

BMJ Open Healthcare-seeking behaviour of marginalised older people in urban slums: a cross-sectional survey study in Khulna City, Bangladesh

Nusrat Jahan ¹, Shahinur Akter ¹, Morsheda Akter Heme ¹,
Dipika Chandra ¹, Afsana Polly ¹, Laila Siddiqua ², Rumana Rahman ³,
Kaniz Fatima Mohsin ⁴, Md Tanvir Hossain ¹

To cite: Jahan N, Akter S, Heme MA, *et al.* Healthcare-seeking behaviour of marginalised older people in urban slums: a cross-sectional survey study in Khulna City, Bangladesh. *BMJ Open* 2022;**12**:e066376. doi:10.1136/bmjopen-2022-066376

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2022-066376>).

Received 05 July 2022
Accepted 25 October 2022



© Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

¹Sociology Discipline, Social Science School, Khulna University, Khulna, Bangladesh

²Architecture Discipline, Science, Engineering and Technology School, Khulna University, Khulna, Bangladesh

³English Discipline, Arts and Humanities School, Khulna, Bangladesh

⁴Economics Discipline, Social Science School, Khulna University, Khulna, Bangladesh

Correspondence to

Mr Md Tanvir Hossain;
tanvirku05@soc.ku.ac.bd

ABSTRACT

Objectives This study aimed to measure healthcare-seeking behaviour and determine its associated factors among older people in the slums of the Khulna City Corporation (KCC) areas of Bangladesh.

Design Cross-sectional survey.

Settings Four slums in the KCC areas of Bangladesh.

Participants The participants were selected following a two-stage area probability sampling with the following specifications: they must be aged ≥60 years and must have lived in the slums of KCC for at least 5 consecutive years.

Outcome measures A semistructured interview schedule was administered to determine participants' healthcare-seeking behaviour, with healthcare-seeking behaviour measured through a dichotomous response of 'yes' or 'no'.

Results 636 participants were included in the study. Gastrointestinal problems (75.3%) and aches and pains (71.5%) were the two most common health problems among older people in the slums of KCC. Older adults in their 80s had higher adjusted odds of attaining healthcare services (adjusted OR (AOR)=2.028; 95% CI: 1.140 to 3.609; $p<0.05$) than other older people, while educated older people (AOR=0.664; 95% CI: 0.441 to 1.000; $p<0.05$) and those with greater satisfaction with domains of life (SDL index; AOR=0.860; 95% CI: 0.811 to 0.912; $p<0.01$) were less inclined to seek healthcare services than their counterparts. Additionally, widows/widowers (AOR=2.218; 95% CI: 1.080 to 4.556; $p<0.05$) and married people (AOR=2.750; 95% CI: 1.329 to 5.689; $p<0.01$) had higher adjusted odds of seeking healthcare services than those who were divorced/separated.

Conclusion Age, education, marital status and SDL index were significant predictors for the healthcare-seeking behaviour of older people in KCC slums. Effective strategies need to be implemented to reduce existing access barriers to healthcare services for older people in the slum areas of urban Bangladesh.

INTRODUCTION

Globally, the number of older people has been growing sharply. In the 1980s, the global elderly population—that is, aged 60 years or above—was 378 million; this rose to

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Data were collected by administering an interview in Bangla in order to ensure a comprehensive understanding of the questions and spontaneous responses from the participants.
- ⇒ The cross-sectional design does not allow determination of causal relationships between healthcare-seeking behaviour and its associated factors.
- ⇒ The self-rated scale for measuring activities of daily living and satisfaction with domains of life among older people may not be accurate due to a tendency to provide socially desirable information.
- ⇒ Recall and response bias may also have impacted the findings of the study and their generalisability.

901 million in 2015 and is projected to cross the 2 billion mark by 2050.¹ Of this population, 33% lived in more developed countries in 2015, with this percentage projected to decline by 2030. Meanwhile, in less developed countries, the number of elderly people was 602 million in 2015; this is expected to rise to more than a billion by 2030.^{1,2} Asia, unsurprisingly, housed more than half of the global elderly population in 2015, and will be home to 1.2 billion elderly people by 2050.² Bangladesh, like its neighbouring countries, is experiencing tremendous growth in its elderly population. Since its independence in 1971, Bangladesh has witnessed enormous efforts, in the form of 'integrated multisectoral development' policies and approaches from both government and non-government organisations,³ to improve the health of people in both urban and rural settings. These efforts have paid off through decreased birth and death rates and improved life expectancy.⁴ The most dramatic effect of the improved health conditions experienced by Bangladesh has been a demographic transition, that is, an increasing number of older people. In 2015,

older people constituted only 7% (12.8 million) of the total population; this number will rise to 11.5% in 2030, and by 2050, one in every five people in Bangladesh will be elderly.^{2,5}

Of this elderly population, a significant proportion is living in urban settings rather than the countryside,⁶ mainly due to a push towards urban areas driven by poverty, climate change and other factors.⁷ In fact, over the last four decades, the population in urban areas has increased from 9% to 28%.⁶ The main challenge is to determine the possible health risks and to ensure access to and use of quality healthcare services for all people in urban areas, including elderly people in slums.^{8–10} Studies in Bangladesh, which have concentrated largely on the slums in Dhaka City and its adjacent areas, suggest that because of financial constraints, traditional gender norms and unawareness of proper healthcare services, slum dwellers tend to abstain from healthcare services in urban areas.^{9,11,12}

