



Journal of Applied Sciences

ISSN 1812-5654

science
alert

ANSI*net*
an open access publisher
<http://ansinet.com>

Socio-Economic Status of Elderly of Bangladesh: A Statistical Analysis

¹M. Taj Uddin, ¹Md. Nazrul Islam, ²Md. Johurul Alam and ¹Gias Uddin Baher

¹Department of Statistics,

²Department of Mathematics, Shahjalal University of Science and Technology, Sylhet, Bangladesh

Abstract: The present study was undertaken to gather overall information on socio-economic and health profiles of the senior citizens of Bangladesh based on primary data of from the three selected districts of the country. Simple statistical tools and logistic regression model are used to analyze the data. The analysis shows that 46% of the physically sound elderly are jobless and 15% aren't engaged in job due to lack of physical fitness and other causes. The logistic regression analysis reveals that respondents' age, level of education, physical fitness are significantly associated with the current occupation of elderly people.

Key words: Elderly people, determinants of elderly job status, logistic regression analysis

INTRODUCTION

According to UN by the year 2025 the total number of elderly people in the world will reach at 1200 million, which indicates that by this time 15% of the total populations will reach 60 year or more (UN, 1997). UN also stated that the world is experiencing an age-quake. Every month, one million people reach at 60 years of age. In 1999 there were 593 million elderly people in the world and this figure will be triple to nearly 2 billions by the year 2050 (UN, 1999). It is true that the number of elderly people is increasing rapidly in the developed countries but it is also increasing in the developing countries with a great speed. More than half of the world's older population lives in developing countries (UNFPA, 2002). In fact, the number of elderly people is increasing day by day in a very alarming rate. In the USA, there are a lot of care services for their elderly people. There are old homes, day-care centers and elderly societies for elderly people. Eberstadt (1997) found that population aging is a great challenge for the health care systems as nation's age, the prevalence of disability, frailty and chronic diseases, Alzheimer's disease, cancer and many other diseases is expected to increase dramatically. Rush (2006) found that the incidence of lifestyle diseases increases among the elderly people over the whole world which is not a sudden onset phenomenon but an accumulation of changes in the expression of genes in response to nutrition and environment from conception.

In Bangladesh, over the past decade there has been a significant decline in infant and child mortality rate.

Control and prevention of diseases, such as measles, poliomyelitis and diphtheria along with extensive use of oral saline for diarrheal diseases have greatly reduced childhood mortality, Bangladesh is on the margin of Polio eradication and has already achieved the elimination goal for leprosy at the national level. Kabir (1987, 1994) found that in poor families, both in rural and urban areas, older people often unable to meet the demand due to extreme poverty where food is the top priority needs. Ismail Hossain *et al.* (2006) found that aged people in Bangladesh are mostly suffered from various complicated physical diseases and the number is increasing day by day but the services provided through government hospitals are inadequate in compare to needs. A small proportion (around 6%) of the total population of Bangladesh constitutes the elderly population, but the absolute number of them is quite significant (about 7.2 million) and the rate of their increase is fairly high. This change in population characteristics will have serious consequences on society as well as on the overall socio-economic development of the country (Banglapedia, 2006). In order to improve the lives of older people in Bangladesh, the national health system should allocate resources and design strategies to prevent and treat chronic disease. After the independence, the government of Bangladesh initiated some programs like pension, gratuity, welfare fund, aged fund (Boyosko Bhata), group insurance and provident fund for retired government officials and employees. SSocio-economic and health care issue of the elderly people in Bangladesh has not yet gotten any importance

though it is increasing alarmingly. The following table of population projection of Bangladesh may knock our sense to take proper steps for the health care issue of our elderly people.

