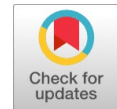


Determinants of Healthcare Services for Aged Women in Rural Bangladesh

Dipika Chandra, Delip Kumar Mondal, Rina Aktar



Abstract: In Bangladesh, one of the world's poorest nations, a significant share of the deprived inhabitants are elderly women who live in rural regions with little access to healthcare. The primary goal of this investigation was to analyse the determinant of healthcare services for aged women in rural Bangladesh. This study was conducted using survey research method through interview schedule. It was carried out in four villages in the Satkhira district. It was followed by purposive sampling and a sample size of 260 was selected. The study revealed that 53.1 percent of the respondent took medical help promptly during the time of illness. Besides this 73.1 percent of the respondent took medical care from a qualified doctor and only 42.2 percent of the respondent get the old allowance. However, nature of the treatment was influenced by the distance to get health facility ($p < .001$) and response in seeking health care ($p < .001$). The results indicate that the head of the household's year of schooling ($p = .001$) and monthly household income ($p = .001$) had a significant link with the response to seeking health care.

Key words: Determinants, healthcare, aged women and treatment

I. INTRODUCTION

A change is taking place in the demographic structure around the world with a steady transition towards a higher proportion of older people. As a result, they are living longer than ever before which poses a new kind of problem for the modern world (Biswas, Kabir, Nilsson & Zaman, 2006[7]). While old age affects both males and females, the societal perspectives show us women are most vulnerable compared to men. In this study, aged women were defined as those who were 60 years or older. And health services were comprised of qualified doctors who provide services in a hospital or clinic and have a medical degree, as well as unqualified means like self-treatment, *kabiraj*, or taking medication directly from a drugstore or pharmacy. Even the inferior status of women in society is largely responsible for this consequence, which leads to gender inequality (Abed, 2013[1]). Surprisingly, Bangladesh seems to have the third-largest number of the poorer older population in the world (Tareque et al., 2013[20]).

In 2015 there were 7.3 million elderly women in Bangladesh with an estimated increase to 12 million by 2022 and 24.1 million by 2050 (BBS, 2015[5]; Economic and Social Commission for Asia and the Pacific, 2013). Particularly, 73 percent of aged women live in remote villages and rural or semi-rural areas in Bangladesh, and they are experiencing a longer duration of illness in comparison to rural males and other Bangladeshi demographic categories (Rahman, 2006[19]; Abed, 2013).

Therefore, older women in Bangladesh especially those who live in rural areas face various types of challenges. As a result, they suffered several health problems in third world countries go untreated because of financial obstacles in accessing health care, discrimination, erratically scattered services between rural and urban areas, etc. (Ahmed et al., 2013; Hemachandra & Manderson, 2009[13]; Hossen & Westhues, 2011[16][23]). Besides that, in rural areas aged women are still receiving poor health services than their male counterparts. But equal access to healthcare is a fundamental right according to the People's Republic of Bangladesh's Constitution. This constitutional right indicates access to health care prioritizes child-bearing women, and funding is geared towards programs in maternal and child health care. On the other hand, elderly women's healthcare is a part of the same health program (Hossen, 2010; Abed, 2013[17]). However aged women's health problems got little consideration from health policymakers in the developing world. Moreover, statistics show that the average duration of illness among rural elderly women is 76 months for all kinds of diseases, which is higher than the normal duration of the disease at a time (Bangladesh Bureau of Statistics, 2015). Sometimes rural elderly women are not seeking health care as they do not consider their illness too severe to solve this (Biswas et al., 2006[8]; Hossen, 2013). As well as the average usage rate of rural public health facilities in Bangladesh is 30%, with the private and conventional healthcare systems offering medical care to most citizens. (Vaughan, Karim, & Buse, 2000[22]). The presence and involvement of aged women in social and financial structures in rural Bangladesh are nearly invisible; the circumstances of their daily lives differ according to their social status, financial context, and cultural features like social segregation; economic marginalization, norms, and narrow-minded values, persecution, dependence, and harsh conditions of living, familial relationships, etc. (Biswas et al., 2006; Tareque, et al., 2013[10]). Further, an insufficient health care infrastructure and poor management system appear to be major barriers to accessing the health care services for elderly rural women in Bangladesh.

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The health care service of Bangladesh comprises public, private, and traditional treatment options (Ahmed et al., 2013[2]). Public health services include district hospitals, local health centers, welfare Centers, and community hospitals (Uddin & Hamiduzzaman, 2009[21]).

Moreover, the Hockbaum et al. (1950[15][24][25][26][27][28]) found that Health Belief Model (HBM) is a psychological model that aimed to explain and predict health behaviors. Apart from according to the Davidson & Andersen framework for healthcare service usage, an individual's use of healthcare services is determined by three factors: predisposing, enabling, and need factors. The authority needs to rethink the laws and processes in place to ensure older people in Bangladesh have access to basic health care, given the country's fast-increasing elderly population. The development of policies, the planning and cost-effective implementation of programs, and the calculation of their impact is a crucial area that needs to be addressed. Because today's challenge is to build a health care system that ensures fair coverage for everyone including aged women. In this regard, this study aims to explore the factors impacting elderly women's access to healthcare.

II. MATERIALS AND METHOD

The survey method was followed for collecting quantitative data which is capable of obtaining information from large samples of the population (Glasow, 2005[11]). Data that were collected using an interview schedule in English consisting of both close-ended and open-ended questions. The research was conducted purposively in *Shyamnagar Upazila* of Satkhira district. More specifically four villages named *Arpangashiya*, *Borokupot*, *Fulbari*, and *Chingrakhali* under *Atulia* and *Shyamnagar* union were selected for the study. The inclusion criteria of the participants were – (i) The participant must be aged woman 60 years or more, (ii) The participant lived in the selected area for at least 10 years. After finalizing the schedule, the fieldwork was carried out by the researcher and the survey extended from 16 April to 08 July, 2021. In this study, the researcher chose to make use of non-probability sampling because it can be regarded as the only sampling method that makes a representative sampling design possible. A pre-test was carried out for revising and finalizing the interview schedule and to make sure of the practicability of the interview schedule. As a candidate for multivariate analysis is any variable that has a significant univariate test at some arbitrary level and bivariate analysis was used to assess the statistically significant association between dependent variables and chosen independent variable. Pearson's chi-square (χ^2) test of independence was used to determine statistical significance for categorical variables. Finally, the effect of the independent variable on dependent variables was investigated using binary logistic regression. The logistic models were created using the variables that were discovered statistically significant on Pearson's chi-square (χ^2) test of independence. Lastly, qualitative data were analyzed thematically.

