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# Determinants for Non-Enrolment in Community Based Health Insurance Scheme In South Ari District, South Omo Zone, Southern Ethiopia 2022

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## Abstract

**Background:** Community-Based Health Insurance 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. To reduce out of pocket expenditure the different countries introduce different health insurance scheme however a big challenge is non-enrolment in scheme.

**Objective:** To identify determinants of non-enrollment in community based health insurance scheme in South Ari District, South Omo Zone, Southern Ethiopia 2022.

**Methods:** Community based unmatched Case-Control study design was employed with 1:1 ratio from April 20 to May 20 2022 among 448 participants (224 Non enrolled and 224 enrolled. Structured and pretested questionnaire were used for data collection. Bi-variable and multivariable logistic regression analyses were carried out using SPSS version 25. And the significance of the statistical association was determined based on $p<0.05$. The model fitness was checked using Hosmer Lemeshow goodness of fit test by assumption of chi-square distribution and adjusted odds ratio with 95% confidence interval used.

**Result:** A total of 438 respondents (219 Non-enrolled and 219 enrolled) in scheme were employed. No drug availability in Health facility (AOR=2.56, 95% CI: 1.12-5.83), disagree with CBHI regular payment affordable to household (AOR=6.13; 95% CI: 2.75-13.66), disagree with time of premium payment convenient to households (AOR=4.23; 95% CI: 1.68-9.60) and disagree with trustworthiness of CBHI managers (AOR=6.73; 95% CI: 3.09-14.63) were significant factors for non-enrolment in the community-based health insurance.

**Conclusion:** Society's non-enrolment decision in community based health insurance scheme was determined by: No availability of prescribed drug in health facility, lack of trustworthy in CBHI managers, not convenient premium collection period providing appropriate drug to health facilities, adjust the premium collection time, made affordable premium by considering their households' income level and trustily serve the community increase enrollment.

**Keywords:** Health Insurance; Non-enrolment; Determinant; Ethiopia

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## Introduction

### Background

**Community-Based Health Insurance (CBHI):** It 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

[1, 2].Where peoples become members voluntarily in scheme and an insurance promising eventually lead to a sustainable and fully functioning universal health care system [3] and is not for profit [4]. Globally health insurance has been recognized as one of the principal methods of financing healthcare to achieve universal health coverage (UHC), particularly in low and middle income countries. Many low and middle income countries are exploring mechanisms of extending their health insurance schemes to specific groups to eventually cover their entire populations [3,5]. WHO recommends different health care financing strategies to reduce the catastrophic nature of out-of-pocket health care expenditures. Subsequently countries are designing and implementing different health insurance programs, these include community-based health insurance (CBHI), social health insurance (SHI), and private insurance schemes (PHI).These health insurance schemes were aimed to provide financial protection against the cost of illness and increase health service utilization [6]. Among African countries, Ethiopia's experience can provide good lessons around how governments can pursue UHC through a series of complementary measures including strengthening health governance at the facility level and implementing national health financing reform [2]. Ethiopia endorsed a health care financing strategy in 1998 that envisioned a wide range of reform initiatives. From the strategy of health care finance CBHI schemes is known as mutual health organizations, are not-for-profit mechanisms of health financing grounded in principles of solidarity and risk sharing [2,7]. Government of Ethiopia implemented the community-based health insurance (CBHI) scheme on 2011 in 13 districts of the four major regional states of the country (Tigray, Oromia, Amhara and SNNP) which was then expanded to additional 161 districts in 2013, aimed at reaching the very large rural agricultural sector and covering the small and informal sectors in urban settings to promote equitable access to sustainable quality health care, increase financial protection, and enhance social inclusion for Ethiopian families via the health sector [2].

## Statement of the problem

Globally low health insurance coverage is a major public problem in many low and middle income Countries. In high income countries 22% social health insurance coverage and 48% government transfer for health service where us in low income Countries only 1% Social Health Insurance coverage,21% government transfer and 44% OOP expenditure [8]. Due to low health insurance coverage about 44 million HH faced catastrophic health expenditure while about 25 million HHs are impoverished because of direct health care payments. Over 90% of healthcare financial difficulties and their consequences have been occurring in Sub-Saharan African countries [9]. It shows 27 out of 48 Countries are affected by direct OOP for health care greater than 30% [10].

In Ethiopia Households OOP Catastrophic healthcare expenditure with pooled meta-analysis of 14 studies identified that the mean catastrophic healthcare expenditures at 10% of threshold during utilization of healthcare services was 40.1% [11].

Despite this high OOP health expenditure government of Ethiopia plot CBHI scheme 2011.The CBHI benefit package covers all outpatient and inpatient services at the health center and nearby hospital level except false teeth, eye glasses, and cosmetic procedures. The federal government provides a 25% general subsidy for all members. District and regions finance a solidarity fund for indigents (an estimated 10% of the population) from their own budgets. The provider payment method is fee-for service [2].

However, non-enrolment into CBHI scheme was a big challenge in Ethiopia. In Ethiopia Routine monitoring data show remarkable CBHI enrolment numbers in the three years since the pilot schemes became operational. Between January 2011 and July 2014 the average non-enrolment rate in the pilot Districts was 47.6%t of the eligible households [2].

Study in Boricha district South Ethiopia, show Out of the total 632 study participants, 551 (87.2%) were not enrolled in CBHI scheme and only 81 (12.8%) `were enrolled [9]. Studies in Both Segen and South Omo Zones are showed that Out of 820 households, 542(67%) are non-enrolled in CBHI were as only 273 (33.30%) were enrolled in CBHI scheme [12].

In South Ari District health District 2022 CBHI data showed non-enrolment rate in CBHI scheme shows 45% from target population [13]. In South Ari District non-enrolment remains the main challenge. Socio-demographic, awareness and perception about CBHI as well as health related factors take a great share for non-enrolment in CBHI scheme. Moreover, there was no study conducted in South Ari District, South Omo Zone, Southern Region that documented the factor of non-enrolment in community based health insurance scheme. Therefore, the finding of this study was identify determinants of non-enrolment in community based health insurance scheme in South Ari District, South Omo Zone, Southern Ethiopia 2022.

## Justification of the study

Non-enrolment in to CBHI scheme is the main public health problem that leads to high out of pocket health expenditure and low utilization of health services. In Ethiopia few studies conducted on enrolment status in CBHI scheme but no documented study was employed on determinants for non-enrolment in CBHI scheme in study area. Hence this study will be identifying factors of non-enrolment in CBHI scheme in South Ari District in order identify accordingly.

## Significance of study

This study will benefits clearly identifying factors for non-enrolment in community based health insurance scheme in South Ari District. Generating an information on non-enrolment in community based health insurance will benefit community health status Through CBHI program implementation will become successful in South Ari District.

The study contributes to the scientific development of public health profession on the knowledge of community based health insurance and produces input information that might help managers, policy makers on non-enrolment in CBHI and furthermore, it helps as baseline for other researchers who want to study more on the topic area.

## Literature Review

### Socio-Demographic Characteristic

Studies in Low- and Middle-Income Countries Meta-analysis suggests that enrolments in CBHI were positively associated with household income, households from the wealthiest subgroup had 61% higher odds of insurance enrolment than households in the poorest group, education and age of the household head , household size, female-headed household, married HH heads and chronic illness episodes in the household [14,15,16]. Studies in Nepal showed that sex of household head and household head marital status did not show any significant association with non-enrolment [17]. Study in Cameron showed Non-enrolment was slightly higher amongst males 173(45.1%) compared to females 150 (39.1%) [18]. non-enrolment is highest among low income household compared to those who had a higher income 63 (16.4%). Studies in North West Ethiopia show that age of participant have no significant difference between non-enrolled versus enrolled in Community based health insurance [19]. Non enrolment into CBHI is not influenced by culture of persons living in a particular community and sharing common characteristics [18].Studies in Kilte Awelaelo District, Tigray Regional State Age is significant for household members to enroll in the scheme. Suggesting that as family heads get older and older they prefer to get secured to risks associated with shortages of finance at time of illness Study in Tach-Armachiho Woreda, North Gondar, Ethiopia, provides evidence that the decisi [20].on to enroll in the scheme is shaped by age and a combination of household head sex and perception towards community based health insurance. Implementers aimed at enhancing enrolment ought to act on the bases of this finding [21]

Studies in Oromia Region, Ethiopia uptake of CBHI scheme among HH heads those annual income <40,000 birr/year were less likely than those their income > 40,000 birr/year.

