

Gender and rural–urban differences in reported health status by older people in Bangladesh

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Abstract

The study aims to (i) describe regional variation and gender differences in health status of older people (60 years and older) in Bangladesh, indicated by self-reported health problems and functional ability; (ii) explore influence of socio-economic factors on health status of older people. In a cross-sectional study in rural and urban Bangladesh, 696 older persons were asked about their health problems and ability to manage activities of daily living (ADL). More than 95% of older people reported health problems. Approximately 80% of elderly women in both the regions reported having four or more health problems compared with 42% and 63% elderly men in the urban and rural regions, respectively. More women (urban: 55%; rural: 36%) than men (urban: 32%; rural: 22%) also reported difficulties with ADL. Irrespective of age, sex and area of residence, those reporting greater number of health problems were more likely to report difficulty with at least one ADL task. Reporting pattern of specific health problems varied between urban and rural regions. Socio-economic indicators were found to have little influence on reporting of health problems, particularly in the rural region. Observed regional difference may be related to the influence of social and environmental factors, and level of awareness concerning certain health conditions.

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1. Introduction

The rapid increase of the older population, in terms of proportions as well as in absolute numbers, in most low-income countries is well known (Kinsella, 1996). Of the 600 million older people around the world, aged 60 years and older, 53% live in Asia (United Nations, 1999). Europe accounts for the next largest share at 25%. A United Nations publication (1991) reports that by 2025, 72% of the world's older population or about 858 million people will be living in developing (term used by the United Nations) countries. Bangladesh is one of the 20 countries in the world with the largest population of older people (Kalache, 1996), and by 2025, along with China, India, Indonesia and Pakistan, will account for 44% of world's total elderly population (United Nations, 1991). Despite an increase in population of older persons with a probable resulting increase in demands on health systems, an assessment of the health situation of older people remains relatively under-researched in Bangladesh.

Based on national data from Bangladesh from 1994 and 1995, Matin et al. (1997) report the highest rate of morbidity for non-literate elderly individuals and those in age-group 75–79 years. Morbidity was found to be higher for older women, particularly married women. A pioneering epidemiological study on health of older people, conducted nearly 15 years ago, in urban and rural Bangladesh identified pain, weakness, rheumatism, cold/cough and peptic ulcer as some of the most commonly reported health problems (Ibrahim, 1988). Using 1995 national data, Matin et al. (1997) report rheumatic fever, gastric/peptic ulcer, asthma, fever and high blood pressure as some of the most common health problems in Bangladesh.

Literature from high-income countries report that women suffer more from non-fatal but disabling conditions, whereas men suffer more from fatal diseases (Doty, 1987; Merrill et al., 1997). As a consequence, in combination with longer life expectancy, more women than men live with chronic ill health in high-income countries. Merrill et al. (1997) compared self-reported disability to observed performance measures on a study of gender difference in functional ability and found that both older men and women gave self-reports of their disabilities in agreement with more objective performance measures. They conclude that higher prevalence of reported functional problems among women may be a true reflection of most disability measures, thus illustrating that women have basis for their self-reports of health problems.

Self-reports of health problems are one of various possible measures of self-perceived health status and are often considered to be a useful indicator of more objective health indices (Kroeger, 1983; WHO, 1984; Wolinsky and Johnson, 1992). As opposed to observations made by an investigator regarding disease, health

problems reported by an individual during an interview tend to reflect the concepts of illness, i.e. the person's subjective experiences of the health problems as well as 'sickness' experiences recognized as 'legitimate' health problems in a particular socio-cultural context (Tishelman, 1993). Information on self-reported health problems can be useful for exploring sickness in those populations for which statistics are scarce or absent (Kalter, 1992). In addition, the health problems experienced by individuals determine the type of health care that they seek.

This study aims to describe regional variation and gender differences in health status of older people in Bangladesh. Health status is indicated by self-reported health problems and functional ability. Influence of socio-economic factors, such as literacy and weekly household expenditure on health status of older people is also explored.

2. Material and methods

2.1. Survey description and sample

A descriptive multi-dimensional survey on older people in rural and urban Bangladesh was carried out between November 1995 and February 1996. Trained non-medical interviewers collected data on socio-economic and demographic characteristics, as well as self-reported health problems during a household interview survey. Data collected also included information on living arrangements of older people, support from their families, the older persons' functional ability, and utilization of health care facilities (Kabir, 2001). Assessment of functional ability included information on ability to carry out tasks related to activities of daily living (ADL) and instrumental activities of daily living (IADL; Kabir et al., 2001), as well as cognitive function (Kabir and Herlitz, 2000). Existing instruments assessing functional status have been modified and adapted to suit the cultural and social context of Bangladesh.