III. RESULTS

Personal Attributes of the Respondents: Among 260 of the respondents, the proportion of the respondent was higher in the age group 65 to 69, which is around 49 percent of the respondent along with the mean and the standard deviation

were 66.52 and 4.623 respectively. It also showed that 47.7 percent of the respondent didn't know how to read and write. As most of the respondent was not financially well sometimes, they get the old allowance. The study discovered that 42.3 percent of the respondent get an old allowance on the contrary 57.7 percent of the respondent did not get any social assistance.

Information about Household: As most of the elderly women of Bangladesh are dependent on the family that's why familial information plays a vital role to determine their health care services. As most of the decision of a family was taken by the head of the family thus their education also influence the health-seeking behavior of the aged women. The result showed that most of the heads of the house were farmers (61.5percent) as the study was conducted in the rural area and they lived with 7 or more family members. Most households have a monthly income of 25000 takas or above (29.2 percent). Where 26.2 percent of the respondent is indicated that their family income was between 10000to 14000 taka.

Type of Health Problems: From the survey the study found that the most commons type of illness among the aged women are visual problem (79.2 percent), hearing problems (46.25), asthma (43.85 percent), Joint pain (81.5 percent)', cough (55.4 percent)', piles problem (13.8 percent)', blood pressure (66.9%), diabetes gastric (54.6%)', water bone diseases (17.7 percent) eye infections (23.1 percent), urinary problem (54.6 percent), etc.

Nature of Health Care Service: The study revealed that 53.1 percent of the respondent take medical help promptly during the time of illness, on the contrary 46.9 percent of the respondents seek medical help delayed during the time of illness. The study also found that 73.1 percent of the respondent take medical care from a qualified doctor and only 26.9 percent of the respondent seek medical care from an unqualified doctor. In terms of place of treatment, most of the respondents seek health care from government hospitals (48.5 percent) and 20 percent of the respondent seek medical care from non-government or from private medical hospitals. The table also showed that 45.4 percent of the women spent 600 to 2000 taka on their medical treatment during the last 6 months when the data was collected.

Response in Seeking Health Care and Its Covariate (Chi-square Test): Among the personal information respondents' religion, marital status, living arrangement, were not associated with their response in seeking health care ($p > .583$, $p > .448$, $p > .314$) respectively. That's mean those variables don't have any association with whether the respondent takes health services promptly or delayed. Other personal attributes like the occupation of the respondent, monthly income of the respondent, monthly savings of the respondent also were not related. But the result found that personal information like the age of the respondent ($p < .004$), educational qualification ($p < .017$), and getting social assistance ($p < .028$) has an association with the response in seeking health care.

In the familial factor head of the household ($p > .790$) and the number of the family were not related to the response in seeking health care. But the result found that year of schooling of the head of the household ($p < .001$), occupation of the head of the household ($p < .001$), monthly household income ($p < .001$) had a significant relationship with the response in seeking health care. Among variable within the nature of the health care services place of treatment, distance to get health care facility, and total cost of treatment (last 6 month) has a significant association with the response in seeking health care which was $p < .001$, $p < .001$, $p < .001$ respectively. Furthermore, there was not any relationship between cost bearers and response in seeking health care.

Nature of Treatment and its Covariant (Chi-square Test):

This study found that, nature of treatment for aged women was not associated with the age, religion, marital status, and education, number of the children, living arrangement and getting social assistance of the respondent. Furthermore, among the familial factors the nature of treatment influenced by year of schooling of the head of the house hold ($p < .014$), occupation of the household head ($p < .001$) and monthly household income ($p < .001$). But the research did not find any significant association with nature of treatment and head of the household ($p > .770$), or with the treatment cost bearer of the respondent. However, nature of the treatment was influenced by the distance to get health facility ($p < .001$), total cost of treatment within last 6 month ($p < .001$), and response in seeking health care ($p < .001$).

Place of Treatment and its Covariates (Chi-square Test):

By this study, it is found that the place of treatment was not influenced by age of the respondent ($p > .190$), education of the respondent ($p > .294$), or by whether she got social assistance ($p > .506$) or not. But the size of the family ($p < .017$) influences the place of treatment. Furthermore, result showed that education of the head of the household ($p < .002$), occupation ($p < .001$) of the household and monthly household income ($p < .001$) has significant relationship with the place of treatment. Beside this the distance ($p < .001$) to get health facility, total cost of treatment ($p < .001$) has influence on where a respondent took his treatment.

Binary Logistic Regression in Terms of Response in Seeking Health Care: Table-7 demonstrates the outcome of the multivariate analysis of the factor of whether an elderly women's response in seeking health care was promptly or delayed. The result showed that the odds of prompt response increases by 1.119 (95% C.I; 1.028, 1.219; $p < .010$) times with an increase in the value of the age of the respondent. Similar kinds of the result were identified in terms of the education of both the respondent and the education of the head of the household. It revealed that the odds of prompt response increases by 1.341 (95% C.I; 1.102, 1.632 $p < .003$), 1.271 (1.119 (95% C.I; 1.123, 1.438) respectively than who attained less school year. The study also found that the respondents who got social assistance were .453 (95% C.I; .223, .921 $p < .029$) time less likely to respond in health care. Furthermore, size of the family and the number of children did have a significant relationship with the response in seeking care. Besides the other factors, the cost of treatment played a vital role in determining health care services. The research found that the odds of prompt response increased by 1.003 (95% C.I; 1.002, 1.003; $p < .001$) times with an increase

in the value of the cost of the treatment. Another important determinant of health care service is income. The study indicates that those whose families earned between 15000-19000 taka per month 6.545 (95% C.I; 1.288, 33.257; $p < .023$) times more likely to respond in health-seeking promptly than those who earn 10000-14000 taka per month. Similarly, who earned 20000-24000 taka per month (OR=.00 95% C.I; 18.063, 522.092 $p < .001$) has higher odds of response in health-seeking promptly during illness. It indicates that the higher the household income higher the probability of response in health-seeking.