### Community based health insurance related factors

Studies in North West Amhara region showed that the major reasons for the majority of non-members of FGD participants for declining to CBHI membership were financial constraints, different payment responsibilities, like taxes, student educational fees which makes difficult for insurance payment [22]. Studies in Yirgalem Town of Sidama Zone, in SNNPR State of Ethiopia reveals that community-based health insurance member households were about three times more likely to utilize outpatient care than their non-enrolled counterparts [23]. Studies in South Achefer District, Ethiopia showed there was a significant difference in the rate of healthcare utilization between enrolled (50.5%) and non-enrolled (29.3%) households [24]. Studies in East Gojjam zone, Northwest Ethiopia Households which had experience of borrowing for medical expenses within the last 12 months prior to the study were 2.7 times more likely to enroll in CBHI scheme than those who didn't have borrowed [25].

### Individual/Household related factors

Studies in rural Amhara region, Ethiopia showed Low level of awareness about CBHI scheme main reason for non-enrolment in community-based health insurance [22]. Studies in in west Gojjam zone, Northwest Ethiopia CBHI awareness, family health status, community solidarity and wealth were major factors that most determine the household decisions to enroll in the system [4] Studies shows that socioeconomic status, a greater understanding of health insurance and experience with and knowledge of the CBHI scheme are associated with lower dropout rates [26].Households with no information about CBHI service were nine times more likely to enroll than households with no information about CBHI scheme. And also households which were members of a solidarity group like saving association or other community-based organizations were almost three times more likely to enroll than non-members [27].

### Health service related factors

Studies in sub Saharan Africa with meta-analysis emerging movement of community based health insurance shows Poor healthcare quality (including stock-outs of drugs and medical supplies and long waiting times) were found to be associated with non-enrolment in CBHI scheme [28]. Study in Tanzania identified factors the quality of healthcare services that were statistically significant with non-enrollment in CBHI [29]. Travel time to nearest health facility was identified as determinants of enrolment in both regions and among the rural and urban residents within the regions more likely to enroll than far distance traveller [30].

Systematic review on 2019 Study in Ethiopia a about Factors affecting community based health insurance utilization in Ethiopia showed that factors determining CBHI utilization in Ethiopia health service were significantly and positively related but premium amount [31]. Studies in South Wollo, Northeast Ethiopia shows for their enrolment one of factor is perceived quality health services were enabling factors 6 [**Figure 1**].

### Objective Of The Study

To identify determinants of non-enrolment in community-based health insurance scheme in South Ari District, South Omo Zone, SNNPR, Ethiopia in 2022.

## Methods

### Study area and period

The study was conducted in South Ari District, South Omo Zone, Southern Ethiopia, which is located 572 km away South West from Addis Ababa, the capital city of Ethiopia. According to South Ari District Health Office 2021 report the Total population of the District was 164,508 among those 82,287 were men and 82,221 were women. The District has 27 Kebeles and 4 Municipalities and totally 33,573 households. Among those households (13,654) 45% were Non-enrolled in to CBHI scheme. The District has 31 Health Posts, 6 Health Centers, 1 District Hospital and 16 Private Clinics. Health centers and the hospital were started CBHI service for the Community science 2011 E.C [13]. The study was conducted from April 20 to May 20, 2022 [**Figure 2**].

### Study design

Community based unmatched Case Control study design was conducted.

