ORIGINAL ARTICLE

INDIGENOUS COMMUNITY INSURANCE (*IDDIRS*) AS AN ALTERNATIVE HEALTH CARE FINANCING IN JIMMA CITY, SOUTHWEST ETHIOPIA

Shimeles Ololo[1], BSc.PH, MPH, Challi Jirra[2], BSc., MPH, Yohannes Hailemichael[3], BSc.PH, MPH, Belaineh Girma[4] MD, MPH

ABSTRACT

BACKGROUND: ***Studies showed that shortage of finance is the 'single most' important factor that affects the performance of health sector in developing countries. There has been recently increased interest in community-based health insurance as a promising approach to health financing reform. The objective of this study was to assess feasibility of introducing Iddir-based health insurance schemes in Jimma City, Southwest Ethiopia***
METHODS: ***A cross-sectional community based study was conducted in Jimma City in February 2007 using a pre-tested structured questionnaire. A multi-stage random sampling technique was employed to select study subjects. Four Kebeles out of the total thirteen were selected randomly. Samples were allocated proportional to the size of the population of the selected kebeles. A total of 849 households was selected from those four kebeles using systematic sampling procedure. Data were entered and analyzed with SPSS for Windows version 13.0.1. Ethical clearance was obtained from Ethical Clearance Committee of Jimma University***.
RESULTS: ***Eight hundred three (94.6%) study subjects participated in this study. Six hundred fifty nine (82.1%) of the total households were participating in Iddirs; 614 (76.5%) of the respondents showed willingness to join Iddir Based Health Insurance Scheme. Mean willingness to pay for the scheme was 7.60 Birr (0.89 USD). Family income, educational status, and participation in Iddir were found to have significant association with willingness to join***.
CONCLUSION: ***The observed high amount of willingness to join Iddir-based Health Insurance Scheme in the City could have a good entry point to mitigate deficits in health care financing and negative outcome of globalization and privatization against the poor. Therefore it is suggested that indigenous institutions should be encouraged to undertake community mobilization so as to generate sustainable resources***.
KEY WORDS*: **Indigenous community insurance, Health care financing, Jimma, Ethiopia***.

INTRODUCTION

Health insurance plays a great role in reducing the influence of high costs of health care on the economic wellbeing of households (1). It is generally accepted that the poor and socially disadvantaged groups of the population are vulnerable to the complex process of globalization and economic reforms (2). It is argued that community based health insurance schemes (CBHIS) are effective in reaching a large number of poor people who would otherwise have no financial protection against the cost of illness (3).

The health situation in Ethiopia is one of the worst in the world by any conventional yardstick. Various factors are responsible for the weak performance of the health sector. Most studies, however, revealed that shortage of finance is the 'single most' important factor that affects its performance (4-6). Currently, the health sector is unable to meet the growing needs of the population and is severely financially constrained (7, 8).
There are several important factors to the development of health insurance in Ethiopia, including a favorable policy environment for developing alternative financing schemes, and rapid growth of the private sector (8, 9). In addition, there is possibility of organizing social insurance around community groups that are originally meant for other purposes in order to reduce adverse selection (10).

According to a research done in Ethiopia in 2004, rural households are willing to contribute Birr 10 per household per month for health insurance (2). This implies that if we assume universal coverage of insurance in the country, it is possible to generate more than 1.3 billion ET Birr (around US$ 160 million) in cash from 1.57 million urban and 9.50 million rural households of Ethiopia. Even with this estimate, the amount of money that can be generated from the CBHIS is nearly triple of the highest recurrent expenditure ever allocated to the health sector Birr 455.8 (US$ 56) million in 1998/1999). This implies that even without heavy involvement of the government in the health sector, it is possible to generate a substantial and sustainable amount of money from CBHIS (2).

[1,2,3,4] Department of health services management, P.O. Box 378, Jimma University

In Ethiopia, indigenous social institutions exist to help victims deal with the financial burden of catastrophic events. Among such institutions is the burial association (*Iddir*). Originally the main function of *Iddirs* was to help members during bereavement. However, over time, they have diversified into other activities, such as conducting development and sanitation projects or assisting sick members in financial and non-financial ways (11-14).

