

A study on quality of life of elderly population in Bangladesh

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Abstract: Bangladesh currently experiences the significant increase of aging population with poverty and breakdown of various social and traditional bonds. So, this study was undertaken to assess the background profile, pattern of morbidity and overall quality of life (QoL) of elderly population in Bangladesh. Data were collected from 250 elderly populations (male=168, female=82) aged 60 and over from three villages of Pabna district, Bangladesh through a pre-structured questionnaire. In each domain of the World Health Organization (WHO) WHOQoL-BREF, descriptive statistical analysis was presented and the internal consistency was measured by Cronbach alpha. Finally, to compare the mean domains score of QoL, Mann-Whitney and Kruskal-Wallis test were used. The results revealed that most common health complications are insomnia and eye problems. The highest QoL score was found (52.87 ± 18.74) in social relationship domain and least score was found (48.65 ± 16.39) in environmental domain. Elderly males are shown the higher mean domains score in all domains except overall QoL whereas elderly females are shown the higher mean score in overall QoL domain. Again, elderly who are presently workless and live in the joint family have the better mean score in physical and environmental domain respectively. To develop the QoL of the elderly, emphasis should be given to improve their financial condition and traditional family bond.

Keywords: Quality of Life, WHOQoL-BREF, Elderly Population, Family Bound, Bangladesh

1. Introduction

Aging of the world population is about to start the phase of acceleration and consequently a significant changes occur in the structure of population aging in the developing countries. It is estimated that nearly two thirds of the total population aged 60 years and over are living in the developing countries. The elderly population will increase rapidly in the next decades and by the year 2050 and nearly 8 in 10 aged populations will live in the developing regions (UN, 2013). Changes in the aging process within developing countries have been observed through the shift in population age composition (Abdullah and Nathan, 2010) and associated with the rapid decline in fertility and mortality (Mbamaonyekwu, 2001). Bangladesh, a developing country is experiencing the growing number of

older populations (Uddin et al, 2012; Khanam et al, 2011; Hossain, 2005) and now the country is passing through the third stage of demographic transition. Consequently, the success of targeted public health interventions, such as immunization, family planning and oral rehydration therapy are hampered (Razzaque et al, 2010). Moreover, huge number of youthful population with growing number of older population has produced at this stage. Bangladesh has a total population of more than 15 million of whom 6.90% are aged 60 years and over (BBS, 2012). As the share and size of elderly population is increasing over time, it is estimated that elderly population is projected to rise from 6.05% in 1970 to 9.30% by the year 2025 (Hossain, 2005).

The elderly populations in the Asian developing countries, especially in Bangladesh reach aged 60 years and over after

a life time of poverty and deprivation, poor access to health care and poor diet. Moreover, the formal social security systems are limited coverage and inadequate benefits payments (Bailey, 2000, Colin et al, 2000). As a result, majority of the elderly depended on their family members (Bongaarts et al, 2002) and the family provides only primary sources of support (Barakat et al, 2003). The rapid urbanization, modernization, industrialization and globalization have changed the traditional concept of family and traditional sources of security systems, which are evolving, attenuating and rapidly disappearing (Hossain, 2013; Uddin et al, 2006; Tostensen, 2004). At the same time it is widely reported that elderly people have more substantial inter-individual variability in health related to age than the younger people (Fialova et al, 2009; Bedard et al, 2007). Importantly, there are some demographic, socioeconomic and health factors affecting on life expectancy in low- and lower-middle-income countries (Mondal and Shitan, 2013; 2014). In most of the developing countries, the health care systems spend a small fraction of the total budget for treating older adult illness and their access to care are limited and do not have a policy priority (Poullier et al, 2003).

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 lead to the changes in economic structure, diminishing the social values and weakening the importance of joint family (Asadullah et al, 2012). Consequently, the older generation is 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 about their QoL. A good number of studies were previously conducted to know the causes and consequences of the aging (Khan and Kalam, 2006) and their projected distribution (Hossain, 2005), their needs (Khan and Kalam, 2006) and health condition (Munsur et al, 2010). Therefore, this study was conducted to assess the socio-demographic profile, morbidity pattern and QoL of the elderly population in rural Bangladesh.