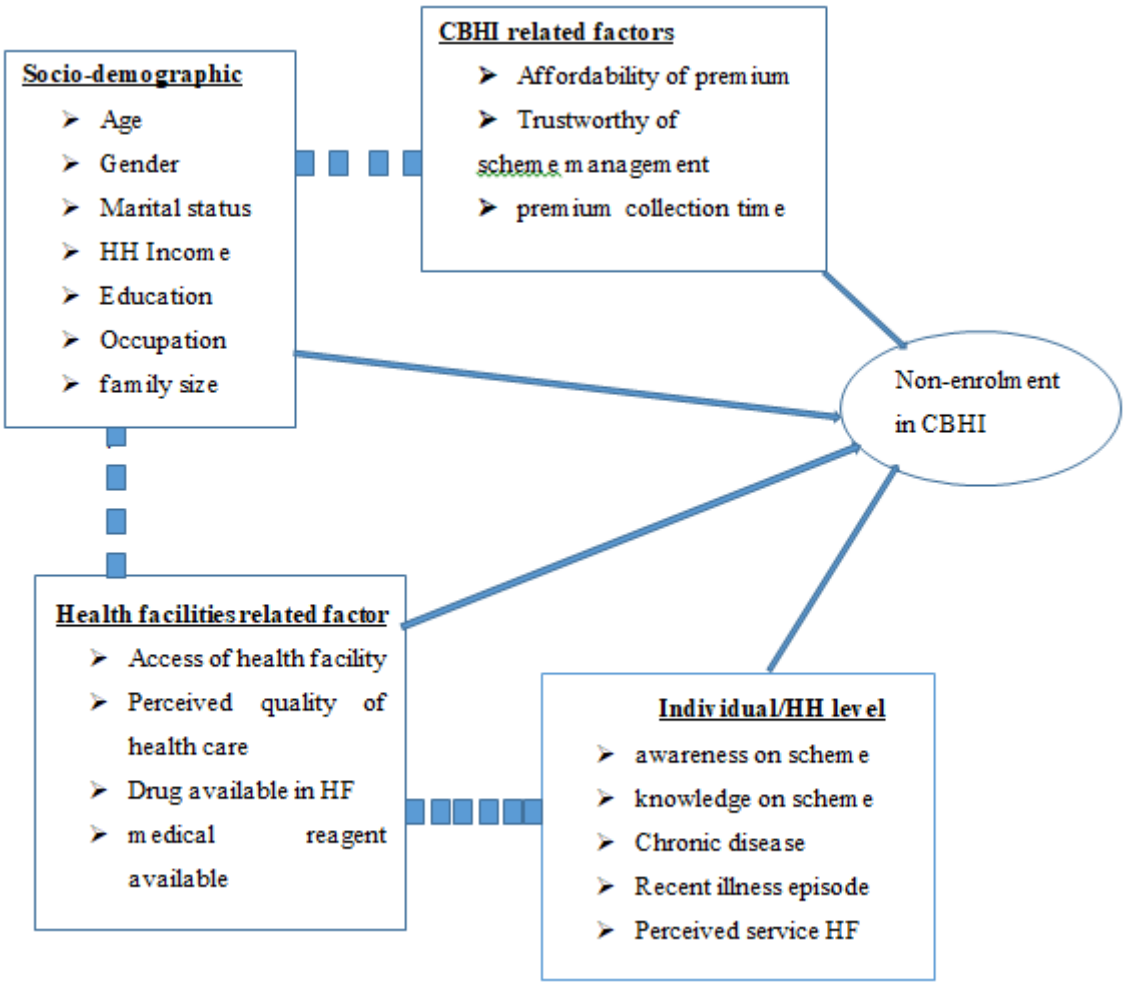


**Figure 1** Conceptual framework: Determinants for Non-enrolment in CBHI in South Ari District 2022 (32, 33).

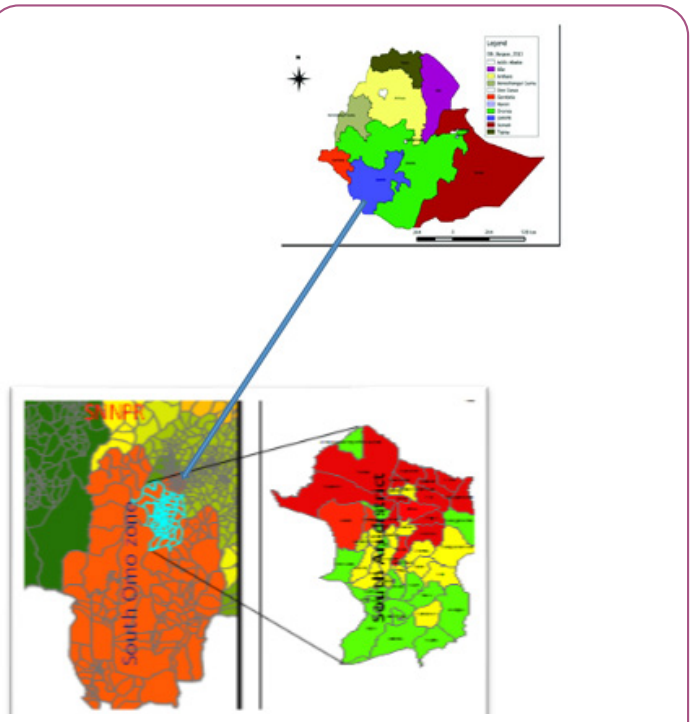


**Figure 2** Location study area in Southern Ethiopia South Ari District.

## Population

### (i) Source population

All households' head in South Ari District were the source population of this study.

### (ii) Study population

**For Case:** All HH head/spouse in randomly selected kebeles of South Ari District, who were not registered in CBHI scheme.

**For Control:** All HH head/spouse in randomly selected Kebeles in South Ari District, who were officially registered in CBHI scheme and renewed membership ID card for the year 2021.

## Inclusion and exclusion criteria

### (i) Inclusion criteria

**Case:** All HH heads who lived at least six months in the selected kebeles of South Ari District were included in this study.

**Control:** All HH heads/spouses with informal work in the selected Kebeles of South Ari District.

### (ii) Exclusion criteria

**For Case:** Those households who were the member of community

based health insurance and currently drop out for last two years from the membership were excluded from the study.

**For Control:** Household heads/spouse who was not renewed CBHI membership ID card during in a given year February 2021and not lived more than six months

## Sample size determination

The sample size was estimated by using Epi info, version 7.0 software by considering each variable was assumed to bring difference in two groups. The sample size calculation was based on the following assumptions: two sided confidence level (CI) =95%, OR 2.996, statistical power=80%, enrolled to non-enrolled ratio of 1:1 and 10% non-response rate. Accordingly, a total sample size of 448 households was calculated (224 Non-enrolled and 224 enrolled) .Similar study conducted in Gida Ayana districts in east Wollega Zone, Oromia Regional State, Western Ethiopia P1 = 72%, P2 = 88.5% CBHI non-member and member households respectively [34].

The calculated sample size required for this study was 448(224 non-enrolled and 224 enrolled) [**Table 1**].

## Sampling method and procedure

In the first stage, 30% of Kebeles was selected by using simple random sampling (lottery) method out of thirty-one kebeles of South Ari District considering the representativeness of the kebeles. 30% of the South Ari district approximately 9 kebeles.

Then selection of household heads from selected nine kebeles by using systematic random sampling. List of households for cases (None enrolled) and controls (enrolled) in CBHI scheme obtained from each Health post in selected Kebele's HH and South Ari District Health Office CBHI record list which was used as a sampling frame. The sample size was proportionally allocated for selected kebeles based on each Kebele's number of households [**Figure 3**].

K=N/n then my k-value=19

**Table 1:** Sample size determination of non-enrollment in CBHI using EPI info software, 2022.

| Factors for non-enrolment in CBHI | Ratio Case to Control | % of outcome (non-enroll) | % of outcome with(Enrolled) | COR | Sample size using 95% CI , power=80% |
|---|---|---|---|---|---|
| Affordability of premium | | | | | |
| Cheap /expensive | 01:01 | 64 | 92 | 6.47 | 80 |
| Educational status College & above /no education | | | | | |
| | 01:01 | 6.72 | 30.33 | 6.043 | 100 |
| Wealth index | | | | | |
| Middle / rich | 01:01 | 72 | 88.5 | 2.996 | **204** |
| Poor / rich | 01:01 | 29 | 50 | 2.45 | 188 |

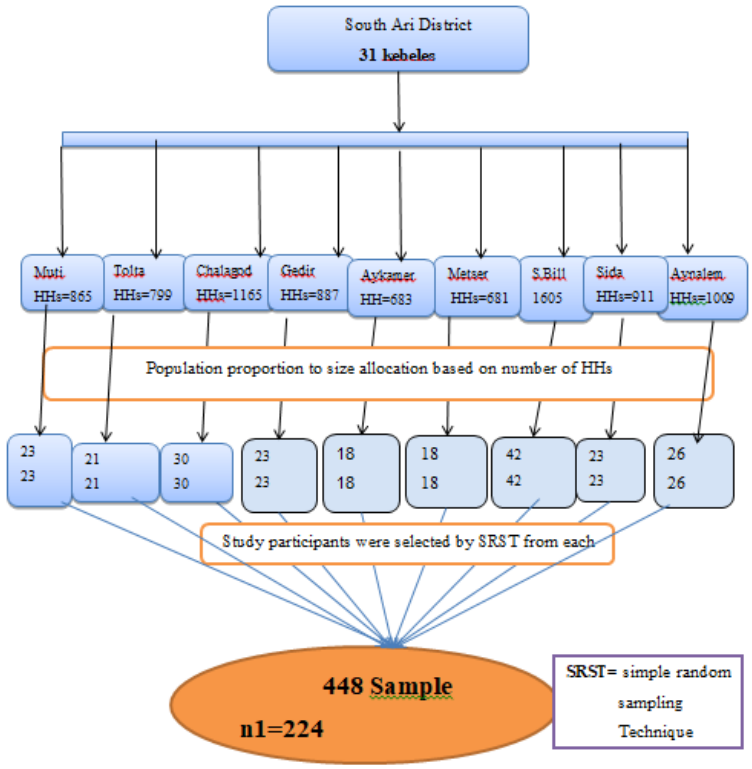


**Figure 3:** Shemematic presentation of sampling procedure on non-enrollment in CBHI in South Ari District 2022.

Every 19th person was selected when the first person chosen randomly.

Where K = Sample for each kebele

N=each kebele population (HH)

n=Total population for selected kebeles.

## Study variables

## (i) Dependent variable

Non-enrolment into CBHI

**Case=**Non-enrolled in CBHI

**Control=**Enrolled in CBHI

## (ii) Independent variables

**Socio-demographic factors**: Age, sex, ethnicity, religion, household family size, education, occupation, marital status, household income.

**Health related factors:** Accessibility of health care facility, perceived quality of health care, drug availability in health facility, laboratory reagent availability.

**CBHI related factors:** Affordability of premium, trustworthiness in scheme management and time convenient of CBHI regular payment.

**Individual level:** awareness of scheme, knowledge of scheme and benefit, chronic disease, recent illness episode, perceived health service, membership in social association.