Iddirs appear to have good management practices since they are successful in mobilizing people. There appear to be effective mechanisms in place within the leadership and management of *Iddirs* to make them attractive for implementation of other types of development activities including the experimentation of CBHIS (12, 15, 16). However, introducing health insurance function into the *Iddir* system would require a study of the feasibility. Therefore, the primary objective of this study is to assess the feasibility of introducing health insurance function in indigenous community insurances (*Iddirs*) in Jimma City.

MATERIALS AND METHODS

A community based cross-sectional study was conducted in Jimma City, Southwest Ethiopia in February 2007. Jimma is one of the major Cities in Ethiopia, located 352 Kms Southwest of Addis Ababa. The City has administrative arrangement that divides it into 13 Kebeles (the lowest administration unit). According to the 1994 Population and Housing Census, the projected population of the City for 2005 is estimated to be 151,527 of which, 77,170 were males and 74,527 were females.

A Sample size of 849 was calculated by a single proportion formula, using EPI info version 3.3.2, taking P = 60% rate of willingness to pay either the first or the second bid for community based health insurance scheme (2), considering a design effect of 2 and an estimated non-response rate of 15%.

A multi-stage sampling technique was employed to select study subjects. Four Kebeles out of the total thirteen were selected randomly and the sample sizes were distributed proportionate to the size of households. Then using systematic sampling, every fifth household were selected from each kebeles. All residents whose age were 18 years and above and who lived for more than six months in the City were eligible for the study.

A pre-tested structured questionnaire was utilized. The questionnaire comprised of variables on socio-demographic characteristics, health status and health care utilization pattern, participation in *Iddirs*, and willingness to participate in possible *Iddir*-based health insurance schemes were among others. Data were collected by twelve personnel who completed grade ten. Two nurses were recruited as field supervisors. Training was provided to both the data collectors and supervisors for two days. Data were edited, cleaned, coded and entered in to SPSS for Windows version 13.0.1. The association between dependent and independent variables was determined using odds ratio with 95% confidence interval. Logistic regression analyses were performed to control for potential confounders.

Ethical clearance was obtained from Ethical Clearance Committee of Public Health Faculty of Jimma University. Permission was sought from the City's and Kebeles' administration before conducting the research. Verbal consent was obtained from the respondents.

RESULTS

Overall 803 respondents participated in this study making a response rate of 94.6%. The median age of respondents was 30 years with a range of 18-90 years. Out of them, 604 (75.2%) were female, 418 (52.1%) above the age of 29, three hundred seven (38.2%) housewives, 473 (58.9%) Orthodox Christians, 305 (38%) Oromo by ethnicity, 405 (50.4%) married and median annual income of the household was Birr 3,600 (423.36 USD) with a range of 360-96,000 Birr. Three hundred eighty two (47.6%) were above primary school. Median household size was 5 with a range of 1-15 members (Table 1). The median year of stay in the area was 19 years with a range of 7 month to 90 years.

With respect to health status, 112 (13.9%) reported recent history of illness (illness during one month preceding the survey) in the household; ninety (80.4%) of them reported more than one episode. During illness, a large proportion of households preferred to visit private health facilities (HFs) than public health facilities (45.7% vs. 35.7%). The reasons for such preference were courteous service (16.1%) and physical accessibility (16.1%) of the health facilities among others. Moreover, when the illnesses didn't show any improvement, more than the previous proportion of the households preferred to visit private HFs than that of public (52.7% vs. 10.7%).

Seventy six (69.1%) of the patients paid out of pocket, and half of all patients were not satisfied with the health care services. Median cost of health care was 45.00 Birr (5.292 USD). Median travel time to reach the health facilities was 20 minutes. Seventy eight (70.3%) households with recent history of illness reported that getting money for health care was difficult (Table 2). Moreover, 53 (6.6%) of the total respondents reported that one or more of their family members didn't get health care due to lack of money.

