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PERCEPTIONS AND SATISFACTION TOWARDS COMMUNITY BASED HEALTH INSURANCE (CBHI) AMONG PATIENTS SEEKING CARE IN KIGEME HOSPITAL, NYAMAGABE DISTRICT, RWANDA

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ABSTRACT

Community-Based Health Insurance (CBHI) is an emerging concept for providing financial protection against the cost of illness and improving access to quality health services for low-income rural households who are excluded from formal insurance. Community based health insurance is important in supporting families to access affordable health services in most of government hospitals as well as some private ones. This study was aimed to assess the perceptions and satisfaction towards CBHI among patients seeking care in Kigeme Hospital. It was a cross- sectional study using both quantitative and qualitative approaches. Questionnaire and interview guide were for data collection for quantitative and for qualitative approach respectively. The target population was the in-patients and out-patients using CBHI in Kigeme hospital. The sample size of this study was 274 clients for quantitative approach and two (2) Focus Group Discussion each with eight (8) participants in Kigeme hospital with CBHI from different services of the hospital. For quantitative approach, data collected was recorded and then analyzed using SPSS version 21, descriptive analysis with frequency and percentage. Pearson's Chi-square test and odds ratio (OR) with corresponding 95% confidence intervals (CI) was computed to find the association between independent variables and the dependent variable. A P-value<0.05 was considered to be statistically significant and data was presented using tables and graphs. Qualitative data from FGDs was transcribed from audio recorder, grouped into themes and analysed. The results from this study showed that 79.6% of 274 respondents had positive perceptions towards CBHI, categorized as moderate and 92.3% of respondents had high satisfaction level with CBHI. Multivariate analysis showed that perceptions towards CBHI were positively associated with male respondents [AOR=3.72; 95% CI= 1.71-8.12; P-V= 0.001], respondents with large family (Parents + 3 or more children) [AOR=3.39; 95% CI= 1.66-6.92; P-V= 0.001] and respondents with medium income (68,224rwf/Term,EICV3: income) [AOR=0.28; 95% CI= 0.14-0.55; P-V<0.001]. The researcher concluded that respondents had positive perceptions towards CBHI and the satisfaction level with healthcare services that they receive under CBHI was high. She revealed that perceptions towards CBHI were influenced by socio-demographic factors which were sex of respondents, family size and level of income and found also that satisfaction level with CBHI was influenced by socio-demographic factors such as marital status, level of income, behavior change and adequate knowledge on CBHI. Recommendations were based on extending the coverage to other diseases and to add other drugs that were not enclosed in what CBHI can cover. Further recommendations were developing and installing a new procedure to minimize waiting time at the consultation services and laboratory plus improving the quality of services.

INTRODUCTION

The understanding of the cost of services by individuals is the product of an appraisal system in which perceptions are contrasted with actual beliefs and perspectives of treatment received. Individuals invest in insurance coverage since they expect financial security for the delivery of high quality coverage from unnecessary out-of-pocket expenses. The assumption among studies is that favorable national healthcare expectations contribute to improved patient satisfaction and the appreciation of the healthcare professional's importance and confidence. This inevitably affects persons' cost of healthcare and thus, medical insurance (Stephen, Edward, Wendy and Menno, 2018).

Hamid and Hassan (2014) conducted a study to determine the degree of comprehension and perceptions of the currently enrolled 500 students from different divisions and educational institutions at the University of Delhi towards insurance coverage as a national healthcare method. Of the sample responses, about 24.8 percent (124 out of 498) find insurance coverage to be an excellent element. The medical coverage has been assessed as required by the 62.8 percent of sample responses (314 of 498). A marginal proportion of the total participants, 2.8 percent (14), regarded insurance coverage as an excessive method. The greater standard of concern in insurance coverage has been disclosed by the 23.2 percent (116) of sample responses. Approximately 61 percent (305 out of 499) participants are interested in health coverage in order to avoid unanticipated spending in the coming years to address unanticipated cost of care (Hamid and Hassan, 2014).

By inspecting medical workers, Chahal and Kumari (2012) assessed the service quality of a secondary government hospital in North India and demonstrated a significant relationship between both the perceived service quality, including spatial layout quality (atmospheric state efficiency), Meaningful social factors), level of engagement (attitude and actions, knowledge and level of procedure) and four success measures: wait period, client experience, customer outcomes, and health service picture (Krishna, 2014).

A research on the behavior of farming dwellers towards community-based health coverage in Ethiopia was carried out by Jembere (2018). Overall, the results revealed that the positive perception of household towards CBHI was remarkably high (93 percent). In addition, this research showed that socio-economic factors such as the broad extent of the family, the higher levels of schooling and the sufficient benefit bundle from the system had a significant effect on respondents' understanding and behavior towards the scheme.