## Operational definitions

i. **Community based health insurance:** is an insurance scheme arranged for informal sector managed and operated by governmental structure that provides risk pooling to cover all or part of the costs of health care services [32].

ii. **Non-enrolment in Community Based Health Insurance:** house hold heads those who have not CBHI membership card and not renewed during the complete January 2021 to February 30 2022 year [12].

iii. **Enrolment in CBHI:** HH Heads that are members of CBHI scheme as verified by their renewed membership cards in every year and currently new CBHI members are categorized as (utilizers)[12, 19].

iv. **Affordability of membership:** The state of being cheap enough for people to be able to buy contribution rate in CBHI scheme program fixed by the scheme (375ETB per annum) [19].

v. **Trustworthy in CBHI managers:** Can be defined through variables such as: composition of scheme executive in team, deliverability of benefit package and capacity of contract health providers [19].

vi. **Perceived quality of service:** The extent of the community's views on the quality of the service delivery and is measured by one item, two point Likert scale questions [4].

vii. **Income > or < 40,000 birr/households/year: -**The income household/family earned in a year as a result of crops production and rearing of animals that is calculated in assuming each household has five average family size [35]. **knowledge on CBHI scheme:** This refers to household heads knowledge of CBHI existence, its principles, and significance. It was assessed by asking the participants six sets of related questions [4].

viii. **Informal workers**: Households which live on agriculture, trade and private micro businesses in rural and urban areas [36].

**Likert scale** (1, 2, 3, 4, 5) from strongly disagree to strongly agree were categorized (1&2 disagree) and (3, 4 &5 Agree) [32,36] or used itself.

## Data collection tools

The questionnaire was adopted from different studies conducted in developing countries [29,36] and then modified into context. The data was collected by interviewer administered pretested structured questionnaire. The questionnaire initially was prepared in English and then translated in to Amharic and then back in to English by those proficient in the language for checking consistency by another person and finally pre-test of questionnaire was done [33]. Training was given for data collectors and supervisors for two days on how to approach the study groups and fill the questionnaires. Data collections were carried out by house to house visit.

## Data quality assurance and management

A pretested Interviewer-based structured questionnaire adapted from different literature, and was conducted at neighboring community to evaluate the questioner and to make the final questioner in appropriate way. During data collection time supervisors (investigators) checked for any incompleteness and coding error and then entered into Epi Data version 3.1 software. The principal investigator provided one days of training for field data enumerators about the administration of each question and ethical principles. Daily supervision was done by the principal investigators to check the completeness and reliability of the data.

In order to verify the accuracy of data entries, two generic data verification strategies were employed. As the first step, a random selection of 10% of the questionnaires was thoroughly checked. Then, descriptive statistics, including results from frequency distributions were examined before performing statistical analysis.

## Data process and analysis

Descriptive statistics such as frequencies, proportions, and numerical summary measures were used. The data were analysed using statistical package SPSS version 25 software. Bi-variable and multivariable logistic regression analyses were done, and the results were presented by using tables. The P value less than 0.25 in the bi-variable regression was considered as eligible for the multivariable logistic regression analysis. Fitness of the logistic model was checked using Hosmer and Lemeshow's test of model adequacy. Absence of multicolinearity were checked the following standard operation. Statistically significant association

was measured by using the adjusted odds ratio (AOR) with 95% confidence interval, and p value p<0.05 was considered as statistically significant.

## Ethical consideration

Ethical approval was obtained from Debre-Markos University College of Health Science Ethical review committee department of public health. Written informed consent was obtained from each study subject before the data collection process. During the data collection process the data collectors were informing each study participant about the purpose and anticipated benefits of the research project and the study participant were also informed of their full right to refuse, withdraw or completely reject part or all of their part in the study. They were also informed that all data obtained from them would be kept confidential by using codes instead of any personal.

## Result

## Distribution of Socio-demographic characteristic

A total of 438 study participants (219 non-enrolled and 219 enrolled in CBHI scheme) households were included in the study with over all response rate of 98% among case (Non-enrolled) and control (enrolled). The mean age among non-enrolled respondents was 41.26 year with (12.64 SD) and among enrolled their mean age 42.65 with SD 12.09. Among respondents One hundred eighty-eight (85.8%) non-enrolled and one hundred ninety-one (87.2%) enrolled male in CBHI scheme. Religiously, 172(78.7%) non enrolled and 185(84.5%) enrolled in CBHI scheme were protestants in religions. Majority of non-enrolled 196(89.5%) and enrolled 203(92, 7%) of the respondents were Ari in Ethnicity. Marital status majority of respondents 191(87.2%) non enrolled and 203(92.7%) enrolled.

About annual income 162(74%) non-enrolled and 156(71.2%) enrolled in CBHI scheme were annual household income<40,000 birr per year [**Table 2**].

## Individual /household level factors

i. **Individual awareness on CBHI scheme:** The households' heads were asked about whether they had ever heard about CBHI; [T**able 3**] all participants 438(100%) responded that they had heard about CBHI scheme. Their source of information was CBHI officials public meeting non-enrolled 133(60.7%), enrolled 168(76.7%) enrolled 18(8.2%) and enrolled [**Figure 4**].

**Table 2:** Distribution of Sociodemographic characteristics in south Ari district 2022(n=438).

| Attributes | Categories | Non-enrolled (%) | Enrolled (%) | Frequency (%) |
|---|---|---|---|---|
| Age(438) | <=40 year old | 126(57.5) | 118(53.9) | 244(55.7) |
| | >40 year old | 93(42.5) | 101(46.1) | 194(44.3) |
| Sex(438) | Male | 188(85.8) | 191(87.2) | 379(86.5) |
| | Female | 31(14.2) | 28(12.8) | 59(13.5) |
| Residence(438) | Urban | 41(18.7) | 41(18.7) | 82(18.7) |
| | Rural | 178(81.3) | 178(81.3) | 356(81.3) |
| Ethnicity(438) | Ari | 196(89.5) | 203(92.7) | 399(91.1) |
| | Amhara | 8(3.7) | 14(6.4) | 22(5) |
| | wolata | 5(2.3) | 0 | 5(1.1) |
| | Goffa | 8(3.7) | 2(0.9) | 10(2.2) |
| | Others | 2(0.9) | 0 | 2(0.5) |
| Religion(438) | Protestant | 172(78.5) | 185(84.5) | 357(81.5) |
| | Orthodox | 40(18.3) | 33(15.1) | 73(16.7) |
| | Muslim | 1(0.5) | 0 | 1(0.2) |
| | Others | 6(2.3) | 1(0.5) | 7(1.6) |
| Marital status(438) | Married | 191(87.2) | 203(92.7) | 394(90) |
| | Divorced | 17(7.8) | 10(4.6) | 27(6.2) |
| | Separated | 3(1.4) | 0 | 3(0.7) |
| | Windowed | 8(3.7) | 4(1.8) | 12(2.7) |
| | Single | 0 | 2(0.9) | 2(0.5) |
| Occupation(438) | Farmer | 126(57.5) | 157(71.7) | 283(64.6) |
| | Merchant | 48(21.9) | 35(16) | 83(18.9) |
| | Others | 27(12.3) | 45(20.5) | 72(16.4) |
| Educational level (438) | Unable to read | 73(33.3) | 61(27.9) | 134(30.6) |
| | Grade 1-4 | 75(34.2) | 71(32.4) | 146(33.3) |
| | Grade 5-8 | 44(20.1) | 59(26.9) | 103(23.5) |
| | Grade 9-12 | 27(12.3) | 28(12.8) | 55(12.6) |
| Total family Size | <=5 individual | 134(61.2) | 108(49.3) | 242(55.3) |
| 438 | >5 individual | 85(38.8) | 111(50.7) | 196(44.7) |
| Annual income | <40,000 birr/year | 162(74.0) | 156(71.2) | 318(72.6) |
| 438 | >40,000 birr/year | 57(26.0) | 63(28.8) | 120(27.4) |

ii. Individuals Knowledge on CBHI schemes

Among respondents on Knowledge towards community based health insurance.