Adult children, particularly sons, are considered to be the main source of security and economic support to their parents, particularly in the time of disaster, sickness and in old age (Cain, 1986). As an Asian country, Bangladesh has a long cultural and religious tradition of looking after the elderly and it is expected that families and communities will care for their own elderly members. But rapid socio-economic and demographic transitions, mass poverty, changing social and religious values, influence of western culture and other factors, have broken down the traditional extended family and community care system. Most of the elderly people in Bangladesh suffer from some basic human problems, such as poor financial support, senile diseases and absence of proper health and medicine facilities, exclusion and negligence, deprivation and socio-economic insecurity (Rhaman, 2000). Aging is one of the emerging problems in Bangladesh. This problem has been gradually increasing with its far reaching consequences. A clear indication of increasing Bangladesh demographic aging process has been found in the works of Nath and Nazrul (2009) and Islam and Nath (2010). The present study is done to gather overall information on socio-economic and health profiles of the senior citizen in Bangladesh. This is motivated by the recognition that the best approach to enhance the aged people's welfare in Bangladesh is to increase their self-reliance and to provide them proper health care facilities so that they can make themselves to have contribution to their family as well as their society. Specifically it tries to investigate the determinants those influence the socio-economic specially job status of the elderly people in Bangladesh.

MATERIALS AND METHODS

The present study was based on data collected from three selected districts (Sylhet, Mymensingh and Noakhali) of Bangladesh during October and November in 2007. A questionnaire was adopted. A pilot survey was taken to make reliable and concise questionnaires. Personal interview approach was followed for data collection from the field. The districts and areas within the districts are selected purposively and random sample was collected from the selected areas of each district. Finally a sample of 300 elderly people were selected for interview where 100 from each district. The data were analyzed by SPSS. Frequency distribution table and logistic regression model were used to analyze the data.

Variables for the Logistic Regression Model

Dependent variable (Y): Occupation of the Elderly (coded '0' for not in job and '1' for the elderly at job).

The explanatory variables used in the model are:

- X_1 = Age of the respondents (coded '1' for "60-64" years, '2' for "65-69" year and '3' for "70 and above")
- X_2 = Looking after family (coded '0' for "others" and "1" for "yourself")
- X_3 = Level of education of the respondents (coded '0' for "literate" and '1' for "illiterate")
- X_4 = Monthly income (coded '0' for "0-5000.00"Tk. and '1' for "5000.00Tk. and above")
- X_5 = Present state of health (coded '0' for "not good" and '1' for "average")
- X_6 = Present physical problem (coded '0' for "heart disease", '1' for "diabetes" and 2 for "others")
- X_7 = Bearing of medical expenditure by son and daughter (coded '0' for "no" and '1' for "yes")
- X_8 = Ability to remember important events of childhood or student life (coded '0' for "no" and '1' for "yes")

RESULTS AND DISCUSSION

Bio-demographic characteristics of the elderly: This part of the study aimed to gather the basic data about respondent's age, gender, religion, marital status (Table A1 in the appendix). Majority of the respondents are in the age group 64-65 followed by age group 65-69 and 70 and above. Among the respondents 73.3% were male and 26.3% were female. This finding of the sex distribution of the elderly supports the work of Hossain (2006) where he observed that female elderly were much lower than that of male. This may be due to unpaid family labor and sex discrimination of healthcare and food consumption, more female population in the study area died than that of male. Among the three hundred respondents 88.3 % of them are Muslim, 10% were Hindu. About 85% elderly were married and a very few (1%) were divorced. The remarriage rate of the elderly is higher at Mymensingh than other two districts. In Bangladesh older people-including married couples- traditionally like to live with their sons. A vast majority of older people (53%) like to live in joint or extended families (Khan *et al.*, 2006). Among the 300 elderly people in the study sites 53.7, 33.3 and 13% of them are living in joint, unitary and extended respectively. Most of the family (43.3%) has the total member between three and five and only 16.7% of them have up to two members. It was observed that respondents of these three study sites in respect of level

of looking after family among them 44% were found that still they are able to supervise their family and in 45.3% cases son of the elderly people lead or take care of their family. A very few cases (2.3%) daughter take care of their family. It was observed that among the three study sites 80% respondents has number of son not more than three in the total sample where only 4% of the respondents were found with having number of sons six or more. About 86% respondents have number of daughters not more than three.