Bahadur (2016) conducted a study to examine the insurance company thoughts and opinions of the money owed in the Pokhara valley by brokers, marketers and quantity surveyor. The results showed that 50.49% of participants agree that the offerings of insurance firms were adequate due to the process to help of insurance products. Out of 92 respondents, 71.74% stated that they were pleased with the compensation agents' products and 28.26% were not satisfied. Of the sample responses, 35.89% accepted that the output of insurance auditors would be acceptable and bias-free. But on the other hand, 33.33% of participants are indifferent about the

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results and actions of surveying. Overall, the aforementioned facts show that insurers' impressions of protection facilities in the Pokhara valley are satisfactory.

Kindie and Sharew (2019) done a study in Ethiopia and Over half (54.7%) of families were happy with the CBHI system.

Another study also conducted in Ethiopia to evaluate the perceptions and happiness of families participating in a pilot CBHI system reported that positive experience of households with CBHI was 91.38%. In addition, there was a strong correlation among health service delivery and the patient satisfaction of CBHI representatives. For example, rural households who personally disagree with the provision of clinical laboratories had a lowest correlation in CBHI satisfaction level of 0.878 opposed to strongly approved household heads. Contributing factors with the CBHI method and leadership were also strongly correlated with happiness (Abebe , Kora , Yohannes and Tezera , 2016).

Research by Sebatware (2011) has shown that a participation scheme focused on the overall wealth of its members would share of total and improve the funding of the CBHI scheme in Rwanda. At the very same time, the allocation scheme increases domestic wealth and decreases dependency on foreign funding**.** In addition to maintaining economic position, the plans broaden the access of medical care providers to all hospitals, namely commercial hospitals, and expand the public healthcare plan.

In Rwanda, community-based health insurance (CBHI) is a solidarity health insurance system in which persons (families) come together and pay contributions for the purpose of protection and receipt of medical care. It was established in order to help people with low-income access medical care at affordable cost. Members of the CBHI are entitled to a benefits package including both outpatient and inpatient care at public facilities throughout the country regardless of the place of residence. Basic care and referrals to district or tertiary hospitals are provided through the local health center. A member who benefits from medical care services has to pay a copayment of 200 frw for health center visits and 10 percent of the medical bill for hospital visits.

Hence, based on the Ubudehe system, the premiums of CBHI Category 1 are RWF 2,000 per member and are fully subsidized by the government and development partners. Also, no copayment is charged to this category at the point of care. CBHI Categories 2 and 3 members pay RWF 3,000 per member and CBHI Category 4 members pay RWF 7,000. The user copayments described above still apply for CBHI Categories 2 and 3 members. As any other low-income country, Rwanda is still in need to increase the accessibility of health care service especially in the poorest category to ensure nobody is left behind with regard to health care services access (Mukangendo, Nzayirambaho, Hitimana and Yamuragiye, 2018).

The member satisfaction apart from the issues of access and equity, the 2013 CBHI survey indicated that members Throughout all groups feels very optimistic about the program, and respondents stated that the advantages of CBHI participation involved lower premiums (97 percent), improved access to medication (73 percent), and timely receipt of prescribed treatment (87 percent). However, only 23percent and 24 % of respondents said that there was an advantage in terms of medical coverage and free emergency services, meanwhile (MSH, 2016).

RESEARCH METHODOLOGY

The aim of the study was to determine perceptions and satisfaction towards CBHI among patients seeking care in Kigeme hospital, Nyamagabe District. This study was a cross-sectional with mixed methods using both qualitative and quantitative approaches. Quantitative data facilitated the researcher to measure the satisfaction level with CBHI, examine factors associated to perceptions and to establish satisfaction towards CBHI. Qualitative data facilitated the researcher to determine the perception towards CBHI among patients seeking care in Kigeme Hospital.

Study population and procedures of the study

The study population for quantitative part consisted of all patients with CBHI seeking health care in Kigeme Hospitalduring the study periodboth the in-patients and out-patients which was 20860 clients with CBHI in six months from January to June 2019 with an average of 3476.7 clients. For qualitative study, two (2) focus group discussions with CBHI wereformed andeach group had eight (8) informants making sixteen (16) informants with CBHI where those who attended the outpatient department and those who were hospitalised were included in the study.

In quantitative study, the researcher used a systematic random sampling method.

This sampling was based on the arriving time of patients with CBHI. Using the list of the clients with CBHI, the researcher picked a half with odd numbers from descending order and other half from ascending order. A total of 274 patients with CBHI were sampled from the out-patients department and in-patients department of Kigeme hospital using systematic sampling.

In qualitative study, the researcher used a purposive sampling method to select patients for FGD. Two (2) FGDs were formed with eight (8) participants each. Qualitative data was collected by the researcher using interview guide and audio recorder.

Data analysis

Quantitative data were analyzed using SPSS version-21. Descriptive analysis using frequency and percentages were computed. Pearson's Chi-square test and odds ratio (OR) with corresponding 95% confidence intervals (CI) was computed to find the association between independent and dependent variable (perception). A P-value < 0.05 was considered to be statistically significant. The section of perception was based on Likert scale where responses are scaled to agree if the respondent has positive perceptions and responses are coded with disagree if the respondent has a negative perception and perceptions were scored with each correct response scoring one mark and each response scoring a zero then the cumulative scores were converted into percentages where from 80-100%: Good perception; 60-79%: Moderate and <60% poor perception.

Qualitative data from focus group discussions were transcribed from audio taped records and grouped into themes and analysed.

Results

Socio-demographic and socio-economic characteristics of respondents

Table 1 shows the distribution of the demographic characteristics of the respondents who participated in the study. The variables included in the demographic characteristics are age in years, sex, level of education, marital status, family size, religion and residence.

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (n=274)	Percentage (%)
Age of respondent		
18-24 years	87	31.8
25-30 years	65	23.7
31-35 years	39	14.2
36-40 years	60	21.9
40 years and above	23	8.4
Sex of respondent		
Male	107	39.1
Female	167	60.9
Level of education		
Illiterate	45	16.4
Primary	100	36.5
Secondary	101	36.9
University studies	28	10.2
Marital Status		
Single	123	44.9
Married	127	46.4
Divorced / Widowed	24	8.8
Family Size		
Large family (Parents+3 or more children)	177	64.6
Ideal family(Parents+2.5children)	33	12.0
Small family(Parents+1 or 2 or no children)	64	23.4
Religion of respondent		
Christian	240	87.6
Muslim	16	5.8
No religion	18	6.6
Residence of respondent		
Less developed cells	201	73.4
Developed cells	73	26.6

Source: Primary data

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As indicated in above table 1, that the highest percentage (31.8%) of the respondents were within the age group of 18 to 24 years followed by those aged 25 to 30 years (23.7%)and the third group was those aged from 36 to 40 (21.9%) followed by those with 31 to 35 years (14.2%). However, the age group of greater than 40 years and above was only 8.4%. About 16.4% of respondent were illite-

rate while 36.5% were with primary level of education and about 36.9% of the respondents were with secondary level of education while 10.2% were with university studies. Most respondents (46.4%) were married while single were 44.9% and divorced/widowed were percentage of 8.8%.

About 64.6% of respondents had a large family while 23.4% had a small family and 12.0% had an ideal family. The percentage of 87.6% was Christian, 5.8% were Muslim and 6.6%were no religion. Among 274 respondents, about 73.4% of them were from less developed cells while 26.6% were from developed cells of Nyamagabe district.

Socio-economic characteristics of respondents

The factors included in socio-economic characteristics were: occupation and level of income as it is exposed in below table 2.

Table 2: Socio-economic characteristics of respondents

Variables	Frequency (n=274)	Percentage (%)
Occupation of respondent		
Employed	181	66.1
Unemployed	93	33.9
Level of income		
Poor(<68,224rwf/Term,EICV3:income)	157	57.3
Medium(68,224rwf/Term,EICV3:income)	94	34.3
Rich(>68,224rwf/Term,EICV3:income)	23	8.4

Source: Primary data

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About 66.1% were employed while 33.1% were unemployed. About the level of income, the poor with the percentage of 57.3% followed by medium with 34.3% and rich with 8.4% of respondents.

Presentation of findings for quantitative data

The findings were presented using figures and tables. The findings were presented based on study objectives: to determine the perceptions towards CBHI, to determine the satisfaction level with CBHI, factors associated with perceptions towards CBHI and factors associated to satisfaction with CBHI.

Frequencies on patients' perceptions towards CBHI

Below Table 3 shows the frequencies on perceptions towards CBHI among patients seeking care in Kigeme Hospital.

Table 3: Frequencies on patients' perceptions towards CBHI

Variables	Frequency (n=274)	Percentage (%)
Do you perceive CBHI as a useful medical insurance		
Agree	218	79.6
Disagree	56	20.4
Government considers CBHI as an insurance for one part of its population		
Agree	89	32.5
Disagree	185	67.5
Healthcare costs with CBHI limits your access to healthcare services		
Agree	82	29.9
Disagree	192	70.1
CBHI increases your access to healthcare services		
Agree	209	76.3
Disagree	65	23.7
CBHI increases to healthcare for many people		
Agree	207	75.5
Disagree	67	24.5
CBHI improves the quality of healthcare services you receive		
Agree	177	64.6
Disagree	97	35.4
A majority of people utilize more healthcare services under CBHI system		
Agree	185	67.5
Disagree	89	32.5
Rollout of CBHI should be made a national health policy priority		
Agree	139	50.7
Disagree	135	49.3

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Source: Primary data

Overall perceptions towards CBHI among patients seeking care in Kigeme Hospital

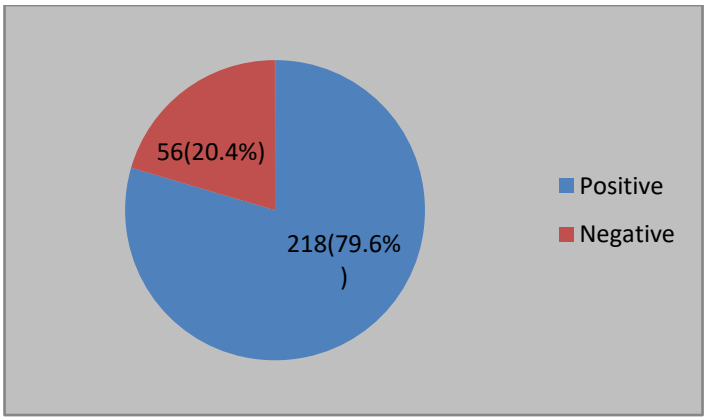

Figure 1: Overall perceptions towards CBHI among patients seeking care in Kigeme Hospital

Source: Primary data

The overall perceptions towards CBHI were computed by summing up to the percentage each individual responses. The results presented in the above figure 1 showed that the overall respondents with positive perceptions towards CBHI stands at 79.6% while those with negative perceptions stands for 20.4%.

Frequency on satisfaction level with CBHI

Table 4: Frequencies on satisfaction with CBHI

Variables	Frequency(n=274)	Percentage (%)
Opening hours of healthcare facility		
Satisfied	183	66.8
Dissatisfied	91	33.2
Waiting time at healthcare facility		
Satisfied	78	28.5
Dissatisfied	196	71.5
Healthcare services that you receive		
Satisfied	225	82.1
Dissatisfied	49	17.9
Types of drugs you receive		
Satisfied	143	52.2
Dissatisfied	131	47.8
Availability of drugs		
Satisfied	130	47.4
Dissatisfied	144	52.6
Number of healthcare staff		
Satisfied	141	51.5
Dissatisfied	133	48.5
Helpfulness of medical staff		
Satisfied	240	87.6
Dissatisfied	34	12.4
The overall quality of healthcare services received under CBHI		
Satisfied	225	82.1
Dissatisfied	49	17.9

Source: Primary data

Overall satisfaction with CBHI among patients seeking care in Kigeme Hospital

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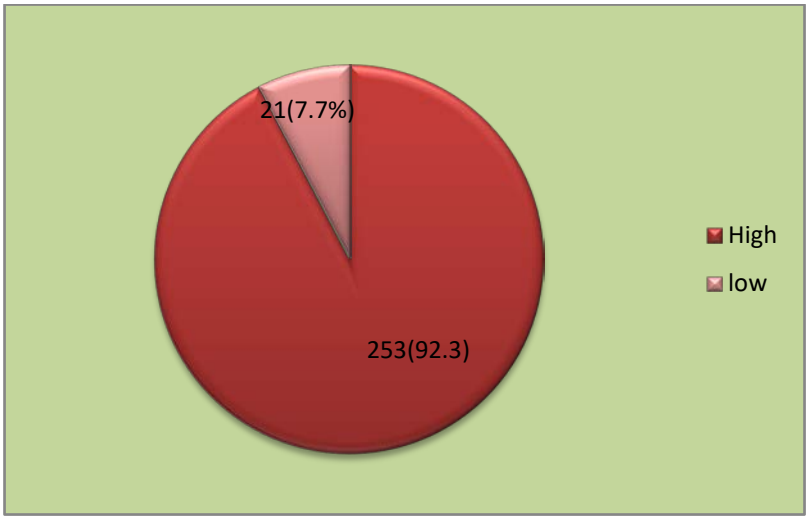

Figure 2: Overall satisfaction with CBHI among patients seeking care in Kigeme Hospital

Source: Primary data

The above figure 2 presents the results patients' satisfaction with CBHI. The results revealed that 92.3% of respondents had high level of satisfaction while only 7.7% had low satisfaction level with CBHI.

Factors associated to perceptions towards CBHI and to satisfaction with CBHI

The third and the fourth objective of this study were to identify factors associated with perceptions towards CBHI factors associated to satisfaction with CBHI. Bivariate analysis and Logistic regression performed to estimate factors associated with perceptions towards CBHI and those associated with satisfaction. The variables with statistical significance were taken to multivariate analysis.

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Association between perceptions towards CBHI and socio-demographic characteristics of respondents

The association between socio-demographic characteristics and perceptions of respondents towards CBHI is summarized in Table 5.

Table 5: Factors associated with perceptions towards CBHI

Variables	Perceptions towards CBHI				OR	95% CI		P-value
	Positive		Negative			Lower	Upper	
	n	%	n	%				
age of respondent								
18-24 years	73	83.9%	14	16.1%	1.78	0.30	10.44	0.523
25-30 years	57	87.7%	8	12.3%	1.87	0.32	11.04	0.492
31-35 years	29	74.4%	10	25.6%	1.35	0.25	7.38	0.727
36-40 years	40	66.7%	20	33.3%	0.76	0.17	3.46	0.724
40 years and above	19	82.6%	4	17.4%	Ref			
sex of respondent								
Male	96	89.7%	11	10.3%	4.03	1.62	10.02	**0.003**
Female	122	73.1%	45	26.9%	Ref			
Level of education								