Scheme 144(66%) non-enrolled and 160(73%) enrolled had Good Knowledge. Among Respondents 75(34%) non-enrolled and 59(27%) enrolled had poor knowledge on CBHI scheme [**Table 4**].

i. **Remember:** The correct answer for all questions was not correct except CBHI to finance your future health care needs (correct).

**ii. Individuals with traditional social network**

Traditional social networks provide the respondents the experience of benefiting from CBHI. In this study more than 97% of the HH had taken part in social association [**Figure 5**]. Majority of the households in study area currently had no loans, about 42(19.1%) had with a loan. the rest greater than 80% have no outstanding loan. The Respondents mentioned 23(10.5%) enrolled and 5(2.3%) non-enrolled were loaned from Microfinance. One HH head loan non enrolled from Bank, thirteen from other and the Majority 204(93.2%) non-enrolled and 192(87.7%) enrolled

**Table 3:** Benefit package of CBHI cover.

| Categories | Non-enrolled No (%) | Enrolled No (%) |
|---|---|---|
| Awareness on health service covered by scheme Yes | 197(90) | 212(96.8) |
| No | 22(10) | 7(3.2) |
| Awareness which service covered by CBHI | | |
| IPD | 11(5) | 20(9.1) |
| OPD | 29(13.2) | 23(10.5) |
| Both OPD&IPD | 156(71.2) | 163(74.4) |
| Others | 23(10.5) | 13(5.9) |

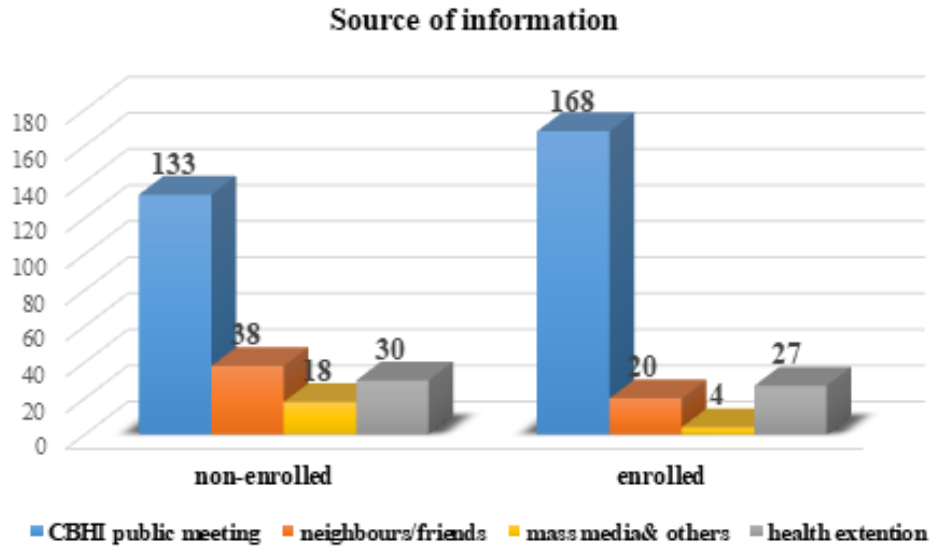


**Figure 4:** Source of information about CBHI scheme in South Ari District, SNNPR, Ethiopia 2022
Both non-enrolled and enrolled in CBHI scheme were asked about whether they had awareness on health service included in the benefit package of CBHI. Majority of non-enrolled 197(90%) and enrolled 212(96.8%) had an awareness on health service covered by CBHI scheme. Awareness about Service included under CBHI 156(71.2%) non-enrolled and 163(74%) enrolled had answered it includes both IPD and OPD health service.

**Table 4:** Knowledge questions about CBHI scheme.

| | Non-enrolled | | Enrolled | |
|---|---|---|---|---|
| **Correct Answers were (bolded)** | correct | Not correct | correct | Not correct |
| Only sick should consider buying CBHI | 44 | **175** | 34 | **185** |
| In CBHI programs you will get the money back | 38 | **181** | 21 | **198** |
| CBHI like savings you will receive interest | 62 | **157** | 38 | **181** |
| CBHI to finance your future health care needs | **150** | 69 | **181** | 38 |
| All H.care costs will be covered by CBHI | 166 | **53** | 170 | **49** |
| don't claim any costs CBHI birr will be returned | 70 | **149** | 55 | **164** |

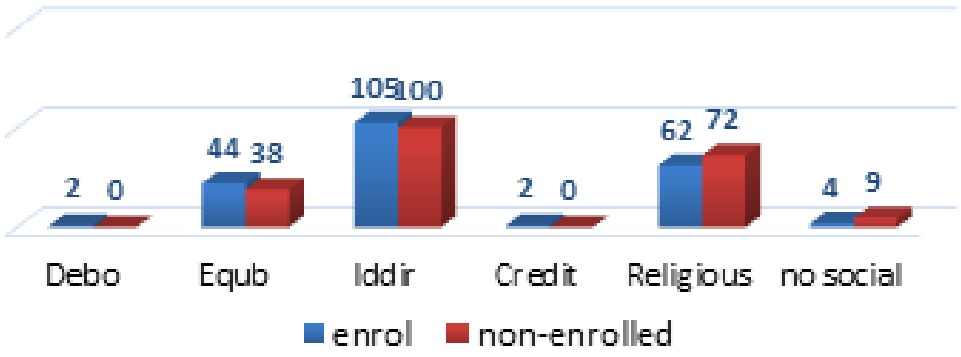


**Figure 5:** Social network among household heads in South Ari district.

had no loan.

**iii. Illness in HH and utilization of health service**

Utilization of health service among non-enrolled 59(17%) and enrolled 181(53%).

Were get treatment the rest 27% non-enrolled were not get treatment [**Table 5**].

## Health Facility Related factors

Among respondents 169(77%) non-enrolled and 183(83%) enrolled in CBHI scheme were greater than 5 Kilometers far from health facility [**Figure 6**]. service is medium [**Table 6**].

## CBHI Office and service related factors

About CBHI regular premium collection time convenience majority of non-enrolled 175(79.9%) and 39(17.8%) enrolled were disagree and majority of enrolled 180(82.2%) and 44(20.1%) non-enrolled trust on CBHI premium time convenient. About 195 (89%) non-enrolled and 49(22.4%) enrolled disagree on CBHI regular payment affordability. Above 77% enrolled trust on CBHI regular payment affordability. Greater than 91% non-enrolled disagree on trustworthy [**Tables 7, 8**].

# Results of Multivariable

In multivariable logistic regression analysis; no drug availability in health facility, disagree on time of CBHI regular premium collection convenient, disagree on affordability of CBHI regular payment and disagree on trustworthy of CBHI manager were statistically significantly associated with non-enrolment in community based health insurance. Drug availability in health facilities had showed statistical significant with non-enrolments in CBHI scheme. Respondents who responded that no drug available in health facilities were 2.5 times more likely to non-enroll in CBHI scheme than who responded yes drug is in health facilities [(AOR=2.56,95% CI:1.12-5.83)]. Affordability of the regular payment was positively associated with non-enrolment in CBHI scheme. Respondents that were disagree with premium affordability were 6 times more likely to non-enroll in CBHI

**Table 5:** Utilization health service and illness In HH.

| Categories | Non-enrolled | Enrolled | Total |
|---|---|---|---|
| In the past 6 month any illness in family(438) | No (%) | No (%) | No (%) |
| Yes | 129(29) | 214(49) | 343(78) |
| No | 51(12) | 44(10) | 95(22) |
| Get medical treatment (343) | | | |
| Yes | 59(17) | 181(53) | 240(70) |
| No | 91(27) | 12(3) | 103(30) |