2. Data and Methods

A cross-sectional study was conducted in three villages of Malonchi union in Pabna district, Bangladesh from May 20-June 15, 2013. Two hundred fifty elderly populations were interviewed using structured questionnaire to collect information on socio-demographic characteristics and morbidity pattern. The World Health Organization (WHO) WHOQoL-BREF scale contains 26 questions related to physical, psychological, social and environmental domain was used to give assessment of QoL. The scoring of WHOQoL-BREF scale was done as per guidelines and raw

scores of physical (seven items), psychological (six items), social (three items) and environmental domains (eight items) were transformed into 0-100 scale. A lower score indicates the lower QoL and higher score indicates the higher QoL. The collected data were entered into the computer and analyzed by using Statistical Package for Social Sciences (SPSS) version 16.0 (SPSS Inc, Chicago, IL, USA). Descriptive statistical analysis in each of the domains and overall QoL were calculated and reported. Further, internal consistency of each domain is measured by Cronbach Alpha, (α). Finally, the comparisons among physical, psychological, social and environmental domains of WHOQoL-BREF scale and overall QoL were examined by Mann-Whitney and the Kruskal-Wallis tests.

3. Results

Table 1. Distribution of demographic, economic and educational characteristics of elderly (n = 250)

Characteristics	Sex		Total (%)
	Male (%)	Female (%)	
Age group (in years)			
60-70	130(77.40)	69(84.10)	199(79.60)
> 70	38(22.60)	13(15.90)	51(20.40)
Religions			
Islam	167(99.40)	79(96.34)	246(98.40)
Others	1(0.60)	3(3.66)	4(1.60)
Marital status			
Married	150(89.28)	53(64.64)	203(81.20)
Others	18(10.72)	29(35.36)	57 (18.80)
Types of family			
Nuclear	87(51.78)	45(54.88)	132(52.80)
Joint	81(48.21)	37(45.12)	118(47.20)
Number of family members			
≤ 5	91(54.20)	41(50.00)	132(52.80)
> 5	77(45.80)	81(50.00)	101(47.20)
Family income (in Taka)			
≤ 6000	146(86.90)	64(78.00)	210(84.00)
> 6000	22(13.10)	18(22.00)	40(16.0)
Educational qualification			
Illiterate	97(57.70)	53(64.60)	150(60)
Literate	71(42.30)	29(35.40)	100(40.0)
Having cultivated land			
≤100 Decimal	91(54.20)	50(61.00)	141(56.40)
>100 decimal	77(45.80)	32(39.00)	109(43.60)
House quality			
Clay made	106(63.10)	51(62.20)	157(62.80)
Others	62(36.90)	31(37.80)	93(37.20)
Total	168(67.20)	82 (32.20)	250 (100)

Note: The numbers inside the parenthesis indicate the percentages

Distributions of the demographic and socio-economic characteristics of the elderly population are presented in Table 1. Among the total elderly population, 82 (32.80%) are females and 168 (67.20%) are males. The results revealed that a vast majority (79.60%) of the elderly populations belong to the age ≤70 years (males = 84.10%, females = 77.40%). Most of the elderly populations (81.20%) are still in formal partnership and only 18.80% are currently partner less (unmarried, divorced, widowed, widower). Almost all (89.28%) male elderly are found to be

currently with partners and only 10.72% are currently partner less (unmarried, widower). On the contrary, among the total female elderly populations, 64.64% found to live with their husbands and 35.36% are presently widowed. The less than half (47%; males = 48.21%, females = 45.12%) of the elderly populations live in the joint families and more than half (53%; males = 51.78%, females = 54.88%) of the total elderly populations live in the nuclear families. The average household size is found 6. About 47.20% (males = 45.80%, females = 50.0%) of the total families comprised with family members more than 5 and 52.80% (males = 54.20%, females = 50.0%) of the total families are comprised with family members 5. Mean of the total family income is 12338TK. Only 16.0% (males =