Illiterate	36	80.0%	9	20.0%	Ref			
Primary	76	76.0%	24	24.0%	0.65	0.21	2.00	0.448
Secondary	81	80.2%	20	19.8%	0.68	0.21	2.23	0.522
University studies	25	89.3%	3	10.7%	1.18	0.19	7.14	0.858
Marital Status								
Single	109	88.6%	14	11.4%	2.82	0.49	16.17	0.245
Married	94	74.0%	33	26.0%	4.40	0.72	26.88	0.108
Divorced/Widowed	15	62.5%	9	37.5%	Ref			
Family size								
Large family (Parents+3 or more children)	155	87.6%	22	12.4%	3.41	1.43	8.13	**0.006**
Ideal family(Parents+2.5children)	25	75.8%	8	24.2%	5.78	1.18	28.27	**0.030**
Small family(Parents+1 or 2 or no children)	38	59.4%	26	40.6%	Ref			
Religion of respondent								
Christian	196	81.7%	44	18.3%	2.525	0.53	12.02	0.245
Muslim	9	56.3%	7	43.8%	.739	0.11	5.11	0.759
No religion	13	72.2%	5	27.8%	Ref			
Residence of respondent								
Less developed cells	161	80.1%	40	19.9%	0.87	0.35	2.16	0.759
Developed cells	57	78.1%	16	21.9%	Ref			
Occupation of respondent								
Employed	137	75.7%	44	24.3%	Ref			
Unemployed	81	87.1%	12	12.9%	1.78	0.51	6.22	0.365
Level of income								
Poor(<68,224rwf/Term,EICV3:income)	135	86.0%	22	14.0%	Ref			
Medium(68,224rwf/Term,EICV3:income)	61	64.9%	33	35.1%	0.30	0.12	0.78	**0.013**
Rich(>68,224rwf/Term,EICV3:income)	22	95.7%	1	4.3%	2.18	0.22	21.78	0.506

Source: Primary data

The findings from bivariate analysis showed that sex, family size and level of income were statistically significant associated with perception towards CBHI (P<0.05) where male (89.7%)[OR=4.03 ;95%CI=1.62-10.02;P-V=0.003], large family (87.6%)[OR=3.41; 95%CI=1.43-8.13; P-V=0.006], ideal family(75.8%)[OR=5.78;95%CI=1.18-28.27;P-V=0.030] and Medium(68,224rwf/Term,EICV3:income) (64.9%)[OR=0.30; 95%CI=0.12-0.78;P-V=0.013] had positive perceptions towards CBHI.

Multivariate regression analysis of factors associated with perceptions of patients

Multiple logistic analysis was applied to identify the factors which were independently associated with attitudes of respondents towards CBHI in Kigeme Hospital. Three (3) variables were significantly associated with perceptions towards CBHI during bivariate analysis and were considered in multivariate analysis. Those were sex, family size and level of income. Upon fitting these factors using multivariate logistic regression and specifying 'backward condition' method with removal at P-V< 0.05, all those three (3) factors remained in the final analysis as shown in Table 6.

Table 6: Multivariate regression of factors associated with perceptions towards CBHI

Variables	AOR	95% CI		P-Value
		Lower	Upper	
Full model				
sex of respondent				
Male	3.72	1.71	8.12	**0.001**
Female	Ref			
Family size				
Large family (Parents+3 or more children)	3.39	1.66	6.92	**0.001**
Ideal family(Parents+2.5children)	1.94	0.70	5.36	0.202
Small family(Parents+1 or 2 or no children)	Ref			
Level of income				
Poor(<68,224rwf/Term,EICV3:income)	Ref			
Medium(68,224rwf/Term,EICV3:income)	0.28	0.14	0.55	**<0.001**
Rich(>68,224rwf/Term,EICV3:income)	2.02	0.24	16.64	0.514
Reduced model				
sex of respondent				
Male	3.72	1.71	8.12	**0.001**
Female	Ref			
Family size				
Large family (Parents+3 or more children)	3.39	1.66	6.92	**0.001**
Ideal family(Parents+2.5children)	1.94	0.70	5.36	0.202
Small family(Parents+1 or 2 or no children)	Ref			
Level of income				
Poor(<68,224rwf/Term,EICV3:income)	Ref			
Medium(68,224rwf/Term,EICV3:income)	0.28	0.14	0.55	**<0.001**
Rich(>68,224rwf/Term,EICV3:income)	2.02	0.24	16.64	0.514

Source: Primary data

As it is indicated in table 6, male respondents were 3.72 more likely to have positive perceptions towards CBHI [AOR=3.72; 95% CI= 1.71-8.12; P-V= 0.001] compared to female respondents, respondents with large family (Parents+3 or more children) were 3.39 more likely to have positive perceptions towards CBHI [AOR=3.39; 95% CI= 1.66-6.92; P-V= 0.001] compared to respondents with ideal family Ideal family(Parents+2.5children) and respondents with Medium(68,224rwf/Term,EICV3:income) income were 0.28 less likely to have positive perceptions towards CBHI [AOR=0.28; 95% CI= 0.14-0.55; P-V<0.001] compared to the poor(<68,224rwf/Term,EICV3:income) and rich(>68,224rwf/Term,EICV3:income).