Socio-economic characteristics of elderly: This part of the survey investigated the respondent's income, expenditure, level of education, occupation, sanitation etc. (Table A2 in the appendix). Most of the elderly people in Bangladesh live in rural areas where health and recreation facilities are very limited. The majority of them are illiterate; economic facilities and job opportunities are limited. More than half of the elderly are widowed, divorced or single. A large proportion of elderly men are still in labor force both in rural and urban areas (Abedin, 1996).

The results showed that among the three study sites with respect to level of education, about 30% of elderly were found educated up to S.S.C. where 8% of them were found that they were able to read only the religious books the Holy Quran, the Geta etc. Hence, it also showed that among three hundred elderly respondents 45% of them were illiterate. In this study, it is found that 33% of them were their previous occupation was agriculture whereas, a very few of them were engaged in fishing. It was also found that 22% elderly were engaged in business and 15.3% were in Government services.

It was found that 77% elderly using tube well water followed by 21.3% supply water and only 1.3% pond water. About 49% of the elderly were found with monthly income between one and five thousand taka where only 10% were found with monthly income around one thousand taka. Only 11% of the respondents had monthly income more than ten thousand taka. Again, it was found that 46.7% of elderly monthly expenditure varies between one and five thousand taka. About 18% elderly were doing their monthly expenditure within one thousand taka. The poor number (7.7%) of elderly was living with monthly expenditure more than ten thousand taka. About 66% of them were dwellers of tin shade house followed by 21% in building and slightly more than 8% in semi-building. Approximately 93 and 84% of them had their own house and land respectively. Most of the respondents (66%) have electricity facilities. The result also showed that a significant number of elderly (88%) had changed their economic status last fifty years. About

20% of the elderly get remittance from their family members. About 46% elderly expressed that they weren't engaged in job due to lack of physical fitness followed by 15% due to other causes (age limitations, gender discrimination etc.). There were only 2% of them didn't find work. Majority of the family (54%) use wood as fuel in their cooking system followed by 22% having gas facilities.

Socio-economic determinants of current occupation of elderly: This section of the study investigated the factors that are strongly connected with getting the job of elderly population (Table 1). According to the socio-economic framework of Bangladesh, current occupation is a vital determinant of measuring socio-economic condition. More than 70% of men in both rural and urban areas are paid workers and the proportion of elderly men in paid work is found to decline with increasing age (Kabir *et al.*, 1998). It was found that most of the cases (63%) elderly people were jobless whereas only 15 and 14% of them were continuing with agricultural works and business respectively. This result is worse than that of Tehran city of Iran where 85% elderly are unofficially employed (Kaldi, 2005). Almost half (45.7%) of the elderly are illiterate. Among the secondary level educated person 30% were found with jobless while 35% were found with some sort of jobs.

Similarly, the percent of jobless elderly completed higher secondary and graduated level are 54 and 74, respectively. The findings reveal a clear indication that the jobless elderly was increasing according to their level of education. So, it can be inferred that education plays a key role on the current occupation of elderly people. Ownership of land also plays an important role on the over all solvency of elderly as well as their family. According to the present socio-economic framework of Bangladesh, elderly current job status depends on the number of family members residing in foreign country. Our sample profile indicates that only a few families having elderly person get foreign remittance. Again, it is found that maximum number of elderly without having any job belong lower class family.