Six hundred fifty nine (82.1%) of the total households were participating in *Iddirs*. In addition, more than 466 (70.7%) of them were participating in multiple *Iddirs* and 393 (60.0%) of *Iddir* members were paying more than 5.00 Birr (0.588 USD) per month. Forty nine (7.4%) respondents reported that their *Iddirs* were

providing assistance when people became sick. The major reasons to begin such activity were increment in the number of people who can not pay health charge bill 22 (48.5%) and provision of opinion from several members of *Iddirs* to do so 21 (43.8%) (Table 3).

Table 1. Socio-demographic characteristics of respondents, Jimma City, Southwest Ethiopia, February 2007

Socio-demographic characteristics	Number (N=803)	Percentage
Relation to household head		
Head	239	29.8
Spouse	312	38.9
Child	198	24.7
Other (parent, sibling, child-in-law)	54	6.7
Age of respondent		
< 30 years	385	47.9
≥ 30 years	418	52.1
Sex of the respondent		
Male	199	24.8
Female	604	75.2
Religion of the respondent		
Orthodox	473	58.9
Muslim	207	25.8
Protestant	113	14.1
Other (Catholic, Jehovah's witness)	10	1.2
Marital Status		
Married	405	50.4
Single	248	30.9
Widowed	107	13.3
Divorced/separated	43	5.4
Ethnicity of the respondent		
Oromo	305	38.0
Amhara	181	22.5
Dawuro	73	9.1
Kefa	70	8.7
Yem	63	7.8
Guragie	54	6.7
Other (Tigre, Konta, Kembata, Silte)	57	7.1
Occupation of the respondent		
Housewife	307	38.2
Student	161	20.0
Government employee	126	15.7
Merchant	49	6.1
Daily laborer	39	4.9
Unemployed	121	15.1
Size of the family		
1-2	118	14.7
3-4	265	33.0
5-6	261	32.5
Above 6	159	19.8
Annual income of the family (ET Birr)*		
Below 1800	195	24.3
1801-3600	243	30.3
3601-7200	171	21.3
7201-12000	130	16.2
Above 12000	64	8.0
Educational status of the respondent		
Illiterate	203	25.3
Primary school + read & write	218	27.1
Secondary school	302	37.6
Tertiary school	80	10.0

** 1 ET Birr = 0.1176 US Dollar at the time of the survey*

The study showed that 614 (76.5%) of the respondents were willing to join (WTJ) *Iddir*-based Health Insurance Scheme (IBHIS). Among them 593 (96.4%) were willing to increase payment for the scheme. Mean willingness to pay (WTP) for the scheme was 7.60 ET Birr (0.893 USD). Five hundred sixty five (95.3%) of those who were willing to increase the payment preferred monthly contribution. Health care service required by the respondents through IBHIS were for emergency treatment 159 (26.8%), followed by referral 93 (15.7%), and inpatient 88 (14.8) services (Table 4).

Various socio-demographic characteristics of individuals were associated with willingness to join IBHIS. In multivariate analyses, only monthly income (OR=1.538, 95% CI: 1.279, 1.849), educational status (OR=1.459, 95% CI: 1.169, 1.820), and relation of respondent to household head (OR=1.33, 95% CI: 1.073, 1.648) had statistically significant effect on willingness to join IBHIS (Table 5). Spouses of the head of household were nearly twice WTJ the scheme than their husband (OR=1.972, 95% CI: 1.282, 3.034). WTJ the scheme showed progressive increment with educational status, where individuals in tertiary educational level were 4.5 times more likely WTJ as compared to illiterates (OR= 4.565, 95% CI: 1.808, 11.524). Households with monthly income between 301 and 600 Birr were four times more likely WTJ as compared to those with monthly income of 150 Birr and below (OR=4.377, 95% CI: 2.370, 8.084). Participation in *Iddir* (OR=0.399, 95% CI: 0.262, 0.608) had statistically significant effect on WTJ the scheme, where households' head who were members of *Iddir* were about two times more WTJ than those who were not (OR=0.406, 95% CI=0.262, 0.631). However, none of the health status variables showed statistically significant association with WTJ the scheme (Table 5).

Table 3. Participation of households in Indigenous Community Insurance, Jimma City, Southwest Ethiopia, February 2007.

