



Factors Influencing Voluntary Enrollment into NHIF among Market Vendors: A Case of Mwanza, Tanzania

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Abstract

Background

National Health Insurance Fund recently developed new affordable packages aiming at attracting enrolment of new clients into the health insurance scheme, however, NHIF still faces low enrollment of clients primarily from the informal sector. This study aims at understanding factors affecting uptake of voluntary NHIF in the informal sector, focusing on how demographic factors, socioeconomic status, level of awareness and perceived quality of health care affect the uptake of voluntary NHIF in the informal sector.

Aim of the study : To determine factors influencing voluntary uptake of NHIF among market vendors in Mwanza.

Methodology

The study design was cross-sectional descriptive to establish factors associated with the uptake of NHIF in the informal sector. Factors explored were socio-demographic, economic, NHIF awareness and perception of health care quality. Data was collected using structured questionnaires. Respondents were from two municipal city markets in Mwanza. Data was analyzed using in SPSS version 26.0 software. Descriptive analysis was performed for background characteristics of respondents, awareness, and perception. Chi-square was used to determine factors associated with NHIF uptake.

Results

Data was collected from 323 market vendors from two municipal markets of Mwanza. Main source of income, perception and awareness were positively associated with NHIF enrollment. The odds of enrolling in NHIF among respondents with low NHIF awareness was 92% lower than among respondents with high NHIF awareness. The odds of enrolling in NHIF among respondents with negative perception on the quality of health care services was 83% lower than among respondents with positive perception.

Conclusion

NHIF uptake among market vendors in Mwanza city is still low. The study reports source of income, poor awareness of the fund by the respondents and negative perceptions with regards to quality of health care negatively affect enrollment in NHIF. The study recommends using information, education, and communication strategies to raise awareness on NHIF and create demand for insurance in the informal sector. Moreover, a review of the affordability of NHIF packages in relation to the income earned by the majority in the informal sector is important to attract enrollment.



Introduction

1.0 Background to the Study

Developing countries face a multitude of challenges in the health care system from ensuring provision of drugs, physical infrastructure, human resources to delivery of services in the most fair and equitable manner (Collins and Rubanju, 2014). The failure of government provision of health care services forced people to depend on out-of-pocket payment system that has greater risk of impoverishing people (Bennett and Gilson, 2001).

In coping with the health service provision challenges, Tanzania resorted to health financing reforms which became a core part of health sector development. The idea was to move away from excessive reliance on out-of-pocket payment towards a system which incorporates a greater element of risk pooling and affords a greater protection through health insurance (Basaza 2013). Health insurance has been perceived to enhance access and utilization of good quality health services, and to provide protection against catastrophic health expenditure (Baine *et al*, 2018).

The National Health Insurance Fund (NHIF) is a Social Health Insurance established by the Act of Parliament No. 8 of 1999. NHIF began its operations in June 2001 (NHIF, 2020). It is a Government entity that operates under the Ministry of Health Community Development, Gender, Elderly and Children (MoHCDGEC). The fund considers health insurance as a societal affair rather than an individual need and thus operates under the principles of risk sharing and solidarity among members (NHIF, 2020). The operation of NHIF is compulsory in nature for public sector employees and their legal dependents covering up to six individuals. Moreover, in the quest for enhancing health care, NHIF addressed other groups that can voluntarily join the scheme like private companies, education institutions, private individuals, farmers in cooperatives as well as organized registered groups like “Machinga” and “Bodaboda” (NHIF, 2020).

NHIF is faced with low speed of enrollment to the scheme by people from the informal sector (Borghini and Maluka 2013). Different studies from sub-Saharan Africa countries highlight several possible factors affecting uptake of health insurance such as; low quality of services provided under health insurance cover, poor accessibility of health facilities and low source of income as precipitators for such an outcome (Mulenga and Bwalya, 2016, Tawiah, 2011 and Ndung'u, 2015). Little has been mentioned on factors affecting uptake of voluntary NHIF in the informal sector which might be responsible for low speed of enrollment into the scheme (Borghini, Maluka, and Kuwawenaruwa 2013, Mtei and Mulligan, 2007, Quijada and Comfort 2002).