Results of logistic regression analysis: In this part of the study, the logistic regression model was fitted considering current occupation as a dependent variable and tried to identify different factor that are related to elderly occupation (Table 2). The odds ratio shows that the young elderly (60-64) are almost three times more likely to have some sort of job than elderly aged 70 and above. Similarly elderly aged between 65 and 69 is slightly (1.15 times) more likely to have some job than the elderly

Table 1: Distribution of current occupation of the respondents according to socio-economic determinants

Determinants	Current occupation					Total	Chi-square (χ^2)
	Agriculture	Business	Service	Others	No job		
Level of education							
No education	29 (21)	15 (11)	..	6 (4)	87 (63)	137	42.866*
Up to SSC	9 (10)	14 (16)	1 (1)	7 (8)	58 (65)	89	
Up to HSC	...	7 (29)	---	4 (17)	13 (54)	24	
Up to graduate	1 (4)	6 (22)	1 (3)		19 (70)	27	
Others	6 (26)	--	1 (4)	5 (22)	11 (48)	23	
Monthly Income (from any source)							
0-5000 tk	33 (18)	11 (6)	1 (1)	10 (6)	122 (69)	177	27.79*
Above	12 (10)	31 (25)	2 (2)	12 (10)	66 (53)	123	
Monthly expenditure							
0-5000 tk	34 (17)	16 (8)	2 (1)	10 (5)	131 (67)	193	20.838*
Above	11 (10)	26 (24)	1 (1)	12 (11)	57 (53)	107	
Family member in foreign country							
USA	4 (16)	6 (24)	....	1 (4)	14 (56)	25	54.535*
UK	....	6 (25)	1 (4)	1 (4)	16 (66)	24	
Europe	....	4 (22)	....	2 (11)	12 (66)	18	
Middle east	5 (8)	8 (13)	....	14 (23)	33 (55)	60	
Malaysia	2 (14)	1 (7)		2 (14)	9 (64)	14	
None	34 (21)	17 (10)	2 (1)	2 (1)	104 (65)	159	
Own house							
No	2 (10)	4 (20)	1 (5)	1 (5)	12 (60)	20	4.520**
Yes	43 (15)	38 (13)	2 (7)	21 (6)	176 (63)	280	
Own land							
No	7 (15)	3 (7)	1 (2)	3 (7)	32 (70)	46	3.382**
Yes	38 (15)	39 (15)	2(8)	19(7)	156 (62)	254	

Values within the afterthought indicate percent of the column. *Significant at 5% level, **Significant at 10% level

Table 2: Logistic regression analysis of current occupation according to some selected background characteristics

Variable	Coefficient (β)	S.E (β)	Significance level (ρ)	Odds ratio
Age of the respondent				
$\geq 70^*$	-	-	-	1.000
65-69	0.178	0.401	0.057	1.195
60-64	1.114	0.371	0.003	3.047
Looking after family				
Others*	-	-	-	1.000
Yourself	.430	0.272	0.015	1.537
Education level of the respondent				
Illiterate*	-	-	-	1.000
Literate	0.353	0.275	0.0201	1.423
Monthly income				
$\leq 5000^*$	-	-	-	1.000
>5000	1.062	0.297	0.080	1.346
Present health status				
Not good*	-	-	-	1.000
Average	0.464	0.375	0.0216	1.591
Physical problem				
Heart diseases*	-	-	-	1.000
Diabetes	0.585	0.434	0.078	1.557
Others	0.301	0.350	0.090	1.740
Bearing of medical expenditure by son and daughter				
No*	-	-	-	1.000
Yes	0.525	0.318	0.798	1.691
Ability to remember important events of childhood or student life				
No*	-	-	-	1.000
Yes	0.328	0.279	0.841	0.721
Constant	-3.782	1.441	0.045	0.0572

*Reference category

having age more than 70. These findings indicate a negative association between age of the elderly and current occupation of them. It was observed that elderly who look after their family by themselves is 1.53 times more likely to involve with some sort of job than those whom aren't.