13.10%, females = 22.0%) of the total respondents live with family income >6000TK and majority (84.0%) of the total respondents live with family income ≤6000TK (males = 86.90%, females = 78.0%). About three-fifth (60.0%) of the total elderly are illiterate (males = 57.70%, females = 64.60%) and only 40% of the total elderly population are literate (males = 42.30%, females = 35.40%). In case of cultivated lands, 56.40% respondents have <100 decimals land (males = 54.20%, females = 61.0%) and only 43.60% have >100 decimals land (males = 45.80%, females = 39.0%). Majority of the elderly population (62.80%) live in clay made houses (males = 63.10%, females = 62.20%) and 37.20% live in others type of houses (males = 36.90%, females = 37.80%).

Table 2. Percentage distribution of usual health hazards* of the elderly (n = 250)

	Sufferings by sexes		Number of sufferer in the total sample (%)
	Male (%)	Female (%)	
Arthritis	53(31.55)	17(20.73)	70(28.00)
Insomnia	57(33.92)	40(48.78)	98(39.20)
Pain in Joint	42(16.67)	11(13.41)	53(21.20)
Diabetes	24(14.28)	18(21.95)	42(16.80)
Eye Problem	62(36.90)	32(39.03)	94(37.60)
Heart diseases	13(7.74)	8(9.76)	21(8.40)
High Blood Pressure	8(4.76)	5(6.09)	13(5.20)
Asthma	8(4.76)	4(4.87)	12(4.80)
Waist/ Back Pain	8(4.76)	8(9.75)	16(6.40)
Ulcer	7(4.16)	9(10.97)	16(6.40)

Note: *Only those diseases were shown in the table prevalence of which was exceeds 5% in the total sample. The numbers inside the parenthesis indicate the percentages.

The percentage distribution of health hazards of the elderly are presented in Table 2. Insomnia (39.20%) is found the most common problem for both males (33.92%) and females (48.78%). The second common problem of the elderly population is eye problem (37.60%) and female elderly populations are more sufferer (39.03%) than that of

males (36.90%). The third and fourth common diseases of the elderly populations are arthritis (28%) and joint pain (21.20%). Also diabetes (16.80%), heart diseases (8.40%), high blood pressure (5.20%), asthma (4.80%), waist/ back pain (6.4%), and ulcer (6.40%) are found the some other common health problems.

Table 3. Descriptive statistics of the domain of quality of life of the elderly (n = 250)

	Score				Cronbach Alpha
	Minimum	Maximum	Median	Mean±SD	
Physical	6.00	88.00	56.00	51.07±15.00	0.769
Psychological	6.00	88.00	50.00	49.94±16.58	0.710
Social relation	0.00	100.00	56.00	52.87±18.74	0.703
Environmental	6.00	81.00	50.00	48.65±16.39	0.736
Overall QoL	20.00	90.00	60.00	58.08±15.35	0.857

Note: QoL represents the quality of life of elderly, SD represents standard deviation

The descriptive statistics and internal consistency of WHOQoL-BREF domains are presented in Table 3. In this survey of WHOQoL-BREF of the elderly population in rural Bangladesh, is observed that the elderly populations have a low mean score in environmental domain (48.65±16.39) and highest mean score in social relationship domain (52.87±18.74). Also the mean score of physical and psychological domains were found (51.07±15.0) and (49.94±16.58) respectively. The highest median is found in

physical and social relation domain (56.0) and lowest median is found in psychological and environmental domain (50.0). Moreover, the median of the overall QoL domain was found 60.0.

Internal consistency was measured by Cronbach Alpha (α). All domains have the acceptable labels (>0.70) of reliability and varies between 0.703-0.769. Again the reliability coefficient of the whole questionnaire is 0.853 and overall QoL domain is 0.857.