This study determined how demographic factors, socio-economic status, level of awareness and perceived quality of health care influence the decision of enrolling into NHIF health insurance among market vendors. Results have shed light on matters that need to be addressed to attract enrollment.

Research Methodology

Research Design

This study was a cross-sectional descriptive study using quantitative approach to gather data on the factors influencing enrollment of NHIF in the informal sector. This design was selected because it can best draw correlation between factors of interest and voluntary NHIF uptake in the informal sector.



Study Area

This study was conducted in public municipal markets in Mwanza; Kirumba and Uhuru municipal markets.

These markets were selected because they have a good number of vendors, thus provide enough room of easily getting the population of interest.

Target Population

In this study, the target population were market vendors at Kirumba and Uhuru markets.

Inclusion Criteria

The main inclusion criteria were market vendors aged 18 years and above

Exclusion Criteria

This study excluded market vendors with disabilities (deaf and mute)

Sample Size

Sample size Formula:

$$n = \frac{Z^2 P (1-P)}{d^2}$$

P – Expected proportion of clients covered with NHIF from previous studies, 30%

Z – Standard normal variate at 5%

d – Level of precision (sampling error) 5 percent or 0.05

$$n - \text{Sample size} \quad n = \frac{(1.96)^2 \times 0.3 (1 - 0.3)}{(0.05)^2}$$

$$n = 323$$

Therefore, sample size of at least 323 respondents was appropriate for this survey

Sampling Procedures

Purposive sampling was employed by the study. The sample population was the market vendors who were available at the markets during data collection.

Data Collection

The researcher used as a structured questionnaire with multiple choice and Likert scale questions as the instrument for collecting primary data from the respondents. Interviewers approached vendors at their stalls, introduced themselves, thoroughly explained aim of the study, and sought consent for their participation into the study. The study only included respondents who agreed to participate.



Data Management

The principal investigator ensured that the collected data was accurate and correctly entered in SPSS. This was done at the end of data collection of each day. Research assistants scanned filled questionnaires and stored them in secure computers for back-up. Principal investigator further checked the uploaded data for consistency.

Data collection Tools

Questionnaire was the tool used to collect primary data from respondents. The questionnaire was divided into four sections, each addressing the separate variables in the study. The questionnaire was filled by the market vendors. Section A addressed the demographic characteristics of the respondents which included gender, age, marital status and size of household. Section B was Socio economic status which included level of education, main economic activity and estimated household incomes. Section C dealt with the level of awareness of the health insurance, including sources of information, enrollment status, registration procedures, and awareness of special NHIF premium packages for small business people in cooperative union, benefits of insurance, and reasons for non-enrolment, insurance trainings and visits by NHIF staff in community. Section D was on respondents' perception on the health care quality received in health facilities under NHIF cover. Respondents' perception on services provided to NHIF beneficiaries at the health facilities focusing on availability of human resource for health, infrastructure, accessibility of health services, and health workers attitude towards NHIF beneficiaries at NHIF accredited health facilities.

Data Analysis

Quantitative data were analyzed using SPSS v. 26. General information was analysed by the descriptive statistics. Actual counts, relative frequencies, means, and standard deviation were used in the descriptive analysis to describe the characteristics of sample. To find the relationship between study variables, Pearson chi-square (χ^2) model was used. The questions were asked in a Likert scale order, which were further merged into positive and negative perception depending on the response. The strongly agreed and agreed were merged into positive perception and the strongly disagree and disagree were merged into negative perception. This brought the existence of positive and negative perception of respondents on the quality of health care services provided under NHIF health insurance accredited health facilities.