Studies in countries other than Bangladesh have documented a wide range of health issues among slum dwellers and have identified their healthcare-seeking behaviours. For example, a study in Karachi, Pakistan identified diabetes and hypertension as the most common chronic diseases among adult slum dwellers, while occupation, household income and health facilities adjacent to slums were the key determinants for use of healthcare services.¹³ An Indian study, on the other hand, indicated that healthcare-seeking behaviour among slum dwellers is largely determined by sex and associated cultural gender norms, including affordability, cultural expectations and geographical location.¹⁴ Muriithi,¹⁵ in his study determining the healthcare-seeking behaviour of slum dwellers, concluded that leaving aside sociodemographic factors, that is, age, sex, education, occupation, income and household size, it was the quality and service of healthcare infrastructure that significantly influenced decisions on healthcare service utilisation.

In Bangladesh, older people's healthcare needs and their use of healthcare services have long been ignored by the government and non-governmental organisations; thus, there are still substantial gaps in knowledge regarding the health status and care-seeking behaviour of elderly people in urban areas, especially those residing in the slums of Khulna City Corporation (hereafter KCC)—the fifth largest concentration of slums in Bangladesh.¹⁶ This study, therefore, was designed to address the healthcare-seeking behaviour of older people living in the slums of KCC with an emphasis on identifying the associated factors of healthcare-seeking behaviour. The results may open up pathways for minimising the vacuum within Bangladesh's health policy regarding poorer older people in slum areas by designing appropriate management and preventive measures in order to reduce health-related problems. This would undoubtedly ensure risk-free ageing, even for marginalised people.

METHODS

Study setting and participants

This cross-sectional study was carried out in the KCC area of Khulna district, a southwestern divisional headquarters in Bangladesh. Located between the 24°45' and 24°54' N latitudes and between the 89°28' and 89°35' E longitudes, KCC covers an area of 45.7 km² and consists of 31 wards; it is the fifth largest city corporation in Bangladesh in terms of concentration of slums (1134) and slum dwellers (79827 people in 40015 households).^{16–18} Moreover, a significant percentage of older people (7.34%) live in these urban slums.⁵ Therefore, certain attributes were specified in order to identify households with older people in the slums of KCC and thus facilitate face-to-face interviews: (a) the household must have at least one resident in the age bracket of ≥60 years; (b) he/she must be living in the selected slums of the KCC area; (c) he/she must have lived there for at least 5 consecutive years; (d) he/she may or may not have a spouse, but must have been married at least once; (e) he/she must be living with his/her family or alone.

Accounting for the criteria, the participants were identified through a door-to-door census, following a two-stage area probability sampling approach. At the initial stage, three *Thana* (an administrative unit in the local government system in Bangladesh)—Khulna Sadar, Khalishpur and Sonadanga—were selected based on their concentration of slums; in the second stage, four slums were selected based on the number of slum dwellers. Following a week-long census by a group of 10 data enumerators, 1104 older people were identified from 2167 households within the selected areas. Based on a two-stage sampling design, a total of 703 elderly people were approached by the data enumerators, from which 636 elderly people were interviewed by administering an interview schedule with their verbal consent (response rate 90%). At first, a cluster of elderly people was constructed corresponding to their respective geographical locations; later, the participants were selected by systematic random sampling, proportionate to these geographical locations.^{19,20} When a potential participant declined to participate, the data enumerators selected the next household with an elderly person. A sample between 200 and 2500 is considered appropriate based on the simple statistical tolerance formula.²¹ We collected a total of 636 responses from the four selected slums in the KCC.

Procedures

A semistructured interview schedule (IS) was developed (see online supplemental file) after careful review of the relevant literature with consideration of the research objectives.^{22–26} The IS was divided into three mutually inclusive sections: the first section focused on sociodemographic information, including age, sex, religion, occupation, income, beneficiary/non-beneficiary status in cooperatives, and recipient/non-recipient of social assistance; the second section comprised information regarding the non-monetary wealth (NMW)

of the households,²² the ability to manage activities of daily living (ADLs)²⁶ and satisfaction with domains of life (SDL)²⁵; and the third section highlighted the health status of participants, including ailments, healthcare status, care-seeking behaviour and other aspects. Following the development of the IS, it was verified by a pretest with 20 elderly slum dwellers to ensure its adequacy for extracting relevant information from participants, minimising redundancy and non-response rate, and providing first-hand experience for the data enumerators in order to reduce the timing of the interviews.²⁷ It is important to note that the researchers extensively trained the data enumerators for a week through classroom-based lectures, role-playing and practice sessions in order to teach them the content of the IS and the techniques for establishing rapport and extracting information. Data were collected for 3 months, from July to September 2016. Later, to ensure standardised data collection, 20 households were resurveyed randomly by the researchers in order to identify inconsistencies; they revisited families alongside the data enumerators in order to ensure the highest quality of data.

Measures

Sociodemographic information

Some specific sociodemographic factors, including age, sex, education, occupation, income and marital status, were considered to be predictors of the health status, for example, ailments, of older people living in the slums of KCC.

