Factors Influencing the Uptake of National Health Insurance Schemes among the Informal Sectors in Vihiga Sub County.

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Purpose: Penetration of health insurance in the informal sector is very poor, this calls for upward scaling of successful interventions to remedy this situation given that health insurance increases access to healthcare services and improves financial risk protection. This study assessed the factors influencing uptake of national health insurance schemes among informal sector in Vihiga sub-county, Kenya.

Methods: Descriptive cross-sectional study design was used. The target population was the informal sector workers. A sample of 384 participants was selected by cluster and simple random sampling techniques. Data was collected using a semi-structured questionnaire. Descriptive statistics was summarized using tables, chi-square and bivariate logistic regression were used to test for associations (p<0.05).

Results: The study revealed that there was a significant influence of trust and knowledge of the health insurance scheme on the uptake of national health insurance (p< 0.05). The study further revealed that the attractiveness of the scheme had a big influence on the uptake of national health insurance

Conclusion: Trust and knowledge of the health insurance scheme had significant influence on uptake of national health insurance. Health Insurance Schemes should be designed in such a way that they attract informal sector workers and information regarding these schemes is disseminated to these people.

Keywords: National Health Insurance Fund; Health Insurance; Informal sector workers; Scheme related factors

INTRODUCTION

Health insurance schemes tend to increase the availability of affordable healthcare as one can meet the costs of medical expenses but the informal sector employees do not have equal access to health services due to low uptake. Trust in the scheme management is found to be a significant enabler of enrolment into health insurance schemes (Adebayo et al., 2015; Dror et al., 2016; Fadlallah et al., 2018). when the rules of Community Based Health Insurance schemes were perceived as rigid, and when people felt there was a lack of clarity about the legal or policy framework, they were less inclined to enroll and renew also when a scheme is accommodating and has support from policymakers it results to trust thereby translating into higher enrollments (Dror et al., 2016).
According to Maina et al. (2016), knowledge of health insurance by the informal sector was beneficial. If the knowledge score about insurance increased by 1 unit and the chance of CBHI enrollment increased by 1.8 points. Moreover, an informed household head has a higher probability of enrollment than non-informed ones (Atafu & Kwon, 2018). Several articles established the relationship between insurance benefits and uptake of health insurance (Boateng & Awunyoy-Vitor, 2013; Fadlallah et al., 2018; Masengeli et al., 2017; Odeyemi, 2014) the studies suggested a significant positive relationship between insurance scheme benefits and enrollment/uptake of health insurance. In the study by Dror et al. (2016) benefits package was only mentioned but not analyzed further to determine whether it influenced health insurance uptake. The benefits one is likely to get from subscribing to the scheme increases the likelihood of enrolling in the insurance scheme (Boateng & Awunyoy-Vitor, 2013). (Masengeli et al., 2017) conducted a study at Bungoma County Referral Hospital, the Results showed that ownership of health insurance cover was significantly associated with awareness of the benefits of health insurance. Specifically insured persons were more positive in their perceptions of benefits of health insurance as compared to non-insured persons.

According to Fadlallah et al. (2018) benefit packages that are tailored to the needs of a community are non-discriminatory and cover outpatient services increased enrollment in a CBHI scheme. On the other hand, packages with limited disease coverage contributed to low uptake. Scheme benefits need to be comprehensive and easily understood, and administrators and providers trusted by beneficiaries (Odeyemi & Nixon, 2013).

(Boateng & Awunyoy-Vitor, 2013) established the relationship between the scheme attractiveness and enrollment into health insurance scheme. A clients' confidence in the scheme influence people’s perception of personal benefits. This was evident in this study as respondents cited unattractiveness of the scheme as a reason for never enrolling in the scheme. Unattractiveness was not reported in any other study that the researcher came across, although low participation of people in the informal sector was attributed to NHIF scheme design features including inflexible payment schedules and limited information about the features of the scheme (Mukhwana et al., 2015).

