Original Article

Morbidity Pattern among the Elderly People in a Selected Rural Area

Asma MNF[1], Yesmin F[2], Haque M[3]

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Abstract

Background: *Ageing is an inevitable process with some specific and distinctive health problems. With increase in life expectancy the elderly population is increasing day by day, so is the concern for the different aspects of their health problems.*

Objectives: *The present study was conducted to find out the proportion of morbidity and morbidity pattern among the elderly population (60 years and above) of a selected rural area of Bangladesh.*

Methodology: *This was a cross-sectional type of descriptive study was conducted from January, 2019 to April, 2019. Two hundred and twenty one elderly people from Kaliakoir Upazilla under the district of Gazipur were interviewed. Data were collected by face to face interview through an interviewer administered semi-structured questionnaire. The study place was selected conveniently and the sampling technique was purposive type of non-probability sampling.*

Results: *Out of 221 respondents 91% (201) had morbidity of any kind related to their health. Common forms of morbidities were musculoskeletal problems (50.3%), hypertension (43.8%), PUD and hyperacidity (27.4%), diabetes mellitus (21.4%) and respiratory problems (19.4%). The mean age of the respondents in this study was 64.97 (± 6.120) years. Maximum proportion (55.2%) belonged to the age group of 60 to 64 years. Among the total 221 respondents 55.7% were female and 44.3% were male. Morbidity among the males was 88.8% and among the females was 92.7%.Most (86.4%) of the respondents were Muslims. Majority (81%) of the respondents was married and only 19% were widow/ers. Fifty five percent of the respondents were literate having different levels of education. The most common occupation among the males was farmer (40%) and among the females was housewife (51.1%).The mean monthly family income was Tk.18,800(±Tk.19210.336) and majority (53.8%) belonged to middle income group (Tk.10001 to Tk.30000). Most (53.8%) of the respondents lived in joint family. Fifty two percent lived in semi pucca house, 78.7% used tube wells as their source of drinking water but unexpectedly 18.6% still used non-sanitary latrines. Out of 201 morbid respondents majority (60.2%) were diagnosed by MBBS doctors and 60.7% were diagnosed in government hospitals. Most (86.6%) of the respondents took some sort of treatment and 10% did not take any treatment. Remaining 3.5% took partial treatment. Most common form of treatment taken by the respondents was medicine (87.4%). Majority (60%) of 20 respondents who did not take any kind of treatment was due to poverty and rest 40% was due to negligence.*

Conclusion: *To build up awareness and to explore the situation in detail, in-depth community based epidemiological study may be carried out.*

Key Words:
Morbidity pattern, elderly people, Rural area.

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1. Dr. M. N. Fahmida Asma, Assistant Professor, Department of Community Medicine, Shaheed Suhrawardy Medical Collage
2. Dr. Fouzia Yesmin, Assistant Professor, Department of Community Medicine, Shaheed Suhrawardy Medical Collage
3. Dr. Musarrat Haque, Professor, Department of Community Medicine, Shaheed Suhrawardy Medical Collage

Correspondence to: Dr. M. N. Fahmida Asma, Assistant Professor, Department of Community Medicine, Shaheed Suhrawardy Medical Collage, Dhaka. Mobile: +8801720318398, E-mail: fahmida_asma@yahoo.com

Introduction and Background Information

Ageing is a complex, multifactorial and inevitable process, which begins before birth and continues throughout life. Bangladesh, like other countries in Asia, is experiencing rapid demographic transition, which has resulted in an increasing ageing population.[1]

Ageing is a biological process, experienced by mankind. However, concern for ageing of population is a relatively

new phenomenon, which has risen due to significantly large increase in the number and proportion of aged persons in the society. This is becoming a major concern for the policy makers all over the world during the last two decades. Ageing of population is affected due to downward trends in fertility and mortality i.e. due to low birth rates with long life expectancies.[2]

The number of people in the world aged 60 years or older is projected to increase by 56%, from 901 million to 1.4 billion between 2015 and 2030; and by 2050, the number is projected to be 2.1 billion. Moreover, the number of people age 80 years or older (the "older-old") is growing even faster than the number of older persons overall. It is projected that by 2050 the number of older-old people will be 434 million, which is almost threefold the number in 2015 (125 million).[3] The net increase of older population worldwide is about 1 million every month – two-thirds of them in the low income countries (Gorman 2002).[4]

The number of elderly persons in Bangladesh was projected to double from 7.8 million in 2001 to 16.2 million by 2025. Based on data from Bangladesh, life expectancy at birth is expected to be 76.9 years for men and 85.1 years for women in 2015. At present, based on icddr,b data, life expectancy at 60 years is additional 17.6 years for men and 18.9 years for women.[5]