Ethical Consideration

All the research procedures were approved by the University Senate of Research and Publication (USRP). Permission was granted by Nyamagana Municipal Council, Mwanza and from the Municipal markets administrations for the team to conduct this study.

Informed consent was requested from respondents after being introduced to them by the municipal market administrator. Informed consent forms contained easy-to-understand information so that, study participants took part in the study willingly and being aware of what the study is all about.

Results

Respondents characteristics

A total of 323 people responded to the questionnaire of the small-scale vendors at Kirumba and Uhuru municipal markets in Mwanza region. The respondents were aged 18 – 65 years [mean =



45; interquartile range, 38 - 49]. The majority, 217 (67.2 %) of the respondents were men, 106 (32.8%) were women (Table 1).

Table 1: Respondents demographic characteristics (n=323)

Gender	Frequency (F)	Percent (%)
<i>Men</i>	217	67.2
<i>Women</i>	106	32.8
Age		
<i>18 – 25</i>	80	24.8
<i>26 – 35</i>	95	29.4
<i>36 – 45</i>	83	25.7
<i>46 – 55</i>	36	11.1
<i>> 56</i>	29	9
Marital status		
<i>Married</i>	205	63.5
<i>Single</i>	18	5.6
<i>Separated</i>	86	26.6
<i>Other status</i>	14	4.3
Household size		
<i>1 - 2 members</i>	84	26
<i>3 - 5 members</i>	75	23.2
<i>6 or more members</i>	164	50.8
Level of Education		
<i>Primary</i>	188	58.2
<i>Secondary</i>	93	28.8
<i>Diploma</i>	21	6.5
<i>Degree</i>	13	4
<i>No formal education</i>	8	2.5

Regarding age groups, the majority, 29.4%, of the respondents were in the 26-35 years age group (Table 1). Those aged above 56 years were the minority, 9%. Also, married respondents formed the majority of the respondents (63.5%), followed by 26.6% who were separated. Almost half of the respondents (50.8%) lived in households with six or more members, followed by 3 – 5 members at 23.2% (Table 1). Regarding education attainment, 58.2% had attained primary level education, followed by 28.8% who had secondary level education (Table 1).

Table 2: Socio-economic characteristics of respondents (n=323)

	Frequency	Percent	Cumulative Percent (%)
			NHIF Membership
<i>Member</i>	52	16.1	16.1
<i>Not a member</i>	271	83.9	100
			Sources of income
<i>Salaried employment</i>	26	8	8
<i>Small scale farmer</i>	28	8.7	16.7
<i>Small scale business</i>	269	83.3	100



<i>Level of Income (in Tsh)</i>			
<i>less than 50000</i>	134	41.5	41.5
<i>51000 - 100000</i>	149	46.1	87.6
<i>101000 - 200000</i>	24	7.4	95.0
<i>Above 200000</i>	16	5.0	100

Enrollment into the NHIF among the respondents was about 16.1%, 7.7% among men and 8.0% among women (Table 2). The majority of the respondents (83.3%) were involved with running small businesses, followed by those engaged in farming (8.7%). Regarding how much the household earned, almost half (46.1%) earned between 51,000 – 100,000 shillings; most respondents (87.6%) earned 100,000 shillings or less, and very few earned over 200,000 shillings per month.

Social demographic factors influencing voluntary enrolment into NHIF health insurance Findings from bivariate analysis indicate gender, age, marital status, household size, and level of education are associated with NHIF enrollment. However, those aged 45 – 55 years were enrolled more compared to other age groups (Table 3).