Indices

An index of NMW was measured based on different dimensions, including ‘elements of comfort’ (television, refrigerator, ceiling fan, stand fan); ‘communication and comfort’ (mobile, bicycle, rickshaw, van, easy bike); ‘consumption of water’ (potable, protected and unprotected—for primary, secondary and tertiary use); ‘housing structure’ (floor, walls, ceiling); ‘energy consumption’ (electricity, solar power, and kerosene/wood/leaf—for power and cooking); and ‘sanitation facility’ (unitary or common, modern or traditional).²² The summation of the response for each item was added, and the index of NMW was thus developed. Likewise, an index of ADLs, with an internal consistency of Cronbach’s $\alpha=0.858$, was used to assess the physical capacity of older people to execute certain daily activities, including bathing, personal hygiene, medication, chores inside and outside of the household, and dependence on others²⁶; the summation of each item contributed to the ADL index. Finally, SDL, with an internal consistency of Cronbach’s $\alpha=0.716$, assessed the satisfaction of older people regarding their physical health, economic status, relationship with spouses and children, and overall life.²⁵ SDL was measured on a 5-point Likert scale; the summation of each item resulted in the SDL index.

Ailments and healthcare-seeking behaviour

The participants were asked to report the most common ailment they had experienced in the previous month via a multiple response question; the options included ‘fever’, ‘gastroenterological problems’, ‘aches and pains’, ‘respiratory problems’, ‘skin and ear, nose and throat’, and ‘water-borne illness’. Later, a dichotomous response measured healthcare-seeking behaviour—‘no=0’ and ‘yes=1’—for the question: ‘Did you seek any help for your ailment in the last month?’ This dichotomous response was considered the dependent variable in this study.

Analysis

The data were analysed in two consecutive stages using IBM SPSS Statistics (V.26). Descriptive statistics, including frequency and percentage analysis, were used first, followed by Pearson’s χ^2 and Yate’s continuity correction ($\chi^2_{\text{Yate's}}$); the latter was used to compensate overestimation in χ^2 when used with a 2×2 table^{28 29} in order to explore the association between health status (ailments) and sociodemographic factors. The effect size for bivariate analysis was also estimated using the ϕ coefficient and Cramer’s V (ϕ_c), the former was used in a 2×2 table, whereas the latter was used in a table larger than 2×2.^{28 29} Finally, multivariable logistic regression (MLR) was executed accounting for the statistically significant variables in Pearson’s χ^2 and Yate’s continuity correction test. Findings for MLR were shown using the crude OR and the adjusted OR (AOR) with a 95% CI at a 5% significance level.

Patient and public involvement

None.

RESULTS

Type of ailment

Figure 1 illustrates the most common ailments suffered by older people in the slums of KCC. The findings indicate that among the 636 older people, more than 70% suffered from gastrointestinal problems (75.3%) and from aches and pains (71.5%). Fever (47.3%) and respiratory problems (32.5%) were the third and fourth most common health problems experienced by the participants.

Descriptive information

Table 1 illustrates the basic characteristics of the participants. More than half were in their 60s (51.7%) and female (51.3%). Around 30% had primary (22.5%) and secondary (5.5%) education, while the rest were uneducated. Nearly 54% of the participants were physically disabled or housewives without income, while more than 40% were widows/widowers (36.3%) or divorced/separated (6.8%). It is also evident that only one in four participants received government-aided social assistance; less than 15% were involved in any social cooperatives for financial support.

Table 1 also shows the association between sociodemographic information and the healthcare-seeking

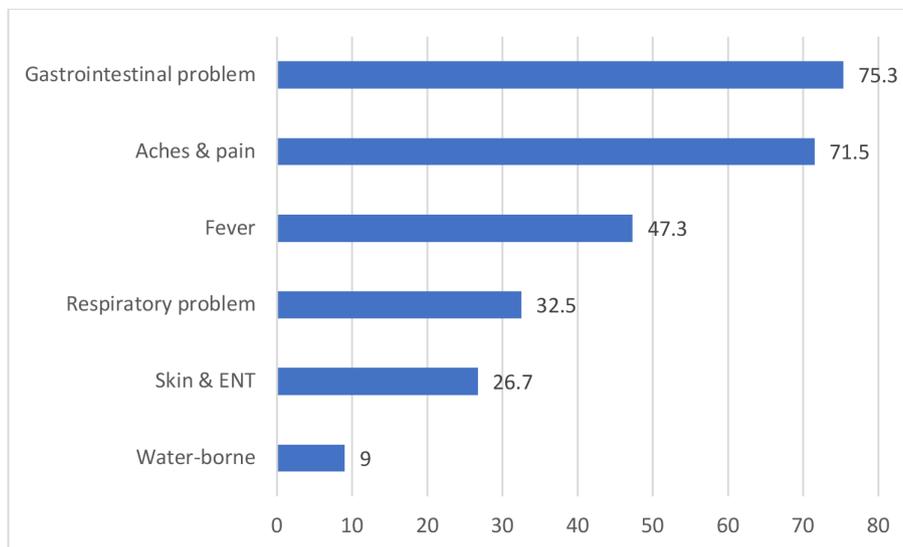


Figure 1 Percentage of older people afflicted by different types of ailments in the slums of Khulna City. ENT, ear, nose and throat.

behaviour of older people living in the slums of Bangladesh. The findings suggest that participants younger than 70 years sought healthcare services more often than their older counterparts ($\chi^2=9.059$, $p=0.05$, $\phi_c=0.119$). It is also apparent that older people with no education sought healthcare services more often than people with primary or secondary education ($\chi^2=5.743$, $p=0.10$, $\phi_c=0.095$). Likewise, people with no income also sought help from healthcare services more often than to those still engaged in income-generating activities ($\chi^2=6.181$, $p=0.05$, $\phi_c=0.099$). Unsurprisingly, married older people reportedly accessed medical services for ailments more often than widows/widowers and divorced/separated older people ($\chi^2=12.960$, $p=0.01$, $\phi_c=0.143$), while non-recipients of government social assistance sought healthcare services more often than recipients ($\chi^2_{\text{Yate's}}=3.175$, $p=0.10$, $\phi=0.074$).