A multi-stage sampling method was used to select older men and women aged 60 years or older, living in a rural and an urban region in Bangladesh. Districts and sub-districts in both urban and rural regions were selected purposively. The urban sample was drawn from Dhaka district to take advantage of the density of urban population in this district. Jamalpur district was selected for the rural sample since the Research and Evaluation Division (RED) of the local collaborating organization Bangladesh Rural Advancement Committee (BRAC) had a research base with an ongoing registration system of vital events in this region. The villages (in the rural region) and localities (in the urban region) were then randomly selected. Voters' lists were consulted to identify the older individuals in the localities in the urban region. This was complemented with a door-to-door survey in the slum areas in the selected localities, as the slum population was not represented in the voters' list. Since the voters' lists of the rural study area were under preparation during the data collection period, the rural older persons were identified with assistance of the vital registration system carried out by BRAC. All elderly individuals living in households in the

selected villages and localities were included in the study. Of a total sample of 786 older men and women, 89% ($N = 701$) were successfully interviewed after receiving informed consent from the older individuals and in some cases also from their family members. Information on health problems was missing for five individuals. The results presented here thus derive from 696 older women ($n = 310$) and men ($n = 386$).

To assess self-reported health, the older persons were asked to respond to the specific question, 'have you experienced any health problem in the last 3 months?' If they responded affirmatively, they were asked what problems were experienced. The interviewers documented all the health problems reported by the older people verbatim. The self-reported health problems described here thus represent spontaneous responses from the older respondents, as well as two additional structured questions specifically addressing difficulties with vision and hearing.

2.2. Analyses

In order to systematize the data, the list of all the 93 health problems reported verbatim by the older persons were literally translated to English (by Z.N. Kabir) and then categorized by a physician in the research team (B. Höjer). This categorization was performed solely for the purpose of organizing the data and has not been used for analyses. All self-reported health problems are shown in Appendix A. Some of the health problems were reported in form of symptoms, whereas others were stated by the older people in the form of diagnostic statements (i.e. 'cerebral problem', 'peri-anal abscess', 'vitiligo', 'gastric/ulcer'). It should be noted here that whereas all health problems presented in Appendix A were spontaneously reported, difficulties regarding vision and hearing were specifically asked.

The independent variables considered in this study are age, sex, area of residence, literacy, and per capita household expenditure during the week prior to the interview. Age was divided into four groups: 60–64, 65–69, 70–74 and 75 years. Sex, area of residence (urban, rural) and literacy (literate, illiterate) were dichotomous variables. Weekly household expenditure, per capita, was used as an indicator of socio-economic status and was categorized into low, middle and high expenditure groups for each region.

Health status was measured through number of self-reported health problems reported, description of these reported health problems and use of help with at least one ADL task. ADL tasks included getting up from bed, going to toilet, bathing, eating, dressing/undressing, mobility indoors, mobility outdoors, and taking medicine.

Descriptive analyses were carried out to study the number of health problems reported by older people and their functional status. The ten most reported specific health problems by the older persons were stratified by area of residence and sex. As a next step, logistic regression models were constructed to assess the influence of independent variables on the ten most frequently reported health problems in the urban and in the rural region; and for men and women.

2.3. Description of the sample

The study sample is almost equally divided into residents of rural and urban regions (Table 1). The sample consists of more men than women in both regions, thus reflecting the national statistics in Bangladesh for the period when data was collected for the study (ratio of men to women is 105:100; Bangladesh Bureau of Statistics, 1997). The mean age of the study sample is 66.6 years and is similar in both regions. Illiteracy reported in the rural region is higher compared with the urban region. Approximately half of the urban older people and nearly 60% of the older people living in the rural region have been classified as having middle weekly household expenditure.