Summary of Materials and methods Used

(Masengeli et al., 2017) conducted a cross-sectional descriptive study in Bungoma County Referral Hospital, the study adopted systematic and purposive sampling techniques. Structured questionnaires and Key Informant Interview were used as data collection tools. Crude Odds Ratio (OR) was used to determine relationship between variables; t-test was used to compare relationship between the study variables. (Mukhwana et al., 2015) employed stratified, purposive and quota sampling methods. Questionnaires, In-depth interviews and Focus Group Discussions were used as data collection tools. Chi-square test and logistic regression (univariate, bivariate and multivariate) analysis was used to assess for statistically significant associations. (Mulupi et al., 2013) adopted a Cross-sectional household survey and focus group discussions, Cluster sampling was used. The adopted methodologies however had the following disadvantages, (Masengeli et al., 2017; Mukhwana et al., 2015) used purposive sampling techniques which resulted to bias with the participants because of the possibility of unrepresentative samples and also the possibility of generalizations of the study findings. They also used interviews which are deemed to be expensive, they require trained expert, are time consuming and tend to result to bias since one may ask a leading question. Structured questionnaires were adopted by (Masengeli et al., 2017) therefore the study participants were not able to have their freedom of response since they were limited to the choices that they had been given and the researcher was also not able to obtain in-depth information from the study participants. (Mukhwana et al., 2015; Mulupi et al., 2013) used Focus group discussions which are time consuming and are not easy to organize.

This study deviated from the previous studies by adopting cross-sectional study design, cluster sampling and simple random sampling techniques were used so as to avoid biasness and generalization of the study findings. To collect data Semi structured questionnaire were used as it enhances the freedom of response and allows for the collection of in-depth information, they are also simpler to formulate. Chi-square test, and logistic regression analysis were used to detect associations.

METHODOLOGY

The researcher adopted a descriptive cross-sectional study design. The target population for this study was the informal sector workers from Vihiga Sub County, however data on informal sector workers in Vihiga Sub County is not known, the researcher therefore used data of the employment population in Vihiga Sub-County. According to (KNBS & SID, 2013) the population in working ages is in the age group of 15-64 years. Participants included in the study were working in the informal sector and residents of Vihiga Sub County, the study excluded individuals that did not work in the informal sector and were not residents of Vihiga Sub-County. The required sample size of 384 was calculated using the Fischer et al (1998) formula and Sampling done using cluster sampling and simple random sampling techniques. Cluster sampling was done by ward and a sample size from each ward determined. The calculated sample size of each ward was then multiplied
by a co-efficient of variation to obtain the number of males that were sampled from each of the four wards and the remaining ones after subtraction was considered as female. The participants were then selected randomly from the male and female categories using simple random sampling technique. In the collection of data Semi-structured questionnaires were used. Chi-square test and bivariate regression analysis were used to detect associations. Data analysis was done by the use of descriptive statistics and presented in tables. Scientific and ethical approval to conduct the study was obtained from the Ethical Review Committee at Jaramogi Oginga Odinga Teaching and Referral Hospital respectively before the start of the study. Permission to conduct the study was sought from the relevant County, sub County and local authorities.

RESULTS

This section represents factors influencing the uptake of National Health Insurance schemes among the informal sector workers. Trust in the scheme management, knowledge of health insurance schemes and attractiveness to health insurance scheme were some of the scheme related factors that were analyzed using descriptive statistics, chi-square test and bivariate logistic regression.

Trust

Respondents were asked their opinions regarding trust in the scheme management which was two questions of five-point Likert scale of Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly Disagree. The first was the provision of in-depth information on the packages the schemes offer and the second was allowing the individual to make an informed decision. The variables were factored into one variable called Trust and grouped into three categories Yes/No/Not sure by factor analysis. Bivariate logistic regression was done to determine the influence of Trust in the scheme management on the uptake of national health insurance. The results in Table 1 show that there was a significant influence of trust on the uptake of national health insurance. Those that trusted in the management of the scheme and felt that there was clarity about the legal or policy framework and transparency to allow individuals make an informed decision were 2.82 times more likely to enroll for national health insurance as compared to those who did not trust the management (OR=2.82, 95%CI=1.20-6.64, p-value< 0.05)