Multivariable logistic regression

From Pearson's χ^2 and Yate's continuity correction, the significant factors were retained in order to present the unadjusted effects of each independent variable. Moreover, the indices were also included in the MLR analysis. The adjusted effects of the explanatory variables were measured along with a 95% CI after controlling the effects of all other variables (see [table 2](#)). The findings show that age, education, marital status and SDL were the key predictors of healthcare-seeking behaviour among older people living in the slums of KCC. The results show that people over 80 years of age (AOR=2.028; 95% CI: 1.140 to 3.609) had higher adjusted odds of attaining healthcare services than those in their 60s and 70s. It is also apparent that people with primary education were less inclined (AOR=0.664; 95% CI: 0.441 to 1.000) to seek healthcare services than those without education. Among the participants, widows/widowers (AOR=2.218; 95% CI: 1.080 to 4.556) and married people (AOR=2.750; 95% CI: 1.329

to 5.689) sought more healthcare services for all kinds of ailments than people who were divorced/separated. Older people with more satisfaction regarding domains of life (AOR=0.860; 95% CI: 0.811 to 0.912) were less likely to seek healthcare services than those dissatisfied with their lives.

DISCUSSION

Globally, the percentage of older people in the population has been growing, and Bangladesh is no exception. The main issue in the coming decade will be the rising demand on the healthcare system, particularly in terms of providing long-term healthcare for the increasing number of older people.^{30 31} As the health dynamics of older people are related to increased morbidities and the need for healthcare, the present study has sought to identify the healthcare-seeking behaviour of older people in the slum areas of KCC, Bangladesh. The findings of the study show that gastrointestinal problems, aches and pains, fever and respiratory diseases were the most common ailments experienced by elderly people in the slums of KCC. A previous study in Bangladesh had similar results, with slum dwellers reporting fever, colds and gastric problems as their most common diseases,¹⁰ while a Pakistani study indicated that diabetes, hypertension and kidney diseases were regular health concerns among slum dwellers.¹³

Consistent with prior studies conducted in China,³² Indonesia³³ and Taiwan,³⁴ the current study found that older people reported hospitalisation and use of healthcare services more frequently than their younger counterparts. A possible explanation for this finding might be the increasing prevalence of health problems with ageing, which is associated with increased need for healthcare. Another reason might be the availability of

Table 1 Descriptive information and their association with healthcare-seeking behaviour of older people in slums of Khulna City

Variables	f (%)	Care-seeking behaviour		Statistic $\chi^2_{(df)}$	P value	Effect size
		No (%)	Yes (%)			
Age						
≤69	329 (51.7)	202 (56.7)	127 (45.4)	9.059* ₍₂₎	0.011**	0.119**†
70–79	230 (36.2)	119 (33.4)	111 (39.6)			
≥80	77 (12.1)	35 (9.8)	42 (15.0)			
Sex						
Female	326 (51.3)	172 (48.3)	154 (55.0)	2.543‡ ₍₁₎	0.111	−0.066*§
Male	310 (48.7)	184 (51.7)	126 (45.0)			
Education						
No education	458 (72.0)	243 (68.3)	215 (76.8)	5.743* ₍₂₎	0.057*	0.095*†
Primary	143 (22.5)	90 (25.3)	53 (18.9)			
Secondary	35 (5.5)	23 (6.5)	12 (4.3)			
Occupation						
Skilled/semiskilled	67 (10.5)	34 (9.6)	33 (11.8)	2.217* ₍₂₎	0.330	0.059†
Menial services/unskilled	230 (36.2)	137 (38.5)	93 (33.2)			
Physical disability/housewife	339 (53.3)	185 (52.0)	154 (55.0)			
Monthly income (in BDT)						
No income	339 (53.3)	185 (52.0)	154 (55.0)	6.181* ₍₂₎	0.045**	0.099**†
≤6000	246 (38.7)	134 (37.6)	112 (40.0)			
≥6001	51 (8.0)	37 (10.4)	14 (5.0)			
Marital status						
Divorced/separated	43 (6.8)	29 (8.1)	14 (5.0)	10.183* ₍₂₎	0.006***	0.127***†
Widow/widower	231 (36.3)	111 (31.2)	120 (42.9)			
Married	362 (56.9)	216 (60.7)	146 (52.1)			
Social assistance						
No	473 (74.4)	275 (77.2)	198 (70.7)	3.175‡ ₍₁₎	0.061*	0.074*§
Yes	163 (25.6)	81 (22.8)	82 (29.3)			
Membership in cooperatives						
No	550 (86.5)	309 (86.8)	241 (86.1)	0.022‡ ₍₁₎	0.881	0.011§
Yes	86 (13.5)	47 (13.2)	39 (13.9)			

The number in the parentheses is the percentage.

***Significant at 0.01%; **Significant at 0.05%; *Significant at 0.10%.

*Pearson's χ^2 .

†Cramer's V.

‡Yate's continuity correction.

§φ.