3. Results

3.1. Self-reported health problems and functional status

Almost all older people (95% in urban and 98% in rural region) in the study reported some health problem experienced during the 3 months prior to the interview. On average, approximately four health problems per person were reported, with women reporting significantly ($P < 0.001$) more problems than men. Stratified analysis by area of residence showed that both older men and women in the rural region reported a greater number of problems compared with their counterparts in the urban region (Table 2). However, within each region,

Table 1
Description of the sample (in percentages)

	Urban ($n = 346$)	Rural ($n = 350$)
<i>Sex</i>		
Women	40.5	48.6
Men	59.5	51.4
<i>Age</i>		
60–64 years	51.2	51.7
65–69 years	21.4	20.0
70–74 years	15.0	14.6
≥ 75 years	12.4	13.7
<i>Literacy level</i>		
Illiterate	47.4	77.7
Literate	52.6	22.3
<i>Weekly household expenditure^a</i>		
Low expenditure	23.2	16.8
Middle expenditure	47.8	59.5
High expenditure	29.0	23.6

^a Data missing for one individual in each region.

Table 2

Prevalence of health problems and use of help with ADL task by sex and area of residence

	Urban		Rural	
	Women (n = 140)	Men (n = 206)	Women (n = 170)	Men (n = 180)
<i>Number of self-reported health problem</i>				
None	0.7	8.7	0.6	2.8
One to three	20.0	49.0	14.7	33.9
Four or more	79.3	42.3	84.7	63.3
Mean	5.3***	3.3	5.9***	4.3
Difficulty with at least one ADL task	55.0	31.6	36.0	21.7

***Denotes *P*-value < 0.001.

greater proportion of women reported more health problems than men. Approximately 80% of the elderly women in both the regions reported having four or more health problems compared with 42% and 63% elderly men in the urban and rural regions, respectively.

Also, a greater proportion of older women (urban: 55%; rural: 36%) reported using help with at least one ADL task compared with men (urban: 32%; rural: 22%), although use of help was reported more in the urban area compared with the rural. The proportion of older persons reporting using help with at least one ADL task increased with number of reported health problems (Fig. 1).

Regression analyses showed that irrespective of age, sex and area of residence, those reporting a greater number of health problems were more likely to report using help with at least one ADL task.

3.2. Specific health problems reported

Regional differences were observed in reporting of specific health problems. Not only was the pattern of reported problems different between urban and rural areas, but the proportion of older people reporting health problems was significantly higher in the rural area. 'Fever' was the health problem most often reported by the older people (53%) in both urban and rural regions (Table 3). The other most frequently reported problems ($\geq 20\%$ of older persons) in the urban region were 'cough', 'runny nose', 'blood pressure' and 'gastric problems/ulcer'. In the rural region, other problems most frequently reported (by $\geq 20\%$ of older persons) following 'fever', were 'rheumatic pain', 'diarrhea/dysentery', 'frequent urination', 'cough', 'weakness', difficulty with sleeping, 'lower backache' and 'chest pain'.

In both regions, when significant differential reporting of health problems was found by sex, they were generally by a greater proportion of women. The proportion of women reporting 'dizziness', 'lower backache', 'aches in body/shoulder' as well as 'aches in joints/knees', and 'problems in sleeping' was significantly higher than men