Characteristics	Number	Percentage
Participation in Iddir (N=803)		
Yes	659	82.1
No	144	17.9
Participation in number of Iddirs (N=659)		
Only one Iddir	193	29.3
More than one Iddirs	466	70.7
Amount of money paid per month (N=659)		
≤ 5 Birr	266	40.4
5.01 - 10.00 Birr	292	44.3
> 10.00 Birr	101	15.3
Practice of the associations to assist people during sickness (N=658)		
Yes	49	7.4
No	609	92.6
Type of assistance (N=49)		
Loan	10	20.4
Aid	37	75.5
Both loan & aid	1	2.0
Other (members participation in labor work)	1	2.0
Reason to start support during illness (N=48)		
No. of poor increased	22	45.8
No. of ill person increased	2	4.2
Many people proposed	21	43.8
Other (believing its importance)	3	6.3

Table 2. Health status and heath care utilization of the 112 individuals who had recent history of illness in the households, Jimma City, Southwest Ethiopia, and February 2007.

Health status and heath care utilization of the households	Number	Percent
Episodes of illness (N=112)		
1 -2 episodes	65	58.0
Above 2 episodes	47	42.0
Duration of illness (N=112)		
1-14 days	51	45.5
15-30 days	34	30.4
Above 30 days	27	24.1
First measure taken against the illness (N=112)		
Go to public health facility	40	35.7
Go to private health facility	51	45.5
Other (did nothing, self treatment, advice of friends, traditional healers)	21	18.8
Reason to take the first measure (N=112)		
Illness is self limiting	11	9.8
The HF was physically accessible	18	16.1
The HF was not expensive	9	8.0
The HF was not crowded	9	8.0
The Health service was courteous	18	16.1
The Health service was Effective	14	12.5
Didn't have money/time to go anywhere	17	15.2
Other (Didn't know anywhere to go, to far to go elsewhere)	16	14.3
Measures taken next to the 1st measure (N=112)		
Go to public health facility	12	10.7
Go to private health facility	59	52.7
Other (did nothing, self treatment, advice of friends, traditional healers)	41	36.6
Total health care cost (N=95)		
45 Birr and less	48	50.5
Above 45 Birr	47	49.5
Party who covered for health care costs (N=110)		
Government/free	18	16.4
Self	76	69.1
Relative	13	11.8
Other (community helped)	3	2.7
Mostly utilized Health facility (N=111)		
Public HF	72	64.9
Private HF	30	27.0
Other (holy water, traditional healers)	9	8.1

DISCUSSION

The study revealed that 82.1% of the community was participating in Indigenous Community Insurance (Iddir) for the time of occurrence of death in the households which is inline with previous report in Ethiopia (17). The possible reason for such a high proportion of engagement in *Iddir* may be attributed to the inherent social bonding that tie the Ethiopian population during catastrophic events for long time. In addition, more than 70% of those members were participating in more than one *Iddir* and about two third (60%) of them were paying more than 5.00 Birr (0.588 USD) per month during the survey implying the fact that the community prepares itself for any occurrence of catastrophic events before hand. This indicates that the community has some potential to withstand some sort of adverse situation in advance by contributing small amount of money each month.

Table 4. Willingness of households to participate in *Iddir*-based Health Insurance Scheme, Jimma City, Southwest Ethiopia, February 2007.

Characteristics	Number	Percentage
Willingness to join the health insurance scheme in Iddir (N=803)		
Yes	614	76.5
No	189	23.5
Willingness to increase the contribution to cover medical costs (N=614)		
Yes	593	96.4
No	21	3.4
Preference to pay (N=593)		
Per head	19	3.2
Per household	574	96.8
Frequency of payment (N=593)		
Monthly	565	95.3
Other (weekly, yearly)	28	4.7
Types of services to be covered by the scheme (N=593)		
Outpatient	68	11.5
Investigation	72	12.1
Drugs	61	10.3
Inpatient	88	14.8
Emergency	159	26.8
Referral	93	15.7
Combination of the services	30	5.1
Other (reducing waiting time, increasing consultation time, improving reception process)	22	3.7