The aged population has specific health problems that are basically different from those of adults and young persons. Most diseases in the aged are chronic in nature – cardiovascular, arthritis, stroke, cataract, deafness, chronic infections, cancer. The older one gets the more health care he needs. Although the aged people face multiple health problems, even then, they do not consider seeking medical aid and as a result, many conditions remain unreported and untreated and they become complicated. This emphasizes the need for strengthening of health care system for elderly population.[2]

Bangladesh faces a particularly complex situation. On one hand, the health care needs of older people put increasing pressure on an existing system that is insufficient to meet the needs of all its citizens (Davis 2003). On the other hand, the government primary health care services remain underutilized (Vaughan et al. 2000), or poorly utilized (Pearson 1999), and older people often seek health care services too late, when "extremely ill", to obtain adequate treatment (Help Age International 2000).[4]

Other characteristics of the morbidity pattern amongst the elderly are the presence of co-morbidities, non-specific presentation of diseases, impaired drug metabolism and deranged social factors.[6]

In developing countries, there are few studies regarding this problem. In 2003, Joshi *et al.* reported that 83% of the elderly people had more than three morbidities in India. In 2013, Sharma *et al.* reported that the most common morbidity among aged population of Shimla district in Himachal Pradesh, India was musculoskeletal problems (55.0%) followed by hypertension (40.5%). In China, 21.7% of rural elderly people have at least two morbidities, and 15.9% have three or more morbidities. Unfortunately little is known about the prevalence of morbidity pattern among elderly persons in rural Bangladesh. Distribution of chronic conditions and multimorbidity couldn't be known due to little information.[7]Multimorbidity is defined as simultaneous occurrence of several adverse medical conditions in the same person.[5]

The economics of the rural Bangladesh settings are predominantly supported by subsistence agriculture. The majority of the elderly populations do not have pension coverage and their health care services are very limited. In addition, urbanization and industrialization have led to the changes in economic structure, diminishing the social values and weakening the importance of joint family (Asadullah et al. 2012). Consequently, the older generations are caught between the decline in traditional values and absence to adequate social security (Dubey et al. 2011). The rapid increase of elderly population is challenging and creating a serious impact on the health status and Quality of Life (QoL). In this perspective, to respond effectively and efficiently the growing health needs of the older population, it is important to understand their QoL. A good amount of studies were previously conducted to know the causes and consequences of Ageing (Khan and Kalam, 2006) and their projected distribution (Hossain, 2005), their needs (Khan and Kalam, 2006) and health condition (Munsur et al. 2010).[8]

In this present study, an attempt has been undertaken to find out the proportion of morbidity and morbidity pattern of the elderly population in rural Bangladesh to help in the further study in a larger scale.

Methodology

This was a cross-sectional type of descriptive study carried out in Kaliakoir Upazila under the district of Gazipur. Sixty years and above aged elderly permanent inhabitants of Kaliakoir Upazilla who were cooperative and mentally

sound were included in the study. The study was conducted from January 2019 to April 2019. Sripalitali union of Kaliakoir Upazila was selected conveniently.

The sample size was calculated by using the formula from "A Practical Manual of Sample Size Determination in Health Statistics" by S.K. Lwanga and S. Lemeshow. Though the calculated sample size was 384, within the data collection period 221 available elderly people of Sripalitali union who were willing to participate in the study were interviewed. Data were collected by face to face interview through an interviewer administered semi-structured questionnaire with the respondents. The data were analyzed in computer with SPSS 16.0 version.

Results

Socio-demographic characteristics (tab.1) revealed that the age of the respondents was from 60 to 93 years with mean age of 64.97 years and standard Deviation (SD) ± 6.120 years. The majority (55.2%) of the 221 respondents were in between the age group of 60 to 64 years.

Out of the 221 respondents, 44.3% (98) were male and 55.7% (123) were female whereas 86.4% (191) respondents were Muslim and 13.6%(30) were Hindu. Among the 221 respondents 81% (179) were married while 19% (42) were widow/ers.

Out of 221 respondents, 55.2% (122) literate and the rest 44.8% (99) were illiterate. The majority (25.8%) of the respondents had an education level of name sign only and 13.1%,9%,3.2%,1.8%,0.9%,0.5% and 0.9% were of the level of Class I-V, Class VI-X ,SSC, HSC, Graduate, Post Graduate and others respectively.

