

Experience and Satisfaction with State Based Health Insurance Scheme (SBHIS) among Enrolees' Attending Accredited Health Care Facilities in Kano State, North West Nigeria

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Abstract

Background: The experience and opinion of the enrolees/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. Experience of enrolees will serve as a future reference point to implement potential quality improvement initiatives.

Objective: The study has the following objectives: 1) to address knowledge gap on researches on client's satisfaction with health service provision by insurance scheme, 2). to determine the degree of clients' satisfaction towards healthcare services through an insurance scheme.

Methodology: A cross-sectional study was conducted within the catchment area of a State -based health insurance program between Feb-May 2020. Spearman correlation analysis was conducted for 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. A *p*-value of ≤ 0.05 was taken as statistically significant.

Results: The overall satisfaction mean score was 5.22 ± 0.35 (95% CI: 5.19 - 5.37) out of 6.0. The most satisfactory domains were related to staff friendly relationship (5.83 ± 0.79), health care providers' explanations about laboratory tests (5.79 ± 1.22), and health care providers' explanations about prescribed drugs (5.48 ± 1.02), access to care (5.31 ± 1.16) and comprehensive (quality) services provided.

Conclusions: This study observed that the overall satisfaction level towards health care services was quite good, but the satisfaction scores can still be improved by addressing the waiting time and health facility environment cleanliness.

Keywords: Experience, Satisfaction, Enrolees, State Based Health Insurance Scheme (SBHIS), Nigeria.

Introduction

There has been insufficient literature in low middle income countries (LMICs), most notably in African countries that dealt with client's satisfaction based on the knowledge and awareness of enrolees within a health insurance scheme setting (Mohammed, 2011). One of the very few studies that dealt with enrolee's experiences and concerns in a West African region pointed out that research of clients' satisfaction should be ongoing (Huber, 2002).

Satisfaction surveys have been widely used to address the problems of access and performance (Myburgh et al, 2005). Indeed, they have been instrumental in helping government agencies to identify target groups, clarify objectives, define measures of performance, and develop performance information systems (WHO, 2000). Supportively, patient satisfaction is a dominant concern that is intertwined with strategic health services decisions (WHO, 2000).

Patient satisfaction is one of the major indices of quality care and health care services outcome

and it is gaining importance globally as one of the main tools for the assessment of quality of healthcare delivery and as a means of measuring the effectiveness of health services (Ilor et al, 2012). Patient satisfaction is the patient's judgment on the quality and outcome of care. It is the extent to which patients feel that their needs and expectations are being met by the service provider (Zohrevandi et al, 2014). Patient satisfaction surveys have also been gaining attention as significant sources of information and insightful feedbacks for identifying gaps and developing effective action plans for quality improvement. (Zohrevandi et al, 2014). The enrollees are the main beneficiaries of the contributory health scheme and their perspective about the services accessed is very important. Studies have shown that many health Insurance Scheme enrollees are dissatisfied with the services accessed under the scheme; with dissatisfaction from service areas like registration processes, long waiting time, poor staff attitudes, and unavailability of prescribed drugs (Ilor et al, 2012; Salawudeen; Daramola et al, 2017; Osungbade et al, 2014).

This study aimed to measure the degree of enrollees' 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 State -based health insurance scheme in other countries. In Kano State, the Kano State Contributory Health Scheme established by Kano State Contributory Management Agency (KSCHMA) was introduced to the populace in 2016. There has been a need to understand the enrollee's satisfaction of health service provision in the health insurance scheme in order to effectively monitor the process, and to improve the scheme's implementation. Assessing the appropriateness of care and client's satisfaction is crucial in assuring the continuous attractiveness of the care contracted.

Materials and methods

Description of study area

The study was conducted in the outpatient department of selected health care centres among the accredited health facilities of Kano State Contributory Healthcare Scheme (KNCHCS) which is a State-based health

insurance scheme (SBHIS). The KNCHCS was established by Kano State Contributory Health Management Agency (KSCHMA). Some of the health care centres do not have specialists' clinics or run 24 hours-accident and emergency services. Only the secondary and tertiary health facilities have inpatient care services. Consultation and other services are rendered free of charge and only ten percent of prescribed medicine and laboratory investigations are paid for by the enrollees.