Table 3: Demographic factors influencing voluntary uptake of National Health Insurance

<i>Factors</i>	<i>NHIF member (N, %)</i>	<i>non NHIF member (N, %)</i>	<i>p-value</i>
Gender			
<i>Men</i>	25 (7.7)	192 (59.5)	0.001
<i>Women</i>	27 (8.0)	79 (24.8)	
Age			
<i>18 - 25</i>	12 (3.7)	68 (21.0)	0.016
<i>26 - 35</i>	12 (3.7)	83 (25.7)	
<i>36 - 45</i>	11 (3.1)	72 (22.3)	
<i>46 - 55</i>	13 (4.0)	23 (7.2)	
<i>>56</i>	4 (1.2)	25 (7.7)	
Relationship status			
<i>Married</i>	32 (9.9)	173 (53.6)	0.057
<i>Separated</i>	18 (5.6)	68 (21.1)	
<i>Other status</i>	2 (0.6)	30 (9.2)	
Household size			
<i>1 - 2 members</i>	17 (5.3)	67 (20.7)	0.148
<i>3 - 5 members</i>	6 (1.9)	69 (21.4)	
<i>> 6 members</i>	29 (8.9)	120 (41.8)	
Level of education			
<i>Primary</i>	22 (6.8)	166 (51.4)	0.003
<i>Secondary</i>	16 (4.9)	77 (23.8)	
<i>Diploma</i>	7 (2.3)	14 (4.3)	
<i>Degree</i>	6 (1.8)	7 (2.2)	
<i>No formal Education</i>	1 (0.3)	7 (2.6)	



A higher percentage of NHIF members were married compared to those with other marital statuses. Most NHIF members reside in household with 6 or more household members. Majority of NHIF members had primary level of education. (Table 3).

Economic factors influencing voluntary NHIF health insurance enrollment

Using chi – square test we determined the association between the main source of income and enrollment to the national health insurance fund. Those employed respondents enrolled more into the NHIF: the difference was statistically significant, $\chi^2 = 14.362$, $p\text{-value} = 0.000$, 95% CI - 2.648 – (0.843) (Table 4). Regarding the average household income, those earning below 50,000 Tanzania shillings enrolled more in the fund compared to those earning above 200,000 (8.0% vs 4.7%), although the difference was not statistically significant (Table 4)

Table 4: Economic factors influencing voluntary enrollment into NHIF health insurance

<i>Factors</i>	<i>NHIF member (N, %)</i>	<i>non NHIF member (N, %)</i>	<i>Chi-2</i>	<i>p-value</i>	<i>95%, CI</i>
<i>Main source of income</i>					
<i>Employed</i>	11 (3.4)	15 (4.5)	13.273	0.000	-2.445- - 0.735
<i>Farming</i>	6 (1.9)	22 (6.8)	1.473	0.255	-1.571 - 0.369
<i>Business</i>	35 (10.8)	234 (72.4)	1		
<i>Average household income</i>					
<i>Less than 50,000</i>	26 (8.0)	123 (38.1)	0.754	0.385	-0.761 - 1.970
<i>51,000 - 100,000</i>	8 (2.5)	16 (4.9)	0.017	0.897	-1.237 - 1.413
<i>101,000 – 200,000</i>	3 (0.9)	13 (4.1)	1.000	0.317	-2.289 - 0.742)
<i>Above 200,000</i>	15 (4.7)	119 (36.8)	1		

Awareness and voluntary enrolment into NHIF health insurance

Awareness of NHIF registration procedures, premiums, payment mechanisms and benefits

Almost less than a quarter of the respondents, 23.9% were aware that joining the fund was voluntary, the majority were not aware of this fact, 76.1% (Table 5). With regards to the scheme catering for people of all ages, 41% of respondents had awareness. 36% of respondents were aware that NHIF registration can be done in any of the NHIF offices. Furthermore, only 16.5% of respondents were aware of NHIF special packages for small businesspeople in cooperative unions. 59.9% of respondents were aware of the benefits and services received in health facilities under NHIF. Almost half, 54.2% were aware NHIF cover is only applicable in NHIF accredited health facilities. Almost 60% of the respondents were aware of the services offered by the fund.

Table 5: Awareness of registration, premiums and benefits of NHIF

<i>Statements</i>	<i>Aware, N (%)</i>	<i>Not Aware, N</i>
<i>Existence of voluntary NHIF scheme</i>	59 (23.9)	188 (76.1)
<i>NHIF Registration is open to people of all ages</i>	102 (41.3)	145 (58.7)
<i>One can enroll into NHIF in any of the NHIF offices</i>	89 (36.0)	158 (64.0)
<i>Awareness of a special package for small businesses</i>	41 (16.5)	206 (83.5)
<i>Awareness of NHIF covering admissions at registered hospitals</i>	134 (54.2)	113 (45.8)
<i>Awareness of the services offered</i>	148 (59.9)	99 (39.1)



Awareness and enrollment into NHIF in the informal sector

The odds of enrolling in NHIF among respondents with low NHIF awareness was 92% lower than among respondents with high NHIF awareness (OR 0.075, 95% CI = 0.026 – 0.213) (Table 6).

Table 6: Awareness and voluntary enrollment into NHIF health insurance

<i>NHIF awareness</i>	<i>NHIF member N, (%)</i>	<i>Non NHI (F Members N, %)</i>	<i>p=value</i>	<i>Odds</i>	<i>95% CI</i>
<i>Aware</i>	48 (27.3)	128 (72.7)	0	0.075	
<i>Not aware</i>	4 (2.7)	143 (97.3)			
Total	52 (16.1)	271 (83.9)			
					<i>NHIF Awareness</i>
					0.026 - 0.213

Perceived quality of healthcare services and voluntary enrollment into NHIF health insurance

Perception of the quality of health services

The majority of respondents perceived NHIF accredited health facilities as having adequate diagnostic services (59.5%), adequate drugs and medical supplies (64.8%), and adequate human resources (65.8%). On the contrary, other respondents perceived NHIF accredited health facilities do not have necessary infrastructure (69.7%), NHIF clients face poor attitude from health care workers (71.8%) and accredited health facilities are hard to reach (located far) (58.4%) Furthermore 59% of the respondents perceived NHIF beneficiaries face long waiting times for health services and (54%) of respondents were under the impression that NHIF beneficiaries incur extra costs for medical services at health facilities (54%)

Table 7: Perception of respondents on health care quality received in health facilities under NHIF cover.

<i>Perception questions</i>	<i>Agree N (%)</i>	<i>Disagree N (%)</i>
<i>NHIF beneficiaries face long waiting times for health services</i>	59 (26.1)	167 (73.9)
<i>NHIF accredited health facilities have necessary infrastructure</i>	66 (30.3)	152 (69.7)
<i>NHIF accredited health facilities have adequate diagnostic services</i>	131 (59.5)	89 (40.5)
<i>NHIF accredited health facilities have adequate drugs and medical supplies</i>	142 (64.8)	77 (35.2)
<i>NHIF accredited health facilities have adequate human resources</i>	144 (65.8)	75 (34.2)
<i>NHIF beneficiaries face poor attitude from health Care workers</i>	158 (71.8)	62 (28.2)
<i>NHIF accredited health facilities are hard to reach (located far)</i>	128 (58.4)	91 (41.6)
<i>NHIF beneficiaries incur extra costs for medical services at health facilities</i>	54 (24.8)	164 (75.1)



Quality perception and voluntary enrollment into NHIF health insurance

The odds of enrolling in NHIF among respondents with negative perception on the quality of health care services was 83% lower than among respondents with positive perception (OR 0.166, 95% CI = 0.072 – 0.382) (Table 8)

Table 8: Perception and voluntary enrollment into NHIF health insurance

<i>NHIF Perception</i>	<i>NHIF member</i> (<i>N, %</i>)	<i>Non NHI Members</i> (<i>N, %</i>)	<i>p-value</i>	<i>Odds</i>	<i>95% CI</i>
<i>Positive Perception</i>	45 (24.3)	14 (75.7)	0.000	0.166	0.072-0.382
<i>Negative Perception</i>	7 (5.1)	13 (94.9)			
<i>Total</i>	52 (16.1)	27 (83.9)			

Discussion

NHIF uptake and associated socio- demographic factors

Findings from the study show number of women enrolled into NHIF was slightly higher than the number of men. This finding could be attributed to the differences in health seeking behavior between females and males. Females seem more responsive to sickness and will report promptly to health facilities further more especially during pregnancy. The findings resonate with those of Eric Baddu and Peter Agyei-Baffour (2018) in Ghana, who also attributed this to nature of women being more responsive to seeking for healthcare services especially women of reproductive age, mostly when pregnant. Boating and Awour (2013) who also observed higher insurance renewal rate amount females on Ghana and also attributed this to women role as caregivers for children and sick members in their families. Enrollment of females in insurance schemes is crucial due to the central role that they play in communities in activities related to reduction of infant mortality, immunization of children, reduction of communicable diseases, access to hospital deliveries and improvement of other health indicators.

The study shows that respondents of age group 45 – 55 years were enrolled more compared to other age groups. The possible reasons for this result is that some of the younger respondents did not have enough incomes or did not have children whose health care needs had to be taken care of. The findings in this study agree with those of Edward (2009)) and Akwasi and Joshua (2013) who found that likelihood of being insured increased with the age of respondents. The results of this study differ from that of Esther F. Adebayo and Olalekan A. Uthman (2015) who found out that most of the younger generation had health insurance cover. The findings vary from the study done by (Esther F. Adebayo and Olalekan A. Uthman 2015) were younger generations were found to be more enrolled into the health insurance scheme. Probable explanation behind is; the younger generation are more likely to be employed either in public or private sectors which provide health insurance cover to their employees.



Marital status was found to have positive influence on NHIF uptake similar findings observed in studies done (Bwalya, B. 2017, Paschal Nathan Kumburu 2015). Implication behind these findings is from the fact that being a couple is more likely to be compounded with family members and thus a necessity of insuring the family members with health cover so as to ensure access to health care among family members. Kirigia (2005) also reported the positive influence of marital status on health insurance enrollment in South Africa.

The level of education had significant influence on respondents' enrollment into NHIF scheme. This clearly indicated that attainment of some form of formal education has an influence on enrollment. The most likely explanation of this is the ability of literate individuals to understand the health information messages and access to higher income earning opportunities than those who had no formal education. One of the key observations is the low number of respondents in the area who have attained college and university education. Low education attainment has serious implications on the ability of people to access higher incomes and employment that would ideally enable them afford the insurance premiums. Furthermore, persons with low educational attainment may not be in a position to understand the basic health insurance concepts and role of health insurance as a key component of health care financing. The positive effect of the higher education levels on enrollment was also observed by Mhere (2013) in Zimbabwe Akwasi and Joshua (2013) in Ghana, Kirigia et al (2005) in South Africa.

Socio-Economic factors associated with NHIF uptake

Regarding the main source of income, employment in the informal sector was associated with enrollment compared with farming and doing business. How much income one earns did not determine joining the fund.

The finding disagree with other studies that reported economic factor, how much one earns, as uptake drivers (World Health Organization, 2010; Mavole and Okuku, 2018). The fact that uptake was not associated with anyone's income, is an indication that other confounders such as education, and social profile might be more important. However, the economic strata are an essential component that could not be ignored, in particular when designing the subscription tariffs for the informal sector participants (Mavole and Okuku, 2018). Many households in the informal sector reported having a significant income as an important factor to meet the subscription. (Getasew and Desta 2020)

Awareness and enrolment in NHIF

This study reported low awareness among respondents of the process of becoming an NHIF member, the benefits, and the packages offered. The odds of enrolling in NHIF among respondents with low NHIF awareness was 92% lower than among respondents with high NHIF awareness. Awareness can affect not only enrollment but also retention in insurance scheme (Adewole *et al.*, 2017). Going by the level of awareness about the enrolment process and benefits, it seems the information provided to the potential members from the informal sector is inadequate, which has also been reported by other studies (Barasa *et al.*, 2017; International Policy Centre for Inclusive Growth, 2017; Mary Baremirwe Bekoreire, 2018).