A. Determining Factors of Healthcare Services of Aged Women

Opinion about the Access to Medical Care: In terms of inadequate diagnostic equipment, 29.2 percent of the respondent disagrees with the statement whereas 42.3 percent of the respondent agrees with the statement. Again, 43.8 percent of the respondent disagrees with the statement "unavailability of skilled physician" where 23.1 percent of respondents were neutral about the fact and 31.5 percent was agreed with the fact. Adequate medicine supply also curtails a better health service system. The table indicates that 40.8 percent agreed with the fact inadequate medical supply. Where 33.1 percent of the respondent has remained silent about this statement. In terms of long-distance health care centers from home, 43 percent of the respondent disagrees with the fact and 42.3 percent of the respondent agree with the fact. About the unhealthy environment at the Medical Centre, 53.8 percent of the respondent disagree with the fact 24.6 percent of the respondent agreed with the statement. About the lack of ambulance facilities majority of the people agreed (72.3) with the fact and another 20 percent of the respondent remained salient about the fact. In terms of the unsatisfactory behavior of medical service providers, 52.3 percent of the respondent disagreed with the fact and 34.6 percent of the respondent agreed with the fact.

Opinion about Economic Factors: From the table, it identified that about lack of income source 53.8 percent of the respondent agree with the fact and 42.3 percent of the respondent agreed with the fact beside this 1.5 percent strongly agreed with the statement. About the inability to buy nutritious food 88.5 percent of the respondent disagree with the fact and only 9.2 percent of the respondent agreed with the fact. About unhealthy house structure and unhealthy sleeping/lying place, 92.3 and 93.8 percent of the respondent disagreed with the fact. With the statement high medical cost, 80 percent of the respondent agreed. About lack of familial financial support, 79.2 percent of the respondent disagreed.

Opinion about Environmental Factors: 49.2 percent of the respondents disagreed that they faced waterlogging and 43.8 agreed about waterlogging. About the variation, in temperature and rainfall, 57.7 percent of the respondent disagreed with the statement whereas only 28.5 percent of the respondent agreed. About the pollution majority of the people agreed ((60.8%) and 29.20 percent disagreed.

About the destruction of sanitation facilities, 80.8 percent of people disagreed about the fact whereas only 14.6 percent agreed about the fact. Furthermore 54.6 percent of the people agreed about the fact spread of insects and mosquitoes.

Behavioral Factors: The table indicate that 66.2 percent respondent disagreed that they take food irregularly and 27.7 percent agreed about the statement. In term of excessive physical activity majority of the respondent disagreed with the statement and another 13.1 percent of the people agreed with the fact. About the lack of physical exercise 43.8 percent agreed and another 43.8 percent disagreed. The table demonstrated that none of the respondent consumed any kind of alcohol or addicted to smoking. 50 percent of the respondent strongly disagreed about the fact and 48.5 percent were disagreed. Beside this majority of the respondent strongly disagreed (3.8%) and disagreed (61.5%) about the statement not washing hand before taking meal. Though 29.2 percent of the respondent agreed about the fact. Furthermore, about not washing hand with soap after toilet 40.8 percent of the respondent agreed with the fact. In the contrary 48.5 percent of the respondent disagreed about the fact.

Opinion about Social Factor: The result demonstrate that 83.8 percent of the respondent agreed that they have good relationship with their family members and 8.5 percent of the respondent disagreed with the fact. About the good relationship with the neighbor's 76.2 percent of the respondent agreed with the fact. And 21.5 percent of the respondent disagreed with the fact. In terms of caring family member 81.5 percent respondent agreed with the fact in the contrary only 7.7 percent disagreed with the statement. Furthermore, 46.9 percent respondent agreed that they have available recreational facilities. But 44.6 percent of the respondent disagreed with the fact.

IV. DISCUSSION

The present study was conducted to identify the determinants of health care services for aged women. The research found that the percentage of old women in the overall population of women has increased from 5 percent in 1991 to 6 percent in 2001 to 10 percent in 2015, and will reach 20 percent around 2050 (Hamiduzzaman et al., 2018[12]). Education is one of the most important factors in the case of accessing health care services. The present research data indicates that the majority of respondents are illiterate being unable to read or write. Similarly, they found elderly women's literacy rate was 19.6 percent and only 5 percent of women attended formal schooling people in rural West Bangle, India (Chakraborty, 2005[9]). The result also showed that the higher percent of the elderly women were married and most of the respondents were housewife and they didn't have any monthly income or saving, they were dependent on the family for living. Besides, previous research identified that 98 percent of older women in rural regions are jobless, with just 2 percent participating in the main rural economy (HIES, 2010[14]). The study indicated that the majority of respondents lived with their spouse and children of exclusively with their children. Other research denotes similarly indicate between 2001 and 2011, rural homes saw a gradual rise of widowed and lone elderly women (Begum & Wesumperuma, 2012[6]). The study revealed that approximately forty percent of the respondent

get an old allowance which was a monthly 500 taka. Though the government's 1997 introduction of the Age Allowance (OAA) for the elderly has not increased healthcare access, purportedly owing to financial restrictions (Begum & Wesumperuma, 2012).