Research Design

The study was a descriptive cross-sectional study assessing the experience and satisfaction with State Based Health Insurance scheme (SBHIS) among the enrollees attending the outpatient clinics of selected health care centres among the accredited health facilities of Kano State Contributory Healthcare Scheme (KNCHCS). The study was conducted between Feb and May 2020 was part.

Sample size determination

The minimum sample size required for the study was approximately 373 using the Cochran formula for cross-sectional study:

$$n = Z^2 p q / d^2$$

Where n = minimum sample size for a target population $\geq 10\ 000$, Z = standard normal deviate corresponding to 95% confidence interval, p = prevalence of satisfaction towards health insurance from a previous study, $q = 1 - p$ and d = degree of accuracy desired.

To allow for non-response and other possible incidentals, we chose to increase the sample size to 410 (a 10% increment). Among the sample size of 410, a total of 403 completed the questionnaires thus giving a response rate of 98.3%. For measuring enrollees' satisfaction, a total of 403 clients who utilized the health scheme services at least one year preceding this survey were randomly selected and considered as the respondents for this study. It is important to note that only those clients who utilized health services through the insurance scheme for this study were included.

Sampling technique

The respondents were recruited using a multi-stage sampling method.

The stages are as follows. We employed probability sampling methods in many stages to eliminate selection bias.

Stage 1: All the three Senatorial districts in the State were considered.

Stage 2: In each senatorial district two LGAs were selected by simple random sampling method using balloting procedure. A total of 6 LGAs were selected and used for the study

Stage 3: A list of all KSCHMA accredited health facilities was obtained from each selected LGA.

Stage 4: Proportional technique was used to determine the number of accredited health facilities that were selected in each LGA

Stage 5: The number of enrollees' in each selected health facility was obtained.

Stage 6: Proportional technique was used to determine the number of enrollees that were interviewed in the selected health facilities.

Stage 7: Systematic random technique was used to identify/select the enrollees that were interviewed in each selected health facility.

Only insured persons enrolled for more than one year in the health insurance scheme were included in the study. Verification of enrolment was carried out in collaboration with the KCHMA desk officers in selected accredited health facilities. The participants had to have met the inclusion criteria at both stages to be eligible for the study.

Data collection

The data were collected using a structured questionnaire that was developed and administered through face-to-face interview with the enrollees who had experience and utilized the healthcare services in the last one year before the survey. The questionnaire included details on demographic characteristics of individual members, household socioeconomic characteristics, healthcare utilization and satisfaction related questions towards the KSCHMA health scheme services. The questionnaire was pretested for quality control in another KSCHMA accredited facilities that were not part of those used for the final study since they have similar characteristic and features with study facilities. Pretesting was done to identify potential barriers and to test the skills achieved by the data collectors. Other quality checks include data editing and manual review of questionnaire for either omission or incomplete

data. Difficulties of understanding and language barriers are a common phenomenon in field survey; therefore, significant training was provided to the data collectors with the local language. The objectives of the study were explained to respondents before interviewing them and respondents were assured confidentiality and their rights to withdraw from the study without any penalty. Informed consent was obtained before collecting the data.

Data analysis

Data was analyzed using SPSS version 23.0. In the descriptive analyses, the characteristics of the study participants were presented in frequency (n) and percentages (%) with 95% confidence interval (CI). In this study, Cronbach's alpha was employed to test the internal consistency and reliability of the questionnaire for each domain. Multivariate linear regression analysis was used to identify factors associated with overall satisfaction towards the health scheme. Overall satisfaction score was estimated using Likert 5 scale (Bleich et al, 2009) 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 bi-variate analysis were entered into multivariate regression models to control the effect of confounding. 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 was adopted as the statistically significant level.

Ethical approval

Ethical permission for the study was obtained from ministry of health Kano, Kano state. Verbal consent was obtained from each of the respondent for the interviewer administered questionnaires or through the introductory statement at the top of the questionnaires in the case of those that were self-administered. All respondents were given explanation and their rights relating to their voluntary participation in the study and informed written consent were taken prior to interview.

Result

Background Characteristics

A total 403 KCHMA enrolees/beneficiaries were the respondents who met the inclusion criteria to have utilized the health services within the last one year to the study (Table 1). Among the total enrolees, male utilization was higher (67.5%) than that of female enrolees (32.5%). Majority (26.3%) of the enrolees were between 39-38 years. Concerning educational background, 21.1% had a secondary educational attainment, while 4.5 % of the participants had a primary education. About one-fifth (19.1%) had degree certificate and 54.3% had diploma/certificate/koranic education. Majority (91.6%) of the participants were married and more than one-third (39.3%) of the participants had a family size of more than six members. About four-fifth (81.6%) of respondents were polygamous while 18.4% were monogamous. With regards to the occupation of respondents, about one-quarter (25.3%) were housewives and 32% were civil servants (Table 1).

Health Services Provision-Related Satisfaction Score with KSCHMA Health Scheme

The health services provision-related satisfaction with KCHMA health scheme is shown in Table 2. The overall satisfaction mean score was 5.22 ± 0.35 (95% CI: $5.19 - 5.37$) out of 6.0. The most satisfactory domains were related to staff friendly relationship (5.83 ± 0.79), health care providers' explanations about laboratory tests (5.79 ± 1.22), health care providers' explanations about prescribed drugs (5.48 ± 1.02), health care providers' attitude towards explanation of health problem (5.36 ± 0.93) and access to health care (5.31 ± 1.16). About two-third (66.5%) of respondents were 'very satisfied' with health care providers friendly relationship as they are very cautious and accommodating. Generally, more than 50% were satisfied with access to care, staff behaviour, explanation about prescribed drugs, explanations about laboratory tests, attitude towards explanation of health problem, reception and services received at health record unit and comprehensive health care services provided by the KCHMA health scheme benefit packages. However, less than 50% of

respondents were satisfied with waiting time and health facility environment (Table 2).

With respect to the characteristics of the enrolees, the females were more satisfied (5.54 ± 0.42) with the overall scheme compared to males (Table 3). In the Univariate analyses (Table 3) a significant positive association ($p < 0.05$) were identified between overall satisfaction with the KCHMA health scheme and being female, severe health problem status, poor economic status or economically disadvantaged households and being a beneficiary living with more than six household members. The overall Cronbach's alpha of the satisfaction domains was 0.94. (Table 4). Interestingly, the Cronbach's satisfaction score was 0.93 for most of the satisfaction domains, which was significantly higher than the standard scale value (>0.80), i.e., clients were more satisfied with each of the services. Therefore, it signified that there 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.

Insurance and health related responses of sample by "Client Satisfaction"

More than half of the respondents reported being satisfied (75.4%) (Table 5). The respondents reported a significant difference in satisfaction ($p = 0.000283$) with length of enrolment. Respondents with more than one year of enrolment in the insurance 177 (57.70%) were more satisfied, while those with less than one year of enrolment in the insurance 61 (63.5%) were less satisfied. There was a significant difference in satisfaction ($p = \leq 0.00001$) with respondents' knowledge of health insurance. The respondents with none or less knowledge 187 (79.6%) were less satisfied, while those with knowledge on health insurance 125 (74.4%) were more satisfied. Again, there was a significant difference in satisfaction ($p = \leq 0.00001$) with respondents' awareness about money contribution in the health insurance.

Those respondents with none or less awareness 175 (65.3%) were less satisfied, while those respondents with more awareness 87 (64.4%) were more satisfied. There was a significant difference in satisfaction ($p = 0.004630.03$) with respondents' health condition. Again, there was a significant association

between satisfaction and frequency of hospital visit ($p = 0.020486$).

Factors influencing clients' satisfaction

Factors influencing enrolees' satisfaction were mentioned in the logistic regression (Table 6). Marital status ($p < .05$), general knowledge of health insurance ($p < .05$), and awareness of monetary contributions ($p < .05$) significantly influenced enrolee's satisfaction with health service provision in the health insurance scheme. Enrolees who are knowledgeable on health insurance scheme were more satisfied than those with less knowledge ($\beta = (b = 3.126; SE = .568, p = 0.004)$), so also more satisfied were those with polygamous status ($\beta = (b = 3.914; SE = 2.207, p = 0.034)$); and those with more awareness about the monetary contributions in the health insurance scheme ($\beta = (b = 0.879; SE = 0.562, p = 0.027)$). Income was also found to slightly influenced satisfaction of enrolees on health insurance scheme.

Discussion

This study explored enrolees/ clients' satisfaction towards a State-Based Health Insurance Scheme established by the Kano State Contributory Health Care Management Agency in Kano, Nigeria. Patients' experience and satisfaction represents an important indicator of the quality of the provided services (Saila et al, 2008).

In Nigeria, various State and 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. Despite the proven effects of State and community-based health insurance schemes, low enrolment in such schemes is critical and threatened the financial sustainability of the schemes in developing countries including Nigeria. This view was similarly expressed in a previous study (Sarker et al, 2018).

The findings from this study observed that the overall satisfaction mean score was 5.22 ± 0.35 (95% CI: $5.19 - 5.37$) out of 6.0. This means that the enrolees/clients were highly satisfied with the health services provided by KCHMA health scheme. This finding agrees with that of previous similar study (Sarker et al, 2018). The overall Cronbach's alpha of the satisfaction domains was also high (0.94 out of 1.0) which

ensured the most satisfaction with services of the scheme.

This study found that enrolees were satisfied with the behavior of staff as indicated in a previous study that providers' behavior towards the patients are directly linked with patients' satisfaction (Adhockery et al, 2018). Studies have reported that a healthy interaction between patients and healthcare providers are often positively linked with patients' expectations and associated healthcare experiences which also influenced the patients' satisfaction level (Boquiren et al, 2015; Singh et al, 2016). Positive linkages with satisfaction were associated with enrolees who had more knowledge of the health insurance, frequently visited the hospital, had longer length of enrolment, and also had some awareness of monetary contributions. These findings suggest that enrolee's satisfaction with health services provision in the scheme could be influenced by several factors. The factors which lead to less satisfaction could be addressed properly to improve on the health insurance activities. These findings agree with that reported by a previous study (Mohammed et al. 2011).

Health care providers' friendly relationship has been echoed in this study because it helps to improve enrolees/client – health worker relationship. This finding has been similarly expressed by a previous study 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 (Sun et al, 2017).

This study showed that most of the enrolees/clients were not satisfied with the health facility environment (e.g., cleanliness) provided by the accredited health facilities by the health scheme. This finding is in contrast to that of the findings of other studies where the hospital environment, cleanliness and process management have been recognized as crucial patient satisfaction factors and a better physical environment of a health facility yielded greater patient satisfaction and even led to a positive perception towards the healthcare providers (Sarker et al, 2018; Sun et al, 2017). Provision of better cleanliness is significantly associated with patients' satisfaction level (Adhockery et al, 2018). It was noted in this study that socio-demographic characteristics are less important for clients' satisfaction level towards providers'

services. This finding is in agreement with that reported in previous studies (Mohammed et al, 2011; Munro & Duckett, 2016). The unadjusted model found a negative relationship between satisfaction, occupations and income but the causal relationship could not be established here as similarly expressed by a previous study (Sarker et al, 2018). However, this study noticed a positive correlation between family size and satisfaction. Financial issues might be one of the reasons while larger families required more healthcares and made frequent visits to the health facilities hence the satisfaction.

In this study we observed that self-reported health status especially the severe health problem has a significant role in overall satisfaction towards healthcare services provided by the SBHIS. This finding concurs with those from other studies (Bleich et al, 2009; Missinne et al, 2013). It is interesting to note in this study that there is no significant association between income (economic status) and the level of satisfaction. A literature has reported that financial barriers often act as an important factor for accessing care and also the satisfaction level towards healthcare system (Blendon et al, 2002). However, such relationship is not always clear (Sarker et al, 2018).

Limitations

The limitations of this study include:

Sample size: Since the results were based on a cross-section survey within the KSCHMA accredited health facilities which covered only a sub-district level, therefore, the study might not be representative of the whole country.

Anchor biased effect: Face to face interviews which is an effective method of data collection for primary research was conducted, however, biased responses could be delivered due to ‘anchor biased effect’ as the responses could be influenced by the interviewer.

Recall and incorrect reporting bias: The survey was conducted after receiving the health care services, therefore, recall bias might not be ruled out.

Response bias: Since all of the respondents belong to the health scheme this may bring bias in answering the questionnaire.

Conclusion

This study observed that the overall satisfaction level towards health care services was quite good. However, it appeared to have problems in the patient waiting time and environment cleanliness of the health facilities for which corrective measures must be taken to ensure that the services that patient’s benefit are characterized by high quality. The satisfaction scores can still be improved by addressing the problem areas. The findings from this study could be used in designing and developing the healthcare services packages recommended by World Health Organization as part of the path to Universal Health coverage. Enrolees’ satisfaction with service provision of health insurance can be influenced by several factors. Periodic identification of related influencing factors on client satisfaction could assist in guiding policy and decision making to detect promising pathways to improve any new program like KCHMA health scheme.

Table 1. Socio-demographic Characteristic of respondents (n=403)

Variable	Frequency	Percentage
Age (year)		
≤18	27	6.7
19- 28	63	15.6
29- 38	82	20.4
39- 48	106	26.3
49 -58	88	21.8
≥ 59	37	9.2
Total	403	100
Sex		
Male	272	67.5
Female	131	32.5
Total	403	100
Occupations		
House wife	102	25.3

Civil service	129	32
Artisans	72	17.9
Farming	90	22.3
Others	10	2.5
Marital Status		
Married	369	91.6
Separated/Divorced	17	4.2
Widowed	12	3.0
Single	5	1.2
Total	403	100
Family Size		
< 6	245	60.7
≥ 6	158	39.3
Educational Qualification Obtained		
No education	4	1
Primary	18	4.5
Secondary	85	21.1
Diploma/Certificate/Koramic	219	54.3
Degree	77	19.1
Total	403	100
Self-reported health problems		
No problem	87	21.6
Mild-moderate problem	113	28.0
Severe problem	203	50.4
Total	403	100
Income		
< 500 US (\$) equivalent	271	67.2
>500 US (\$) equivalent	132	32.8
Family Type		
Polygamous	321	81.4
Monogamous	82	18.6
Total	403	100
Enrollee status		
Principal	302	74.7
Dependant	101	25.3
Total	403	100
Duration of enrolment with KCHMA		
< 1 year	66	16.4
>1 year	337	83.6
Total	403	100

Table 2. Healthcare services provision-related satisfaction among enrollees of KCHMA health scheme

Domain	Likert 5 Scale of Patient Satisfaction	n (%)	Mean ± SD	95% CI
Satisfied with access to care (n = 403)	Strongly agree Agree Neutral Disagree Strongly disagree	43 (10.7) 217 (53.8) 20 (5.0) 68 (16.9) 55 (13.6)	5.31 ± 1.16	5.26 - 5.53
Satisfied with waiting time (n = 403)	Strongly agree Agree Neutral Disagree Strongly disagree	55 (13.6) 89 (22.1) 10 (2.5) 68 (16.9) 55 (13.6)	4.27 ± 1.68	4.13 - 4.79
Satisfied with staff behaviour (n=403)	Strongly agree Agree Neutral Disagree Strongly disagree	128 (31.8) 217 (53.8) 39 (9.7) 12 (3.0) 7 (1.7)	5.26 ± 0.82	5.11 - 6.35
Health care providers' explanations about prescribed drugs (n=403)	Excellent explanation Good explanation Fair explanation Partly explained Not properly explained	75 (18.6) 225 (55.8) 50 (12.5) 5 (1.2) 27 (6.7)	5.48 ± 1.02	5.46 - 6.59
Satisfied with Health facility Environment (n=403)	Strongly agree Agree Neutral Disagree Strongly disagree	35 (8.7) 150 (37.2) 28 (7.0) 123 (30.5) 67 (16.6)	4.65 ± 1.68	4.49 - 4.83
Satisfied with health care providers' explanations about laboratory tests (n=403)	Excellent explanation Good explanation Fair explanation Partly explained Not properly explained	35 (8.7) 206 (51.1) 123 (30.5) 35 (3.7) 4 (1.0)	5.79 ± 1.22	5.64 – 7.03
Satisfied with health care providers friendly relationship (n = 403)	Strongly agree Agree Neutral Disagree Strongly disagree	268 (66.5) 85 (21.1) 33 (8.2) 10 (2.5) 7 (1.7)	5.83 ± 0.79	5.72 - 6.54
Satisfied with reception and services received at health record unit (n = 403)	Strongly agree Agree Neutral Disagree Strongly disagree	44 (10.9) 258 (64.0) 9 (2.2) 53 (13.2) 39 (9.7)	5.21 ± 0.94	5.18 - 6.15
Satisfied with health care providers' attitude towards explanation of health problem (n = 403)	Strongly agree Agree Neutral Disagree	142 (35.2) 133 (33.0) 71 (17.6) 37 (9.2)	5.36 ± 0.93	5.24 - 5.58

	Strongly disagree	20 (5.0)		
Satisfied with the comprehensive (quality) services provided by the clinic (n=403)	Strongly agree	135 (33.5)	5.27 ± 0.86	5.13 - 6.14
	Agree	184 (45.7)		
	Neutral	56 (13.9)		
	Disagree	21(5.2)		
	Strongly disagree	7 (1.7)		
Overall score 5.22 ± 0.35 (95% CI: 5.19 -5. 37				

Table3. Distribution of health services provision related average satisfaction score on KCHMA health scheme among the enrollees

Variable	Mean Satisfaction Score ± SD	Unadjusted Model			Adjusted Model		
		Coefficient (SE)	95% CI	p-Value	Coefficient (SE)	95% CI	p-Value
Age							
≤18 years	5.35 ± 0.46	Ref	-	0.73			
>18 years	5.47 ± 0.43	0.26 (0.43)	(0.21-0.61)				
Gender							
Male	5.28 ± 0.39	Ref	-	-	Ref	-	-
Female	5.54 ± 0.42	0.34 (1.03)	(0.26-0.47)	0.04			
Education background							
No education	5.44 ± 0.36	0.57 (0.54)	0.46- 0.97	0.57			
Primary	5.39± 0.47	0.53 (0.51)	0.49- 0.91	0.63			
Secondary	5.41 ± 0.43	0.54 (0.53)	0.48-0.92	0.59			
Diploma/Certificate/Koramic	5.34 ± 0.32	0.47 (0.52)	0.42-0.97	0.64			
Degree	4.65 ± 0.26	Ref	-	-			
Marital Status							
Un-Married	5.44 ± 0.36	Ref	-	-			
Married	5.38 ± 0.46	0.07 (0.23)	(0.05- 0.89)	0.62			
Widowed/divorced/Separated	5.81 ± 0.24	0.48 (0.45)	(0.37- 1.22)	0.37			
Family size							
Less than 6	5.86 ± 0.53	Ref	-	-	Ref	-	-
Greater than 6	5.34 ± 0.41	-0.74 (0.43)	(-0.85 - 0.32)	0.02	-0.58 (0.04)	(-1.10- 0.94)	0.31
Occupations							
House wife	5.52 ± 0.43	Ref	-	-	Ref	-	-
Civil service	5.45 ± 0.41	-0.30 (0.34)	(-0.53- 0.39)	0.36	0.34 (0.47)	(-0.16- 0.83)	0.62
Artisans	5.25 ± 0.40	-0.48 (0.26)	(-0.74 - 0.23)	0.05	0.23 (0.48)	(-0.27- 0.75)	0.75
Farming	5.33 ± 0.41	-0.43 (0.43)	(-0.81 - 0.40)	0.52	0.24 (0.52)	(-0.36- 0.82)	0.68
Others	5.31 ± 0.43	-0.41 (0.38)	(-0.52- 0.28)	0.35	-0.08 (0.50)	(-0.36 - 0.56)	0.46
Income							
< 500 US (\$) equivalent	5.32 ± 0.83	Ref	-	-	Ref	-	-
>500 US (\$) equivalent	4.08 ± 0.69	0.34 (0.36)	(-0.40- 0.61)	0.63	0.06 (0.14)	(-0.21, 0.33)	0.94

Self-reported health problems	5.26 ± 0.41	Ref	-	-	Ref	-	-
No problem	5.41 ± 0.52	0.37 (0.31)	(-0.27-	0.24	0.36 (0.32)	(-0.32-	0.4
Mild-moderate problem	5.72± 0.63	0.78 (0.35)	0.55)	0.03	0.61 (0.36)	0.53)	0.03
Severe problem			(0.43- 0.92)			(0.34- 0.87)	

