Article

Clients’ experience and satisfaction of utilizing healthcare services in a Community Based Health Insurance Program in Bangladesh

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**Abstract:**

**Objective:** Community-based health insurance is recognized as a promising tool for health system improvement for low-income people and improves the health status of enrolees and enhances productivity and labor supply. The experience and opinion of the clients who utilized health services through the insurance scheme are important for improving healthcare services, shaping health policies and providing feedback on the quality, availability, and responsiveness of healthcare services. However, studies focusing on clients’ satisfaction provided by the health insurance scheme is still limited globally. To address this knowledge gap, this current study attempted to measure the degree of clients’ satisfaction towards healthcare services and insurance scheme, based on their experience of health care which will serve the future reference point to implement potential quality improvement initiatives of community-based health insurance program.

**Methods:** A cross-sectional household survey was conducted within the catchment area of a community-based health insurance pilot program named Labor Association for Social Protection (LASP) during April–June 2014 to compare the evaluation of healthcare services provided by LASP scheme. In the descriptive analyses, the characteristics of the study participants were presented regarding frequency and the percentages with 95% confidence interval. Spearman correlation analysis was conducted between the satisfaction score of each indicator and overall satisfaction score; multivariate linear regression analysis was used to identify the factors associated with overall health scheme satisfaction.

**Results:** The overall satisfaction mean score was 4.17 ± 0.04 (95% CI: 4.08-4.26) out of 5.00. The most satisfied domains were related to the diagnostic services (4.46 ± 0.98), explanation about the prescribed medicine (4.23 ± 0.81), the surrounding environment of healthcare facility (4.21 ± 0.70) and the behavior of health personnel toward clients (4.18 ± 0.73).

**Conclusions:** Our study observed that the overall satisfaction level towards health services is quite favorable, but satisfaction scores can still be improved. These findings could contribute towards developing and designing the healthcare services packages of community-based health scheme which is in line with the health care financing strategy of Bangladesh as well as the recommendation of the World Health Organization for developing social health insurance as part of path to Universal Health Coverage.

**Keywords:** Health Insurance, Healthcare services, Satisfaction, Informal worker, Bangladesh

1. Introduction

The world health organization recommended achieving the universal health coverage (UHC) to all United Nation member states within 2030 as a part of the recent Sustainable Development Goals as half of the world’s population still unable to obtain essential health services [1]. According to the UHC theme, all individuals and communities who need health services should receive them without suffering financial hardship. Removing financial hardship is particularly crucial for developing countries like Bangladesh where out-of-pocket (OOP) is the main payment strategy for healthcare, and the OOP share has been increased alarmingly from 55.9% in 1997 to 67% in 2015 [2]. Moreover, this scenario becomes more vulnerable considering the low-income people and as a consequence, many households experience catastrophic economic burden and fall into poverty in Bangladesh [3,4]. Like other countries inclusion of low-income people, particularly informal sector workers for achieving UHC appears to be a challenge in Bangladesh as this group is very mobile, un-organized, geographically dispersed and even are not tracked in a formal way through national registration system [5–7]. Furthermore, such informal workers alone constitute 88% of the total labor force in Bangladesh and contribute to 64% of total GDP [8], therefore, according to their contribution and volume, it is essential to make an effort to accumulate in the shade of a self-financed health scheme. Cooperative based health insurance model can be a strong entity for reaching a large number of informal sector workers for developing self-financed community-based health scheme [9,10] and such concept are important for Bangladesh as approximately 19.0 million households are connected with informal sector, hence potential scope of scalability of such schemes [6]. Community-based health insurance is recognized as a promising tool of health system improvement for low- income people and improves the health status of enrolees and enhances productivity and labor supply [6,11]. However, securing health enrolment is critical for sustaining such scheme and many factors including insurance scheme design features such as benefit package, inflexible payment schedules and lack of awareness and clients’ satisfaction has a crucial role for the successful implementation of such scheme [6,12–15].

Recent Healthcare Financing Strategy of Bangladesh emphasized the community-based health insurance, micro health insurance or other innovative initiatives as a nature of social protection which are being tested in different parts of the country and those are still in their early stage of implementation [6,16,17]. However, none of the studies focused on benefit packages as well as client experiences and satisfactions toward health care services organized by this scheme although clients’ satisfactions are as important measures of health system performance [18,19]. Patient satisfaction is an important indicator of health care quality and often associated with greater adherence to medical technology, health service utilization, and health outcomes [20–22]. Huy and colleagues observed that satisfaction has a significant impact on patient retention, patient loyalty and influences the efficient delivery of quality in health care [23]. Furthermore, clients experience and opinions are important for improving healthcare services, shaping health policies and providing feedback on the quality, availability, and responsiveness of healthcare services. Therefore, studies should focus on clients’ satisfaction to ensure the quality of healthcare services provided by the health insurance scheme which are currently not available in this context. To address this information gap, this study tried to measure the degree of clients’ satisfaction towards healthcare services based on their experience of utilizing health care and factors associated with the satisfaction which will serve as the future reference point to implement potential quality improvement initiatives of community-based health insurance program in similar country context.

2. Materials and Methods

*2.1 Study settings and sample*

The study was conducted in a sub-district of Chandpur in Bangladesh where community-based health insurance (CBHI) pilot program named Labor Association for Social Protection (LASP) is being carried on. Chandpur sub-district consists of 14 unions and a municipality. Seven closely located unions to the municipal area and the municipal area itself are included as study site. The enrolment in the CBHI scheme was voluntary and limited to informal sector worker care. Workers with informal employment (including self-employment) are targeted by the health insurance scheme. There were two major criteria for enrollees first, the household with incomes falling in the lowest taxable income bracket and second, with at least one blue-collar informal worker. The premium and associated benefits packages were in detailed below:

Premium and benefits package of CBHI: Against one membership, a maximum of six household members could be protected from health shocks and able to get access to CBHS benefit package, with a possibility of inclusion of more household member with additional fees. The premium was 600 BDT (7.72 USD) per household per year which was collected on monthly or yearly basis. The detailed benefits package is presented in Table 1.

**Table 1.** The benefits package of the CBHI

|  |  |
| --- | --- |
| Name of services | Description of services |
| Health benefits |  |
| Qualified medical doctors consultation | 30 BDT (US$ 0.39) - Market price 300 BDT (US$ 3.86) |
| Medicine/Drugs | 20% discount on all medicines |
| Diagnosis | Up to 50% discount on all diagnostic test |
| Specialist doctor consultation (e.g. Gynaecologist, Cardiologists) | 100 BDT (US$ 1.29) (Market price=500 BDT or US$ 6.44) |
| Inpatient care | Maximum 4,000 BDT (US$ 51.45) per household per year |
| Periodic satellite clinics | Free of charge is LASP surveillance area |
| Non-health benefits |  |
| Savings Opportunity | Up to 500 BDT (US$ 6.44) per month per household. Member can withdraw any saved amount with 10% interest after one year period |
| Computer Training Programs (CTP) | For all beneficiaries of LASP with a cost 1,200 BDT (US$ 15.44), Length of training three month; market price 4,500 BDT (US$ 58.0 ) |
| Sewing Training (ST) | For all female CBHI beneficiaries; Length of training three months; free of charge |

*2.2 Research design*

A cross-sectional household survey was conducted within the catchment area of LASP during April–June 2014 to compare the evaluation of the health care services provided by LASP scheme. The detailed sampling and the inclusion and exclusion criteria have been described elsewhere [6]. In this study, a total of 233 clients were randomly selected and considered as the respondents for this study as they utilized CBHI services within three months preceding this survey. It is important to notice that we included only those clients who utilized health services through the insurance scheme in this study.

*2.3 Data collection*

A structured questionnaire was developed and administered in a face-to-face interview of household head/ economic contributor or the household member of insured households who had experienced and utilized the healthcare services provided by the healthcare service provider. The questionnaire included details on demographic characteristics of individual members and household socioeconomic characteristics, healthcare utilization and satisfaction related questions towards the current CBHI services. For healthcare service utilization and satisfaction we considered the CBHI beneficiaries who utilized LASP services within three months preceding this survey. A research team from icddr,b, an international health research organization, provided technical support for capacity building in collaboration with the Sajida Foundation, a micro-credit and health institute. All data collection tools were developed on the light of literature and pretested for quality control and field interviewers and supervisors were trained and supervised by field investigators. Training included how to avoid incorrect reporting as the paper based questionnaire are editable. Difficulties of understanding and language barriers are a common phenomenon in household survey, therefore, significant training was provided to the data collectors with the local language. The project was monitored by supervisors so that the quality data could be ensured, however, they had no role to influence the respondents and data collectors. The data collectors explained the study objectives to the respondents before interviewing them and respondents were assured of their rights to withdraw from this study. The participation rate was 100 % and informed written consent was obtained before conducting any given interview. All of the participants willing

*2.4 Data analysis*

In the descriptive analyses, the characteristics of the study participants were presented regarding frequency (n) and percentages (%) with 95% confidence interval (CI). In this study, we employed to test the internal consistency and reliability of the questionnaire and each domain with Cronbach’s α. Spearman correlation analysis was performed between the satisfaction score of each indicator and overall satisfaction score. Based on the assumption of order or ranked data, Spearman correlation co-efficient showed more precise and reliable results compared with alternative methods (e.g. Pearson’s correlation). Multivariate linear regression analysis was used to identify factors associated with overall health scheme satisfaction [18,24]. We estimated overall satisfaction score using Likert 5 scale [18] of beneficiary satisfaction of health scheme, for example, strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) or strongly agree (5). Variables having p-value ≤ 0.05 in the bivariate analysis were entered into multivariate regression models to control the effect of confounding. The variance inflation factor (VIF) test were conducted to determine whether heteroscedasticity and multicollinearity were present or not. The Ramsey RESET test was performed to diagnose if there was any specification error of the model. Both unadjusted and adjusted co-efficient with 95% confidence interval (CI) were calculated to measure associations. For all the tests conducted in the study, a p-value of 0.05 or below was adopted as the statistically significant level. Data cleaning, validation, and all statistical analyses were done by using Stata/SE 13.0.

*2.5 Ethical approval*

The study protocol was approved by the Institutional Review Board of the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b). All respondents were given an information sheet in Bengali explaining their rights relating to their voluntary participation in the study and were asked to sign a consent form.

3. Results

*3.1 Background characteristics*

A total 233 CBHI beneficiaries utilized the health services within the last three months (Table 2). Among the total beneficiaries, male utilized higher (65%) than female beneficiaries (35%). About 70% of beneficiaries were young adult (18-44 years), and 27% were middle-aged (45-64 years). Regarding the educational background, 41% of the beneficiaries had a medium educational attainment (secondary) followed by 37% of the participants had a lower level of education (primary education or less). However, only a few proportions (12%) of participants had experienced higher secondary or higher level education. Majority of the participants were married (90%) and around half of the participant’s household had more than 5 members followed by 4 to 5 members (43%). Among the total participants, 31% were housewives, and 22% were workers (e.g., rickshaw-puller, hotel workers, van drivers), and the rests were self-employed, farmers, informal employment and other. About 60% of participants had reported some or extreme health problems.

**Table 2.** Background characteristics of beneficiaries (N=233)

|  |  |  |
| --- | --- | --- |
| Variables | Observation (n) | Percentage (%) |
| Sex |  |  |
|  Male | 151 | 64.81 |
|  Female | 82 | 35.19 |
| Age |  |  |
|  18-44 | 160 | 68.67 |
|  45-64 | 64 | 27.47 |
|  ≥65 | 9 | 3.86 |
| Education background |  |  |
|  No education | 23 | 9.87 |
|  Primary | 87 | 37.34 |
|  Secondary | 96 | 41.20 |
|  Higher secondary | 20 | 8.58 |
|  Higher | 7 | 3.00 |
| Marital status |  |  |
|  Unmarried | 16 | 6.87 |
|  Married | 211 | 90.56 |
|  Widowed/divorced/Separated | 6 | 2.58 |
| Family size |  |  |
|  <4 | 11 | 4.72 |
|  4-5 | 99 | 42.49 |
|  >5 | 123 | 52.79 |
| Occupations |  |  |
|  Worker | 52 | 22.32 |
|  Business | 40 | 17.17 |
|  Housewife | 72 | 30.9 |
|  Farmer | 14 | 6.01 |
|  Services | 28 | 12.02 |
|  Other | 27 | 11.59 |
|  Self-reported health states |  |  |
|  No problem | 92 | 39.48 |
|  Some problems | 103 | 44.21 |
|  Extreme problems | 38 | 16.31 |
| Income quintile (BDT) |  |  |
|  Q1 (≤ 8,000 BDT) | 48 | 20.61 |
|  Q2 (8,001 - 12,000 BDT) | 62 | 26.61 |
|  Q3 (12,001-15,000 BDT) | 34 | 14.59 |
|  Q4 (15,001-24,000 BDT) | 43 | 18.45 |
|  Q5 (>24,000 BDT) | 46 | 19.74 |
|  Total observation, N | 233 | 100.00 |

*3.2 Distribution of health services provision-related satisfaction on health scheme*

Table 3 shows the health services provision-related satisfaction on self-financed health scheme. The overall satisfaction mean score was 4.17 ± 0.04 (95% CI: 4.08-4.26) out of 5.0. The most satisfied domains were related to the diagnostic services (4.46 ± 0.98), explanation about the prescribed medicine (4.23 ± 0.81), the surrounding environment of the healthcare facility (4.21±0.70) and the behavior of health personnel toward clients (4.18 ± 0.73). Participants to our question on satisfaction reported 68% were ‘very satisfied’ with diagnostic services as they believed that service provider of CBHI explained about the diagnostic test properly, more than 50% of clients were ‘fairly satisfied’ with friendly behaviour of service providers and staff, confidentiality of patient information, facility environment and about comprehensive health care services provided by the benefit packages (Table 3).

Table 3. Health services provision-related satisfaction on self-financed health scheme

|  |  |  |  |
| --- | --- | --- | --- |
| Domain | Likert 5 scale of patient satisfaction | n (%) | Score |
| Mean ± SD | 95% CI |
| Satisfied with reception of services (N=233) | (1) Not good  | 11 (4.72) | 3.88 ± 1.10 | 3.74 to 4.02 |
| (2) A little bit  | 13 (5.58) |
| (3) Quite good  | 51 (21.89) |
| (4) Welcomed nicely | 76 (32.62) |
| (5) Welcomed greatly | 82 (35.19) |
| Satisfied with service providers attitude towards explaining health problem (N=233) | (1) Strongly disagree | 3 (1.29) | 4.08 ± 0.93 | 3.96 to 4.20 |
| (2) Disagree | 10 (4.29) |
| (3) Neutral  | 44 (18.88) |
| (4) Agree | 84 (36.05) |
| (5) Strongly agree | 92 (39.48) |
| Services providers friendly (N=233) | (1) Strongly disagree | 2 (0.86) | 4.18 ± 0.79 | 4.08 to 4.28 |
| (2) Disagree | 4 (1.72) |
| (3) Neutral  | 32 (13.73) |
| (4) Agree | 107 (45.92) |
| (5) Strongly agree | 88 (37.77) |
| Service providers explaining about prescribed medicine (N=233) | (1) Not be explained simply | 3 (1.29) | 4.23 ± 0.81 | 4.12 to 4.33 |
| (2) Partly explained | 5 (2.15) |
| (3) Fairly explained | 23 (9.87) |
| (4) Has been explained  | 107 (45.92) |
| (5) Been fully explained | 95 (40.77) |
| Service providers explanation about diagnostic tests (N=149) | (1) Not be explained simply | 6 (4.03) | 4.46 ± 0.98 | 4.31 to 4.62 |
| (2) Partly explained | 2 (1.34) |
| (3) Fairly explained | 10 (6.71) |
| (4) Has been explained  | 30 (20.13) |
| (5) Been fully explained | 101 (67.79) |
| Satisfied with confidentiality (N=233)  | (1) Strongly disagree | 6 (2.58) | 4.09 ± 0.86 | 3.97 to 4.20 |
| (2) Disagree | 5 (2.15) |
| (3) Neutral  | 26 (11.16) |
| (4) Agree | 122 (52.36) |
| (5) Strongly agree | 74 (31.76) |
| Satisfied with staff behaviour (N=233) | (1) Strongly disagree | 2 (0.86) | 4.18 ± 0.73 | 4.09 to 4.28 |
| (2) Disagree | 2 (0.86) |
| (3) Neutral  | 27 (11.59) |
| (4) Agree | 122 (52.36) |
| (5) Strongly agree | 80 (34.33) |
| Satisfied with facility environment (N=233) | (1) Strongly disagree | - | 4.21 ± 0.70 | 4.12 to 4.30 |
| (2) Disagree | 1 (0.43) |
| (3) Neutral  | 34 (14.59) |
| (4) Agree | 114 (48.93) |
| (5) Strongly agree | 84 (36.05) |
| Satisfied with clinic provides comprehensive services (N=233)  | (1) Strongly disagree | 3 (1.29) | 4.09 ± 0.85 | 3.98 to 4.20 |
| (2) Disagree | 8 (3.43) |
| (3) Neutral  | 32 (13.73) |
| (4) Agree | 112 (48.07) |
| (5) Strongly agree | 78 (33.48) |
| Overall score | 4.17 ± 0.04 (4.08 to 4.26) |

Regarding the characteristics of beneficiaries, the females were more satisfied (4.31 ± 0.65) with overall scheme compared to males (Table 4). According to the degree of overall satisfaction level, the higher level of satisfaction score was observed among beneficiaries with middle-aged (4.26 ± 0.64) and elderly (4.24 ± 0.65), low education experienced (4.21 ± 0.59), small size of household (4.63 ± 0.75), housewife (4.29 ± 0.66) and worst health status (4.49 ± 0.74). Univariate analyses (Table 4) identified significant positive associations (p<0.05) between overall satisfaction of health scheme and being female, extremely worst health status and economically disadvantaged households. However, the univariate analyses also detected negative associations between satisfaction and having a beneficiary lived in 4 to 5 and more than 5 members of household and businessman. The regression model explains 11.35% of the total variation (R2 = 0.1135). The Breusch–Pagan/Cook- Weisberg diagnostic test showed that heteroscedasticity was not present in the model. The VIF test with its mean (max) value of 3.78 (4.16) indicates that there is no evidence of a multicollinearity problem in the regression model [25]. The Ramsey RESET test showed that there is sufficient evidence against the hypothesis of omitted variable bias in the model.

In multivariate analyses (Table 4), among the socio-demographic variables, only worst self-reported health status of beneficiaries were significantly satisfied with health scheme (coefficient: 0.37, 95% CI: 0.09-0.65, P<0.01). Likewise, sex, socioeconomic status, household size and occupation status were not significant (Table 4).

 **Table 4.** Distribution of health services provision-related average satisfaction score on self-financed health scheme across the beneficiary characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Mean satisfaction score ± SD | Unadjusted model | Adjusted model |
| Co-efficient (SE) | 95% CI | p-value | Co-efficient (SE) | 95% CI | p-value |
| Sex |   |  |  |   |  |  |  |
|  Male | 4.09 ± 0.67 | Ref | - | - | Ref | - | - |
|  Female | 4.31 ± 0.65 | 0.22 (0.09) | (0.04 , 0.40) | 0.01 | 0.20 (0.24) | (-0.28 , 0.68) | 0.41 |
| Age |   |  |  |   |  |  |  |
|  18-44 | 4.13 ± 0.68 | Ref | - | - |  |  |  |
|  45-64 | 4.26 ± 0.64 | 0.14 (0.10) | (-0.05 , 0.33) | 0.16 |  |  |  |
|  ≥65 | 4.24 ± 0.65 | 0.11 (0.21) | (-0.31 , 0.53) | 0.62 |  |  |  |
| Education background |   |  |  |   |  |  |  |
|  No education | 4.21 ± 0.59 | 0.34 (0.43) | (-0.51 , 1.19) | 0.43 |  |  |  |
|  Primary | 4.17 ± 0.69 | 0.30 (0.42) | (-0.53 , 1.13) | 0.47 |  |  |  |
|  Secondary | 4.19 ± 0.66 | 0.32 (0.42) | (-0.51 , 1.14) | 0.45 |  |  |  |
|  Higher secondary | 4.11 ± 0.55 | 0.24 (0.43) | (-0.61 , 1.09) | 0.59 |  |  |  |
|  Higher | 3.88 ± 1.17 | Ref | - | - |  |  |  |
| Marital status |   |  |  |   |  |  |  |
|  Unmarried | 4.21 ± 0.58 | Ref | - | - |  |  |  |
|  Married | 4.15 ± 0.68 | -0.06 (0.17) | (-0.40 , 0.29) | 0.74 |  |  |  |
|  Widowed/divorced/Separated | 4.58 ± 0.47 | 0.37 (0.32) | (-0.26 , 1.00) | 0.25 |  |  |  |
| Family size |   |  |  |   |  |  |  |
|  <4 | 4.63 ± 0.75 | Ref | - | - | Ref | - | - |
|  4-5 | 4.19 ± 0.71 | -0.43 (0.21) | (-0.85, -0.02) | 0.04 | -0.31 (0.26) | (-0.83 , 0.2) | 0.23 |
|  >5 | 4.11 ± 0.62 | -0.51 (0.21) | (-0.93, -0.10) | 0.01 | -0.35 (0.26) | (-0.87 , 0.16) | 0.18 |
| Occupations |   |  |  |   |  |  |  |
|  House wife | 4.29 ± 0.66 | Ref | - | - | Ref | - | - |
|  Worker | 4.23 ± 0.60 | -0.07 (0.12) | (-0.31 , 0.17) | 0.59 | 0.11 (0.25) | (-0.38 , 0.61) | 0.65 |
|  Business | 4.03 ± 0.62 | -0.26 (0.13) | (-0.52 , 0.00) | 0.05 | 0.01 (0.26) | (-0.49 , 0.52) | 0.97 |
|  Farmer | 4.08 ± 0.62 | -0.21 (0.20) | (-0.59 , 0.18) | 0.29 | 0.01 (0.3) | (-0.58 , 0.59) | 0.99 |
|  Services | 4.06 ± 0.70 | -0.23 (0.15) | (-0.52 , 0.06) | 0.12 | -0.04 (0.28) | (-0.6 , 0.51) | 0.88 |
|  Other | 4.10 ± 0.88 | -0.19 (0.15) | (-0.49 , 0.11) | 0.20 | -0.13 (0.23) | (-0.58 , 0.33) | 0.58 |
|  Self-reported health states  |  |  |   |  |  |  |
|  No problem | 4.03 ± 0.62 | Ref | - | - | Ref | - | - |
|  Some problems | 4.18 ± 0.65 | 0.14 (0.09) | (-0.04 , 0.33) | 0.13 | 0.11 (0.1) | (-0.09 , 0.31) | 0.27 |
|  Extreme problems | 4.49 ± 0.74 | 0.45 (0.13) | (0.2 , 0.7) | 0.00 | 0.37 (0.14) | (0.09 , 0.65) | 0.01 |
| Income quintile (BDT) |   |  |  |   |  |  |  |
| Q1 (≤ 8,000 BDT) | 4.00 ± 0.56 | 0.24 (0.14) | (-0.03 , 0.51) | 0.08 | 0.05 (0.15) | (-0.25 , 0.34) | 0.75 |
| Q2 (8,001 - 12,000 BDT) | 4.24 ± 0.72 | 0.35 (0.13) | (0.10 , 0.61) | 0.01 | 0.23 (0.14) | (-0.06 , 0.51) | 0.12 |
| Q3 (12,001-15,000 BDT) | 4.35 ± 0.71 | 0.08 (0.15) | (-0.21 , 0.38) | 0.59 | 0 (0.15) | (-0.3 , 0.3) | 0.99 |
| Q4 (15,001-24,000 BDT) | 4.08 ± 0.69 | 0.10 (0.14) | (-0.18 , 0.38) | 0.49 | 0.06 (0.14) | (-0.21 , 0.33) | 0.68 |
| Q5 (>24,000 BDT) | 4.09 ± 0.61 | Ref | - | - | Ref | - | - |
| Observation (N) |  |  |  |  |  | 233 |
| VIF Mean (Max) |  |  |  |  |  | 3.78 (4.16) |
| Ramsey RESET test |  |  |  |  |  | 5.49 (<0.001) |
| R-squared |  |  |  |  |  | 11.35% |
| F-statistic |  |  |  |  |  | 2.38 (<0.004) |

*3.2 Standardized satisfaction items test scale*

The overall Cronbach’s α (alpha) of the satisfaction domains was 0.93 (Table 5). Interestingly, the Cronbach’s satisfaction score was 0.92 for all of the satisfaction domains, which was significantly higher values of standard scale (>0.72), i.e., more satisfied with each of the service [18,24]. Furthermore, it signified that this was a positive indicator of internal consistency within each domain and the acceptable reliability of the satisfaction domains on the services provided by the health scheme.

**Table 5.** Standardized satisfaction items test scale on self-financed health scheme

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Domain | n | Sign | Item-test correlation | Item-rest correlation | Inter-item correlation | Alpha |
| Satisfied with reception of services | 233 | + | 0.8 | 0.74 | 0.61 | 0.93 |
| Satisfied with service providers attitude towards explaining health problem | 233 | + | 0.84 | 0.79 | 0.6 | 0.92 |
| Services providers friendly | 233 | + | 0.87 | 0.83 | 0.59 | 0.92 |
| Service providers explaining about prescribed medicine | 233 | + | 0.84 | 0.79 | 0.6 | 0.92 |
| Service providers explanation about diagnostic tests | 149 | + | 0.64 | 0.54 | 0.63 | 0.93 |
| Satisfied with confidentiality | 233 | + | 0.8 | 0.74 | 0.61 | 0.92 |
| Satisfied with staff behavior | 233 | + | 0.85 | 0.8 | 0.59 | 0.92 |
| Satisfied with facility environment | 233 | + | 0.74 | 0.67 | 0.62 | 0.93 |
| Satisfied with clinic provides comprehensive services | 233 | + | 0.82 | 0.76 | 0.6 | 0.92 |
| Test scale |   |   |  |  | 0.61 | 0.93 |

4. Discussion

The World Health Organization has been advocating universal health coverage (UHC) so that all people who need health services should receive the health care services without facing financial hardship and should have full financial protection from out-of-pocket payment. According to the theme of UHC, Bangladesh is also committed to achieving UHC by 2032. Ministry of Health and Family Welfare of Bangladesh has currently conducted a pilot health scheme Shasthyo Surokhsha Karmasuchi (SSK) targeting most vulnerable households living below the poverty line. In the meantime, various community-based health insurance projects have been conducted in various parts of the country to reduce the excessive out-of-pocket payment and for securing sustainable quality healthcare coverage [6,11,26,27]. Despite the proven effects of community-based health insurance scheme, low enrolment in such schemes is critical and threatening the financial sustainability of the schemes in developing countries including Bangladesh [6,28–32]. There are various factors such as age, education, households’ head, household size, awareness about CBHI, self-related health, economic status, health provider characteristics which are often affect the CBHI enrolment [6,32–34]. Furthermore, perceived quality of health care services is the vital single factor that directly linked with participating in CBHI in many settings [34,35]. However, quality of healthcare services and health insurance often closely inter-related and service readiness is a key component to achieve UHC [32,36]. Thus assessing client satisfaction has an important role in designing future health insurance program and to promote client-oriented health services. This study explored the clients’ satisfaction towards a community-based health insurance program organized by the informal sector workers in Bangladesh.

Our results observed that the overall score of satisfaction level was 4.17 out of 5 which means that the clients were highly satisfied with the health services provided by the self-financed health scheme. The overall Cronbach’s α (alpha) of the satisfaction domains was also high (0.93 out of 1.0) which ensured the most satisfaction with services of the scheme. The earlier study observed that the higher patients’ satisfaction is directly linked with the commitment of healthcare which often leads the better health outcome [37,38]. We found most of the clients satisfied with the reception of the services and welcomed as they expected. They also satisfied with the behavior of staffs (e.g., paramedics, doctors) and the service providers (e.g., a specialized doctor, clinics, diagnostic centre) contracted out by the health scheme. Previous studies indicated that providers’ behavior towards the patients are directly linked with patients’ satisfaction [39,40]. The study observed that the clients were also satisfied for the role of providers contracted out by the insurance scheme. Most of the clients (more than 80%) reported that the provider has been explained the prescribed medicine properly and 70% of the clients mentioned that service providers clarified about their diagnostic test properly. A healthy interaction with patients and healthcare providers are often positively linked with patients expectations and associated healthcare experiences which also influenced the patients’ satisfaction level [41,42]. This is also vital for the caregivers as caregivers also like to see the emotional support offered by the healthcare providers during the time of their distress [43]. The earlier study observed that client’s satisfaction level is positively linked with the enrolment of health insurance scheme which could be enhanced by maintaining a better patient-doctor relationship [18]. It has been noted that the satisfied patients often utilize more the healthcare services and followed the treatment regime properly [22,44], however poor quality of healthcare is often considered as a major source of dissatisfaction particularly in CBHI programs [32].