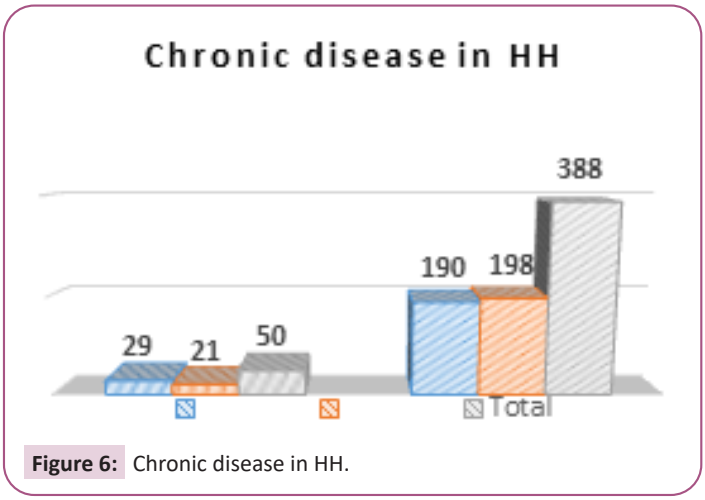


**Figure 6:** Chronic disease in HH.

scheme than those that agree [(AOR=6.13; 95% CI: 2.75- 13.66)]. Similarly, disagree on time of CBHI regular premium collection has significant association with non-enrolment in CBHI scheme, were about 4 fold more likely associated with non-enrolment in community based health insurance than agree [AOR=4.23,95% CI:1.86-9.60]. Disagree on CBHI managers trustworthy had positively statistically significant association with non-enrolment in community based health insurance. Respondents who responded disagree on CBHI managers trustworthy were 6 times more likely to non-enroll in scheme than that of agree on trustworthy of manager CBHI. (AOR=6.73, 95% CI: 3.09-14.63, P=0.00) [**Table 9**].

**Table 6:** Health facility related factors.

| Factors | Category | Non-enroll (%) | Enrolled (%) |
|---|---|---|---|
| **Distance home to HF** | <=5 kilo meter | 50(22.8) | 36(16.4) |
| | >5 kilo meter | 169(77.2) | 183(83.6) |
| **Availability of laboratory reagent in HF(240)** | Yes | 69(29) | 76(32) |
| | No | 56(23) | 39(16) |
| **Availability of drug in HF (240)** | Yes | 78(32.4) | 77(32) |
| | No | 52(32) | 33(20) |
| **Received service quality(240)** | Very high | 2 | 27 |
| | High | 3 | 20 |
| | Medium | 38 | 31 |
| | Low | 33 | 9 |
| | Very low | 24 | 13 |

**Table: 7** Likert scale score of respondents for non-enrolment in CBHI scheme in South Ari District, southern Ethiopia 2022.

| Factors | Category | Non-enroll (%) | Enrolled (%) |
|---|---|---|---|
| **Premium collection time convenient** | Disagree | 175(79.9) | 39(17.8) |
| | Agree | 44(20.1) | 180(82.2) |
| **CBHI regular payment is affordable** | Disagree | 195(89) | 49(22.4) |
| | Agree | 24(11) | 170(77.6) |
| **CBHI managers are trustworthy** | Disagree | 200(91.3) | 59(26.9) |
| | Agree | 19(8.7) | 160(73.1) |

**Table: 8** Factors for Non-enrolment in CBHI scheme among South Ari District SNNPR Ethiopia, 2022. Bivariate logistic regression analysis (n=438).

| Categories | | Non-enrolled No (%) | enrolled No (%) | COR:CI 95% | P-value |
|---|---|---|---|---|---|
| Religion | 1,Protestant | 172(78.5) | 185(84.5) | 0.155(0.18-1.3) | **0.086** |
| | 2.Orthodox | 40(18.3) | 33(15.1) | 0.202(0.023-1.763) | **0.148** |
| | 3.Muslims | 1(0.5) | 0 | | |
| | 4.Others | 6(2.3) | 1(0.5) | 1 | |
| Family size | <=5individual | 134(61.2) | 108(49.3) | 1.623(1.109-2.368) | **0.013** |
| | >5 individual | 85(38.8) | 111(50.7) | 1 | |
| Occupation | Farmer | 126 | 157 | 0.482(0.283-0.82) | **0.007** |
| | Merchants | 48 | 35 | 0.823(0.43-1.57) | 0.55 |
| | Others | 45 | 27 | 1 | |
| Hear about CBHI | Neighbors | 38(17.4) | 20(9.1) | 0.422(0.126-1.418) | **0.163** |
| | CBHI meeting | 133(60.7) | 168(76.7) | 0.176(0.058-0.53) | **0.002** |
| | Health extension | 30(13.7) | 27(12.3) | 0.247(0.074-0.82) | **0.023** |
| | Mass media others | 18(8.2) | 4(1.8) | 1 | |
| Health service covered by CBHI | Yes | 197(90) | 212(96.8) | 0.296(.124-.075) | **0.006** |
| | No | 22(10) | 7(3.2) | 1 | |
| Which service CBHI | IPD | 11(5) | 20(9.1) | 0.31(0.11-0.847) | **0.022** |
| | OPD | 29(13.2) | 23(10.5) | 0.713(0.298-1.706) | 0.447 |
| | Both OPD&IPD | 156(71.2) | 163(74.4) | 0.54(0.265-1.105) | **0.092** |
| | Others | 23(10.5) | 13(5.9) | 1 | |
| Any Loan on HH | Yes | 15(6.8) | 27(12.3) | 0.53(0.27-1.01) | **0.055** |
| | No | 204(93.2) | 192(87.7) | 1 | |
| Chronic disease in HH | Yes | 21(9.6) | 29(13.2) | 1.43(0.79-2.61) | **0.23** |
| | No | 198(90.4) | 190(86.8) | 1 | |
| Availability laboratory reagent HF | Yes | 69(29) | 76(32) | 1 | **1** |
| | No | 56(23) | 39(16) | 2.014(1.18-3.44) | **0.01** |
| Availability drug in HF | Yes | 78(32.4) | 77(32) | 1 | |
| | No | 52(22) | 33(14) | 2.56(1.12-5.83) | **0.025** |
| Premium collection time convenient | Disagree | 175(79.9) | 39(17.8) | 18.35(11.37-29.62) | **0** |
| | Agree | 44(20.1) | 180(82.2) | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| CBHI regular payment is affordable | Disagree | 195(89) | 49(22.4) | 28.18(16.59-47.88) | **0** |
| | Agree | 24(11) | 170(77.6) | 1 | |
| CBHI managers trustworthy | Disagree | 200(91.3) | 59(26.9) | 28.54(16.35-49.83) | **0** |
| | Agree | 19(8.7) | 160(73.1) | 1 | |
| Distance home to HF | <=5 kilo meter | 50(22.8) | 36(16.4) | 1.50(0.934-2.423) | **0.093** |
| | >5 kilo meter | 169(77.2) | 183(83.6) | 1 | |

**Table 9:** Multivariable logistic regression analysis, (n=438)

| Variables | Categories | CBHI enrolment | | COR (CI=95%) | AOR (CI=95%) | p-value |
|---|---|---|---|---|---|---|
| | | Non-enrolled | enrolled | | | |
| | | No (%) | No (%) | | | |
| Drug availability in Health facility | 1.Yes | 78(60) | 77(70) | 1 | 1 | |
| | 2.No | 52(40) | 33(30) | 1.56(0.9-2.66) * | 2.56(1.12-5.83) * | 0.025 |
| CBHI regular payment is Affordable HH | 1. Disagree | 195(89) | 49(22.4) | 28.19(16.6-47.9) ** | 6.13(2.75-13.66) ** | 0 |
| | 2. Agree | 24(11) | 170(77.6) | 1 | 1 | |
| Time of CBHI premium is convent | 1.Disagree | 175(79.9) | 39(17.8) | 18.36(11.34-29.6) ** | 4.23(1.86-9.60) ** | 0.001 |
| | 2.Agree | 44(20.1) | 180(82.2) | 1 | 1 | |
| CBHI managers are trustworthy | 1.Disagree | 200(91.3) | 59(26.9) | 28.5(16.3-49.8) ** | 6.73(3.09-14.63) ** | 0 |
| | 2.Agree | 19(8.7) | 160(73.1) | 1 | 1 | |