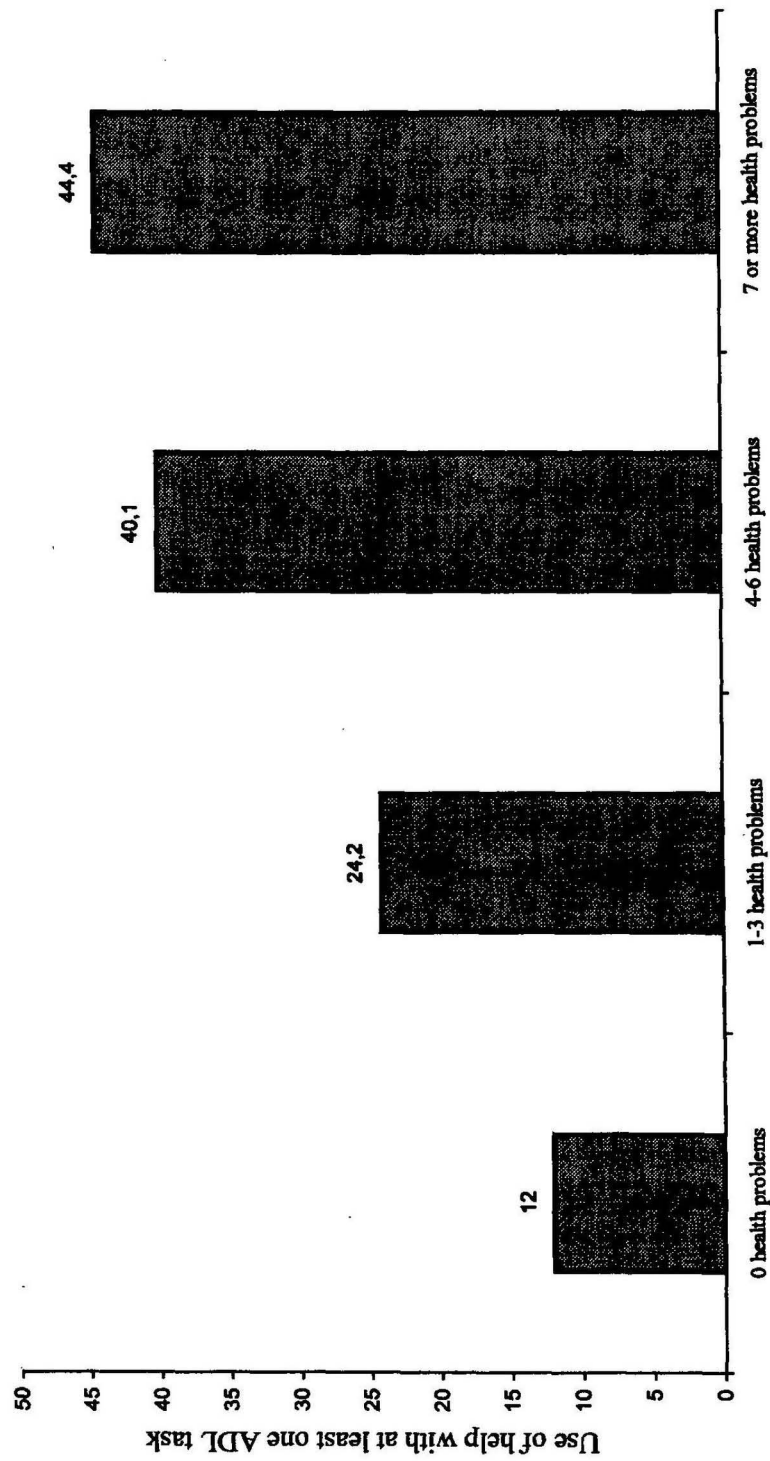


Fig. 1. Proportion of older persons reporting number of health problems and use of help with at least one task of activities of daily living (ADL).

Table 3
Distribution of ten most self-reported health problems reported by elderly people in urban and rural Bangladesh (in percent)

Reported health problem	Urban (N = 346)				Rural (N = 350)			
	Women (n = 140)	Men (n = 206)	Total (N = 346)		Reported health problem	Women (n = 170)	Men (n = 180)	Total (N = 350)
Fever	56.4	34.5*	43.4		Fever	60.6	65.0	62.9
Cough	38.6	32.5	35.0		Rheumatic pain	34.7	38.3*	36.6
Runny nose	31.4	22.3	26.0		Diarrhea	29.4	31.1	30.3
Blood pressure	39.3	15.0*	24.9		Frequent urination	35.9	22.8*	29.1
Gastric/ulcer	27.1	17.0*	21.1		Cough	16.5	36.7*	26.9
Lower backache	32.1	9.7*	18.8		Weakness	24.7	28.3	26.6
Rheumatic pain	26.4	12.1*	17.9		Cannot sleep	44.7	8.9*	26.3
Diabetes	17.1	11.2	13.6		Lower backache	33.5	16.7*	24.9
Diarrhea	16.4	11.2	13.3		Chest pain	28.2	20.6	24.3
Headache/head burn/migraine	15.7	10.7	12.7		Dizziness	28.2	10.0*	18.9

*Denotes P-value < 0.05.

in both regions. Significantly more urban men reported 'weakness' than did urban women, while significantly more rural men than women reported 'cough'.

When specifically asked about problems with vision and hearing, approximately three quarters of the older persons in both urban (73.4%) and rural (75.7%) regions reported difficulties with vision. A significantly higher proportion of the older persons in the rural region (36.3%) reported problems with hearing than those in the urban region (21.4%).

3.3. Predictors of self-reported health problems

Multi-variate logistic regression models were constructed to study the relationship between socio-demographic and economic characteristics of the older people on the ten most frequently reported health problems, as well as difficulties with vision and hearing in each region. The analyses were limited to the ten most frequently reported health problems within each region for the sake of manageability. The analyses were conducted separately for the urban and rural regions since not all of these ten health problems were common in both regions. The covariates considered in each model were age, sex, literacy, and weekly household expenditure.

