were present the observation, results of the study and statistical analysis. In case of continuous variables, mean, percentage, and standard deviation were implied. A cross-table was used in the case of categorical variables.

### Clarification of the Ethical Issue

This study was conducted after the approval from the ethical review committee of Chittagong Medical College.

## RESULTS

This study was conducted between the periods of January 2022 to December 2022 for duration of twelve months in the Mirsarai upazilla, Chattogram. Total 200 respondents were included in the study.

In the study, 200 subjects were enrolled and analyzed. The major fraction (72.5%) of the population were in the age group of (60-69) years old, followed by (27.5%) in (70-84) years. The mean age of the respondents was  $66.50 \pm 5.571$  years. More than half of the subjects (57%) were male. The majority of the respondents were Muslims (57.5%) and rest were from other religion. Maximum (53.5%) respondents belonged to joint family. Most of them (81%) were currently married and the rest (19%) were single. According to modified Kuppaswamy Socioeconomic scale (Saleem & Jan, 2021), (74.5%) belonged to upper lower socioeconomic status and only (25.5%) were from middle socioeconomic status.

As seen in the figure 1 it was found that the most common morbidities suffered by the elderly were osteoarthritis (66.5%) and hypertension (51%) followed by chronic obstructive pulmonary disease (29.5%), ischemic heart disease (25%), Diabetes mellitus (21%) etc.

In case of morbidity pattern among 200 respondents, only (10.5%) had no morbidity and (89.5%) had morbidity. Among them, (19.5%) had one morbidity, (31.5%) of respondents experienced two morbidities,

(25.5%) had three chronic diseases, and (13%) had four or more morbid conditions. (Figure 2) More than two third (70%) of the respondents had multimorbidity (Figure 3).

In other geriatric health problems, the most frequent one was dementia (69%). Dental problem and visual impairment ranked second and third affecting (59%) and (53.5%) of older person respectively. (Table 2)

Association between socio-demographic variables with morbidity of respondents is shown in Table 3. In 60-69 age group, (70.9%) of respondents had at least one morbidity and it was (29.1%) in 70-84 age group. Chi-square test revealed that, age didn't play any role in presence or absence of morbidities ( $P=0.117$ ).

There was a significant association between sex of the respondents and morbidities. Male were (54.2%) more likely to have morbidities compared to female (45.8%) ( $P=0.015$ ).

In case of religion of respondents, muslims had more (57.5%) morbidities than other religion (42.5%). But the Chi-square test revealed that religion didn't play any role in presence of morbidities ( $P=0.575$ ).

Out of 179 respondents who had morbidities, 54.2% are from joint family and rest (45.8%) were from nuclear family. Chi-square test revealed that there is no association between type of family and presence of morbidity ( $P=0.366$ ).

In marital status, married respondents had more (79.9%) morbidities than single (20.1%). There was no significant role of marital status on presence of morbidities ( $P=0.194$ ).

In upper lower socioeconomic class (78.8%) respondents had morbidities and in middle socioeconomic class it was (21.2%). There was a significant association between socioeconomic classes of the respondents and morbidity ( $P=0.000$ ).

Only one-fourth of them had physical activity. The majority (71%) said that they used to take healthy food regularly and didn't take extra salt (69%) with their food. According to personal habits it was observed that maximum (75%) elderly were non-smokers. Only (25%) had smoking habit and (31.5%) elderly were found to have consumed non smoked tobacco. Almost all study subjects (99.5%) were non-alcoholic. (Table 4)

Among the respondents 80% seek treatment for their health problems and rest 20% didn't take any treatment. (Figure 4)

Majority (27%) of the respondents preferred going to Govt. Hospital for treatment for their illness.

(25%) preferred private doctor, (15%) private hospital and only (13%) went to pharmacy. (Figure 5)