**Note:** p-value significant at <0.001 ** and <0.05 *

**Table 10:** Show that English questionaries' adopted for research.

| Sociodemographic factors | | | | |
|---|---|---|---|---|
| No | Questions | Response options | code | skip |
| 101 | Age of the respondent? | ---------- | | |
| 102 | Residence of the respondent? | 1.Urban 2.Rural | | |
| 103 | Sex of the respondent? | 1.Male 2.Female | | |
| 104 | Ethnicity? | 1.Ari<br>2.Amhara<br>3.wolayita<br>4.Goffa<br>5.Others(Specify)---------- | | |
| 105 | Religion? | 1. Protestant<br>2.Orthodox<br>3.Muslim 4.Others(specify)_____ | | |
| 106 | Current marital status? | 1. Married<br>2.Divorced<br>3.Separated<br>4.Widowed<br>5.Single | | |
| 107 | Number of individuals in HH? | ---------- | | |
| 108 | What is your educational level? | 1.Unable to read and write<br>2. Able to read and write<br>3.Primary education<br>4.Secondary education<br>5.College and above | | |
| 109 | What is your occupation? | 1.Farmer<br>2. Merchant/petty trader<br>3. House wife<br>4, daily worker<br>5.Other (specify) ---------- | | |
| 110 | In the past 12 months, how many Kilo grams/quintal/ of different crop did you produce/harvest | Write production volume for all crop a total ---- | | |
| 111 | What was the price of your sell per kg? | Write sell price for all crops in Eth birr---------- | | |

| | | | | |
|---|---|---|---|---|
| 112 | Do you have animals? | 1.Yes 2.No | | |
| 113 | If you owned those animals, can you estimate the price of all? | _____ Eth .Birr | | |
| 114 | Generally, how money is your total family annual income in Birr?(how many income you get annually in birr) | _____ Eth .Birr | | |
| Part-2 Individual/household level factors | | | | |
| 201 | Have you ever heard about CBHI scheme? | 1.Yes<br>2.No | | 211 |
| 202 | From whom you heard about CBHI scheme? | 1. neighbors/friends<br>2.CBHI officials in public meeting<br>3.CBHI house to house awareness<br>creation campaigns (Health extension)<br>4. mass media: ETV, FM, radio<br>5. health professionals in health facilities<br>6. other(specify)_____ | | |
| 203 | Do you know health services covered under CBHI scheme? | 1.Yes<br>2. No | | <br>205 |
| 204 | Which services do you know CBHI benefit covers? | 1.Inpatient<br>2.Outpatient<br>3.both in and out patient<br>4.Abroad treatment<br>5.Cosmetic surgeries<br>6.don't knows | | |
| 205 | Only those who fall sick should consider buying CBHI? | 1.Correct<br>2.Not correct<br>3.Do not know | | |
| 206 | In the case of CBHI scheme you have to pay money (premiums) but do not know whether you will get the money back? | 1.Correct<br>2.Not correct<br>3. Do not know | | |
| 207 | CBHI program are like savings scheme; you will receive interest and get your money back? | 1.Correct<br>2.Not correct<br>3.Do not know | | |
| 208 | In CBHI program you pay money (premiums) in order for the CBHI to finance your future health care needs? | 1.Correct<br>2.Not correct<br>3. Do not know | | |
| 209 | All health care costs will be covered by CBHI programs? | 1.Correct<br>2.Not correct<br>3. Do not know | | |
| 210 | If you do not make claim any costs through CBHI your premium will be returned? | 1.Correct<br>2.Not correct<br>3. Do not know | | |
| 211 | you are member in CBHI? (for yes check membership card) | 1.Yes<br>2.No | | 114 |
| 212 | When you got CBHI member ship card owned? | ----------year | | |
| 213 | Reasons for being member? (multiple responses allowed-list in order of importance)? | 1.Illness and injury occurs frequently in the HH<br>2. Pregnant women in the HH need health care S<br>3. children in the HH need health care services<br>4.To finance health care expenses<br>5.The HH is exempt from registration fee<br>and premium<br>6.Premium is low compared to user fee<br>7.Pressure from CBHI officials<br>8. Other (specify)---------- not member | | |
| 114 | Reasons for not being member? (multiple responses allowed-list in order of importance)? | 1.Season of payment is not time I got money | | |

| | | | | |
|---|---|---|---|---|
| | | 2.Illness and injury does not occur frequently in the household<br>3.The registration fee and premiums are not affordable<br>4.Lack of awareness about the scheme<br>5.Shortage of money<br>6.Limited availability of health services<br>7.Quality of health care services is low<br>8.CBHI management staff is not trustworthy<br>9.Want to wait in order to confirm the benefit<br>10. Other (specify)---------- | | |
| 215 | Have you renewed your membership card? (yes: card) | 1.Yes<br>2.No | | 217 |
| 216 | Reasons for renewing? (multiple-responses allowed-list in order of importance)? | 1.Illness and injury occurs frequently in our HH<br>2.Pregnant women in our HH needed health care<br>3. children in our HH needed health care services<br>4.To finance unexpected health care expense<br>5.Premium is low compared to the user fee<br>6.Pressure from the CBHI/ kebele officials<br>7.Pressure from other members/community<br>8. Other (specify)---------- | | |
| 217 | Reasons for not renewing? (multiple-responses allowed-list in order of importance)? | 1.Illness &injury does not occur frequently in our HH<br>2.The registration fee and premiums are not affordable<br>3.Lack of awareness about the detail of how the CBHI works<br>4.The quality of health care services is low<br>5.The benefit package does not meet our needs<br>6.CBHI management staff is not trustworthy | | |
| 218 | Have you ever been member of social association? | 1.Yes<br>2.No | | 220 |
| 219 | Which social association you are /were member? (multiple-responses allowed-list in order of importance)? | 1.Debo<br>2.Equb<br>3.Iddir<br>4.Credit and saving<br>5.Religious association | | |
| 220 | Does your household currently have any outstanding loans? | 1.Yes<br>2.No | | 223 |
| 221 | Source of loan? (multiple responses allowed-list in order of importance)? | 1.Bank<br>2.Microfinance<br>3.Money Lender<br>4.Relatives<br>5.Friends/Neighbors 6.Other (specify)---------- | | |
| 222 | Purpose of loan request? (multiple-responses allowed-list in order of importance)? | 1.Production<br>2.School fee<br>3.Medical fee<br>4.Wedding<br>5.Holiday<br>6.Funeral<br>7.Food<br>8.Trade | | |
| 223 | In general, how do you describe the health status of this household member now? | 1.Excellent 2. Very good 3. Good<br>4.Poor 5.Very Poor | | |