Table 4. Comparison of overall QoL and its domain with socio demographic and economic profile of elderly (n = 250)

Variables	n	Physical	Psychological	Social relation	Environmental	Overall QoL
Gender						
Male	162	52.17±14.86	52.42±15.6	56.24±17.33	51.14±15.99	56.85±15.28
Female	82	48.79±15.14	44.85±17.4	45.96±19.72	43.55±16.12	60.60±15.26
p-value (Mann -Whitney)		0.36	0.01	0.00	0.00	0.050
Family Type						
Nuclear	132	49.60±15.32	48.28±17.88	51.5±20.19	46.08±16.83	57.42±15.01
Joint	118	52.71±14.55	51.80±14.86	54.31±16.94	51.54±15.45	58.81±15.75
p-value (Mann -Whitney)		0.141	0.108	0.412	0.012	0.389
Marital Status						
Others	47	45.76±15.69	42.51±18.16	44.1±18.62	40.87±15.56	56.99±15.68
Married	203	52.29±14.62	51.65±15.75	54.7±18.32	50.45±16.08	60.0±14.89
p-value (Mann -Whitney)		.005	.001	.002	.000	.029
Level of Education						
Elementary	203	50.15±15.48	49.04±17.06	51.29±18.3	47.69±16.13	58.13±15.58
Secondary	26	53.93±13.39	52.50±13.42	61.46±20.0	48.92±19.21	61.25±16.56
Higher Secondary and up	21	56.33±10.61	55.43±10.48	57.48±18.1	57.62±12.73	68.00±12.4
p-value (Kruskal- Wallis)		0.242	0.089	0.004	0.022	0.001
Present Working Status						
Yes	136	53.75±14.66	50.51±16.08	51.60±20.3	47.80±17.36	57.64±13.64
No	114	47.85±14.85	49.25±17.21	54.38±16.5	49.67±15.17	59.52±12.73
p-value (Mann -Whitney)		0.001	0.612	0.324	0.483	0.002
Personal Income (in TK)						
<3100	40	44.03±16.39	42.40±16.57	45.18±18.2	38.80±14.84	48.63±13.12
3100-6000	68	50.24±15.13	48.99±17.97	49.15±19.1	45.06±17.81	52.21±12.70
6100-9000	50	53.80±14.84	51.46±14.52	53.62±19.0	51.86±14.36	60.10±13.68
>9000	92	53.24±13.55	53.08±15.71	58.55±16.8	53.85±14.53	57.28±13.61
p-value (Kruskal- Wallis)		0.013	0.006	0.001	0.000	0.000
Ownership of Land						
Yes	223	50.72±14.77	50.06±16.78	53.14±19.2	49.40±16.43	58.28±12.67
No	27	53.85±16.89	48.93±15.17	50.67±13.3	42.48±14.98	55.03±13.63
p-value (Mann -Whitney)		0.160	0.356	0.180	0.017	0.076

Note: QoL represents the quality of life of elderly

Comparison of overall QoL and its domain score with some selected demographic and socio-economic profile are presented in Table 4. The better score is found of males in all domains except overall QoL. On the other hand, the higher score of females is found in overall QoL. This change of the mean score between males and females has the acceptable label of significance without physical domain. High environmental domain score was observed for the case of joint family type. Elderly with currently having partners had the higher mean score in all domains except overall QoL rather than elderly without partner.

The results revealed that, except physical domain, high mean score is seen in all domains of the respondents whose family income is greater than 9000TK whereas high physical domain mean score is observed to the member of the family with family income 6100-9000TK. Thus, the elderly populations with higher family incomes have the better QoL. The elderly with a few family incomes (≤ 3100 TK) had the lower mean score in all domains. It can also be seen that in environmental domain and overall QoL, respondents represent the higher mean score with the ownership of land.