Again, there is a positive association has been found between the current occupation of the elderly with their level of education. It is observed that educated elderly were 1.42 times more likely to have some sort of job than those of illiterate. Monthly family income is also associated with the current occupation of the aged person

where higher elderly of higher income family is more likely to involve with some type of job. Elderly with average health condition is 1.59 times more likely to continue some sort of job than that with not good health status. The elderly, having diabetes, are 1.56 times more likely to involve with some sort of job than those of suffering from heart diseases. It was also found that elderly people who are suffering from other kind of diseases (high pressure, low pressure and digestion problem) are 1.74 times more likely to have some sort of job than those who are suffering from heart diseases. So, there is a significant association between current occupation and type of physical problems of the respondents. Again, there is a positive association between bearing medical cost of the elderly by their offspring and current occupation of them.

CONCLUSION

This study is an attempt to obtain a better understanding about socio-economic and health status of the elderly people. Various socio-economic and bio-demographic characteristics that are related to the elderly people had been studied in this study. From this

study, it is found that age of the elderly, educational qualification, monthly income, present health status, physical problems are statistically significant with their occupational status. Majority of the elderly are without having any job. For the betterment of the socio-economic status of the elderly some initiatives should be started. At first, to ensure the financial solvency of the elderly people, proper regulations should be developed to encourage their offspring so that they could help their parents much more. Secondly, employment opportunity should be made for the elderly people according to their physical and mental fitness, educational qualification, needs and preferences. Thirdly, elderly people mostly suffer from some physical illness and they need comprehensive medical care services. So, separate ward or unit in a hospital or clinic need to establish for elderly people. Finally, poor elderly people should be involved in the development and implementation of programs and policies according to their minimum needs. Since, the data does not represent the whole Bangladesh, generalization of the findings and recommendations are risky. A comprehensive study is needed to explore the exact status of the elderly, their needs and proper recommendation for their well being.

APPENDIX

Table A1: Percentage distribution of bio-demographic characteristics of the respondents

Characteristics	Study area							
	Noakhali		Mymensingh		Sylhet		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Age								
60-64	56	56.0	46	46.0	44	44.0	146	48.7
65-69	33	33.0	18	18.0	36	36.0	87	29.0
70+	11	11.0	36	36.0	20	20.0	67	22.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Sex of the respondent								
Male	79	79.0	60	60.0	81	81.0	220	73.3
Female	21	21.0	40	40.0	19	19.0	80	26.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Religion								
Islam	86	86.0	95	95.0	84	84.0	265	88.3
Hindu	14	14.0	0	0.0	16	16.0	30	10.0
Others	0	0.0	5	5.0	0	0.0	5	1.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Marital status								
Married	85	85.0	76	76.0	95	95.0	256	85.3
Widowed	13	13.0	8	8.0	4	4.0	25	8.3
Divorce	0	0.0	3	3.0	0	0.0	3	1.0
Remarriage	2	2.0	13	13.0	1	1.0	16	5.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Type of family								
Joint	80	80.0	25	25.0	56	56.0	161	53.7
Unitary	3	3.0	63	63.0	34	34.0	100	33.3
Extended	17	17.0	12	12.0	10	10.0	39	13.0
Total	100	100.0	100	100.0	100	100.0	300	100.0
Size of family								
Upto 2 members	4	4.0	39	39.0	7	7.0	50	16.7
3-5 members	42	42.0	34	34.0	44	44.0	120	40.0
More	54	54.0	27	27.0	49	49.0	130	43.3
Total	100	100.0	100	100.0	100	100.0	300	100.0

Table A1: Continue

Characteristics	Study area							
	Noakhali		Mymensingh		Sylhet		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Looking after family								
Yourself	37	37.0	58	58.0	38	38.0	133	44.3
Your wife	6	6.0	0	0.0	2	2.0	8	2.7
Son	54	54.0	29	29.0	53	53.0	136	45.3
Daughter	2	2.0	3	3.0	2	2.0	7	2.3
Husband	1	1.0	10	10.0	5	5.0	16	5.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Number of son								
0-3	84	84.0	74	74.0	81	81.0	239	79.7
4-5	15	15.0	22	22.0	13	13.0	50	16.7
6 or more	1	1.0	4	4.0	6	6.0	11	3.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Number of daughter								
0-3	96	96.0	74	74.0	86	86.0	256	85.3
4-5	4	4.0	23	23.0	13	13.0	40	13.3
6 or more	0	0.0	3	3.0	1	1.0	4	1.3
Total	100	100.0	100	100.0	100	100.0	300	100.0

