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Review article

Multidimensional determinants of willingness to pay for community-based health insurance in Ethiopia and its implication towards universal health coverage: A narrative synthesis

Desta Debalkie Atnafu [a,*], Yibeltal Assefa Alemu [b]

[a] Department of Health System Management and Health Economics, School of Public Health, Bahir Dar University, Ethiopia
[b] Schools of Public Health, the University of Queensland, Brisbane, Australia

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ABSTRACT

Pooling resources to pay for healthcare services and attain universal health coverage is a viable global agenda, especially for underdeveloped health systems. Ethiopia has implemented community-based health insurance (CBHI) since 2011 to improve healthcare funding. However, comprehensive evidence on the demand and determinants of health insurance in Ethiopia is lacking. Therefore, this review aimed at identifying determinants of willingness to pay (WTP) for CBHI in Ethiopia. A narrative review was conducted using search terms from PubMed, Science Direct, Scopus, African Journal Online, and Google Scholar databases. Screening process considered publication year, settings, English language, and study participants. Newcastle Ottawa tool assessed the quality of included studies. A thematic framework was applied. The review protocol was registered in PROSPERO with an ID number CRD42022296840. The review included 10 studies. The synthesis identified 25 determinants of WTP for CBHI in Ethiopia. Socio-demographic and economic, scheme-related, and health-related determinants of WTP for the CBHI were identified. Determinants of household WTP for CBHI in Ethiopia were multi-dimensional. Socio-demographic, socio-economic, scheme-related, and health-related factors are among the common determinants documented. CBHI is thus an alternative and potential source of financing for the healthcare system, primarily for people with low socioeconomic status and a fragile health system. The health system, socioeconomic leaders, and political figures play a significant role in influencing communities towards WTP for CBHI while increasing government spending on health toward UHC.

1. Background

Globally, millions of people died as a result of their inability to pay for the required medical care at the time they needed care (Kibret et al., 2019). Over 35 % of health spending in low- and middle-income countries (LMICs) is from out-of-pocket (OOP) expenses (WHO, 2019). For instance, in Sub-Saharan Africa (SSA), OOP expenses account for almost 40 % of all healthcare spending, bringing a significant financial burden on poor households (Gidey et al., 2019). Whereas, in Ethiopia, OOP has remained higher (31 %) (FDP, 2004) which resulted in inadequate healthcare utilization despite high burden of diseases (Haile et al., 2014).

A strong health system with reliable financing mechanisms is necessary to achieve universal health coverage (UHC) (Chu et al., 2019). Ethiopia is among LMICs that are establishing alternative sources of finance for healthcare in an effort to reduce OOP expenditure (McIntyre et al., 2018; Waelkens et al., 2017). Federal Ministry of Health (FMOH) developed a healthcare financing and insurance strategy in 1998 and 2008 respectively, which was used to guide implementation of health financing reforms. While being a little slow, regional states in the country began implementing reforms using these strategy. As a result, the government operated CBHI with the aim of assisting informal economy (e.g. farmers) (Kruk et al., 2018; Ethiopian Health Insurance Agency, 2015). Reluctance of willingness to pay (WTP) for health insurance prevents health systems from maintaining sustainable sources of finance and achieving UHC (Waelkens et al., 2017; Kruk et al., 2018).

Although World Health Organization (WHO) recommends that direct medical costs be less than 15–20 % of total healthcare expenditures (WHO), health insurance coverage in Ethiopia is low that is only

* Corresponding author at: Department of Health System Management and Health Economics, College of Medicine and Health Sciences, Bahir Dar University, P.O.B 79, Bahir Dar, Ethiopia.
E-mail address: destad2a@gmail.com (D. Debalkie Atnafu).

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Nomenclature

AOR	Adjusted Odds Ratio
CBHI	Community Based Health Insurance
CI	confidence interval
COR	Crud Odds Ratio
HH	Household
LMICs	Lower and Middle income countries
NO	Newcastle Ottawa
OOP	Out of pocket
PCC	Population Context Condition
PICO	Population Intervention Context
PRISMA-P	Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocol
PROSPERO	International Prospective Register of Systematic Reviews
SHI	Social health insurance
SSA	Sub Saharan Africa
UHC	Universal health coverage
WHO	World Health Organization
WTJ	Willingness/willing to join
WTP	Willingness/willing to pay

5.29 % and only being piloted in a few districts (ICF, 2016) despite UHC is overwhelmed (Federal Democratic, 2015). This low enrolment may contribute to low CBHI coverage.

CBHI is health system financing mechanisms where enrolment is voluntarily and aimed to lighten financial stress of low-income households (Bayked et al., 2021). Ethiopia introduced CBHI schemes in 2011 to address financial deficits in utilizing healthcare (Kibret et al., 2019; Haile et al., 2014). However, CBHI enrolment in Ethiopia is unsatisfactory (Agency, 2015; CBHI, 2018). This is triggered by supply and demand side factors (Kuwawenaruwa et al., 2011; Gnawali et al., 2009); such as personal (perceived quality of care; satisfaction with scheme services) (Dror et al., 2016), household (episodes of chronic illness in family) (Dror et al., 2016; Meng et al., 2011), provider (professionals' skill, and attitude) (Dror et al., 2016; Mebratie et al., 2013), facility (healthcare quality, distance to facilities) (Dror et al., 2016; Meng et al., 2011), and scheme related (scheme trustworthiness, affordability, benefits) (Meng et al., 2011; Ataguba, 2008) characteristics. The low enrolment is also influenced by community and professional-level awareness and knowledge-related characteristics (Mebratie et al., 2013; Philipa and Pascal, 2015; Shigute, 2017; Derakhshani, 2021). Overall, characteristics associated with enrolment in health insurance in Ethiopia were: sex of household head, educational status, income level, marriage, occupation, ethnicity, family size, health status, presence of chronic illness in facility, previous medical cost, trust on scheme, waiting time, community participation, scheme understanding, experiences of borrowing for medical expenses, lack of money to pay premium, insurance affordability, benefit package of insurance, social capital participation, history of illness, and participation in productive safety net etc (Kibret et al., 2019; Gidey et al., 2019; Haile et al., 2014; Ethiopian Health Insurance Agency, 2015; Bayked et al., 2021; Ataguba, 2008; Philipa and Pascal, 2015; Derakhshani, 2021; Modesti et al.; Gisha, 2017; Akhtar et al., 2020; Access, 2013).

Hence, enrollment rate and management system of CBHI in Ethiopia are not functioning as intended (Federal Democratic, 2015), and country's readiness to pay has not reached levels suggested by the world average and national plan (Kibret et al., 2019; Adams et al., 2015) and the fact that household's WTP for CBHI in Ethiopia was also predisposed by a variety of factors (Kibret et al., 2019; Gidey et al., 2019; Haile et al., 2014; Bayked et al., 2021; Ahmed et al., 2016). However, comprehensive evidence on factors influencing subscribers' WTP for CBHI in Ethiopia is scarce, and challenges policy planning and program implementation such as increasing acceptance to pay for CBHI.

Furthermore, WTP for existing CBHI package falls short of national target (Likka et al., 2019; Minyihun and Gebregziabher, 2019; Garedew et al., 2020; Kado et al., 2020) exacerbated by greater dropout of enrolment (Taddesse et al., 2020). The aim of the review is to narratively summarize evidences on determinants of WTP for CBHI in Ethiopia and to understand its policy implications.

2. Methods and materials

2.1. Protocol registration

It was registered in International Prospective Register of Systematic Reviews (PROSPERO) (ID: CRD42022296840) and reported using Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines (Page et al., 2021).

2.2. