Healthcare-Seeking Behavior for Infectious Diseases in a Community in Bangladesh

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Abstract

Background: Healthcare-seeking behavior is associated with the severity of infectious diseases, particularly in low-income countries. We need better understanding about the current healthcare-seeking behavior of rural people in low-resource settings. This study aimed to describe the healthcare-seeking behavior of rural people for infectious diseases and identify the associated factors. Methods: We conducted a cross-sectional survey in a rural community in Bangladesh. We interviewed a total of 450 persons to collect data on demographics, household income, household expenditure, and healthcare-seeking behavior. We performed a descriptive analysis to summarize the demographic characteristics and multivariate logistic regression analysis to identify the association between healthcare-seeking behavior and variables of interest. Results: Among the study participants, 42% went to the health facilities, 30% went to the pharmacy, 14% went to the nonregistered doctors, 1% went to the traditional healers, 1% went to the spiritual healer, and 2% took self-treatment. Proximity of the health-care facilities (prevalence ratio [PR] 1.97, 95% confidence interval [CI]: 1.55–2.49) and number of clinical symptoms (PR 1.23, 95% CI: 1–1.52) were significantly associated with the care-seeking behavior. Conclusions: Healthcare-seeking behavior for infectious diseases among rural people in Bangladesh was poor. Information obtained from this study could be useful to develop, design, and improve health-care systems in low-resource settings.

Keywords: Bangladesh, community, healthcare-seeking behavior, infectious diseases

INTRODUCTION

Infectious diseases cause mild-to-severe illnesses in humans worldwide.[1] Acute lower respiratory tract infections (ARIs), AIDS, diarrheal diseases, tuberculosis, and malaria are the most commonly reported diseases globally.[2] More than 10 million children aged below 5 years die yearly due to pneumonia, diarrhea, malaria, preterm delivery, and asphyxia at birth.[3] Family healthcare-seeking behavior has been significantly associated with child mortality.[4] Various factors including physical, socioeconomic, level of education, gender discrimination, culture, politics, and the disease pattern determine the healthcare-seeking behavior.[5,6] Bangladesh has three levels of primary health care. A total of 421 Upazila health complexes (UHCs) had been established at the subdistrict level throughout the country. Union health and family welfare centers (UHFWCs) are established at union (consists of a few villages) level, and community clinics (CCs) are located at the village level.[7] Although Bangladesh has a good infrastructure, health problems are more common in rural people compared with the people who live in urban areas.[8] A study from Bangladesh revealed that 47% of the ill people in a rural community sought treatment and the rest of the ill people did not seek treatment due to the insufficient money.[9] Another study reported that healthcare-seeking behavior was less in women than men suffering with illnesses.[10] No studies were conducted to understand the healthcare-seeking behavior particularly for infectious diseases in rural community in Bangladesh. We need better understanding about the current healthcare-seeking behavior among rural people in Bangladesh.

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behavior in low-resource settings to design and implement interventions against infectious diseases at community level. This cross-sectional study explored the healthcare-seeking behavior of community people for treating infectious diseases.

Methods

Study sites

We conducted this study in a community of Dumki. Dumki is a subdistrict of Patuakhali district, 270 km away from Dhaka. Dhaka is the capital city of Bangladesh. It is a river belt area and divided into five unions. The unions are Lebukhali, Muradia, Pangashia, Sreerampur, and Angaria. The total population of Dumki was 70,705 as of 2001 census data.[11] There are one UHC, one union subcenter, three UHFWCs, seven CCs, and one NGO clinic.[12]

Study design

We conducted a cross-sectional study during July 2017 to December 2017 to understand the healthcare-seeking behavior of previously infected people. We considered those people who had a history of illnesses including fever, coughing, sneezing, dyspnea, pneumonia, and diarrhea within the last 3 months. We visited two unions of Dumki subdistrict to enroll research participants. We visited every household of these two unions and selected a total of 450 households that have at least one person who met our case definition. The calculated sample size was 385 to identify at least 50% of the patients visiting health-care facilities with 0.5% precision at 95% confidence level. To obtain more precise estimation, we enrolled more participants (n = 450) for this study. We used a structured questionnaire to collect data on age, sex, nutritional status, educational status, family income, household’s income, occupation of the house head, family size, and healthcare-seeking behavior. In this study, we considered government hospitals, private hospitals, CCs, and registered doctor’s office as health-care facilities. We defined healthcare-seeking behavior as “remedial actions undertaken by an individual to rectify ill-health.” A trained university graduate student interviewed selected research participants aged over 18 years directly. We interviewed parents or other adult family members for collecting data about child participants. We obtained written consent from the study participants to participate in this study. This study protocol was reviewed and approved by the Departmental Ethical Committee of Patuakhali Science and Technology University (Approval Number: 01/02/2017:06).