Table A2: Percentage distribution of socio-economic characteristics of the respondent

Characteristics	Study area							
	Noakhali		Mymensingh		Sylhet		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Level of education								
No Education	36	36.0	82	82.0	19	19.0	137	45.7
Up to S.S.C	33	33.0	16	16.0	40	40.0	89	29.7
Up to H.S.C	13	13.0	2	2.0	9	9.0	24	8.0
Uptograduate	15	15.0	0	0.0	12	12.0	27	9.0
Others	3	3.0	0	0.0	20	20.0	23	7.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Previous occupation								
Agriculture	14	14.0	68	68.0	18	18.0	100	33.3
Business	23	23.0	6	6.0	37	37.0	66	22.0
Fishing	1	1.0	2	2.0	1	1.0	4	1.3
Services	21	21.0	2	2.0	23	23.0	46	15.3
Others	41	41.0	22	22.0	21	21.0	84	28.0
Total	100	100.0	100	100.0	100	100.0	300	100.0
Current occupation								
Agriculture	5	5.0	31	31.0	9	9.0	45	15.0
Business	13	13.0	5	5.0	24	24.0	42	14.0
No job	67	67.0	64	64.0	57	57.0	188	62.7
Others	15	15.0	0	0.0	10	10.0	25	8.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Reason for not working								
Can't find work	2	2.0	0	0.0	4	4.0	6	2.0
Health can't support	50	50.0	56	56.0	31	31.0	137	45.7
Others	15	15.0	7	7.0	23	23.0	45	15.0
Total	67	67.00	63	63.0	58	58.0	188	62.7
Monthly income								
0-1000	1	1.0	27	27.0	2	2.0	30	10.0
1000-5000	65	65.0	58	58.0	24	24.0	147	49.0
5000-10000	32	32.0	15	15.0	42	42.0	89	29.7
Above	2	2.0	0	0.0	32	32.0	34	11.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Expenditure								
0-1000	8	8.0	26	26.0	19	19.0	53	17.7
1000-5000	56	56.0	60	60.0	24	24.0	140	46.7
5000-10000	35	35.0	14	14.0	35	35.0	84	28.0
Above	1	1.0	0	0.0	22	22.0	23	7.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Changing economic status since 50 years of age								
No	8	8.0	14	14.0	13	13.0	35	11.7
Yes	92	92.0	86	86.0	87	87.0	265	88.3
Total	100	100.0	100	100.0	100	100.0	300	100.0

Table A2: Continue

Characteristics	Study area							
	Noakhali		Mymensingh		Sylhet		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Family members in foreign country								
USA	8	8.0	0	0.0	17	17.0	25	8.3
UK	0	0.0	0	0.0	24	24.0	24	8.0
EUROPE	9	9.0	0	0.0	9	9.0	18	6.0
MIDDIE EAST	40	40.0	2	2.0	18	18.0	60	20.0
MALAYASIA	8	8.0	0	0.0	6	6.0	14	4.7
None	35	35.0	98	98.0	26	26.0	159	53.0
Total	100	100.0	100	100.0	100	100.0	300	100.0
Own house								
No	1	1.0	6	6.0	13	13.0	20	6.7
Yes	99	99.0	94	94.0	87	87.0	280	93.3
Total	100	100.0	100	100.0	100	100.0	300	100.0
Own Land								
No	7	7.0	27	27.0	12	12.0	46	15.3
Yes	93	93.0	73	73.0	88	88.0	254	84.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Electrification								
No	3	3.0	95	95.0	4	4.0	102	34.0
Yes	97	97.0	5	5.0	96	96.0	198	66.0
Total	100	100.0	100	100.0	100	100.0	300	100.0
Type of house								
Tin sheet	69	69.0	89	89.0	40	40.0	198	66.0
Building	31	31.0	11	11.0	34	34.0	65	21.7
Semi-building	0	0.0	0	0.0	26	26.0	26	8.7
Others	0	0.0	11	11.0	0	0.0	11	3.7
Total	100	100.0	100	100.0	100	100.0	300	100.0
Cooking system								
Gas	9	9.0	0	0.0	59	59.0	68	22.7
Electricity	1	1.0	0	0.0	12	12.0	13	4.3
Wood	34	34.0	98	98.0	27	27.0	159	53.0
Others	56	56.0	2	2.0	2	2.0	60	20.0
Total	100	100.0	100	100.0	100	100.0	300	100.0
Source of drinking water								
Tub well	92	92.0	99	99.0	40	40.0	231	77.0
Supply	8	8.0	1	1.0	57	57.0	65	21.7
Pond	0	0.0	0	0.0	3	3.0	4	1.3
Total	100	100.0	100	100.0	100	100.0	300	100.0