From the findings of the chi-square test it is found that the nature of treatment is not significantly associated with the age of the respondent, education of the respondent, number of children, getting social assistance, living arrangement, and with the head of household. But the study found that the nature of the treatment has a significant relationship with the year of schooling of the head of the household. But finding shows that the nature of treatment is influenced by the year of schooling of the head of the household, occupation of the household head. The present study result indicates that participants take both types of treatment like from qualified doctors and unqualified doctors. Here qualified doctors indicate government registered doctors and unqualified doctors indicate Kabiraj, Homeopath, etc. Other studies also find similar kinds of results, a study showed that depended on both Western and traditional drugs, or a combination of both, to treat their problems. Women saw medication as only a means to a goal, and they were not reliant on doctors. (Hossein, 2010). Other researchers have shown that women in rural Bangladesh are less likely to have access to more expensive professional allopathic doctors for health care. Only one rural old woman in every 1,000 receives treatment from public or private hospitals or clinics, compared to two elderly women in every 1,000 who seek care from pseudo-professionals and traditional lay individuals such as village physicians, pharmacy salespersons, and witch doctors (*kabiraj*) (Andaleeb et al., 2007[4]).

From the chi-square test research found that the distance to get health facility has a significant relationship with the nature of the treatment. Another study denotes that elderly women were had to pay significant medical fees and travel great distances to access health care, hence increasing the indirect cost of care (Aldana, et al., 2001[3]). A study which was conducted in West Bangle India found a similar type of health problem for elderly women (Chakraborty, 2005). The results indicate that the head of the household's year of schooling ($p=.001$), employment ($p=.001$), and monthly household income ($p=.001$) all have a significant link with the response to seeking health care. That's mean those variable influence whether the respondent seeks health care promptly or delayed. From the binary logistic regression, the study found that the age of the respondents, year of schooling of the respondent, year of schooling of the head of the household, whether the respondent gets social assistance or not, nature of the treatment, monthly family income, and the place of treatment was the most significant determinants of health-seeking response among the mother. The odds of prompt response increases by 1.119 times with an increase in the value of the age of the respondent. The study also found that the respondents who got social assistance were .453 times less likely to respond in health care. This could happen because those who received old allowance were lived in the poverty.



They tend to respond in health care lately. Other studies on aged women of rural Bangladesh found that they frequently do not seek treatment because, for cultural and economic reasons, they do not believe their sickness is severe enough (Biswas et al., 2006; Hossen, 2010[18]; Rahman & Roy, 2009).

V. CONCLUSION

When it comes to rural old women in Bangladesh, there are a lot of impediments that prevent them from using and accessing medical and healthcare services. Besides elderly women continue to be devalued citizens with severely insufficient healthcare access which is frequently a result of their financial independence and diminished choice competence. As the study found that none of the respondent has any income, they were highly dependent on their family. Though the majority of the respondent seek health care promptly many respondents did seek health care in delay. Because they faced various types of disparities in accessing health care services like inadequate diagnostic equipment, unavailability of a skilled physician, inadequate medicine supply, long-distance health care centers from home, high medical costs, etc. Social-economic vulnerability factors such as social exclusion, dependency upon others, an absence of familial support, as well as bad relationships with the neighbor are likely to continue to have a detrimental effect on rural aged women's, healthcare access, and well-being, thereby making them a growingly social disadvantaged class in Bangladesh. In this view, developing a financially and electorally responsible health plan for rural old women in Bangladesh has become a matter of national self-interest in a country that is long ruled by senior women.

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Conflict of Interests	There are no conflicting interests to the best of my knowledge.
Ethical Approval and Consent to Participate	Ethical consideration is a momentous component of a study which ensures that respondents offer information without fear or hesitation. In this research, ethical consideration was met through seeking consent from the participants. Any sort of misleading information of representation in a biased way was avoided.
Availability of Data Material	Certain sources might require access through an organization.
Author Contribution	All authors have equal participation in this article

REFERENCES

1. Abed, F. Bangladesh's health revolution. The Lancet, 382(9910), 2048-2049. doi:10.1016/S0140-6736(13)62112-1 (2013). [https://doi.org/10.1016/S0140-6736\(13\)62112-1](https://doi.org/10.1016/S0140-6736(13)62112-1)
2. Ahmed, S. Changing health-seeking behaviour in Matlab, Bangladesh: do development interventions matter? Health Policy And