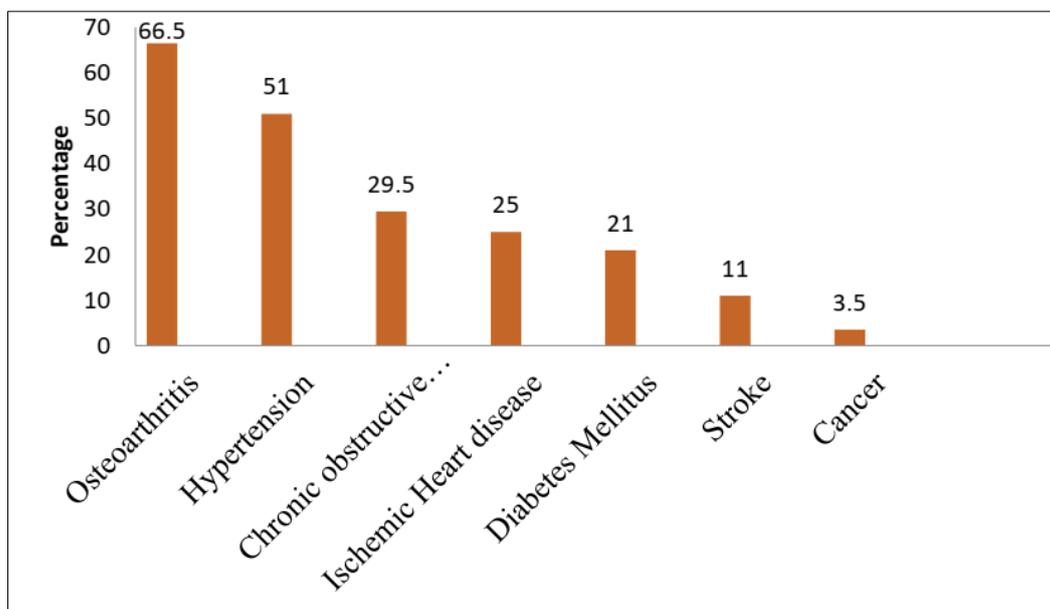
A total (20%) (n=40) elderly people did not seek any treatment for their health problems. Among

them (47.5%) didn't feel need to go to doctor. (35%) had financial problem. (7.5%) waited for recovery. Lack of consciousness (5%) and hospital in remote area (5%) were other causes. (Figure 6)

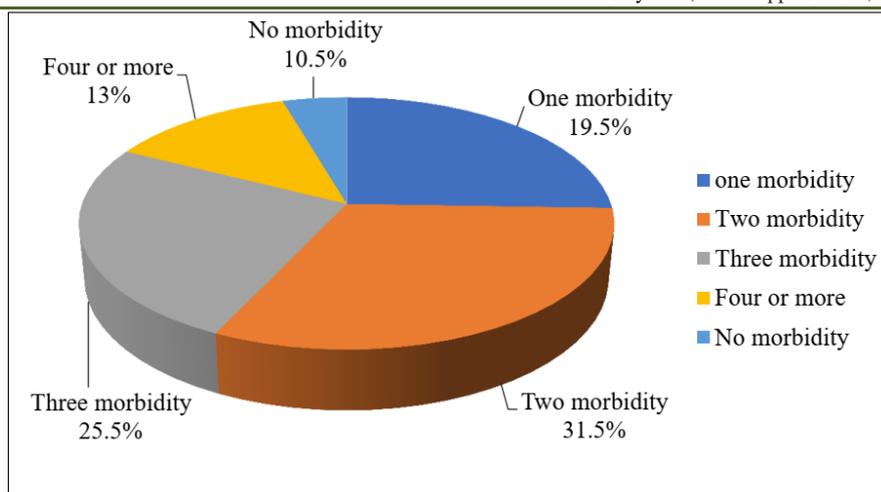
**Table 1: Sociodemographic characteristics of geriatric population (n=200)**

Characteristics		Frequency	Percentage
Age	60-69	145	72.5
	70-84	55	27.5
Sex	Male	114	57
	Female	86	43
Religion	Muslim	115	57.5
	*Others	85	42.5
Type of family	Joint	107	53.5
	Nuclear	93	46.5
Marital status	Married	162	81
	Single	38	19
Socioeconomic status	Middle	51	25.5
	Upper lower	149	74.5