Statistical analysis

We performed descriptive analysis to summarize the demographic characteristics of the studied participants and their healthcare-seeking behavior. We calculated the prevalence ratio to identify the association between healthcare-seeking behavior and variables of interest. Exposure variables having $P < 0.1$ level of significance in univariate analysis were entered to construct the final model of multivariate logistic regression analysis. All statistical analyses were done by using STATA 10.0 (www.stata.com/stata10/).

Results

Sociodemographic characteristics

Among the study population, 358 (80%) were female. Majority of them were Muslim (92%) and rest of them were Hindu. The average number of family size was five (range: 1–12). The mean age of the study population was 33 years. Regarding the education level, 8% completed graduation, 35% attended at least primary school, 27% attended secondary school, 10% attended higher secondary school, and 20% were illiterate. Most of the respondents were small businessperson (32%) followed by private and public service holders (30%), day labor (18%), farmer (5%), and rest (16%) were in other professions.

Pattern of healthcare-seeking behavior

All research participants had a history of illnesses within the last 3 months preceding the day of interview. Majority of the patients (98%, 95% confidence interval [CI]: 96%–99%) sought treatment for recovering from diseases. Among them, 42% (95% CI: 37%–47%) went to health facilities, 30% (95% CI: 25%–34%) went to pharmacy, 14% (95% CI: 10%–17%) went to nonregistered doctors, 1% (95% CI: 7%–13%) went to traditional healers, 1% (95% CI: 1%–2%) went to spiritual healers, and 2% (95% CI: 1%–4%) took self-treatment.

Among the participants, 48% had diarrhea, 41% had fever, 39% had ARI, and 51% had experienced multiple clinical symptoms. Most of the patients (82%) were prescribed antibiotics.

Factors associated with health care seeking for infectious diseases

Factors including education status, family size, number of symptoms, treatment frequency, distance to health-care facilities, hygienic condition of the household, and sources of drinking water were associated with healthcare-seeking behavior. Proximity of the health-care facilities and more number of symptoms were significantly associated with care-seeking behavior [Table 1].

Discussion

The study explored the correlates of healthcare-seeking behavior of low-resource community people in Bangladesh who had a history of illness within the last 3 months. Although the majority of them sought treatment, <50% of the affected people went to health facilities for getting treatment. Proximity of the health-care facilities and number of clinical symptoms were significantly associated with healthcare-seeking behavior in this setting.

In Bangladesh, people with higher education and from a high economic background visited health-care facilities frequently than people with poor education and low economic background.[13] In this study, patients assisted by literate caregivers were more likely to visit health-care facilities than patients assisted by uneducated caregivers. A research found that, irrespective of their needs, only people from higher
In our study, we found that there was a high incidence of educated people visiting the health-care facilities when compared to uneducated people. In case of low developing area, similar result was observed. Level of education and economic status had an impact on health-care utilization in Pakistan. Another study found that people with some level of education go to the qualified allopathic practitioner and poor people preferred self-treatment. A cross-sectional analysis revealed socioeconomic development over a time changed the health-seeking behavior of community people. In low developing area, similar result was observed. Furthermore, wealthy people were significantly more likely to consult modern trained health providers for antenatal care. Level of education was also found as a determinant for healthcare-seeking for diarrhea in city people in Dhaka.

Table 1: Factors associated with care-seeking from health-care facilities for infectious diseases in a community (n=450)