Age was significantly and directly related to reporting of hearing problems in both urban and rural regions. In the urban region only, younger older people were found to report significantly more problems with 'headache/head burn/migraine'.

Adjusted for other covariates, women were significantly more likely than men to report a number of health problems in both urban (such as 'fever', 'blood pressure', 'lower back pain', 'rheumatic pain' and 'diabetes') and rural (such as 'frequent urination', 'cannot sleep', 'lower back pain', 'dizziness', 'vision' and 'hearing') regions (Table 4). In the rural region, only 'cough' was reported significantly more by men than women.

Literate older people were significantly more likely to have health problems reported as 'blood pressure' and 'diabetes' in the urban region. Illiteracy was found to be significantly associated only with reported 'fever' in the rural region, and with reported 'fever', 'runny nose' and 'gastric/ulcer' in the urban region.

No influence of socio-economic status (indicated by per capita weekly household expenditure) was found on reporting of health problems for most types of reported problems. An inverse relationship between socio-economic status and the reporting of a health problem was found in relation to only a few types of problems ('runny nose' in urban region; 'rheumatic pain' in both urban and rural regions). The odds of reporting 'weakness' and 'fever' were found to be directly related to socio-economic status in the rural region.

Additional regression models were created to investigate the possible interaction between sex and literacy in reporting health problems. The models indicated that the combined effect of being a woman and being illiterate increased reporting of certain health problems such as 'fever' and 'lower back pain' in the urban region and 'frequent urination', 'dizziness' and hearing difficulties in the rural region.

Selecting only literate older people, models were also created to analyze the association between level of education and reporting of health problems. Lower level

Table 4

Adjusted odds ratio^a (at 95% confidence interval) of reporting of health problems by elderly men and women in urban and rural Bangladesh

Urban (N = 346)			Rural (N = 350)		
Reported health problem	OR (women/men)	95% CI	Reported health problem	OR (women/men)	95% CI
Fever	1.8	1.1–3.0	Fever	0.7	0.4–1.1
Cough	1.2	0.8–2.0	Rheumatic pain	0.7	0.5–1.2
Runny nose	1.3	0.8–2.0	Diarrhea	1.0	0.6–1.6
Blood pressure	4.8	2.7–8.4	Frequent urination	1.9	1.2–3.2
Gastric/ulcer	1.5	0.9–2.6	Cough	0.3	0.2–0.5
Lower backache	3.8	2.0–6.9	Weakness	0.9	0.5–1.4
Rheumatic pain	2.7	1.5–4.9	Cannot sleep	9.4	5.0–17.6
Diabetes	2.2	1.1–4.4	Lower backache	2.6	1.5–4.4
Diarrhea	1.4	0.7–2.7	Chest pain	1.3	0.8–2.1
Headache/head burn/ migraine	0.6	0.7–2.7	Dizziness	3.6	1.9–6.6
Vision	1.6	1.0–2.8	Vision	1.8	1.1–3.1
Hearing	1.4	0.8–2.4	Hearing	2.5	1.5–4.1

The health problems are listed in ten most frequently reported in each region, as well as vision and hearing problems. Odds ratio shown in bold when found statistically significant. ^aAdjusted for age, literacy and per capita weekly household expenditure.

of education was found to significantly increase reporting of 'fever', 'cough' and 'lower back pain' in the urban region only.

Focusing on the health problems that were common between the urban and the rural areas, regression analyses were conducted using area of residence as a co-variate along with age, sex, literacy and weekly household expenditure. The results indicated that with the exception of 'cough', those living in the rural area were more likely to report those health problems than their urban counterparts (Table 5). Adjusted for age, sex and socio-economic indicators, urban older people were more likely to report 'cough' than the rural older people.

Table 5

Odds ratio (95% confidence interval) by area of residence of reporting specific health problems by older persons in Bangladesh (adjusted for age, sex, literacy and weekly household expenditure)

Reported health problem	Odds ratio (rural/urban)	95% CI
Fever	1.7	1.2–2.3
Cough	0.6	0.4–0.9
Lower back pain	1.2	0.8–1.8
Rheumatic pain	2.5	1.7–3.6
Diarrhea	2.7	1.8–4.0
Vision	1.2	0.8–1.7
Hearing	2.0	1.4–2.9

4. Discussion

One of the main findings of this study is the high reporting of health problems by the older people in both rural and urban regions of Bangladesh. Gender and regional differences are observed in reporting of health problems, as are difficulty with at least one ADL task. In both measures of health status, women are found to fare worse than men in both urban and rural areas. The types of health problems differed between men and women as well as between urban and rural regions. Older people in the rural region were found to report greater number of health problems.