| | | | | |
|---|---|---|---|---|
| 224 | Does this household member suffer from a chronic disease?(hypertension, DM…) | 1.Yes<br>2.No | | |
| 225 | Any illness encountered during the past 6 months in HH? | 1.Yes<br>2.No | | <br>301 |
| 226 | Seek medical treatment for the recent episode? | 1.Yes<br>2.No | | |
| 227 | Get treatment? | 1.Yes<br>2.No | | 403 |
| 228 | Coverage of the health care cost? | 1.Self 2.Free 3.Community | | |
| 229 | How much do you pay for health care per visit? | Payment in birr…… | | |
| 230 | Do you think that the payment is costy for you? | 1.Yes 2.No | | |
| 231 | Reasons for not getting treatment (multiple responses allowed-list in order of importance)? | 1. Health facility too far 2. No enough money 3. Disease is self- limiting | | |
| Part-3 CBHI related factors | | | | |
| 301 | The timing/time interval of premium payment is convenient for my household | 1. Strongly disagree<br>2. Disagree<br>3. Neither agree nor disagree<br>4. Agree<br>5. Strongly agree | | |
| 302 | The CBHI registration fee is affordable for my household. | 1. Strongly disagree<br>2. Disagree<br>3. Neither agree nor disagree<br>4. Agree<br>5. Strongly agree | | |
| 303 | The CBHI regular contribution (premium) is affordable for my household. | 1. Strongly disagree<br>2. Disagree<br>3. Neither agree nor disagree<br>4. Agree<br>5. Strongly agree | | |
| 304 | 223 The CBHI management officials are trustworthy. | 1.Strongly disagree<br>2.Disagree<br>3.Neither agree nor disagree<br>4.Agree<br>5.Strongly agree | | |
| Part -4: Health facility related questions | | | | |
| 401 | Where do you get treatment when any family member becomes sick? (multiple responses allowed-list in order of importance)? | 1.Private Heath Facility<br>2.Public health Centre<br>3. Public hospital<br>4. self-treatment,<br>5. traditional healer<br>6. local drug vendor | | |
| 402 | Reasons for going there? (multiple-responses allowed-list in order of importance)? | 1.The HF was physically accessible<br>2.The HF cost of payment was not expensive<br>3.The health facility not too crowded (Short-waiting time)<br>4.The health service was effective. | | |
| | When your family member is get sick in past 6-month prescribed essential drug availability in health facility? | 1.Yes<br>2.No | | |
| 404 | Availability of laboratory test equipment for prescribed diagnosis? | 1.Yes<br>2.No | | |
| 405 | Perceived quality of the health care service given? | 1.Very low 2. Low 3. Neutral<br>4.High 5.Very high | | |
| 406 | How much minutes do you take to walk to get nearest health facility from your home? | 1. Health center…… minutes<br>2. Health post…… minutes<br>3. Public Hospital…… minutes<br>4. Private clinics…… minutes | | |

| | | | | |
|---|---|---|---|---|
| 407 | Distance in kilometers? | 1. Health center.....km | | |
| | | 2. Health post..... km | | |
| | | 3. Public Hospital.....km | | |
| | | 4. Private clinics..... km | | |

## Discussion

This community based unmatched case control study has attempted to identify factors of non-enrolment in community based health insurance in South Ari District. It tried to explore an issue about which relevant studies were not yet done in South Omo Zone, SNNPR, Ethiopia. In this study there was no significant association observed sociodemographic one of the factor for non-enrolment in CBHI scheme was no drug availability in health facilities. This study among respondents who responded no drug available in health facility were 2.5 times more likely to non-enroll than those who responded Yes about drug available in health facilities (AOR=2.56,95% CI:1.12-5.83). The finding of this study was comparable with studies conducted in low and meddle income countries systematic review [28,37] at the hospitals or health facilities frequently complaints are raised about shortage of drugs and other medical supplies, Therefore, such problems have to be addressed improvement should expected as an outcome of enrolment in CBHI scheme increase. Disagree on time of CBHI regular premium collection has significant association with non-enrolment in community based health insurance, were about 4.23 fold more likely associated with non-enrolment in community based health insurance [AOR=4.23,95% CI:1.86-9.60] and The timing of collecting the contributions may matter for membership, although little empirical evidence is available in Akaki District, Oromia, Ethiopia, 2021 harvesting season that might be suitable for the farmer to pay the premium and this assured that CBHI is designed to protect farmers from unexpected healthcare costs [38]. From the WHO Study, it was observed that schemes in urban areas were more inclined to establish monthly or quarterly contributions so as to match the income patterns of urban informal sector workers [9, 39]. They farmers have no another option to get money and pay premium to enroll CBHI scheme. Possible explanation for this might be; informal sectors usually rural communities are characterized by low saving practice that make them only capable to pay at specific point in time, for instance during harvesting time (seasonal based income). As a result, they may not have the cash in pocket to pay as scheduled by premium administrators. Respondents that were disagree with premium affordability were 6 times more likely to non-enroll in CBHI scheme than those that agree [(AOR=6.13; 95% CI: 2.75- 13.66)] [40]. Affordability issue may be related to the ability to pay premium, those households that cannot pay the premium were deterred from subscription in CBHI hence end up in lesser enrolment [32]. In Ethiopia CBHI scheme the premium was collected from the households at the pre-set flat-rate amount. That is equal amount of money was levied to everybody characteristics like age, sex, marital status, household annual income, family size, occupation and religion with non-enrolment in CBHI scheme. Without taking into consideration any characteristics of the households including affluence or poverty and family size etc. However, the contribution rate was made flat-rate automatically. It became more regressive irrespective of household income status. Thus it was expensive for the poor and laid financial burden on them [41]. In similar kind of characteristics of the scheme will remain the rate of non- enrolment decision especially in the case of the poor. Our study supported by reality in that households who disagree on affordability of premium were more likely to non-enroll into CBHI scheme as compared to its counterpart. Similarly, results of the studies conducted in North West Ethiopia(19),in Nigeria(40) in Pakistan (41) reported that flat-rate system premium loading circumscribed enrolment decision of the poor [42]. Disagree on CBHI managers trustworthy had statistically significant association with non-enrolment in community based health insurance (AOR=6.73,95% CI:3.09-14.63, P=0.00). This similar with study done in Sidama Zone. In our study participants who have disagree trustworthy of scheme management were 6 times more likely to be non-enrolled in CBHI than those who trusted scheme management similar to previous studies. The scheme administrators might have not been responsive to control and support the [9]. Scheme in relation to community's preference, people's overall satisfaction and trust with the CBHI is likely to decrease, In turn, this affects enrollment in CBHI even more highly [**Table 10**].

## Limitation And Strength of the Study

### Limitation

In this study I faced challenges like time constraints and budget constraints. Even if the above listed challenges I used different techniques to cope up the problems.

### Strength

The response rate 98% and case control study design. Moreover, this is the first study of its kind in Ethiopia generally and particularly in the study area and believed to provide useful information for the existing health care service.

## Conclusion

Society's non-enrolment decision in community based health insurance scheme was determined by unavailability of prescribed drug in health facility, Lack of trustworthy on CBHI scheme managers, inconvenience of time of premium collection, unaffordable of premium to contribute in BHI. Office service related factors non-enrolment in community based health insurance in this study was found to be high in the study area. Availability of prescribed drug in health facility, time of CBHI registration premium collection, affordability of CBHI regular payment, Trustworthy of CBHI managers had statistically significant association with non-enrolment in community based health insurance. Therefor to sustainable the CBHI scheme and to increase enrollment: providing appropriate drug to health facilities, adjust the premium collection time, made affordable

premium by considering their households' income level and trustily serve the community increase enrollment.

## Recommendation

**Pharmacy health professional:** Pharmacy health professional alarmed on drug sock out and early report to belong responsible body chief executive director (CEO).

**CBHI managers**: CBHI managers should make timely assessment to monitor and evaluate, audit system overall functionality of Woreda CBHI scheme to pinpoint and solve problems before they become major issues like distribution of CBHI membership ID card.

**Worde Health Office:** Worde Health Office and Primary Health Care Unit should strength communication activities in continuous manner to increase awareness of community on CBHI scheme service, through health extension on each kebele to enable non-enrolled community into CBHI member and benefitted from the scheme.

**Regional CBHI District Office:** Adjust time of regular premium collection convenient to community and collect on time and made affordable regular payment money to reduce non-enrolment in scheme.

**Regional Health Bureau, Zonal Health Department:** Regional Health Bureau, Zonal Health Department and Worde Health Office should work to improve availability of drug in health facilities so as to attract new community based health insurance member and to reduce non-enrolment and drop out in the CBHI scheme.

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