Association between satisfaction and socio-demographic characteristics of respondents

The association between socio-demographic characteristics and satisfaction of respondents towards CBHI is summarized in Table 7.

Table 7: Factors associated with satisfaction with CBHI

Variables	Satisfaction level with CBHI		OR	95% CI		P-value
	Positive	Negative		Lower	Upper	

	N	%	n	%				
age of respondent								
18-24 years	46	52.9%	41	47.1%	Ref			
25-30 years	45	69.2%	20	30.8%	1.00	0.33	3.10	0.994
31-35 years	25	64.1%	14	35.9%	0.53	0.13	2.15	0.377
36-40 years	55	91.7%	5	8.3%	3.72	0.56	24.51	0.173
40 years and above	21	91.3%	2	8.7%	2.19	0.22	22.23	0.508
sex of respondent								
Male	67	62.6%	40	37.4%	Ref			
Female	125	74.9%	42	25.1%	1.12	0.46	2.69	0.808
Level of education								
Illiterate	36	80.0%	9	20.0%	Ref			
Primary	68	68.0%	32	32.0%	0.82	0.21	3.18	0.778
Secondary	65	64.4%	36	35.6%	1.61	0.38	6.84	0.518
University studies	23	82.1%	5	17.9%	2.00	0.28	14.13	0.485
Marital Status								
Single	58	47.2%	65	52.8%	Ref			
Married	119	93.7%	8	6.3%	20.89	4.94	88.33	**<0.001**
Divorced/Widowed	15	62.5%	9	37.5%	22.05	2.90	167.43	**0.003**
Family size								
Large family (Parents+3 or more children)	124	70.1%	53	29.9%	Ref			
Ideal family(Parents+2.5children)	14	42.4%	19	57.6%	0.12	0.02	0.62	**0.012**
Small family(Parents+1 or 2 or no children)	54	84.4%	10	15.6%	1.87	0.48	7.32	0.366
Religion of respondent								
Christian	178	74.2%	62	25.8%	4.52	0.75	27.33	0.101
Muslim	10	62.5%	6	37.5%	1.65	0.13	21.36	0.702
No religion	4	22.2%	14	77.8%	Ref			
Residence of respondent								
Less developed cells	126	62.7%	75	37.3%	Ref			
Developed cells	66	90.4%	7	9.6%	16.46	5.52	49.07	**<0.001**
Occupation of respondent								
Employed	142	78.5%	39	21.5%	1.78	0.56	5.65	0.330
Unemployed	50	53.8%	43	46.2%	Ref			
Level of income								
ɔr(<68,224rwf/Term,EICV3:income)	150	95.5%	7	4.5%	7.56	2.28	25.12	**0.001**
Medium(68,224rwf/Term,EICV3:income)	80	85.1%	14	14.9%	2.02	0.68	6.00	0.207
Rich(>68,224rwf/Term,EICV3:income)	17	73.9%	6	26.1%	Ref			

Source: Primary data

As indicated in above table 7, the findings from bivariate analysis showed that marital status, family size, residence and level of income were statistically significant associated with satisfaction towards CBHI (P<0.05) where married respondent (93.7%)[OR= 20.89;95%CI=4.94-88.33;P-V<0.001], divorced/widowed respondents (62.5%)[OR= 22.05; 95%CI=2.90-167.43; P-V=0.003], respondents with ideal family(42.4%)[OR=0.12, 95%CI=0.02-0.62, P-V=0.012], respondents lived in developed calls

(90.4%)[OR=16.46;95%CI=5.52-49.07; P-V<0.001] and respondents classified in poor (<68,224rwf/Term,EICV3:income) (95.5%)[OR=7.56; 95%CI=2.28-25.12; P-V=0.001] had high satisfaction level with CBHI.

Multivariate regression analysis of factors associated to satisfaction with CBHI

Using multiple logistic analysis to identify the factors which were independently associated with satisfaction of respondents towards CBHI in Kigeme Hospital, four (4) variables were significantly associated with satisfaction towards CBHI during bivariate analysis and were considered in multivariate analysis. Those variables were marital status, family size, residence and level of income. Upon fitting these factors using multivariate logistic regression and specifying 'backward condition' method with removal at P-V< 0.05,only two (2) factors remained in the final analysis as shown in Table 8.