Majority (51.1%) of the 221 respondents were housewives followed by farmers (20.8%). Most (53.8%) of respondents belonged to joint family and rest to single family. Number of family members ranged from 1 to 20; among them, 48% (106) had family members ranging from 5 to 9. The monthly family income of the 221 respondents of this study ranged from 500 TK to 230000 TK. and the mean monthly family income was 18,800 TK with Standard Deviation ± 19210.336TK.

Out of 221 respondents majority (52%) respondents used to live in semi pucca type of housing. The remaining 34.4% (76) and 13.6% (30) lived in kancha and pucca respectively. Upon enquiring, 78.7% (174) used tube wells as their source of drinking water. Out of the 221 respondents, 81.4%(180) used sanitary latrines as their method of sanitation and the remaining 18.6%(41) used non-sanitary latrines (Table 1).

Table-1

Socio-demographic characteristics of the respondents

Socio-demographic Characteristics	Frequency	Percentage (%)
Age		
60-64 years	122	55.2
65-69 years	47	21.3
70-74 years	32	14.5
75-79 years	12	5.4
80-93 years	8	3.6
Gender		
Male	98	44.3
Female	123	55.7
Religion		
Islam	191	86.4
Hinduism	30	13.6
Marital status		
Married	179	81
Widow/er	42	19
Level of education		
Illiterate	99	44.8
Can sign only	57	25.8
Class I-V	29	13.1
Class VI-X	20	9
SSC	7	3.2
HSC	4	1.8
Graduate	2	0.9
Post-graduate	1	0.5
Others	2	0.9
Occupation		
Housewife	113	51.1
Service holder	13	5.9
Business person	22	10
Farmer	46	20.8
Others	27	12.2
Type of family		
Nuclear	102	46.2
Joint	119	53.8
Number of family members		
4 or less	74	33.5
5-9	106	48
10 or more	41	18.6
Monthly family income		
Tk.10,000 or less	12	10
Tk.10,001-Tk.30,000	80	36.2
Tk.30,001 or more	119	53.8
Housing		
Kacha	76	34.4
Pucca	30	13.6
Semi-pucca	115	52
Source of drinking water		
Tube well	174	78.7
Well	2	0.9
Others	45	20.4
Type of sanitation		
Sanitary latrine	180	81.4
Non-sanitary latrine	41	18.6

The study showed that out of 221 respondents, majority (91%) had morbidity of any kind related to their health. The remaining 20(9%) respondents had no morbidity (Fig 1).

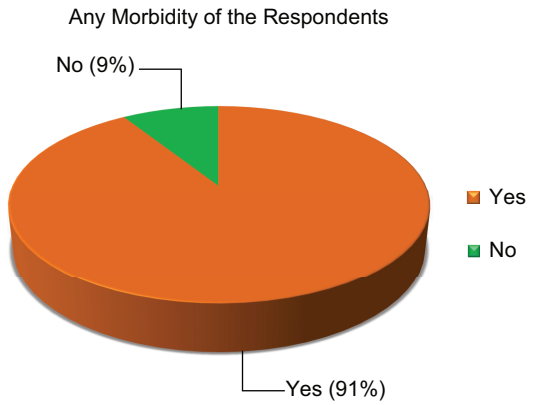

Fig 1: *Distribution of the Respondents by Morbidity*

Table-II

Distribution of the Respondents by Morbidity Pattern

Name of the disease	Frequency	Percentage (%)
Musculoskeletal problem	101	50.3
Hypertension	88	43.8
PUD and hyperacidity	55	27.4
Diabetes Mellitus	43	21.4
Respiratory Problems	39	19.4
Eye Problem	27	13.4
Coronary Heart Disease	19	9.5
Non-specific illness	15	7.5
Chronic kidney disease	7	3.5
Oral problem	6	3
Ear problem	5	2.5
Skin problem	5	2.5
Stroke	4	2
Genito-Urinary problem	4	2
Gall bladder disease	4	2
Cancer	1	0.5
Liver Disease	1	0.5
Dental problem	1	0.5
Disability due to RTA	1	0.5

Out of 201 morbid respondents, majority (50.3%) had musculoskeletal problems (arthritis, low back pain, neck pain and generalized bodyache) and 43.8%, 27.4%, 21.4%, 19.4%, 13.4%, 9.5%, 7.5%, 3.5%, 3%, 2.5%, 2.5%, 2%, 2%, 2%, 0.5%, 0.5%, 0.5% and 0.5% had hypertension, PUD and hyperacidity, diabetes mellitus, respiratory problems (respiratory distress, bronchial asthma and 1 case of PT under treatment),eye problem, coronary heart disease, non-specific illness (vertigo, generalized weakness and neurological problem), chronic kidney disease, oral problems, ear problem, skin problem, stroke, genitor-urinary problem, gall bladder disease, cancer, liver disease, dental problem and disability due to RTA respectively. Among the morbid respondents, only 41 had single morbidity of various types. Rest of the morbid respondents had multiple morbidities (Table II).