4.1. Gender differences

As in this study, other research conducted in both high and low income regions have also found more health problems reported by women compared with men (Wolinsky and Johnson, 1992; Kumar et al., 1994; Rahman et al., 1994). Such gender differences in reported health, in both low and high-income countries, are difficult to explain succinctly. For example, in this study, 'cough' was reported more frequently by men than by women in the rural region. This difference might be explained by differential smoking patterns of men and women in Bangladesh where, particularly for the older cohort under study, it has typically been a male habit. It is conceivable that this possible gender-related behavioral difference could be obscured in the urban data due to the high pollution level in the region affecting both men and women.

Differential reporting may be another reason for the observed difference in ill-health between men and women. Men and women may perceive health problems differently and be sensitive to these problems at different levels. It is also possible that men's health problems are under-reported because gender roles mean that men do not acknowledge illness as readily as women do (Doyal, 1995; Rahman and Liu, 2000).

Arber and Cooper (1999) emphasize the relevance of investigating the influence of structural differences between older men and women, in order to understand gender differences in health in later life. Economic status is generally considered to be an important and direct determinant of health status (Mackenbach et al., 1994). The older women in our study reported lower personal income than men (Kabir et al., 1998) which might in turn influence higher reports of health problems by these women.

4.2. Urban–rural differences

Many studies have reported differences between urban and rural regions in terms of health status. The first epidemiological study by Ibrahim (1988) on older persons in Bangladesh found greater reporting of health problems in the rural region compared with the sub-urban and city regions. When investigating those health problems common to the two regions, our findings were similar, indicating higher reporting of health problems in the rural area compared with the urban. Despite

methodological differences, we find an urban–rural pattern in reporting health problems by the older people in our study similar to that in Ibrahim's (Ibrahim, 1988) study. In terms of some specific health problems, e.g. blood pressure and diabetes, it remains unclear whether higher reporting in the urban region compared with the rural reflects a specifically urban complaint or under-reporting of these problems in the rural region due to lack of awareness. A multi-center study on prevalence of hypertension among elderly people in Bangladesh and India reported higher prevalence in urban areas compared with rural area (Hypertension Study Group, 2001). The study identified higher level of education as one of the correlates of prevalence of hypertension. Accessibility and affordability of health services are also key prerequisites which may be lacking in the rural region for such problems to be detected or diagnosis to be established.

4.3. Socio-economic differences

An inverse relationship between socio-economic status and health in terms of both mortality and morbidity has been reported across nations and across populations (Marmot et al., 1991; Adler et al., 1993; Thorslund and Lundberg, 1994; Dahl and Birkelund, 1997). The two socio-economic indicators used in our study, literacy and weekly household expenditure, are found to have little influence on reporting of health problems, particularly in the rural region. This may be indicative of a survival phenomenon, in that for those who have managed to live to the age of 60 years or more despite the multiple adversities faced in low-income countries, socio-economic conditions may no longer play the same significant role in terms of perceived health status.

4.4. Seasonal influence

A possible seasonal influence on reporting of health problems should be considered. The high reporting of 'fever', in our study, particularly in the rural region may be indicative of such a phenomenon. Data for the present study were collected during the winter in Bangladesh when individuals were exposed to cold weather. It is worth considering the differential effect this might have had between urban and rural regions. Other studies (Ibrahim, 1988; Bangladesh Bureau of Statistics, 1997; Matin et al., 1997) investigating health problems of the older population in Bangladesh have reported lower prevalence of fever. The varying recall period in different studies may also lead to differences in the prevalence reported. As neither the time-frame nor method of data collection for two of the three other studies (Ibrahim, 1988; Matin et al., 1997) is described, comparison is difficult.

Seasonal influence is also relevant in interpreting ability to manage ADL. As reported in an earlier study (Kabir et al., 2001), greater proportion of older people living in the urban area reported using help with bathing compared with those in the rural area. Due to scarcity of fuel and the distance to the water source, people in the rural area generally do not use hot water for bathing, even in the winter. The proportion of older people reporting use of help for this particular task between the

two regions probably might have been reversed had data been collected during summer.