4. Discussion

In this study, the higher overall QoL score was observed among women though males showed higher score in all

Currently partner less elderly had a greater mean score in overall QoL domain. Furthermore, higher educated persons have had a greater mean score in all domains except social relationship domain whereas social relationship domain represents the higher mean score with the person of secondary education. All the domains have had the smallest mean score among the elderly with elementary level of education. Physical domain represents the higher mean score among the elderly who are currently worked though high mean score of overall QoL domain is observed with the presently work less respondents.

domains of WHOQoL-BREF and these differences is statistically significance. Similar finding was also found Abdullah and Nathan (2010) that male had the better QoL than female. Asadullah et al (2012) and Lokare et al (2011) also stated that mean score of physical, psychological, social and environmental domains were not differed significantly between elderly males and females. These findings are clearly contradictory to our findings. Marital status also plays an important role for determining the QoL of the elderly population. The elderly with having the life partner are able to share their mental agony and can have passed the better more enjoyable and better QoL. Similar findings were also reported in the study of morbidity profile and QoL of inmates in old age homes in Udupi District, Karnataka, India (Asadullah et al, 2012). The results showed a significance relationship between the

marital status and QoL. They found that married participants had a higher score of QoL than the single, divorced, widows and widowers.

Education has shown the significance role for determining the QoL of the elderly population. Generally the educated persons are more aware about their life and their social relationship and surrounding environment with more financial solvency. In this study, higher mean score is observed in social relationship, environmental and overall QoL domains. With the increase of educational level, mean scores are also significantly increasing. Similar result was also reported Abdullah and Nathan (2010). Economic solvency proved to have a positive impact on the QoL of the elderly population. Elderly with more financial solvency are able to more expense more for their treatment and recreational facilities and enjoy the better life with improved standard. In this study, higher mean score in all domains are also observed among the elderly with higher family income and the mean score is significantly changed with the change of income. Similar results were also reported Rakesh et al (2012) and Abdullah and Nathan (2010). They found that, the higher QoL observed among the elderly with higher income. Present working status, types of family and the ownership of land are also important for the elderly in physical and environmental prospective respectively. Generally in the elderly do not have the enough capacity to perform the working activities. Further, elderly in the joint family and having the more cultivated lands get better living arrangements to pass their enjoyable lives. After performing the same test in all the four domains and overall QoL domain separately, it is found that there is a significant difference in mean score of presently working and workless elderly in physical domain. Similarly significantly differences are also found among the elderly in nuclear and joint family with the more and less ownership of land in environmental domain.

Health is important aspect of human life. Elderly and poor health conditions with different types of diseases are closely related and inseparable. The present study reported that majority of the elderly are suffering from different sorts of health problems. This findings are supported to the many others previous findings (Munsur et al, 2012; Rani et al, 2012; Asadullah et al, 2012; Khanam et al. 2011; Khan and Kalam, 2006). The present study identified that, most reported health problems are insomnia and eye problems. This finding slightly supported the findings of Khan and Kalam (2006) but directly opposite the findings of Khannam et al (2011) that arthritis is the most common health problem among the elderly in Bangladesh.

5. Conclusions

The main aims of this study were to assess the pattern of morbidity and QoL of the elderly in rural Bangladesh. This study found that aging and illness are interrelated. Around the fourth-fifth of the total respondents were suffered from the different type of diseases and illness. Among them,

majority have had multiple illness and prevalence of diseases increased with age. Males have had the better QoL. Current partnership status, family type, level of education, present working status and monthly income were found the important role on QoL of the elderly. Better QoL were found among the married elderly in joint family. Again elderly with presently workless and higher monthly income (>9000TK) had the better QoL. Education was also found an important determinant of QoL and higher QoL was observed among the elderly with higher secondary and above educational qualifications. Further study is needed. The study has been conducted only in a specific rural area of Bangladesh. To know the real situation of QoL of the elderly population such type of study may be conducted considering broad study area and large sample size.

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List of Abbreviations

WHOQoL-BREF: World Health Organization Quality of Life-BREF, QoL; Quality of life, Tk; Taka, Bangladeshi currency (78 Tk = 1 USD)

Competing Interest

The authors declare that they have no competing interest.

Authors' Contributions

MNK and MNI conducted the review and drafted the manuscript, NH, MSI and MS conceived of the idea and helped draft and edit the manuscript. All the authors read and approved the final manuscript.

Ethical Considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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