In the present study, out of 201 morbid respondents, majority (60.2%) of the morbid respondents were diagnosed by MBBS doctors. The remaining 29.4%, 0.5%, 1% and 9% were diagnosed by Specialist doctors, Homeopathic doctors, Ayurvedic doctors and others (kabirajs, medicine sellers, quacks etc.) respectively (Fig II). Majority (60.7%) of them were diagnosed in Government hospitals.

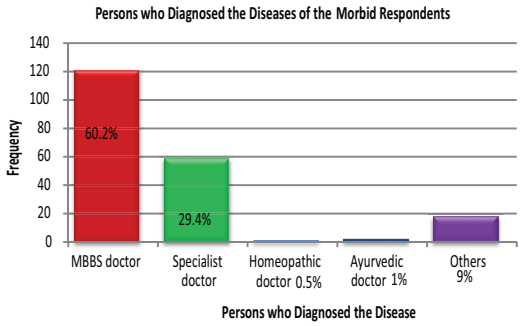

Fig 2: *Distribution of the Morbid Respondents by the Persons who Diagnosed the Diseases*

Majority (86.6%) of the morbid respondents took some form of treatment and 10% of the morbid respondents did not take any treatment. The remaining 3.5% took partial treatment (Fig 3)

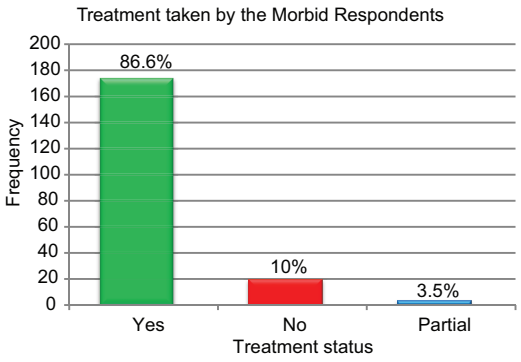

Fig 3: *Distribution of the Morbid Respondents by Treatment status*

Out of 174 morbid respondents who took treatment, majority (87.4%) took Medicine as type of treatment. The remaining 5.2%, 1.7%, 4%, 0.6%, 0.6% and 0.6% of the respondents took Medicine and Surgery, Medicine &

Physiotherapy, Surgery, Diet and Exercise, Kabiraji and Chemotherapy as type of treatment respectively (Fig 4).

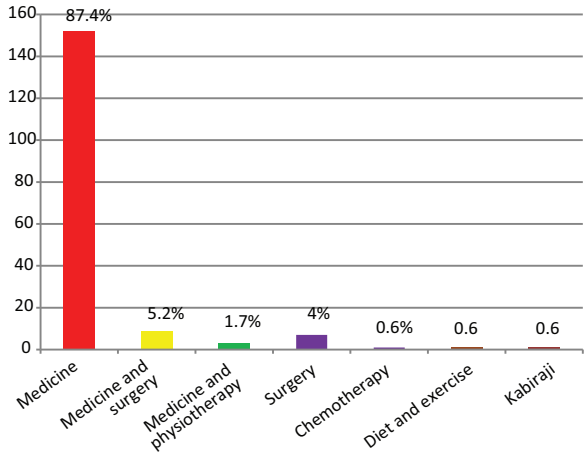

Fig 4: *Distribution of the Morbid Respondents by Treatment Type*

The 20 respondents who did not take any kind of treatment, majority (60%) did not take treatment because of poverty. The remaining 40% did not take treatment because of negligence (Fig 5).

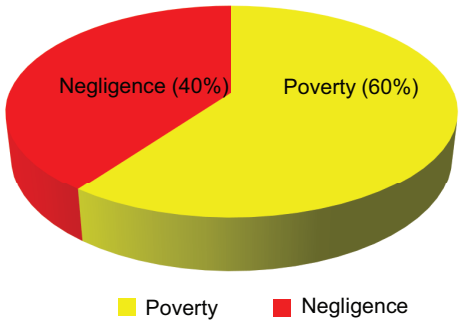

Fig 5 : *Distribution of the Morbid Respondents by Reasons behind not taking Treatment*

Discussion

The present descriptive type of cross sectional study was carried out among the elderly population (60 years and above) of Kaliakoir Upazilla under the district of Gazipur. The study was conducted with the view to determine the proportion of morbidity and the morbidity pattern among the elderly population of the rural area.