BDT, Bangladeshi taka; f, frequency.

healthcare services in urban areas, which is related to the use of healthcare services among older people. In contrast, some previous studies found a negative relationship between age and healthcare-seeking behaviour among older people, suggesting that older people were less inclined to seek treatment when they experienced chronic diseases.^{35 36} In addition, it is also evident from other studies that age differences in seeking treatment for illness among older people are not statistically significant.^{8 37}

It was also found in the current study that education level has a strong association with healthcare-seeking behaviour. It is evident from previous studies that educated elderly people are more likely to seek healthcare services than uneducated elderly people.^{35 36} However, the present study found a significant negative relationship between education and healthcare-seeking behaviour among the elderly. The results showed that older people with primary education were less likely to seek healthcare services than those without education, which is consistent

Table 2 Multivariable logistic regression analysis of healthcare-seeking behaviour of the elderly and its predictors

Variables	Crude OR (COR)				Adjusted OR (AOR)			
	B (SE)	Sig	COR		B (SE)	Sig	AOR	
			Lower	Upper			Lower	Upper
Age			1.000				1.000	
≤69 ^R								
70–79	0.394 (0.174)	0.023	1.484	1.055	0.376 (0.193)	0.051	1.457	0.998
≥80	0.646 (0.255)	0.011	1.909	1.157	0.707 (0.294)	0.016	2.028	1.140
Education			1.000				1.000	
No education ^R								
Primary	-0.407 (0.197)	0.039	0.666	0.453	-0.409 (0.209)	0.050	0.664	0.441
Secondary	-0.528 (0.368)	0.151	0.590	0.287	-0.169 (0.398)	0.670	0.844	0.387
Monthly income (in BDT)			1.000				1.000	
No income ^R								
≤6000	0.004 (0.168)	0.981	1.004	0.722	0.127 (0.211)	0.546	1.136	0.751
≥6001	-0.788 (0.332)	0.018	0.455	0.237	-0.576 (0.372)	0.122	0.562	0.271
Marital status			1.000				1.000	
Divorced/separated ^R								
Widow/widower	0.337 (0.343)	0.326	1.400	0.715	0.797 (0.367)	0.030	2.218	1.080
Married	0.806 (0.351)	0.022	2.239	1.125	1.012 (0.371)	0.006	2.750	1.329
Social assistance			1.000				1.000	
No ^R								
Yes	0.341 (0.182)	0.062	1.406	0.984	0.041 (0.203)	0.838	1.042	0.701
Non-monetary wealth index	-0.028 (0.029)	0.338	0.973	0.919	0.052 (0.034)	0.130	1.053	0.985
Activities of daily living index	-0.027 (0.033)	0.407	0.973	0.912	0.073 (0.043)	0.093	1.076	0.988
Satisfaction with domains of life index	-0.129 (0.025)	<0.001	0.879	0.837	-0.151 (0.030)	<0.001	0.860	0.811
BDT, Bangladeshi taka; R, reference group; Sig, significance.								

with the study of Hakmaosa *et al.*³⁷ This discrepancy could be explained by the severity of diseases and the influence of social capital outweighing the effect of education on healthcare-seeking behaviour among older people in slum areas, but this needs further investigation.

It was also observed in the present study that widows/widowers and married people sought more healthcare services for their ailments than older people who were divorced/separated. Consistent with the present study, Hakmaosa *et al.*³⁷ in their investigation, concluded that individuals who were married or widowed but living with their children, relatives or other family members reported better healthcare-seeking behaviour than their counterparts. In addition, married individuals are more likely to seek medical care than unmarried and other older people who are financially independent but live alone.^{35 36 38} A possible reason for this phenomenon is that older people who live alone are particularly vulnerable due to their challenging living circumstances, scarcity of resources, and lack of family and emotional support.³⁹

Furthermore, people with greater satisfaction regarding domains of life were less likely to seek healthcare services than those dissatisfied with their lives. This could be explained by the fact that older people who were dissatisfied with their lives also indicated that they suffered from various chronic health problems, both physical and mental. Dissatisfaction acts as a stimulus for mental stress, which ultimately causes many health complexities that require treatment. Dong *et al.*⁴⁰ for example, noted that leaving aside their bodily health, older people who sought healthcare services for chronic pain reported lower levels of life satisfaction. Other studies, however, have suggested that older people take greater care of their health and put their knowledge into practice if they are satisfied with their lives.^{41 42} A study on older people in Japan found that life satisfaction-enhancing interventions might promote health and healthcare-seeking behaviours.⁴³

Limitations

Despite some important findings, readers should consider the following limitations. This study followed a cross-sectional design, which may limit the causal relationship between healthcare-seeking behaviour and the associated factors. The ADL and SDL were assessed based on a self-reported scale, which may not be accurate; thus, other medical approaches should be used in future research. This study was also conducted within a limited geographical area; therefore, a countrywide longitudinal study is recommended in order to more fully understand the healthcare-seeking behaviour of elderly people living in slums. Furthermore, recall and response bias may also have impacted the findings of the study and their generalisability.

CONCLUSIONS

The present study has sought to identify healthcare-seeking behaviour and the associated factors among

marginalised older people living in the slums of the KCC, Bangladesh. The findings of the study show that age, education, marital status and SDL index were significant predictors for the healthcare-seeking behaviour of older people. Effective strategies need to be implemented in order to reduce existing access barriers to healthcare services for older people in the slum areas of urban Bangladesh. In order to attain universal health coverage, especially for marginalised people, it is crucial to address the health needs of elderly people by improving their social safety net and other protection mechanisms. This study suggests strengthening bonding among family members, as old age requires familial and emotional support to aid in the pursuit of a satisfying and healthy life both physically and mentally. This requires further investigation.