Table 8: Multivariate regression analysis of factors associated to satisfaction with CBHI

Variables	AOR	95% CI		P-Value
		Lower	Upper	
Full model				
Marital Status				
Single	Ref			
Married	2.40	0.74	7.76	0.145
Divorced/Widowed	0.18	0.04	0.90	**0.037**
Family size				
Large family (Parents+3 or more children)	Ref			
Ideal family(Parents+2.5children)	0.60	0.14	2.53	0.483
Small family(Parents+1 or 2 or no children)	2.39	0.48	11.93	0.288
Residence of respondent				
Less developed cells	Ref			
Developed cells	1.45	0.46	4.53	0.525
Level of income				
Poor (<68,224rwf/Term,EICV3:income)	17.06	4.28	67.98	**<0.001**
Medium (68,224rwf/Term,EICV3:income)	2.28	0.66	7.90	0.192
Rich (>68,224rwf/Term,EICV3:income)	Ref			
Reduced model				
Marital Status				
Single	Ref			
Married	2.40	0.74	7.76	0.145
Divorced/Widowed	0.18	0.04	0.90	**0.037**
Level of income				
Poor (<68,224rwf/Term,EICV3:income)	17.06	4.28	67.98	**<0.001**
Medium (68,224rwf/Term,EICV3:income)	2.28	0.66	7.90	0.192
Rich (>68,224rwf/Term,EICV3:income)	Ref			

Source: Primary data

As it is indicated in table 8, divorced/widowed respondents were 0.18 less likely to have high satisfaction level with CBHI [AOR= 0.18; 95% CI= 0.04-0.90; P-V= 0.037] compared to single and married respondents and the poor respondents

(<68,224rwf/Term,EICV3:income) were 17.06 more likely to have high satisfaction level with CBHI [AOR= 17.06; 95% CI= 4.28-67.98; P-V= 0.001] compared to the medium (68,224rwf/Term,EICV3:income)and rich respondents (>68,224rwf/Term,EICV3:income).

Discussion

The study was conducted to assess the perception and satisfaction towards community based health insurance (CBHI) among patients seeking care in Kigeme Hospital. The objectives of the study were to determine the perceptions towards CBHI, to establish the satisfaction level with CBHI and to examine factors associated to perceptions and satisfaction towards CBHI among patients seeking care in Kigeme Hospital, Nyamagabe district, Rwanda.

This study was conducted to determine the perceptions towards CBHI among patients seeking care in Kigeme Hospital. In general, the researcher found that most of respondents (79.6%) had a positive perception towards CBHI as a useful medical insurance and it is supported with good intention from discussants where they are positively perceive to CBHI: *"it is a very good medical insurance for all people, CBHI is affordable to everyone and it is paid according to Ubudehe categories so that every person can get insurance"*(Discussant 7) but it is less compared to the study done by Jembere (2018) in Ethiopia which revealed that 93% of households had high perception towards CBHI. The reason could be due to study design, time of study. At the University of Dhaka in Bangladesh about 24.8% (124 of 498) of the total respondents consider health insurance as an essential tool. The health insurance has been evaluated as necessary by the 62.8% of total respondents (314 of 498). A negligible share, 2.8% (14), of the total respondents has considered health insurance as unnecessary mechanism. About 61% (305 of 499) respondents are interested with health insurance in order to avert the unexpected expenditure for tackling unexpected health care demand in the near future(Hamid and Hassan,2014) contrary to the findings from Agada-Amade (2004) who did a study on the awareness of Health Insurance Model as a healthcare financing option by health workers and other civil servants in Abuja, and the findings demonstrated that a high percentage of the respondents were not aware of the concept and benefits of the health insurance.

It was also found that the satisfaction level with CBHI among patients seeking care in Kigeme Hospital, most of the respondents (92.3%) had high satisfaction level with CBHI which is greater compared to the result from the study done in Ethiopia by Kindie and Sharew (2019) that showed that more than half (54.7%) of the households were satisfied with the CBHI scheme. Another study also done in Ethiopia by Abebe , Kora , Yohannes and Tezera (2016) which aimed assessing the experiences and satisfaction of households enrolled in a pilot CBHI scheme revealed that overall household satisfaction with CBHI was 91.38 %.

The analysis of perception by socio-demographic characteristics showed that only sex, family size and level of income were statistically significant associated to perception in bivariate analysis, where male (89.7%)[OR=4.03 ;95%CI= 1.62-10.02;P-V=0.003], large family (87.6%)[OR= 3.41; 95%CI= 1.43- 8.13; P-V=0.006], ideal family(75.8%)[OR=5.78;95%CI=1.18-28.27;P-V=0.030] and Medium(68,224rwf/Term,EICV3:income) (64.9%)[OR= 0.30; 95%CI= 0.12- 0.78;P-V= 0.013] had positive perceptions towards CBHI which

is similarly to the study done in Gojjam zone, Northwest Ethiopia by Tsega, Tsega,Getu and Gashaw (2019) which revealed that family size was significantly associated with CBHI enrollment. Another study done in Addis-Ababa revealed that uptake of CBHI scheme among household heads whose their annual income <40,000 birr/year were less likely than those whose their income > 40,000 birr/year, OR=0.562; 95% CI (0.371, 0.850), contrary to the study done in Uganda by Rukundo , Mussa , Nshakira , Gerber and Joachim (2019) which indicated that household's socio economic status, husband's employment in rural casual work (OR: 2.581, CI: 1.104-6.032) and knowledge of health insurance premiums (OR: 17.072, CI: 7.027-41.477) were significant predictors of enrolment.