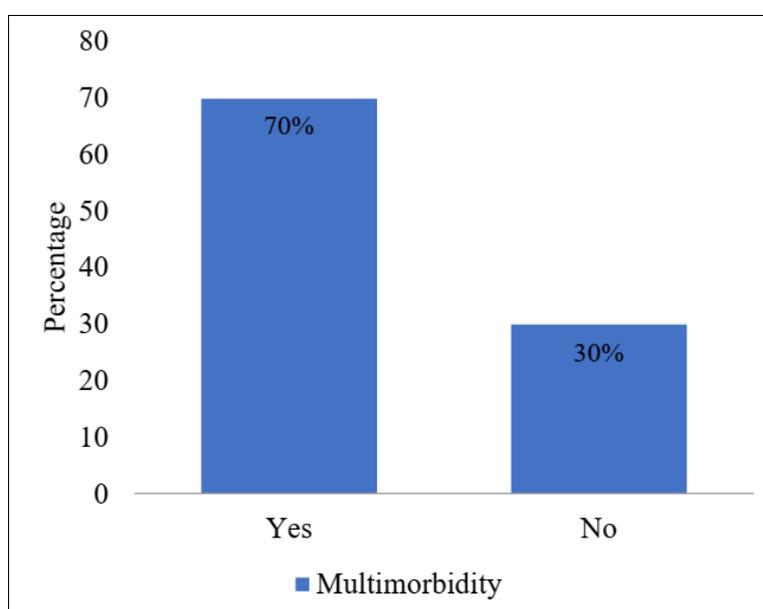
\*Others- Include Hindus & Buddhists



**Figure 1: Distribution of respondents according to morbidities (n=200)**



**Figure 2: Distribution of respondents according to morbidity pattern.**



**Figure 3: Multimorbidity of the respondents (n=200)**

**Table 2: Distribution of respondents according to presence of other geriatric health problems (n=200)**

Other geriatric health problems	n (%)	
Dental problem	118	59
Visual impairment	107	53.5
Insomnia	95	47.5
Cataract	77	38.5
Degenerative deafness	68	34.0
Bladder incontinence	68	34.0

**Table 3: Association between morbidity and sociodemographic variable (n=200)**

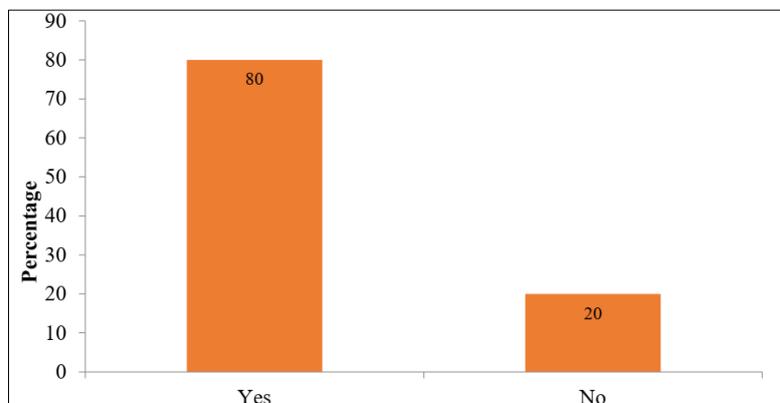
Characteristics		Morbidity		P value
		Present, n (%)	Absent, n (%)	
<b>Age of respondent</b>	60-69	127(70.9)	18(85.7)	0.117
	70-84	52(29.1)	3(14.3)	
<b>Sex of respondent</b>	male	97 (54.2)	17(81)	0.015*
	female	82(45.8)	4(19)	
<b>Religion of</b>	Muslim	103(57.5)	12(57.1)	0.575

Characteristics		Morbidity		P value
		Present, n (%)	Absent, n (%)	
respondents	Others	76(42.5)	9(42.9)	0.366
Type of family	Nuclear	82(45.8)	11(52.4)	
	Joint	97 (54.2)	10(47.6)	
Marital status	Married	143(79.9)	19(90.5)	0.194
	Single	36(20.1)	2(9.5)	
Socioeconomic status	Middle	38(21.2)	13(61.9)	0.000*
	Upper lower	141(78.8)	8(38.1)	