Acknowledgements The authors would like to thank the participants for their voluntary participation in this study. The authors also extend their gratitude to Khulna University Research Cell for funding this study. Moreover, the authors are also thankful to Benojir Ahammed, Associate Professor, Statistics Discipline, Khulna University, for reviewing the bivariate and multivariate analyses.

Contributors NJ, DC and MTH contributed to the research conception and design. MTH, NJ and DC prepared the material and collected the data. Data were analysed and interpreted by MTH and NJ. NJ, SA, MAH, DC, AP, LS and KFM drafted the manuscript. MTH, RR, SA and NJ revised the manuscript. All authors contributed to the article and approved the final version for publication. MTH, as a guarantor, accepts full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish.

Funding This work was supported by Khulna University Research Cell (KURC) (grant number: KU/RC-04/2000-27).

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval The ethical clearance committee of Khulna University, Bangladesh approved this study (reference no. KUECC-2022/06/02). Following the collection of verbal informed consent after a full explanation of the nature and purpose of the study, the participants, that is, the elderly slum dwellers, were assured by the data enumerators that the information would be anonymous and confidential. Participation was voluntary and there was no incentive for the participants. Moreover, the participants had the right to revoke participation and sharing of information without prior justification.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement The data supporting the findings of this article will be made available by the corresponding author without undue reservation to any qualified researcher(s). Data are available upon reasonable request.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iDs

Nusrat Jahan <http://orcid.org/0000-0002-3043-2707>
 Shahinur Akter <http://orcid.org/0000-0003-3539-556X>
 Morsheda Akter Heme <http://orcid.org/0000-0002-9169-5690>
 Dipika Chandra <http://orcid.org/0000-0002-6778-8395>
 Afsana Polly <http://orcid.org/0000-0001-7506-8059>
 Laila Siddiqua <http://orcid.org/0000-0001-9143-2738>
 Rumana Rahman <http://orcid.org/0000-0003-2514-0037>
 Kaniz Fatima Mohsin <http://orcid.org/0000-0002-6009-9896>
 Md Tanvir Hossain <http://orcid.org/0000-0003-0315-6900>