The multivariate analysis of perceptions by socio-demographic showed that all factors from bivariate analysis remained: sex, family size and level of income were independently associated with perception where male respondents were 3.72 more likely to have positive perceptions towards CBHI [AOR=3.72; 95% CI= 1.71-8.12; P-V= 0.001] compared to female respondents. Respondents with large family (Parents+3 or more children) were 3.39 more likely to have positive perceptions towards CBHI [AOR=3.39; 95% CI= 1.66-6.92; P-V= 0.001] compared to respondents with ideal family ideal family (Parents+2.5children). Respondents with Medium income (68,224rwf/Term,EICV3:income) were 0.28 less likely to have positive perceptions towards CBHI [AOR=0.28; 95% CI= 0.14-0.55; P-V<0.001] compared to the poor(<68,224rwf/Term,EICV3:income) and rich(>68,224rwf/Tergm,EICV3:income) and as it is explained by one of informants who said that the big family and lack of occupation limit to have CBHI: "*I use CBHI with my family but it is not easy to pay because of a big family with seven (7) persons and we are in third category of Ubudehe, So I have to pay three thousand Rwandan francs (3,000rwf) for each one it is not easy as I don't have an occupation which can give me enough money so that I can pay for CBHI, as I have to feed them even the school fees of my children"* (Informant 10). This is contrary to research conducted in Ethiopia where members' age (AOR = 0.74, 95% CI: 0.62–0.8), premium fee affordability (AOR: 2.66, 95% CI: [1.13–4.42]), members' occupation (AOR = 0.14, 95% CI: 0.04–0.45), members' perception toward CBHI management (AOR = 2.11 [1.14–3.90]), and CBHI members' knowledge (AOR = 0.24, 95% CI: [0.13–0.42]) were found to be major predictors of community compliance to CBHI requirements (Workneh, Biks and Woreta, 2017). This might be attributed to the advanced information about the advantage of CBHI scheme, sometimes males have advanced knowledge than women and is attributed to the study area which means rural cells some women have low level of education and some have none.

Analysis of satisfaction by socio-demographic characteristics showed that marital status, family size, res

idence and level of income were statistically significant associated with satisfaction towards CBHI (P<0.05) where married respondents (93.7%)[OR= 20.89;95%CI=4.94-88.33;P-V<0.001], divorced/widowed respondents (62.5%)[OR= 22.05; 95%CI=2.90-167.43; P-V=0.003], respondents with ideal family(42.4%)[OR=0.12, 95%CI=0.02-0.62, P-V=0.012], respondents lived in developed cells (90.4%)[OR=16.46;95%CI=5.52-49.07; P-V<0.001] and respondents classified in poor (<68,224rwf/Term,EICV3:income) (95.5%)[OR=7.56; 95%CI=2.28-25.12; P-V=0.001] had high satisfaction level with CBHI.

With regards to multivariate analysis only marital status and level of income were independently associated with satisfaction where divorced/widowed respondents were 0.18 less likely to have high satisfaction with CBHI [AOR=0.18; 95% CI= 0.04-0.90; P-V= 0.037] compared to single and married respondents, and the respondents classified as poor(<68,224rwf/Term,EICV3:income) according to the level of income were 17.06 more likely to have high satisfaction with CBHI[AOR=17.06; 95% CI= 4.28-67.98; P-V<0.001] compared to those classified as medium(68,224rwf/Term,EICV3:income) and rich(>68,224rwf/Term,EICV3:income) population and informants mentioned some factors as it said with one of them: *"I have been using CBHI for longtime and I am satisfied but they should improve some of the services, for example we spend longtime at the consultation because there are many patients and the number of doctors are not enough and also waiting time at the laboratory for the exams is too long"* (Informant 16). It should be attributed to the area and study. This is contrary to the study done in Ethiopia by Kindie and Sharew (2019) revealed that the satisfaction to CBHI was positively associated with adequate knowledge of CBHI benefit packages (AOR = 2.29, 95% CI = 1.55–3.38), type of health facility visit (AOR = 1.93, 95% CI = 1.09–3.39), laboratory service provision (AOR = 2.07, 95% CI = 1.15–373) and length of enrollment (AOR = 1.53, 95% CI = 1.01–2.32). Findings from qualitative research showed that informants indicated some of factors associated with perceptions towards CBH such as: family size, lack of occupation and behavior change and adequate knowledge towards CBHI, also factors like waiting time and number of doctors were associated to satisfaction with CBHI.

Conclusion

Basing on findings of this study; the researcher concluded that 79.6% of respondents had positive perceptions towards CBHI, 92.3% of respondents had high satisfaction level with healthcare services that they receive under CBHI. Hence CBHI become an opportunity to enhance affordability, access and utilization of healthcare services in the study areas. She revealed that perceptions towards CBHI were influenced by socio-demographic factor which were sex of respondents, family size and level of income and found also that satisfaction level with CBHI was influenced by socio-demographic factors such as marital status, level of income, behavior change and adequate knowledge on CBHI.

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