REFERENCES

Abedin, S., 1996. Population aging in Bangladesh. Issues and Perspectives, Summary of the Country Paper, ESCP, Asian Population Studies Series, No. 145.

Banglapedia, 2006. Aging, National Encyclopaedia of Bangladesh. Asiatic Society of Bangladesh, Dhaka.

Cain, M., 1986. The consequences of reproduction failure: Dependence, mobility and mortality among older people of rural South Asia. *Popul. Stud.*, 40: 375-388.

Eberstadt, N., 1997. World population implosion. *Public Interest*, 129: 3-22.

Hossain, M.R., 2006. Demography of aging and related problems in Bangladesh. *Social Sci.*, 1: 154-157.

Islam, M.N. and D.C. Nath, 2010. Measuring Bangladesh's Aging Process: Past and Future. In: *Population, Gender and Health in India: Methods, Process and Policies*, James, K.S. (Eds.). Academic Foundation, New Delhi, pp: 153-165.

Ismail Hossain, M., T. Akhtar and M. Taj Uddin, 2006. The elderly care services and their current situation in Bangladesh: An understanding from theoretical perspective. *J. Medical Sci.*, 6: 131-138.

Kabir, H., 1987. Aged people in Bangladesh: Facts and prospects. *Rural Demography*, 14: 53-59.

Kabir, H., 1994. Local level policy development to deal with the consequences of population ageing in Bangladesh. *United Nations*, pp: 33.

Kabir, Z.N., M. Szebehely, C. Tishelman, A.M.R. Chowdhury, B. Hojer and B. Winbland, 1998. Aging trends-making an invisible population visible: The elderly in Bangladesh. *J. Cross Cult. Gerontol.*, 13: 361-378.

Kaldi, A.R., 2005. Employment status of the elderly referring to the social security organization of Tehran City. *Middle Eastern J. Age Age.*, 2: 1-6.

- Khan, T.A. Hafiz and G.W. Leeson, 2006. The demography of ageing in Bangladesh: A scenario analysis of the consequences. *Hallys Int. J. Aging*, 8: 1-21.
- Nath, D.C. and I.M. Nazrul, 2009. New indices: An application of measuring the aging process of some asian countries with special reference to Bangladesh. *Popul. Ageing*, 2: 23-49.
- Rhaman, A.A.S.M., 2000. The characteristics of old age in Bangladesh. *Bangladesh J. Geriatrics*, 37: 14-15.
- Rush, E., 2006. Healthy aging: Genes and environment. *Indian J. Gerontol.*, 20: 93-98.
- UN, 1997. International and Regional Mandates on Ageing. ST/SCAP., New York.
- UN, 1999. The world at six billion. United Nation Population Division.
- UNFPA, 2002. Population ageing and development-social, health and gender issues. Population and Development Strategies Series No. 3. United Nation. http://www.unfpa.org/upload/lib_pub_file/73_file_name_ageing_develop.pdf.