- Planning, 18(3), 306-315. doi: 10.1093/heapol/czg037 (2013). <https://doi.org/10.1093/heapol/czg037>
3. Aldana, S. G., & Pronk, N. P. Health promotion programs, modifiable health risks, and employee absenteeism. Journal of Occupational and Environmental Medicine, 36-46 (2001). <https://doi.org/10.1097/00043764-200101000-00009>
4. Andaleeb, S. S., Siddiqui, N., & Khandakar, S. Patient satisfaction with health services in Bangladesh. Health policy and planning, 22(4), 263-273. <https://doi.org/10.1093/heapol/czm017> (2007). <https://doi.org/10.1093/heapol/czm017>
5. Bangladesh Bureau of Statistics (BBS). Adjusted Population and Housing Census 2011. Dhaka: Government of the People's Republic of Bangladesh (2015).
6. Begum, S., & Wesumperuma, D. The old-age allowance programme in bangladesh: challenges and lessons. Social Protection for Older Persons: Social Pension in Asia, 187-213 (2012).
7. Biswas, P., Kabir, Z. N., Nilsson, J., & Zaman, S. Dynamics of health care seeking behaviour of elderly people in rural Bangladesh. International Journal of ageing and later life, 1(1), 69-89 (2006). <https://doi.org/10.3384/ijal.1652-8670.061169>
8. Biswas, P., Lloyd-Sherlock, P., & Zaman, S. Understanding elderly client satisfaction with primary health care in rural Bangladesh. Asian Journal of Gerontology & Geriatrics, 1(3), 133-140 (2006).
9. Chakraborty, Satyajit. Health seeking behavior of aged population of a rural block in West Bengal, Working Paper No. 8, Achuta Menon Center for Health Science Studies, Thiruvananthapuram, Kerala (2005).
10. Economic and Social Commission for Asia and the Pacific. Statistical Yearbook for Asia and the Pacific—2013. New York, NY: United Nations (2013).
11. Glasow, P. A. Fundamentals of survey research methodology. Retrieved January, 18, 2013 (2005).
12. Hamiduzzaman, M., De Bellis, A., Abigail, W., & Kalaitzidis, E. Social determinants of rural elderly women healthcare access: a systematic review of qualitative literature. The Indian Journal of Social Work, 79(4), 469. doi: 10.32444/ijsw.2018.79.4.469-496 (2018). <https://doi.org/10.32444/IJSW.2018.79.4.469-496>
13. Hemachandra, D. K. N. A., & Manderson, L. Menstrual problems and health seeking in Sri Lanka. Women & Health, 49, 405-421 (2009). <https://doi.org/10.1080/03630240903238636>
14. HIES. Expenditure Survey HIES 2010. Preliminary Report on Household Income and Expenditure Survey. Dhaka: Statistics Division, Ministry of Planning, The Government of the People's Republic of Bangladesh (2010).
15. Hochbaum, G., Darley, J. G., Monachesi, E. D., & Bird, C. Socioeconomic variables in a large city. American Journal of Sociology, 61(1), 31-38 (1950). <https://doi.org/10.1086/221660>
16. Hossen, A., & Westhues, A. Improving access to government health care in rural Bangladesh: the voice of older adult women. Health Care for Women International, 32(12), 1088-1110. doi: 10.1080/07399332.2011.603862 (2011). <https://doi.org/10.1080/07399332.2011.603862>
17. Hossen, M. A., Westhues, A., & Maiter, S. Coping strategies of older rural Bangladeshi women with health problems. Health Care Women Int, 34(12), 1116-1135. <https://doi.org/10.1080/07399332.2013.817410> (2013). <https://doi.org/10.1080/07399332.2013.817410>
18. Hossen, M. Bringing medicine to the hamlet: exploring the experiences of older women in rural Bangladesh who seek health care. PhD thesis. Lyle S. Hallman Faculty of Social Work, Waterloo, Canada: Wilfrid Laurier University (2010).
19. Rahman, M. R. Human rights, health and the state in Bangladesh. BMC International Health and Human Rights, 6(4), 1-12. doi:10.1186/1472-698X-6-4 (2006). <https://doi.org/10.1186/1472-698X-6-4>
20. Tareque, M. I., Begum, S., & Saito, Y. Gender differences in disability-free life expectancy at old ages in Bangladesh. Journal of Ageing and Health, 25(8), 1299-1312 (2013). <https://doi.org/10.1177/0898264313501388>
21. Uddin, M.N. & Hamiduzzaman, M. 'Problems and prospects of decentralized rura health care system in Bangladesh', SUST Journal of Public Administration, 2(1), 47-75 (2009).
22. Vaughan, J. P., Karim, E., & Buse, K. Health care system in transition iii. Bangladesh, Part 1. An overview of the health care system in

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- Bangladesh. Journal of Public Health Medicine, 22(1), 5–9 (2000). <https://doi.org/10.1093/pubmed/22.1.5>
23. Worcester, M. I. Family coping: caring for the elderly in home care. Home Health Care Services Quarterly, 11, 121–185 (2011) https://doi.org/10.1300/J027v11n01_04
24. Shamsutdinov, Y. A., Bochkovskiy, P. P., Prokhorov, V. V., & Prokhorova, L. V. (2020). Performance Method for Innovative Activity on the Achieved Level of the Country's Socioeconomic Development. In International Journal of Innovative Technology and Exploring Engineering (Vol. 9, Issue 3, pp. 3678–3686). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP. <https://doi.org/10.35940/ijitee.c9129.019320>
25. Does the Recent Global Business Growth Exhibit an Inclusive Growth? a Research on Socio-Economic Status of Least Developed Nations in Asia. (2019). In International Journal of Recent Technology and Engineering (Vol. 8, Issue 4, pp. 9928–9938). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP. <https://doi.org/10.35940/ijrte.c4816.118419>
26. Nshimirimana, P., & Kitula, M. D. (2020). The Socio-Cultural Barriers Young Females Face in Accessing Technical and Vocational Education Training (TVET) in Rwanda. In International Journal of Management and Humanities (Vol. 4, Issue 12, pp. 33–40). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP. <https://doi.org/10.35940/ijmh.k1054.0841220>
27. S*, A. K., Wadhwa, A., & Gramle, Dr. A. (2021). Health Care Professionals in the Digital Landscape in India. In International Journal of Management and Humanities (Vol. 5, Issue 7, pp. 30–36). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP. <https://doi.org/10.35940/ijmh.g1258.035721>
28. Abdullah, S. S. B., Kosnin, A., & Jiar, Y. K. (2019). Emotional Intelligence Among Women: A Systematic Review. In International Journal of Engineering and Advanced Technology (Vol. 8, Issue 5c, pp. 967–970). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP. <https://doi.org/10.35940/ijeat.e1137.0585c19>

Table 1: Measurement Unit of the Variables

Variable	Measurement unit
Age of the respondent	1 = 60-64, 2 = 65-69, 3 = 70-74, 4 = 75 and above
Respondent's year of schooling	1 = Unlettered, 2 = Class 1-3, 3 = class 4-5, 4 = class 5-6, 5 = Class 6-7
Year of Schooling (HHH)	1= Primary, 2 = Secondary, 3= Higher Secondary, 4 = Graduation or above
Occupation (HHH)	1 = School Teacher, 2 = Farmer, 3 = Business, 4 = Other
Monthly Household Income	1 = 10000-14000, 2 = 15000-19000, 3 = 20000-24000, 4 = 25000 and above
Size of Family	1 = 1-3, 2 = 4-6, 3 = 7 and above

Table 2: Personal Attributes of the Respondents

Variables	Participants (Percentage)		Statistics (Mean & Std. Deviation)
Age			
60-64	74	(28.5)	66.52 and 4.623
65-69	126	(48.5)	
70-74	46	(17.7)	
75 and above	14	(5.4)	
Religion			
Islam	134	(51.5)	
Sanatan	126	(48.5)	
Respondent's year of schooling			
Unlettered	124	(47.7)	1.74 and 1.939
Class 1-3	78	(30.0)	
class 4-5	50	(19.2)	
Class 6-7	8	(3.1)	
Marital status			
Married	140	(53.8)	
Widow	120	(46.2)	
Number of children			
1-3	102	(39.2)	4.06 and 1.554
4-6	140	(53.8)	
7 and above	18	(6.9)	
Living arrangement			
With spouse and children	138	(53.1)	
With spouse only	2	(.8)	
With children	120	(46.2)	
Getting social assistance			
No	150	(57.7)	
Yes	110	(42.3)	