4.5. Implications

Despite the rapid growth of the older population in Bangladesh, health care needs of the older population as a group are not systematically dealt with in the primary health care system in the country. Recent research from Bangladesh indicates that health services for older people suffer from a lack of coverage and an inadequacy of existing services to meet their health care needs (HelpAge International, 2000). Findings from the present study indicate that a considerable proportion of older people report health problems irrespective of socio-economic status. This study thus provides relevant information on specific health problems experienced by the older people in Bangladesh, particularly in terms of urban–rural differences, which should facilitate understanding in health promotion directed towards the older population.

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Appendix A

Categorization of all health problems as reported by 696 older people in rural and urban Bangladesh (percentage shown in parentheses where $\geq 5\%$ older persons reported a health problem)

Category	Health problems as reported by the older persons
Infectious	Diarrhea/dysentery (13), loose stool (8), jaundice, tuberculosis, typhoid fever, malaria, worms
Mental and behavioral	Weakening of memory, feel frightened by sound, head becomes hot, mental problem
Nervous	Cannot sleep (17), headache/head burn/migraine (15), shaking of body, paralysis, shaking of hands, cannot walk, epilepsy, cerebral problem, blood clotting in the brain, problem with nervous system
Eye	Eye problem (8)
Ear	Ear problem/abscess in the ear
Circulatory	Chest pain (17), blood pressure (15), heart problem (5), pounding heart, stroke, rheumatic fever

Respiratory	Cough (31), common cold (5), asthma, breathing problem, bronchitis, water in lungs/stomach, pain in throat, problems in nose, broncho-pneumonia
Digestive	Gastric/ulcer (20), stomach pain (8), gases (5), constipation, haemorrhoid/peri anal abscess, prolapsed rectum, hernia, pain in liver, heart burn/stomach burn, gall bladder stone, appendicitis, toothache/problem with teeth, vomiting
Problems of the skin	Abscess/itching, vitiligo, red around ears and cheek, blisters in hand, sweating
Musculo-skeletal	Rheumatic pain (27), lower backache (22), body/shoulder ache (14), ache in joints/knees (7), pain in limbs (6), upper backache, pain/burning sensation in hands and legs, burning sensation in the body, swelling of ankle joints, ache in bones, cannot move limbs
Genitourinary	Frequent urination (18), burning sensation/problem during urinating (7), prolapsed uterus (5#), pain in lower abdomen, kidney problem, heaviness in lower abdomen, enlarged prostate, obstruction of urine, fat in lower abdomen
General symptoms	Fever (53), runny nose (21), weakness (17), dizziness (15), runny nose and fever, uneasiness, loss of appetite, fainting, convulsion, swelling of limbs, swelling of the body
Miscellaneous	Diabetes (8), goiter, tumor, anemia, broken limb, allergy
#Percentage calculated for women.	

References

- Adler, N.E., Boyce, W.T., Chesney, M.A., Folkman, S., Syme, L., 1993. Socio-economic inequalities in health: No easy solution. *J. Am. Med. Assoc.* 269, 3140–3145.
- Arber, S., Cooper, H., 1999. Gender differences in health in later life: the new paradox. *Soc. Sci. Med.* 48, 61–76.
- Bangladesh Bureau of Statistics, 1997. Population, Health, Social and Household Environment Statistics, 1996. Bangladesh Bureau of Statistics, Dhaka.
- Dahl, E., Birkelund, G.E., 1997. Health inequalities in later life in a social democratic welfare state. *Soc. Sci. Med.* 44, 871–881.
- Doty, P., 1987. Health status and health services use among older women: an international perspective. *World Health Stat. Q.* 40, 279–290.
- Doyal, L., 1995. *What makes Women Sick: Gender and the Political Economy of Health*. Rutgers University Press, New Brunswick.
- HelpAge International, 2000. *Uncertainty rules our lives: The situation of older people in Bangladesh*. HelpAge International, Thailand.
- Hypertension Study Group, 2001. Prevalence, awareness, treatment and control of hypertension among the elderly in Bangladesh and India: a multicentre study. *Bull. WHO* 79, 490–500.
- Ibrahim, M., 1988. *Health of the Elderly: a survey on health and socio-economic problems of the aged in Bangladesh*. Bangladesh Association for the Aged & Institute of Geriatric Medicine; Ministry of Health and Family Planning, Government of Bangladesh; World Health Organization, Dhaka.
- Kabir, Z.N., 2001. *The emerging elderly population in Bangladesh: Aspects of their health and social situation*. Karolinska Institutet, Stockholm, Ph.D. thesis.