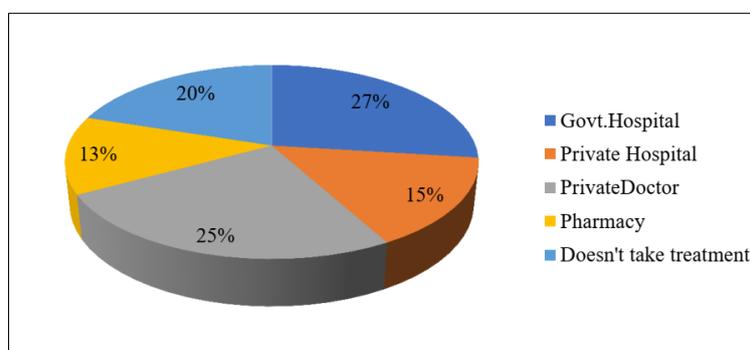
\*statistically significant

**Table 4: Distribution of respondents according Lifestyle related activities (n=200)**

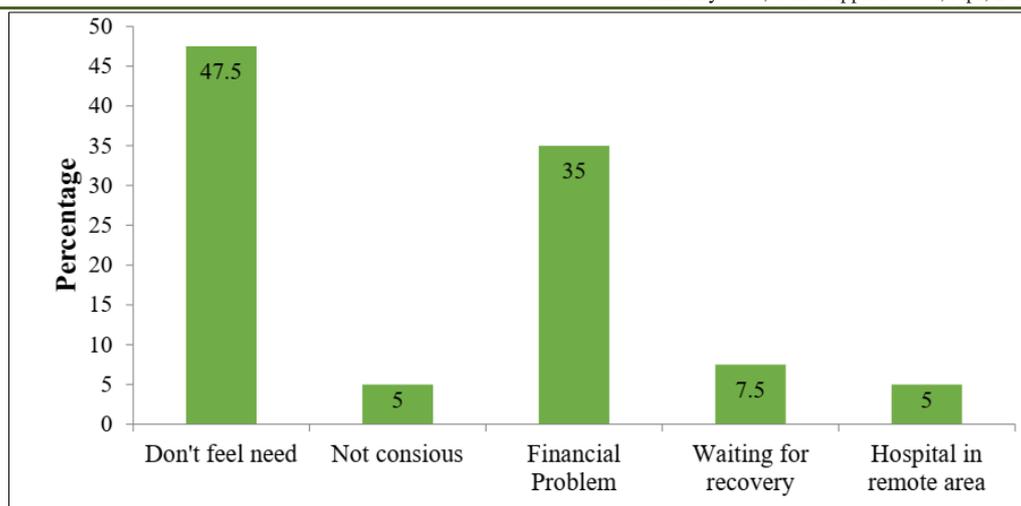
Life style related activity		Yes		No	
		Frequency	Percentage	Frequency	Percentage
Physical Activity		50	25	150	75
Healthy Food Habit		142	71	58	29
Extra Salt in Food		62	31	138	69
Personal Habit	Smoking	50	25	150	75
	Non smoked tobacco consumption	63	31.5	137	68.5
	Alcohol consumption	1	0.5	199	99.5



**Figure 4: Distribution of study subjects by seeking treatment from Health professional (n=200)**



**Figure 5: Distribution of Respondents according to their selection of health care facilities (n=160)**



**Figure 6: Distribution of the respondents by reasons for not taking treatment (n=40)**

## DISCUSSION

It was a cross-sectional study with the aim of assessing the pattern of morbidity and health-seeking behavior among the geriatric people in Mirsarai thana of Chattogram district.

In the present study, more than two third of the respondents belonged to the (60-64 years) age group and more than half were male. Mean age of the respondents was 66.5 years. Majorities were Muslims, which is a usual finding according to the perspective of Bangladesh. Maximum were from joint families. (Table 1) Another study also revealed similar findings (Jabeen *et al.*, 2015). Almost three fourth of them were from the upper-lower socio-economic class. (Table 1).

In a study (Khanam *et al.*, 2011) conducted in rural Bangladesh, it was found that the most common disorders were arthritis (57.5%) and hypertension (38.7%), which is similar to our findings of osteoarthritis (66.5%) and hypertension (51%). This is, in contrast, to a study in Haryana (E. Gupta *et al.*, 2019), where the most common morbidities were musculoskeletal disorders (57.3%), visual impairment, and cataracts (54%). (Figure 1)

Studies conducted in India by identified the prevalence of morbidity among the geriatric population as (76.9%), (77.2%) and (93.3%) ((Kumar *et al.*, 2020; Usha *et al.*, 2020); (Gupta *et al.*, 2019)). A similar finding was found in the present study, prevalence of morbidity (89.5%) (Figure 2).

Researchers found that 25.5% had two, 19.7% had three, and 23.5% had four or more morbidities (Sharma *et al.*, 2013) which are almost like our study where Majority (31.5%) had two morbidities followed by three (25.5%) and four or more (13%) (Figure 2). A contrary result was also found in Saudi Arabia where two chronic diseases were experienced by (16.5%), three

conditions by (21.8%) and four or more conditions by (50.7%) of the elderly population (Hassanien *et al.*, 2013). Genetic factors, lifestyle variation, and differences in socioeconomic status may be the possible causes of these opposite findings.

In other geriatric health problems, the most frequent one was Dementia (69%). Dental problem and visual impairment ranked second and third affecting (59%) and (53.5%) of older person respectively (Table 2).