Source: Field Survey, 2021

Table 3: Information of the Household

Variables	Participants (Percentage)		Statistics (Mean & Std. Deviation)
Head of Household (HHH)			
Husband	84	(32.3)	-
Son	176	(67.7)	
Year of Schooling (HHH)			
Primary	24	(9.2)	8.45 and 3.426
Secondary	186	(71.5)	
Higher Secondary	22	(8.5)	
Graduation or above	28	(10.8)	
Occupation (HHH)			
School Teacher	22	(8.5)	-
Farmer	160	(61.5)	
Business	58	(22.3)	
Other	58	(22.3)	
Size of Family			
1-3	6	(2.3)	6.12 and 1.671
4-6	174	(66.9)	
7 and above	80	(30.8)	
Monthly Household Income (BDT)			
10000-14000	68	(26.2)	18576.92 and 6736.302
15000-19000	62	(23.8)	
20000-24000	54	(20.8)	
25000 and above	76	(29.2)	

Source: Field Survey, 2021

Table 4: Most Common Type of Health Problems

Variable	Participants (Percentage)	
Most Common Health Problems		
Visual	206	(79.2)
Hearing	120	(46.2)
Asthma	114	(43.8)
Joint pain	212	(81.5)
Cough	144	(55.4)
Piles	36	(13.8)
Blood Pressure	174	(66.9)
Diabetes	100	(38.5)
Gastric	142	(54.6)
Water bone diseases	46	(17.7)
Cold fever/ Cough/ Severe Cold	44	(16.9)
Eye Infections	60	(23.1)
Urinary problem	38	(14.6)

Source: Field Survey, 2021

Table 5: Nature of the Treatment

Variables	Participants (Percentage)		Statistics (Mean & Std. Deviation)
Response in seeking health care			
Delayed	122	(46.9)	–
Promptly	138	(53.1)	
Nature of Treatment			
Unqualified	70	(26.9)	–
Qualified	190	(73.1)	
Place of Treatment			
Pharmacy/Drugstore	82	(31.5)	–
Non-Govt. Hospital	52	(20.0)	
Govt. Hospital.	126	(48.5)	
Distance to get Health Facility (K.m)			
1-4	138	(53.1)	8.45 and 7.044
5-9	28	(10.8)	
15 and above	94	(36.2)	
Total Cost of Treatment [Last 6 Months]			
500 and below	62	(23.8)	2080.00 and 1802.169
600-2000	118	(45.4)	

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2100-3500	32 (12.3)	
3600-5000	36 (13.8)	
5100 and above	12 (4.6)	
Cost bearer		
Children	212 (81.5)	
Spouse	48 (18.5)	—

Source: Field Survey, 2021

Table 6: Response in Seeking Health Care and Its Covariate

Independent Variable	Dependent Variable Response in Health Seeking				
	Delayed <i>f</i> (%)	Promptly <i>f</i> (%)	Pearson Chi-Square (df)	p- value	Fisher's Exact Test
Age of the respondent					
60-64	32 (43.2)	42 (56.8)	13.439 (3)	.004**	—
65-69	76 (0.0)	50 (0.0)			
70-74	14 (60.3)	32 (39.7)			
75 and above	0 (0.0)	14 (100.0)			
Religion					
Islam	66 (49.3)	78 (50.7)	.302	.583	.602
Sanaton	56 (44.4)	70 (55.6)			
Marital status					
Married	70 (50.0)	70 (50.0)	.577 (1)	.448	.484
Widow	52 (43.3)	78 (56.7)			
Education of the respondent					
Unlettered	72 (58.1)	52 (41.9)	10.230 (3)	.017**	—
Class 1-3	36 (46.2)	42 (46.2)			
class 4-5	14 (28.0)	36 (72.0)			
Class 6-7	0 (0.0)	8 (100.0)			
Living arrangement					
With spouse and children	72 (52.2)	66 (47.8)	2.314 (2)	.314	—
With spouse only	0 (0.0)	2 (100.0)			
With children	50 (41.7)	70 (41.7)			
Getting social assistance					
No	58 (38.7)	92 (61.3)	4.852 (1)	.028	—
Yes	64 (58.2)	46 (41.8)			
Year of schooling of head of the household					
Primary	14 (58.3)	10 (41.7)	23.109 (3)	.001***	—
Secondary	106 (57.0)	160 (43.0)			
Higher Secondary	2 (9.1)	40 (90.9)			
Graduation or above	0 (0.0)	56 (100.0)			
Occupation (HHH)					
School Teacher	0 (0.0)	44 (100.0)	19.153 (3)	.001***	—
Farmer	88 (55.0)	144 (45.0)			
Business	18 (31.0)	80 (69.0)			
Others	16 (80.0)	8 (20.0)			
Distance to get health facility (K.m)					
1-4	82 (59.4)	56 (40.6)	16.460 (2)	.001***	—
5-9	18 (64.3)	10 (35.7)			
15 and above	22 (23.4)	72 (76.6)			
Total cost of treatment [Last 6 Months]					
500 and below	60 (96.8)	2 (3.2)	63.143 (4)	.001***	—
600-2000	60 (50.8)	58 (49.2)			
2100-3500	2 (6.3)	30 (93.8)			
3600-5000	0 (0.0)	36 (100.0)			
5100 and above	0 (0.0)	12 (100.0)			
Monthly household income (BDT)					
10000-14000	64 (94.1)	4 (5.9)	74.149 (3)	.001***	—
15000-19000	44 (71.0)	18 (29.0)			
20000-24000	12 (22.2)	42 (77.8)			
25000 and above	2 (2.6)	74 (97.4)			