REFERENCES

- United Nations. *Current status of the social situation, well-being, participation in development and rights of older persons worldwide*. New York: Department of Economic and Social Affairs, United Nations, 2011.
- United Nations. *World population ageing 2015*. New York: Department of Economic and Social Affairs, United Nations, 2015.
- Ahmed SM, Adams AM, Chowdhury M, et al. Changing health-seeking behaviour in Matlab, Bangladesh: do development interventions matter? *Health Policy Plan* 2003;18:306–15.
- Bangladesh Bureau of Statistics. *Bangladesh population and housing census 2011: socio-economic and demographic report*. Dhaka: Ministry of Planning, 2015.
- Bangladesh Bureau of Statistics. *Elderly population in Bangladesh: current features and future perspectives*. Dhaka: Ministry of Planning, 2015.
- Bangladesh Bureau of Statistics. *Changing pattern of urbanization in Bangladesh: an analysis of census data*. Dhaka: Ministry of Planning, 2015.
- Osman FA. Public health, urban governance and the poor in Bangladesh: policy and practice. *Asia-Pacific Development Journal* 2013;16:27–58.
- Adams AM, Islam R, Yusuf SS, et al. Healthcare seeking for chronic illness among adult slum dwellers in Bangladesh: a descriptive cross-sectional study in two urban settings. *PLoS One* 2020;15:e0233635.
- Jahan NA, Howlader SR, Sultana N. *Health care seeking behavior of slum-dwellers in Dhaka City: results of a household survey*. Dhaka: Institute of Health Economics, University of Dhaka, 2015.
- Khan MMH, Grübner O, Krämer A. Frequently used healthcare services in urban slums of Dhaka and adjacent rural areas and their determinants. *J Public Health* 2012;34:261–71.
- Tune SNBK, Hoque R, Naher N, et al. Health, illness and healthcare-seeking behaviour of the street dwellers of Dhaka City, Bangladesh: qualitative exploratory study. *BMJ Open* 2020;10:e035663.
- van der Heijden J, Gray N, Stringer B, et al. 'Working to stay healthy', health-seeking behaviour in Bangladesh's urban slums: a qualitative study. *BMC Public Health* 2019;19:600.
- Aleemi AR, Khaliqui H, Faisal A. Challenges and patterns of seeking primary health care in slums of Karachi: a disaster lurking in urban shadows. *Asia Pac J Public Health* 2018;30:479–90.
- Das M, Angeli F, Krumeich AJSM, et al. The gendered experience with respect to health-seeking behaviour in an urban slum of Kolkata, India. *Int J Equity Health* 2018;17:24.
- Muriithi MK. The determinants of health-seeking behavior in a Nairobi slum, Kenya. *European Scientific Journal* 2013;9:151–64.
- Bangladesh Bureau of Statistics. *Preliminary report on the census of slum areas and floating population 2014*. Dhaka: Statistics and Informatics Division, Ministry of Planning, 2015.
- Bangladesh Bureau of Statistics. *Bangladesh population and housing census 2011: community report Khulna*. Dhaka: Statistics and Informatics Division, Ministry of Planning, 2015.
- Bangladesh Bureau of Statistics. *Population and housing census 2011: Zila report Khulna*. Dhaka: Statistics and Informatics Division, Ministry of Planning, 2015.
- Stoller EP, Forster LE, Portugal S. Self-Care responses to symptoms by older people. A health diary study of illness behavior. *Med Care* 1993;31:24–42.
- Tillé Y. *Sampling and estimation from finite populations*. Hoboken, New Jersey: John Wiley & Sons Ltd, 2020.
- Mitchell RC, Carson RT. *Using surveys to value public goods: the contingent valuation method*. New York: Resources for the Future, 1989.
- Abalo K. *Poverty and the anthropometric status of children: a comparative analysis of rural and urban households in Togo*. Nairobi: African Economic Research Consortium (AERC), 2009.
- Kabir ZN, Tishelman C, Agüero-Torres H, et al. Gender and rural-urban differences in reported health status by older people in Bangladesh. *Arch Gerontol Geriatr* 2003;37:77–91.
- Ahmed SM, Tomson G, Petzold M, et al. Socioeconomic status overrides age and gender in determining health-seeking behaviour in rural Bangladesh. *Bull World Health Organ* 2005;83:109–17.
- Anantanasuwong D, Seenprachawong U. Life satisfaction of the older Thai: Findings from the pilot HART. In: Smith JP, Majumdar M, eds. *Ageing in Asia: findings from new and emerging data initiatives*. Washington DC: National Academies Press, 2012.
- Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist* 1969;9:179–86.
- Moser CA, Kalton G. *Survey methods in social investigation*. London: Heinemann Educational Books Ltd, 1979.
- Pallant JF. *SPSS survival manual: a step by step guide to data analysis using SPSS*. 4th ed. New South Wales, Australia: Allen & Unwin, 2011.
- Field A. *Discovering statistics using IBM SPSS statistics*. London: Sage, 2013.
- Richard P, Walker R, Alexandre P. The burden of out of pocket costs and medical debt faced by households with chronic health conditions in the United States. *PLoS One* 2018;13:e0199598.
- Zeeb H, Rothgang H, Darmann-Finck I. Ageing, health and Equity—Broad perspectives are needed to understand and tackle health challenges of ageing societies. *Int J Environ Res Public Health* 2018;15.
- Zeng Y, Wan Y, Yuan Z, et al. Healthcare-Seeking behavior among Chinese older adults: patterns and predictive factors. *Int J Environ Res Public Health* 2021;18:2969.
- Praptiningsih CY, Lafond KE, Wahyuningrum Y, et al. Healthcare-seeking behaviors for acute respiratory illness in two communities of Java, Indonesia: a cross-sectional survey. *J Epidemiol Glob Health* 2016;6:77–86.
- Huang C-L, Cho W-C, Tak FLT, et al. An analysis of emergency treatment-seeking characteristics in elderly patients in Taiwan in 2010. *Int J Gerontol* 2015;9:172–7.
- Paul A, Verma RK. Does living arrangement affect work status, morbidity, and treatment seeking of the elderly population? A study of South Indian states. *Sage Open* 2016;6:215824401665952.
- Srivastava S, Gill A. Untreated morbidity and treatment-seeking behaviour among the elderly in India: analysis based on national sample survey 2004 and 2014. *SSM Popul Health* 2020;10:100557.
- Hakmaosa A, Baruah K, Baruah R, et al. Health seeking behaviour of elderly in rani block, Kamrup (rural) district, Assam: a community based cross sectional study. *Int J Community Med Public Health* 2015;2:162–6.
- Xue J, Ren X, Xu Y, et al. Analyzing health seeking behavior of Chinese residents and their influencing factors based on CHNS data. *Procedia Comput Sci* 2019;162:835–41.
- Haslbeck JW, McCorkle R, Schaeffer D. Chronic illness self-management while living alone in later life: a systematic integrative review. *Res Aging* 2012;34:507–47.
- Dong H-J, Larsson B, Dragioti E, et al. Factors associated with life satisfaction in older adults with chronic pain (PainS65+). *J Pain Res* 2020;13:475–89.
- Nikanami M, Namjou A, Mozghan B. Survey the relationship between life satisfaction and health behaviors in elderly people referring to active retire mental centers. *Journal of Guilian University of Medical Sciences* 2010;19:46.
- Sung M-S, Song B-S. Health promoting behavior and degree of life satisfaction in rural elderly people. *J Korean Acad Fundam Nurs* 2004;11:82–0.
- Yamada T, Kawamata H, Kobayashi N, et al. A randomised clinical trial of a wellness programme for healthy older people. *British Journal of Occupational Therapy* 2010;73:540–8.