Table 4. Standardized satisfaction items test scale on KCHMA health scheme

Domain	N	Sign	Item test correlation	Item reset correlation	Inter Item correlation	Alpha
Satisfied with access to care	403	+	0.79	0.73	0.63	0.94
Satisfied with waiting time	403	+	0.82	0.77	0.58	0.91
Satisfied with staff behaviour	403	+	0.81	0.77	0.58	0.93
Satisfied with health care providers' explanations about prescribed drugs	403	+	0.80	0.75	0.61	0.92
Satisfied with Health facility Environment	403	+	0.78	0.71	0.61	0.92
Satisfied with health care providers' explanations about laboratory tests	403	+	0.85	0.76	0.64	0.93
Satisfied with health care providers friendly relationship	403	+	0.89	0.85	0.61	0.94
Satisfied with reception and services received at health record unit	403	+	0.84	0.80	0.6	0.93
Satisfied with health care providers' attitude towards explanation of health problem	403	+	0.82	0.77	0.6	0.93
Satisfied with the comprehensive services provided by the clinic	403	+	0.84	0.78	0.61	0.93
Test Scale					0.62	0.94

Item test score: The item-test correlation is the Pearson correlation coefficient calculated for pairs of scores where one item of each pair is an item score and the other item is the total test score. The greater the value of the coefficient, the stronger is the correlation between the item and the total test.

Item reset correlation: Is the correlation between the item and the sum of the rest of the item scores.

Inter-item correlations are an essential element in conducting an item analysis of a set of test questions. Inter-item correlations examine the extent to which scores on one item are related to scores on all other items in a scale.

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha is one way of measuring the strength of that consistency.

Table 5. Insurance and health related responses of sample by “Client Satisfaction”

Characteristics	Total	Satisfied (%)	Dissatisfied (%)	P-value
Total cases	403 (100)	304 (75.4)	99 (24.6)	-
Length of enrolment (yrs)	307	177 (57.7)	130 (42.3)	0.0000283
>1yr	96	35 (36.5)	61 (63.5)	
<1yr				
Frequency of hospital visit	265	130 (49.1)	135 (50.9)	0.020486
≥ 2 per month	138	51 (36.7)	88 (63.3)	
0-1				
Health condition				0.000463.
Mild- Moderate	226	110 (48.7)	116 (51.3)	
Severe	177	60 (33.9)	117 (66.1)	
Knowledge on Health Insurance	168	125 (74.4)	43 (25.6)	< 0.00001
Yes	235	48 (20.4)	187 (79.6)	
No				
Awareness on monetary contribution	135	87 (64.4)	48 (35.6)	< 0.00001
Yes	268	93 (34.7)	175 (65.3)	
No				

Table 6. Factors influencing Enrolees satisfaction” (logistic regression)

Variables	Description and coding parameter (1)	(β)	S.E.	P-value	Exp (β)	(95% CI)
Constant		-3.542	1.327	.05	.009	
Age	Age in years	.024	.051	.782	1.046	0.977 -1.093
Sex	Male = 1, Female = 0	.263	.658	.891	1.237	0.643- 2.714
Educational level	Tertiary = 1, Below Tertiary = 0	-1.63	.592	.715	.924	0.431 - 2.147
Religion	Islam =1, Christianity =0	-.418	.579	.467	.691	0.376 - 1.579
Place of residence	Urban=1, Rural =0	-.029	.472	.922	.988	0.537- 1.954
Family size	≥ 6 =1, < 6 =0	-.219	.518	.638	.847.	0.462- 1.762
Length of enrolment (yrs)	> = 1 year = 1, < 1 year = 0	.633	.452	.213	1.815	0.944- 5.341
Income	>500 US (\$) equivalent = 1, < 500 US (\$) equivalent =0	.003	.007	.093	.985	0.968- 1.104
Marital status	Married =1, Unmarried= 0	3.586	2.346	.025	17.637	1.833- 175.364
Family type	Polygamous=1, Monogamous=0	3.914	2.207	.034	1.639	171- 169.218
General knowledge on insurance	Knowledgeable= 1, Not Knowledgeable =0	3.126	.568	.004	.689	5.944- 16.448
Occupation	Civil service=1, Non-civil service=0	.361	.577	.783	1.568	.671 -5.225
Awareness on money contribution	Aware = 1, Not = 0	.879	.562	.027	3.126	2.148 -5.116

N	403					
Nagelkerke R2	.623					
-2 log likelihood	516.369a					
Cox & Snell R2	.578					

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