Our study showed that most of the clients were satisfied with the facility environment (e.g. facility environment, cleanliness) provided by the health scheme which is in the similar line of the findings other study that hospital environment, cleanliness and process management has been recognized as the crucial factors of patient satisfaction and better physical environment of a health facility yielded greater patients’ satisfaction and even lead the positive perception towards the healthcare providers [18,45,46]. However, literature suggested that physical environment is able to produce reaction of dissatisfaction level rather than increasing satisfaction level as the environmental contamination is directly linked with the healthcare-associated infection [45,47,48]. A recent public hospital-based study in this context observed the provision of better cleanliness is significantly associated with patients’ satisfaction level [39]. Like various studies, we also observed that socio-demographic characteristics are less important for clients satisfaction level towards providers’ services [18,49–51]. Our unadjusted model found a negative relationship among satisfaction and household size and occupations, although we could not establish the causal relationship here, however, financial issues might be one of the reasons as larger families required more healthcare and made frequent visits to the health facilities. Indeed most of the cases handled by income earner of the households as costs involved which might be reflected their expectation towards healthcare and thus reduced satisfaction [51,52]. However, such a relationship was not observed at a significant level in our adjusted model. Our study observed that self-reported health status has a significant role in overall satisfaction towards healthcare services provided by the CBHI, which also supported by other studies [19,52,53]. We did not observe any significant relationship among economic status and the level of satisfaction although financial barriers often acted as an important factor for accessing care and also the satisfaction level towards healthcare system [54,55]. However such relationship is not always clear, previous study indicated that uninsured people were less satisfied with the health-care system than insured population which was not investigated in this study [56]. Therefore more rigorous research is required to understand whether high patient satisfaction is associated with socio-economic and demographic factors as well as with the better health outcome.

This study has several limitations. First, the questionnaires were developed specifically for capturing the services provided by the health scheme with many contents tailor made and may not be a comprehensive survey for quality of care. Secondly, the design of the study was not randomized and we did not consider their previous experience and perception about CBHI and therefore alternative explanations for client satisfaction ratings cannot be ruled out, and causal conclusions cannot be drawn. Thirdly, since all of the respondents belong to the health scheme thus, may bring bias in answering the questionnaire, therefore future research is needed to understand the determinants of satisfaction with the CBHI particularly the broader societal factors we could not explore in this analysis. The other limitations might be associated due to recall and incorrect reporting biased as the household survey was conducted after receiving the health care services, thus recall biased might be jeopardize the study findings. However, paper based questionnaire may be another risk of biased of the study as the paper based questionnaire was editable. Furthermore, we conducted face to face interviews which is an effective method for data collection for primary research, however, biased responses could be delivered due to ‘anchor biased effect’ as their responses could be influenced by the interviewer. To avoid such limitations proper training was provided by the project before collection of the data from the households. The other limitation is the sample size as the results were based on a cross-section survey within LASP catchments area which covered only a sub-district level, therefore, the study might not be representative of the whole country. Despite these limitations, our study provides important findings on which future research on community based health schemes can build.

5. Conclusions

The key findings from this paper are observations of client satisfaction at healthcare services provided by the community-based health scheme. Our study observed that the overall satisfaction level towards health services is quite favorable, but satisfaction scores can still be improved. These findings could contribute towards developing and designing the healthcare services packages of community-based health scheme which is in line with the health care financing strategy of Bangladesh as well as the recommendation of the World Health Organization for developing social health insurance as part of the path to Universal Health Coverage [57,58].

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