An Interview Schedule on “Dynamics of Health Care Seeking Behaviour of Elderly People: A Study on Slums in Khulna City”

Funded by Khulna University Research Cell

[The data, collected in this study, shall not be disclosed under any circumstance without the permission of the participants]

Location: _____ Ward No.: _____ Thana: _____

Schedule No.: _____ Interviewer: _____ Date: ____/____/____

Section 1A: Personal Information of the Participants

Age (in Year): _____ Sex: 1 Male 2 Female 3 Third Religion: 1 Islam 2 *Sanatan* 3 Christianity
 Education: _____ Occupation: 1 Labour Selling (_____ Specify) 2 Non-labour Selling (_____ Specify)
 Monthly Income: _____ (in BDT) Modes of Income: 1 Daily 2 Weekly 3 Bi-monthly 4 Monthly
 Marital Status: 1 Married 2 Widow/Widower 3 Divorced/Separated 4 Deserted
 Age of Spouse (in Year): _____ (if alive**) Education of Spouse: _____ (Specify**)
 Occupation of Spouse: 1 Labour Selling (_____ Specify**) 2 Non-labour Selling (_____ Specify**)
 Monthly Income of Spouse: _____ (in BDT) Modes of Income: 1 Daily 2 Weekly 3 Bi-monthly 4 Monthly
 Duration of Marriage (in Year): _____ Duration of Departure/Divorce/Desertion (in Year): _____
 Number of Children: 1 Son (_____ Specify) 2 Daughter (_____ Specify) 3 No Child
 Eldest Child: 1 Son 2 Daughter Marital Status: _____ Occupation: _____ Income (in BDT): _____
 Living Arrangement: 1 With Spouse and Children 2 With Spouse Only 3 With Children 4 With Grand Children
 5 With Relatives 6 Alone
 Getting Social Assistance: 1 Yes 2 No Type of Assistance: _____ Amount (in BDT): _____
 Provider: 1 GO 2 NGO Membership in Cooperatives: 1 Yes 2 No Duration of Membership (in Year): _____
^vSource of Loan: _____ Amount of Loan: _____ (in BDT) Instalments: 1 Daily 2 Weekly 3 Monthly
 Person Responsible for Instalments: _____

Please Mark with a tick(✓) Sign

In Case of Open Question, Please Specify

Section 1B: Information about Household (HH)

Head of Household (HHH): _____ Sex of HHH: 1 Male 2 Female 3 Third Sex Education of HHH: _____
 Occupation of HHH: 1 Labour Selling (_____ Specify) 2 Non-labour Selling (_____ Specify)
 Income of HHH: _____ (in BDT) Modes of Income: 1 Daily 2 Weekly 3 Bi-monthly 4 Monthly
 Type of Family (by nature): 1 Nuclear 2 Extended Type of Family (by income): 1 Single-earned 2 Dual-income
 Size of Family: 1 Child _____ 2 Adolescents _____ 3 Adult _____ 4 Aged _____ 5 Total _____
 Household Income (in BDT): _____ Per Capita Household Income (in BDT): _____
 Household Expenditure (in BDT): _____ Per Capita Household Expenditure (in BDT): _____

Please Mark with a tick(✓) Sign

In Case of Open Question, Please Specify

Section 2A: Information about Non-monetary Wealth^[v.43]

Elements of Comfort [1 Yes 0 No]		Communications and Transport [1 Own 0.5 Rental 0 None]	
Television		Mobile	
Refrigerator		Bi-cycle	
Ceiling Fan		Rickshaw	
Stand Fan		Van	
		Easy Bike	
Water Consumption [1 Potable 0.5 Protected 0 Unprotected]		Housing [1 Modern 0 Traditional]	
Primary Use		Floor	
Secondary Use		Walls	
Tertiary Use		Ceiling	
Energy Consumption [1 Electricity/Gas 0.5 Solar Power 0 Kerosene/Wood/Leaf]		Sanitation [1 Unitary 0 Common] [1 Modern 0 Traditional]	
Power		Facility	
Cooking		Type of Sanitation	
Please Mark with a tick(✓) Sign		In Case of Open Question, Please Specify	

Section 2B: Activities of Daily Living^[v.53]

Response [1 Capable 0.5 Need Assistance 0 Incapable]	Bathing	Faecal	Washing
	Medication	Cooking	Household Chores
	Shopping	Visiting/Going Out	Managing Finance
Please Mark with a tick(✓) Sign		In Case of Open Question, Please Specify	

Section 2C: Satisfaction with Domain of Life

Perceived Satisfaction	Code(s)	
^{v.54} How satisfied are you with your physical health?		0 Very Dissatisfied
^{v.55} How satisfied are you with your economic status?		1 Dissatisfied
^{v.56} How satisfied are/were you with your spouse relationship?		2 Neither Satisfied nor Dissatisfied
^{v.57} How satisfied are you with your children relationship?		3 Satisfied
		4 Very Satisfied

v.58 How satisfied are you with your life in general?		
Total		

Please Mark with a (√) Sign

In Case of Other/Open Qu., Please Specify

Section 3: Health Care-Seeking Behaviour

Care-seeking Behaviour	Categories of Illness					
	Fever of All Types	Gastrointestinal Illness	Aches and Pain	Respiratory Illnesses	Skin/Eye/ENT related Illnesses	Water-Bourne Illness
v.44 Response [1 Yes 2 No]						
v.45 Duration of Illness [in Days]						
v.46 Care-seeking [1 Yes 2 No]						
v.47 Care Giver [1 Self-care 2 Traditional 3 Unqualified Allopath 4 Qualified Allopath 5 Para Professional]						
v.48 Nature of Treatment [1 Traditional 2 Modern]						
v.49 Place of Treatment [1 Clinic/Hospital 2 Pharmacy/Drugstore 3 Home]						
v.50 Distance of Health Facility [in meters]						
v.51 Cost of Treatment [in BDT]	v.50.1 Fees					
	v.50.2 Medicines					
	v.50.3 Tests					
	v.50.4 Transportation					
v.52 Cost Bearer [1 Self 2 Spouse 3 Children 4 Relatives 5 Loan]						

Please Mark with a tick(√) Sign

In Case of Open Question, Please Specify