Table1: Influence of Trust in the scheme management on the uptake of national health insurance

<table>
<thead>
<tr>
<th>Uptake of national health insurance</th>
<th>Yes n (%)</th>
<th>No n (%)</th>
<th>OR</th>
<th>95%CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>7(5.30)</td>
<td>31(12.30)</td>
<td>Ref</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>109(82.58)</td>
<td>171(67.86)</td>
<td>2.8228</td>
<td>1.20</td>
<td>6.64</td>
</tr>
<tr>
<td>Not sure</td>
<td>16(12.12)</td>
<td>50(19.84)</td>
<td>1.4171</td>
<td>0.52</td>
<td>3.83</td>
</tr>
</tbody>
</table>

Knowledge of Health insurance scheme

To determine the impact of knowledge on the uptake of health insurance schemes, cross tabulation and chi-square test of association was done. Table 2 below reveals that knowledge of health insurance scheme had a statistically significant association with the uptake of national health insurance schemes (p-value<0.001). The result shows that 248(64.58%) were aware that health insurance partially or fully covers medical bill however, majority 129(52.02%) of them did not enroll for health insurance, 123(90.44%) out of 136(35.42%) respondents who were not aware that health insurance partially or fully covers medical bills did not register for national health insurance. Of 210(54.69%) who were aware that nuclear family use card to seek medical attention, 112(53.33%) enrolled for national health insurance. The results further reveal that majority 139(88.54%) of 157respondents who were not aware that health insurance minimizes the risk of impoverishment did not enroll for national health insurance. Respondents who enrolled for national health insurance, 95(50.00) were aware that contributions are not refundable when one withdraws from insurance scheme.

In terms of how the medical bills are paid by the insurance company, majority of the respondents who enrolled for national health insurance 193(50.26%)were aware that patients fill claim forms which are used by the hospitals to demand payment and majority 101(52.33%)of them enrolled for national health insurance. In addition, 159(41.41%) were aware that patients are made aware of how much they spend at any given visit. However, majority of them did not enroll for national health insurance 85(53.46%).
Table 2: Level of Association between knowledge of health insurance schemes and uptake of national health insurance scheme

<table>
<thead>
<tr>
<th>Variables</th>
<th>Uptake of national health insurance</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health insurance partially or fully covers medical bills</td>
<td>N(%) 248(64.58) 129(52.02) 119(47.98)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear family members use card to seek medical attention</td>
<td>N(%) 210(54.69) 98(46.67) 112(53.33)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health insurance minimizes the risk of impoverishment</td>
<td>N(%) 227(59.11) 113(49.78) 114(50.22)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions are non-refundable</td>
<td>N(%) 190(49.48) 95(50.00) 95(50.00)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients fill claim forms</td>
<td>N(%) 193(50.26) 92(47.67) 101(52.33)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients are informed of how much they spend at any visit</td>
<td>N(%) 159(41.41) 85(53.46) 74(46.54)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Aware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not aware</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Level of Significance: *P≤0.05; ** P≤0.01; *** P≤0.001

Attractiveness of the scheme

Table 3 below shows the descriptive statistics (Frequency and percentage) of the level of attractiveness of the scheme and the uptake of national health insurance. Majority of the respondents 208(54.17%) reported that accessibility of national health insurance had a large influence on the uptake of national health insurance while 36(9.38%) said that accessibility of national health insurance had no influence on uptake of national health insurance.

The availability of national health insurance is also a factor that attracts people to the health insurance scheme. The results reveal that 199(51.82%) respondents said that availability of national health insurance had a large influence on the uptake of national health insurance, 77(20.05%) said that the availability of national health insurance had a small influence on the uptake of national health insurance and only 29(7.55%) reported that there is no influence on availability of national health insurance on the uptake of national health insurance.