It was realized that more than three quarter of the households have shown willingness to join the recommended IBHIS. This finding is almost consistent with the other report elsewhere in the country (17) where 86% of households were willing to join *Iddir*-based health insurance and a little bit lower than the other study (2) where 94.7% of the households were willing to join a potential CBHIS. Mean WTP for the scheme was 7.60 Birr in the current study which was higher than the finding of previous study (17) that showed a mean willingness of households to contribute 2.5 Birr per month. However, it is less than the finding of the other study (2) where households were willing to pay Birr 10 in terms of money and Birr 14 worth of labor per month to be a member of the scheme. The differences in WTP can be attributed to the time difference of the studies and the study area. On the other hand, the latter study utilized contingent valuation method which gives respondents options to select among the alternatives. Whatever the difference is, the community has shown a significant amount of WTJ the scheme and WTP some amount of money regularly.

Accordingly, 95.3% of those who were willing to increase the payment preferred monthly contribution. It is a little bit more than the previous study (17) where about 85% of the respondents in the household preferred a monthly payment arrangement. This may be due to the difference in study population where the latter study involved both urban and rural communities. It could be substantiated by the fact that a large proportion of rural population may not have regular monthly income as compared to those of the urban.

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Table 5. Association of variables towards willingness to join *Iddir*-based Health Insurance scheme, Jimma City, southwest Ethiopia, February 2007.

Variables	Willingness to join IBHI		Crude OR (95.0% CI)	Adjusted OR (95.0% CI)
	Yes	No		
Relation to HH head				
Head	149	90	1.000	1.000
Spouse	250	62	2.436 (1.663,3.568) §	1.972 (1.282,3.034)*
Child	173	25	4.180 (2.550,6.852) §	1.846 (1.039,3.279)*
Other	42	12	2.114 (1.057,4.227)*	1.547 (0.716,3.340)
Monthly income				
150 & below	102	93	1.000	1.000
151-300	190	53	3.269 (2.160,4.947) §	2.329 (1.495,3.630) §
301-600	153	18	7.750 (4.412,13.615) §	4.377 (2.370,8.084) §
601-1000	113	17	6.061 (3.386,10.848) §	3.047 (1.562,5.943) §
Above 1000	56	8	6.382 (2.890,14.095) §	2.743 (1.118,6.731)*
Educational status				
Illiterate	118	85	1.000	1.000
Primary school + Read & write	169	49	2.484 (1.628,3.795) §	2.104 (1.315,3.366)*
Secondary school	255	47	3.908 (2.574,5.935) §	2.378 (1.388,4.073)*
Tertiary school	72	8	6.483 (2.966,14.169) §	4.565 (1.808,11.524) §
Participation in Iddir				
Yes	524	135	1.000	1.000
No	90	54	0.429 (0.292,0.632)§	0.406 (0.262,0.631)§

*Note: OR=Odds Ratio; * P<0.05; § P<0.001; CI = Confidence Interval*

Health care service required to be covered by the scheme were emergency followed by referral and in-patient services. It is almost similar with regard to the first choice of health service with a report mentioned earlier (17) where the benefits that were most valued were emergency services followed by treatment. This implies that the community would like to prepare itself for unforeseen circumstances in advance. That is why emergency and in-patient services were included in the first three priority area.

This study showed that monthly income, educational status, and relation of respondent to household head had statistically significant association with willingness to join IBHIS. The variables especially family income (17-19) and educational status (17, 20) have similar outcome with the other studies. This may be explained by the fact that better-off households were more likely to be associated with better educational status and may have some amount of reserved money to buy other type of goods and/or services.

The analysis also indicated that participation in *Iddir* has statistically significant association with WTJ the scheme which is consistent with the study in Senegal (21) where a positive relationship between membership in a mutual and membership in other organizations was reported. It may be attributable to the fact that participation in *Iddirs* may develop relationship and solidarity among the members which results in the spirit of helping each other than those who are not.

In conclusion, the observed high level of willingness to participate in the proposed IBHIS might provide some entry point to mitigate deficits in health care financing and negative outcome of globalization and privatization against the poor. Therefore, respective bodies should use indigenous community organizations, like *Iddirs* to undertake social mobilization so as to generate sustainable resources as an alternative source of health care financing.

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