Source: Field Survey, 2021

Table 7: Nature of Treatment and its Covariant

Independent Variable	Dependent Variable				
	Nature of treatment				
	Unqualified <i>f</i> (%)	Qualified <i>f</i> (%)	Pearson Chi-Square (df)	p- value	Fisher's Exact Test
Age of the respondent					
60-64	22 (70.3)	52 (70.3)	2.822 (3)	.420	—
65-69	36 (28.6)	90 (71.4)			
70-74	12 (26.1)	34 (73.9)			
75 and above	0 (0.0)	14 (100.0)			
Religion					
Islam	30 (22.4)	102 (77.6)	1.44 (1)	.229	.243
Sanaton	40 (31.7)	86 (68.3)			
Marital Status					
Married	34 (24.3)	106 (75.7)	.536 (1)	.464	.296
Widow	36 (30.0)	84 (70.0)			
Education of the Respondent					
Unlettered	36 (29.0)	88 (71.0)	1.755 (3)	.625	—
Class 1-3	22 (28.2)	56 (71.8)			
class 4-5	12 (24.0)	38 (76.0)			
Class 6-7	0 (0.0)	8 (100.0)			
Number of Children					
1-3	28 (27.5)	74 (72.5)	1.248 (2)	.536	—
4-6	40 (28.6)	100 (71.4)			
7 and above	2 (11.1)	16 (88.9)			
Living Arrangement					
With spouse and children	32 (23.2)	106 (76.8)	1.544 (2)	.462	—
With spouse only	0 (0.0)	2 (100.0)			
With children	38 (31.7)	82 (68.3)			
Getting Social Assistance					
No	36 (24.0)	114 (24.0)		.380	.427
Yes	34 (30.9)	176 (69.1)			
Head of Household (HHH)					
Husband	24 (28.6)	60 (71.4)	.086 (1)	.770	.834
Son	46 (26.1)	130 (73.9)			
Year of Schooling (HHH)					
Primary	12 (50.0)	12 (50.0)		.014**	—
Secondary	56 (30.1)	130 (69.9)	10.663 (3)		
Higher Secondary	2 (9.1)	20 (90.9)			
Graduation or above	0 (0.0)	28 (100.0)			
Occupation (HHH)					
School Teacher	0 (0.0)	22 (100.0)	21.048 (3)	.001***	—
Farmer	46 (28.7)	114 (71.3)			
Business	8 (13.8)	50 (86.2)			
Other	16 (80.0)	4 (20.0)			
Distance to get Health Facility (K.m)					
1-4	44 (31.9)	94 (68.1)	18.895 (2)	.001***	—
5-9	18 (64.3)	10 (35.7)			
15 and above	8 (8.5)	86 (91.5)			
Independent Variable	Dependent Variable				
	Nature of treatment				
	Unqualified <i>f</i> (%)	Qualified <i>f</i> (%)	Pearson Chi-Square (df)	p- value	Fisher's Exact Test
Total Cost of Treatment (Last 6 Months in BDT)					
500 and below	44 (71.0)	18 (29.0)	46.020 (4)	.001***	—
600-2000	26 (22.0)	92 (78.0)			
2100-3500	0 (0.0)	32 (100.0)			
3600-5000	0 (0.0)	36 (100.0)			
5100 and above	0 (0.0)	12 (100.0)			
Size of Family					
1-3	2 (33.3)	4 (66.7)	8.412 (2)	.015**	—
4-6	60 (34.5)	114 (65.5)			
7 and above	8 (10.0)	72 (90.0)			
Monthly Household Income (In BDT)					
10000-14000	52 (76.5)	16 (23.5)	61.948 (3)	.001***	—
15000-19000	14 (22.6)	48 (77.4)			
20000-24000	4 (7.4)	50 (92.6)			
25000 and above	0 (0.0)	76 (100.0)			

Significant at $p < 0.05^{**}$

Significant at $p < 0.01^{***}$

Source: Field Survey, 2021

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Table 8: Place of Treatment and its Covariates

Variable's		Place of Treatment			
		Pharmacy/Drugstore f (%)	Non-Govt. Hospital f (%)	Govt. Hospital f (%)	Pearson Chi-Square (df)
Age of the respondent					
60-64	26 (35.1)	10 (13.5)	38 (51.4)	8.726 (6)	.190
65-69	44 (34.9)	24 (34.9)	58 (46.0)		
70-74	12 (26.1)	10 (21.7)	24 (52.2)		
75 and above	0 (0.0)	8 (57.1)	6 (42.9)		
Education of the Respondent					
Unlettered	44 (35.5)	18 (14.5)	62 (50.0)	7.304 (6)	.294
Class 1-3	26 (33.3)	14 (17.9)	38 (48.7)		
class 4-5	12 (24.0)	18 (36.0)	20 (40.0)		
Class 6-7	0 (0.0)	2 (25.0)	6 (75.0)		
Getting Social Assistance					
No	42 (28.0)	34 (22.7)	74 (49.3)	1.362 (2)	.506
Yes	40 (36.4)	18 (16.4)	52 (47.3)		
Year of Schooling (HHH)					
Primary	14 (58.3)	2 (8.3)	8 (33.3)	21.403 (6)	.002
	Secondary	78 (36.6)	28 (15.1)		
Higher Secondary	0 (0.0)	10 (45.5)	12 (54.5)		
	0 (0.0)	12 (42.9)	16 (57.1)		
Graduation or above					
Occupation (HHH)					
School Teacher	0 (0.0)	8 (36.4)	14 (63.6)	23.041 (6)	.001
Farmer	52 (32.5)	30 (18.8)	78 (48.8)		
	12 (20.7)	14 (24.1)	32 (55.2)		
Business	18 (90.0)	0 (0.0)	2 (10.0)		
Other					
Distance to get Health Facility (K.m)					
1-4	54 (39.1)	20 (14.5)	64 (46.4)	28.322(4)	.001
5-9	20 (20.8)	8 (7.7)	0 (24.6)		
15 and above	8 (8.5)	24 (25.5)	62 (66.0)		
Total Cost of Treatment (Last 6 Months in BDT)					
500 and below	58 (93.5)	0 (0.0)	4 (6.5)	96.480 (8)	.001
600-2000	24 (20.3)	16 (13.6)	78 (66.1)		
2100-3500	0 (0.0)	10 (31.3)	22 (68.8)		
3600-5000	0 (0.0)	16 (44.4)	20 (55.6)		
5100 and above	0 (0.0)	10 (44.4)	2 (55.6)		
Size of Family					
1-3	2 (33.3)	0 (0.0)	4 (66.7)	12.074 (4)	.017
4-6	78 (39.1)	24 (13.8)	82 (47.1)		
7 and above	12 (15.0)	28 (35.0)	40 (50.0)		
Monthly Household Income (In BDT)					
10000-14000	52 (76.5)	2 (2.9)	14 (20.6)	98.478 (6)	.001
15000-19000	26 (41.9)	0 (0.0)	36 (58.1)		
20000-24000	4 (7.4)	4 (7.4)	46 (85.2)		
25000 and above	0 (0.0)	46 (60.5)	30 (39.5)		