- Kabir, Z.N., Herlitz, A., 2000. The Bangla adaptation of mini-mental state examination (BAMSE): an instrument to assess cognitive function in illiterate and literate individuals. *Int. J. Geriatr. Psychiatry* 15, 441–450.
- Kabir, Z.N., Szebehely, M., Tishelman, C., Chowdhury, A.M.R., Höjer, B., Winblad, B., 1998. Aging trends: making an invisible population visible—the elderly in Bangladesh. *J. Cross-Cult. Gerontol.* 13, 361–378.
- Kabir, Z.N., Parker, M.G., Szebehely, M., Tishelman, C., 2001. Influence of socio-cultural and structural factors on functional ability: the case of elderly people in Bangladesh. *J. Aging Health* 13, 355–378.
- Kalache, A., 1996. Ageing worldwide. In: Ebrahim, S., Kalache, A. (Eds.), *Epidemiology in Old Age*. BMJ Publishing group, London, pp. 22–31.
- Kalter, H., 1992. The validation of interviews for estimating morbidity. *Health Policy Plan* 7, 30–39.
- Kinsella, K., 1996. Demographic aspects. In: Ebrahim, S., Kalache, A. (Eds.), *Epidemiology in Old Age*. BMJ Publishing Group, London.
- Kroeger, A., 1983. Health interview surveys in developing countries: a review of the methods and results. *Int. J. Epidemiol.* 12, 465–481.
- Kumar, V.K., Sivan, Y.S., Das, R.R.R., Kutty, V.R., 1994. Health of the elderly in a community in transition: a survey in Thiruvananthapuram City, Kerala, India. *Health Policy Plan* 9, 331–336.
- Mackenbach, J.P., Van den Bos, J., Joung, I.M.A., Van de Mheen, H., Stronks, K., 1994. The determinants of excellent health: different from the determinants of ill-health? *Int. J. Epidemiol.* 23, 1273–1281.
- Marmot, M.G., Smith, G.D., Stansfeld, S., Patel, C., North, F., Head, J., White, I., Brunner, E., Feeney, A., 1991. Health inequalities among British civil servants: the Whitehall II study. *Lancet* 337, 1387–1393.
- Matin, K.A., Hossain, M.S., Azad, A.K., 1997. Prevalence of Morbidity and Disability Among Elderly Population in Bangladesh 1994, 1995 and 1996: Socio-Demographic Differentials (Monograph series-02). Ministry of Planning, Statistics Division, Bangladesh Bureau of Statistics, Dhaka.
- Merrill, S.S., Seeman, T.E., Kasl, S.V., Berkman, L.F., 1997. Gender differences in the comparison of self-reported disability and performance measures. *J. Gerontol. A Biol. Sci. Med. Sci.* 52A, M19–M26.
- Rahman, M.O., Liu, J., 2000. Gender differences in functioning for older adults in rural Bangladesh. The impact of differential reporting. *J. Gerontol. A Biol. Sci. Med. Sci.* 55A, M28–M33.
- Rahman, O., Strauss, J., Gertler, P., Ashley, D., Fox, K., 1994. Gender differences in adult health: an international comparison. *Gerontologist* 34, 463–469.
- Thorslund, M., Lundberg, O., 1994. Health and inequalities among the oldest old. *J. Aging Health* 6, 51–69.
- Tishelman, C., 1993. Making Sense of Sickness Experience. Cancer patients' perspective on their sickness and care in urban Sweden. Aspects of relevance for nursing. Karolinska Institutet, Stockholm, Ph.D. thesis.
- United Nations, 1991. The World Ageing Situation: Strategies and Policies (Sales No. E.85.IV.5). United Nations, New York.
- United Nations, 1999. Population Ageing 1999 (Sales no. E. 99. XIII.11). United Nations, New York.
- WHO, 1984. The uses of epidemiology in the study of the elderly. Report of a WHO Scientific Group on the Epidemiology of Aging (WHO Technical Report Series 706). WHO, Geneva.
- Wolinsky, F.D., Johnson, R.J., 1992. Perceived health status and mortality among older men and women. *J. Gerontol. B Psychol. Sci. Soc. Sci.* 47, S304–S312.