| Variables                                | Visiting health-care facilities, n (%) | Univariate analysis | Multivariate analysis |
|------------------------------------------|---------------------------------------|---------------------|-----------------------|
|                                          | Yes (n) | No (n) | PR (95% CI) | P | Adjusted PR (95% CI) | P |
| Age of caregivers (years)                |         |        |             |   |                       |   |
| ≤30                                      | 110 (24) | 151 (34) | Reference |   |                       |   |
| >30                                      | 81 (18)  | 108 (24) | 1.01 (0.81–1.26) | 0.88 |                       |   |
| Age of the patients (years)              |         |        |             |   |                       |   |
| ≥50                                      | 32 (7)   | 44 (10)  | Reference |   |                       |   |
| 18–<50                                   | 68 (15)  | 91 (20)  | 1.03 (0.72–1.48) | 0.84 |                       |   |
| 5–<18                                    | 53 (12)  | 75 (17)  | 0.98 (0.7–1.37) | 0.922 |                       |   |
| <5                                       | 38 (8)   | 49 (11)  | 1.01 (0.74–1.4) | 0.924 |                       |   |
| Education status of caregivers           |         |        |             |   |                       |   |
| Illiterate                               | 30 (7)   | 61 (13)  | Reference |   |                       |   |
| Literate                                 | 161 (36) | 198 (44) | 1.36 (0.99–1.86) | 0.055 | 1.17 (0.88–1.57) | 0.279 |
| Family size of the infected person       |         |        |             |   |                       |   |
| >5                                       | 59 (13)  | 89 (20)  | Reference |   |                       |   |
| ≤5                                       | 132 (29) | 170 (38) | 1.09 (0.87–1.39) | 0.444 | 1.16 (0.94–1.45) | 0.159 |
| Monthly family income (US Dollar)        |         |        |             |   |                       |   |
| >241                                     | 25 (6)   | 24 (5)   | Reference |   |                       |   |
| 120–240                                  | 77 (17)  | 101 (22) | 0.85 (0.61–1.16) | 0.315 |                       |   |
| <120                                     | 89 (20)  | 134 (30) | 0.78 (0.57–1.07) | 0.130 |                       |   |
| Sex of the patients                      |         |        |             |   |                       |   |
| Male                                     | 64 (14)  | 94 (21)  | Reference |   |                       |   |
| Female                                   | 127 (28) | 165 (37) | 1.07 (0.85–1.35) | 0.544 |                       |   |
| Number of symptoms                       |         |        |             |   |                       |   |
| One                                      | 110 (24) | 179 (40) | Reference |   |                       |   |
| Two or more                              | 81 (18)  | 80 (18)  | 1.32 (1.07–1.63) | 0.01 | 1.23 (1–1.52) | 0.042 |
| Walking distance time to reach the health-care facilities (min) |         |        |             |   |                       |   |
| >60                                      | 94 (21)  | 188 (42) | Reference |   |                       |   |
| 30–60                                    | 54 (12)  | 52 (12)  | 1.52 (1.19–1.96) | <0.001 | 1.55 (1.21–1.98) | <0.001 |
| <30                                      | 43 (9)   | 19 (4)   | 2.08 (1.65–2.63) | 0.001 | 1.97 (1.55–2.49) | <0.001 |
| Hygienic condition of household          |         |        |             |   |                       |   |
| Apparently unhygienic                   | 100 (22) | 150 (33) | Reference |   |                       |   |
| Apparently hygienic                     | 91 (20)  | 109 (24) | 1.14 (0.92–1.4) | 0.239 |                       |   |
| Sources of drinking water                |         |        |             |   |                       |   |
| Surface/piped water                      | 73 (16)  | 114 (25) | Reference |   |                       |   |
| Deep tube well                           | 118 (26) | 145 (32) | 1.15 (0.92–1.44) | 0.223 |                       |   |
| Free medical services                    |         |        |             |   |                       |   |
| Paid service                             | 90 (20)  | 119 (26) | Reference |   |                       |   |
| Free service                             | 101 (22) | 140 (31) | 0.97 (0.78–1.2) | 0.805 |                       |   |

PR: Prevalence ratio, CI: Confidence interval
A study found that children affected with diarrheal illness were more likely to be brought to a professional health-care provider than older individuals in Dhaka city area. Seeking health care at health facilities was more likely for children with diarrhea and pneumonia in rural Kenya. In Ethiopia, 74.6% of children sought care from health facilities for common childhood illness. This health-care practice could be due to the high priority of child health than adult health in families and society. This study also suggested that children are more susceptible to illnesses. Therefore, most families bring their children to the health facilities as soon as possible when symptom appears. Many studies identified geographical distance as an important determinant for utilizing health services. In this study, we found a similar association between care seeking and distance of health-care facilities. Patients who live close to the health facilities visited health-care facilities more frequently than patients who live away from health facilities.

We found that the number of clinical symptoms was significantly associated with health-seeking-behavior. Similarly, health care was sought more frequently for children with more symptoms of severe illness for diarrhea and pneumonia in rural Kenya. It might be because people believe that more number of symptoms indicated more serious diseases. This study illustrated that hygienic condition of patients’ household is associated with health-seeking behavior. However, the association was not statistically significant. Previous studies found that using a nonsanitary toilet and consuming unsafe drinking water also positively correlated with health-seeking behavior.

This study showed that 39%–48% of the patients (41% fever, 48% diarrhea, and 39% ARI) sought treatment from health-care facilities. A study from rural Bangladesh found similar kind of findings that 43%–70% of the patients (43% fever, 57% gastrointestinal diseases, and 70% respiratory diseases) sought treatment from health-care facilities. Another study conducted in rural Kenya found that 35%–42% (41.5% ARI, 36% diarrhea, and 35.2% fever) of the patients sought health care from health facilities for the illness for the last 2 weeks. In Western Kenya, only 37% of the rural people went to health-care facilities for getting treatment. It was 47% of people in the age range of 18–59 years who lived in central local government area of Oyo state in Nigeria. Another study from Nigeria reported that healthcare-seeking behavior was regular for childhood illnesses.

**Study limitations**

This study was not free from limitations. In our study, cases were determined by participants themselves according to the definition of diseases, without biological or even practitioner’s confirmation. We did not review doctor’s prescription during data collection. All information were collected through interview. Hence, there is a possibility of information bias. In a few cases, we did not interview the infected person and took data from their family members.

**Conclusion**

The pattern of health care seeking described in this study was diverse in rural community. More than 50% of the patients did not visit health-care facilities. Distance to the health-care centers and number of clinical symptoms were significantly associated with healthcare-seeking behavior. Findings of this study could be useful to the policymakers for strengthening health-care systems, particularly low-resource communities in Bangladesh.

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**Conflicts of interest**

There are no conflicts of interest.

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