Perception and enrolment in NHIF

This study reports issues affecting NHIF uptake including, which accounted for majority's negative perception as inadequate infrastructure, poor attitude from health care workers and hard to reach health facilities (located far). The odds of enrolling in NHIF among respondents with negative perception on the quality of health care services was 83% lower than among respondents with positive perception.

The nature of this study may not best explain the respondents' perception towards the scheme due to the fact it did not use the qualitative approach. However, a qualitative study done by



Barasa and colleagues (2017) in Kenya reported the same and further suggested strengthening the enrollment process, information given to prospective members and putting a proper accountability process (Barasa *et al.*, 2017). This means there is a strong linkage between miss-information (on the awareness) and negative perception.

In order to attract more members, issues tarnishing NHIF such as the quality of services at the NHIF accredited health facilities, geographical accessibility of the accredited health facilities and health workers attitudes must be addressed if the uptake has to increase (Kironji, Tenambergen and Mwangi, 2019). In this regard, it seems access, mainly perception of acceptable services may grossly affect NHIF uptake (Munga and Gideon, 2009; Paschal Nathan Kumburu, 2015).

Conclusion

The following conclusions were made based on the study findings discussed above. The uptake of National health insurance fund among market vendors in Mwanza municipal markets is low. As a result, many people are resorting to out-of-pocket payments and other alternative health financing systems which compromises access to quality health care.

Moreover, the study attributes low uptake of NHIF in the informal sector to low level of awareness. Although there is some awareness of NHIF registration procedures, premium payment mechanisms and the benefit packages, the awareness has not been translated into increased uptake of the health insurance by potential contributors. Majority appear to be aware of NHIF (as an institution) but are not well versed with specific details on registration, payment of premiums and the benefit packages. Furthermore, findings show that people in the informal sector are not aware of special NHIF premium packages for small businesspeople in cooperative union such as (Umoja wa machinga, bodaboda, wafanyabiashara masokoni).

Poor attitude faced by NHIF clients from the health care workers and NHIF accredited health facilities being hard to reach (located far) paramount to the study attributes of concluding poor perception of health services provided to NHIF clients at the NHIF accredited health facilities as another factor responsible of low uptake of NHIF in the informal sector

Limitations of the study

There are some limitations that are important to be noted: For instance; this study is cross-sectional descriptive hence results do not show causative factors for NHIF uptake, it only sheds light on factors associated with NHIF enrollment. The convenient sampling strategy may have led to selection bias and hence results may not be reflective of the general informal sector. Furthermore, nature of self-report responses may be affected by social-desirability bias. However, notwithstanding the limitations, cross-sectional study was a good fit to answer the research questions

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome; CBH: Community Based Health Fund
CHF: Community Health Fund; EAC: East Africa Community; HIV: Human Immunodeficiency Virus; MHIS: Micro Health Insurance Schemes; MoHCDCGEC: Ministry of Health, Community Development, Gender, Elderly and Children; NHIF: National Health Insurance Fund
NHIS: National Health Insurance Service; SHIB: Social Health Insurance Benefit
WHO: World Health Organization; TIKA: Tiba kwa Kadi



Competing interests

The authors declare no competing interests

Consent for publication

All authors agreed to have this manuscript published

Authors' contributions

Conceptualization and design: Mushi Laurell (ML), Saronga Happiness (SH)

Data curation: LM, SH

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Writing- original draft: LM, SH

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HS and SC did a critical review of the paper and approved the final manuscript.

All authors have read and approved the final manuscript

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Availability of data and materials

All relevant data are within the manuscript. The datasets analyzed during the current study available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Ethical clearance was obtained from Ethical Review Committee of Muhimbili University of Health and Allied sciences.

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