Significant at p <0.05**

Significant at p <0.01***

Source: Field Survey, 2021

Table 9: Binary Logistic Regression in Terms of Response in Seeking Health Care

Factors	Estimated regression	P value	Odd ratio (OR)	95% CI of OR	
	coefficient (β)			Lower	Upper
Age of the respondent	0.112	.010	1.119	1.028	1.219
Year of Schooling of the respondent	.293	.003***	1.341	1.102	1.632
Year of Schooling of head of the Household	.0.112	.001**	1.271	1.123	1.438
Getting Social assistance					
NO (ref)	0 ^a				
Yes	-.792	.029**	.453	.223	.921
Size of the Family	.190	.086	1.209	.974	1.502
Number of children	.023	.842	1.023	.819	1.27
Total Cost of Treatment [Last 6 Months]	.003	.00***	1.003	1.002	1.003



Monthly House hold Income					
10000-14000 (ref)	0 ^a				
15000-19000	1.879	.023**	6.545	1.288	33.257
20000-24000	4.025	.001***	56	10.309	304.196
25000 and above	6.384	.001***	592	51.258	6837.303

^a set to zero because it is a reference category (ref)

Significant at p <0.05**

Significant at p <0.01***

Source: Field Survey, 2021

Table 10: Determining Factors of Healthcare Services of Aged Women

Opinion about the Access to medical care						
Variable	f (%)					Total
	SD	D	N	A	SA	
Inadequate diagnostic equipment	0	76 (29.2)	72 (27.7)	110 (42.3)	2 (.8)	260 (100.0)
Unavailability of skilled physician	2 (.8)	114 (43.8)	60 (23.1)	82 (31.5)	2 (.8)	
Inadequate Medicine supply	2 (.8)	56 (21.5)	86 (33.1)	106 (40.8)	10 (3.0)	
Long-distance of health care centers from home	14 (5.4)	112 (43.)	22 (8.5)	110 (42.3)	2 (.8)	
Unhealthy environment at Medical Centre	6 (2.3)	140 (53.8)	50 (19.2)	64 (24.6)	0	
Lack of ambulance facility	0	18 (6.9)	52 (20)	188 (72.3)	2 (.8)	
Unsatisfactory behavior of medical service providers	8 (3.1)	136 (52.3)	24 (9.2)	90 (34.6)	2 (.8)	

Opinion about Economic Factor

Variables	f (%)					Total
	SD	D	N	A	SA	
Lack of income source	0	140 (53.8)	6 (2.3)	110 (42.3)	24 (1.5)	260 (100.0)
Inability to buy nutritious food	0	230 (88.5)	4 (1.5)	24 (9.2)	2 (.8)	
Unhealthy house structure	0	240 (92.3)	10 (3.8)	10 (3.8)	0	
Unhealthy sleeping/lying place	2 (.8)	244 (93.8)	0	12 (4.6)	0	
High medical cost	0	2 (.8)	0	208 (80.0)	50 (19.2)	
Lack of familial financial support	8 (3.1)	206 (79.2)	0	42 (16.2)	4 (1.5)	

Opinion about Environmental Factor

Variables	f (%)					Total
	SD	D	N	A	SA	
Water logging	10 (3.8)	128 (49.2)	0	114 (43.8)	8 (3.1)	260 (100.0)
Variation in temperature and rainfall	8 (3.1)	150 (57.7)	28 (10.8)	74 (28.5)	0	
Pollution (water/air)	4 (1.5)	76 (29.20)	12 (4.6)	158 (60.8)	10 (3.8)	
Destruction of sanitation facilities	4 (1.5)	210 (80.8)	8 (3.1)	38 (14.6)	0	
Spread of Insects and Mosquitoes	0	82 (31.5)	0	142 (54.6)	36 (13.8)	
Limitation in Communication Facilities	4 (1.5)	186 (71.5)	6 (2.3)	62 (23.8)	2 (.8)	

Opinion about Behavioral Factors

Variables	f (%)					Total
	SD	D	N	A	SA	
Irregular food intake	8 (3.1)	172 (66.2)	8 (3.1)	72 (27.7)	0	260 (100.0)
Excessive physical activity	2 (8)	218 (83.8)	6 (2.3)	34 (13.1)	0	
Lack of Physical exercise	4 (1.5)	114 (43.8)	28 (10.8)	114 (43.8)	0	

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Alcohol consumption/ smoking	130 (50.0)	126 (48.5)	2 (.8)	2 (.8)	0	
Not washing hand before taking meal	10 (3.8)	160 (61.5)	12 (4.6)	76 (29.2)	2 (.8)	
Not washing hand with soap after toilet	4 (1.5)	126 (48.5)	24 (9.2)	106 (40.8)	0	

Opinion about Social Factors

Variables	f (%)					
Statements	SD	D	N	A	SA	Total
Good relationship with family members/relatives	0	22 (8.5)	10 (3.8)	218 (83.8)	10 (3.8)	260 (100.0)
Good relationship with neighbors	0	56 (21.5)	6 (2.3)	198 (76.2)	0	
Caring by family members/ relatives	4 (1.5)	20 (7.7)	12 (4.6)	212 (81.5)	12 (4.6)	
Availability of recreational facilities	4 (1.5)	116 (44.6)	18 (6.9)	122 (46.9)	0	
Knowledge about health consciousness	2 (8)	74 (28.5)	62 (23.8)	122 (46.9)	0	

Source: Field Survey, 2021

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