In this study, Maximum morbidity is present in (60-69 years) age group. The sex of the respondents was found to be significantly associated with the presence of morbidity. (54.2%) the male had morbidity, which was (45.8%) in the case of females. These findings do not correspond to findings in European settings (Marengoni *et al.*, 2008), and findings reported in our settings (Kabir *et al.*, 2003). Males in rural areas, are the only earning members of the maximum family so they must cope with more stress, also they are more exposed to a polluted environment might be the cause. Muslims and respondents who belonged to the joint family had more morbidity. More than three fourth of the married respondents had morbidity. The upper lower socioeconomic class had more morbidity, followed by the middle class. So socioeconomic status also associated with morbidity. Lack of money, Literacy status and ignorance may be the cause. (Table 3)

The majority of multimorbid persons were male and Muslim, belonged to joint families, and were married. The majority of multimorbid elderly people were from lower socioeconomic classes. It may be due to their financial problem and lack of consciousness, as they thought that diseases are an expected part of aging.

It was observed in this study that only one-fourth of older people had regular physical exercise. The majority took healthy food regularly and didn't take extra

salt with food. Almost one-third (31.5%) consumed non-smoked tobacco and one-fourth of them (25%) had a smoking habit. (Table 4) Jabeen *et al.*, found (35.7%) were tobacco smokers and 62.7% were current tobacco chewers (Jabeen *et al.*, 2015). In another study, Kumar *et al.*, found that only 8.1% were current smokers and 15% elderly were found to have used tobacco in any form (Table 6)

In current study, it was found that among 200 respondents 80% of old people took treatment for their morbidity, and 20% didn't go for any treatment (Figure 4). The majority (27%) preferred going to the government hospital for treatment, and one-fourth (25%) went to a private doctor. (Figure 5). The availability of government hospitals and free treatment facility may be the reason for choosing government hospital as most respondents were from the lower socioeconomic class. Other studies *also* found that the majority preferred government hospital followed by private practitioners ((Jabeen *et al.*, 2015); (R. Das Gupta *et al.*, 2016).

In this study, 20% of old people didn't seek any treatment for their illness. Almost half (47.5%) of the elderly didn't feel the need to go to a doctor, and more than one-third (35%) had financial problems. (Figure 6) Kumar *et al.*, in their study found that "Lack of money and family support" (42.2%) and "Not feeling necessary to go to a doctor as the condition was age related" (36.8%) were the main causes of not taking treatment. Lack of consciousness and knowledge about geriatric health might be the cause. Depression, male gender, and lower level of education are causes in old population for treatment non-adherence (Altıparmak & Altıparmak, 2012; Cárdenas-Valladolid *et al.*, 2010). WHO recommends sensitization and education of primary health care providers about the specific needs of their older clients (World Health Organization., 2004). This is one area that the government can emphasize in health sector.

Although this study couldn't provide sufficient data due to limitations, it was expected that these findings could help other researchers in the future to identify the major health problems of rural elderly, to get information about the distribution of chronic conditions, multimorbidity and their healthcare-seeking behavior by socioeconomic status.

## CONCLUSION

This study showed a high prevalence of morbidities among rural old people which creating burden to our health. Sex of respondents and socioeconomic status were found to be significant factors associated with morbidities of elderly people. Strong efforts need to be taken to provide specialized care from family and society to this group. Both private and public health services should be strengthened to provide

suitable health facilities and affordable health care for rural geriatric people.

## LIMITATIONS

Although optimum care had been tried by the researcher in every step of this study, still there were some limitations. The results were be interpreted in the light of the following limitations. Since the sampling was done conveniently the study area didn't represent the whole population of the Chattogram district. Due to lack of resources desired sample size couldn't be achieved. Social group classification was also done by self-reported data and wasn't cross-checked. All factors that influence health-seeking behavior couldn't be included in the study. Diseases or health problems were diagnosed by self-reported data, checking the previous prescription, medical reports or taking relevant history regarding the specific disease.

## RECOMMENDATIONS

Despite several limitations, this study provided base line data on morbidity patterns and health seeking behavior of rural elderly people. Nationwide study could be initiated to evaluate the real scenario. The government facilities in the rural areas need to be strengthened by establishing necessary screening services, an outdoor service unit for geriatric people to provide affordable health care. Policy maker must focus on health education to change the belief of rural elderly which prevent them from seeking healthcare.

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