Majority of the respondents 145(37.76%) out of 384 reported that the conditions for enrolling in the preferred scheme had a big influence on the uptake of national health insurance while 44(11.46%) reported that conditions for enrolling in the preferred scheme had no influence on the uptake of national health insurance scheme.

Premiums charged both for public and private scheme was also a factor that was considered to attract people to scheme. The results show that 149(38.80%) respondents reported that premium charged had large influence on uptake of national health insurance, 87(22.66%) reported that premium charged had small influence on uptake of national health insurance, 34(8.85%) said that premium charged had no influence on uptake of national health insurance and 86(22.40%) were not sure. Further, the results reveals that majority of the respondents 114(29.69%) agreed to the hypothesis that penalties for late/non-payment of premiums had large influence on national health insurance uptake while 35(9.11%) reported that penalties for late/non-payment of premiums had no influence on the uptake of national health insurance.

It is clear in the result in Table 3that enrollment for national health insurance depends of healthcare services covered. Majority 182(47.40%) responded that health care services covered had large influence on the uptake of national health services and only 36(9.38) reported the contrary that healthcare services covered had no influence on the uptake of national health insurance.
DISCUSSION

The results showed that there was a significant influence of trust on the uptake of national health insurance schemes. Those that trusted in the management of the schemes and felt that there was clarity about the legal or policy framework and transparency to allow individuals make an informed decision were 2.82 times more likely to enroll for national health insurance as compared to those who did not trust the management (OR=2.82, 95% CI=1.20 - 6.64, p<0.05). This corroborates with previous studies whereby trust in the scheme management was a significant enabler of enrolment, when the rules of schemes were perceived as rigid, and when people felt there was lack of clarity about the legal or policy framework, they were less inclined to enroll and renew (Dror et al., 2016). When quality healthcare is provided, trust of the clients in the health system and the health insurance scheme increases (Boateng & Awunyor-Vitor, 2013). High levels of trust are associated with numerous benefits among them, access to healthcare services. In order to overcome the health disparities that exist across the lower-income populations and the uninsured, there is therefore need for these insurance schemes to build trust within the informal sector.

Knowledge of the health insurance scheme had a statistically significant association with the uptake of national health insurance (p<0.05). This concurs with the studies by (Atafu & Kwon, 2018; Maina et al., 2016) where inadequate knowledge and understanding of the scheme influences uptake in that most individuals end up not enrolling in any health insurance scheme. It’s therefore important for the government and other organizations that offer health insurance to develop clear policies and other mechanisms they can adopt with regards to educating the communities thus increasing knowledge and penetration of these schemes.

Attractiveness of the scheme was assessed by asking the respondents the extent to which certain factors influenced health insurance uptake. All the factors listed had a large influence on health insurance uptake with exception of penalties for late non-payment 115(32.7%) that had outcome of small influence. According to Boateng and Awunyor-Vitor (2013) respondents cited unattractiveness of the scheme as a reason for never enrolling in the scheme. Also low participation of people in the informal sector was attributed to NHIF scheme design features including inflexible payment schedules and limited information about the features of the scheme (Mukhwana et al., 2015).

CONCLUSION

Trust and knowledge of the health insurance scheme had significant influence on uptake of national health insurance. Attractiveness of the scheme was also found to influence uptake.

RECOMMENDATIONS

Insurance schemes should build trust within the informal sector by giving out detailed information regarding the schemes as this will enable them make informed decisions. The government through the Ministry of Health should ensure there is continuous education to individuals and the community about health insurance. Health Insurance Schemes should be designed in such a way that they attract informal sector workers.

ETHICAL DECLARATIONS

Conflict of interests: The authors declare no conflicts of interest
Funding: The Authors did not receive any grant for the study. The expenses for the study were funded by the corresponding author Mrs. Marion Agiza Muranda

Ethical Approval: Ethical approval was obtained from Jaramogi Oginga Odinga Teaching and Referral Hospital
ERc and a study permit from National Commission for Science, Technology and innovation (NACOSTI).

Informed Consent: Written consent was obtained from the community members before starting the study.

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