In this present study, out of 221 respondents, majority (91%) had morbidity of any kind related to their health. The remaining 9% (20) respondents had no morbidity. In a similar study done in 2003, 86% of respondents had been suffering from single or multiple diseases.[9]

Out of 201 morbid respondents, majority (50.3%) had musculoskeletal problems (arthritis, low back pain, neck pain and generalized bodyache) and 43.8%, , 2.5%, 0.5%, 0.5%, 0.5% and 0.5% had hypertension, 27.4% had PUD and hyperacidity, 21.4% had diabetes mellitus, 19.4% had respiratory problems (respiratory distress, bronchial asthma and 1 case of PT under treatment), 13.4% had eye problem, 9.5% had coronary heart disease, 7.5% had non-specific illness (vertigo, generalized weakness and neurological problem), 3.5% had chronic kidney disease, 3% had oral problems, 2.5% each had ear problem and skin problem, 2% each had stroke, genitor-urinary problem and gall bladder disease and 0.5% each had cancer, liver disease, dental problem and disability due to RTA. Among the morbid respondents, only 20%(41) had single morbidity of various types. Rest of the morbid respondents had multiple morbidities. In 2003, a study also revealed that the most common disease suffered by the respondents was arthritis (40.1%).[10]

The mean age of the respondents in this study was 64.97(± 6.120) years. Maximum proportion (55.2%) belonged to the age group of 60 to 64 years. Only 3.6% (8) was at or above 80 years. This coincides a research done in 2003 in Bangladesh which showed that the highest number of respondents (47.8%) were in the age group of 60-64 years and lowest (4.6%) in the age group of 75-79 years.[9]

Among the 221 respondents, 55.7% (123) were female and 44.3% (98) were male. This may be due to a majority of housewives who were at home during the survey, while the males at their workplace.

From this study, it was found that most of the respondents were Muslims (86.4%). This may be due to the fact that majority of the population of Bangladesh is Muslim.

Education level of the respondents of this study revealed that (55.2%) of respondents were literate having different levels of education including a major part (25.8%) belonging to the group of name sign only. This did not match a study in 2012 where only 30% of the respondents were illiterate.[11]

The present study shows that among the respondents, 51.1% were housewives in occupation. The most common profession among males was farmer (40%). It indicates that a large proportion of females in Bangladesh are economically dependent which did not match a study done in 2003, where only 21% were housewives.[9]

Maximum (53.8%) respondents of this study lived in joint families which is consistent with a study in 2013.[10] The monthly family income of this study ranged from 500 tk to 2,30,000 tk. The mean monthly family income was 18,800 (±19210.336) tk. From this present study, it was

found that majority (53.8%) of the respondents had a monthly family income ranging from 10001tk to 30000tk. Another study in 2015 showed that economic solvency proved to have a positive impact on the Quality of life of elderly population.[8]

In the present study, out of 201 respondents, majority (60.2%) of the morbid respondents were diagnosed by MBBS doctors. The remaining 29.4%, 0.5%, 1% and 9% were diagnosed by Specialist doctors, Homeopathic doctors, Ayurvedic doctors and others (kabirajs, medicine sellers, quacks etc.) respectively. Among the 201 respondents, majority (60.7%) were diagnosed in Government Hospitals. In a similar study conducted in 2012, majority (56%) seek treatment from MBBS doctors.[11]

Conclusion

From the present study it can be concluded that most (91%) of 221 respondents had morbidity of one or more kinds. Most common morbidity was musculoskeletal problems followed by hypertension (43.8%), PUD and hyperacidity (27.4%), diabetes mellitus (21.4%), respiratory problems (19.4%), eye problems (13.4%), coronary heart disease (9.5%). The inspiring thing was that about 61% of morbid respondents were diagnosed by MBBS doctors and nearly 30% by specialist doctors. Among the 221, 55.7% (123)) were female and 44.3% were male. Morbidity among the males was 88.8% and morbidity among the females was 92.7%. Majority (81%) of the respondents of this study was married and only 19% were widow/ers. The most common occupation among the males was farmer (40%) and among the females was housewife (51.1%). Majority (53.8%) of the respondents had monthly family income ranging from 10001tk to 30000tk. Maximum (53.8%) respondents of this study lived in joint families. Sanitation status of the respondents revealed unexpected results as 18.6% (41) still used non-sanitary latrine. Again 86.6% morbid respondents took treatment and only 3.5% took partial and 10% took no treatment at all. But the reason mentioned by the respondents for not taking treatment were poverty (60%) and negligence (40%) which is a subject of concern. Better healthcare facilities and social security should be ensured for the senior citizens as they are a vulnerable group. To build up awareness and to explore the situation in details, in depth community based epidemiological studies may be carried out.

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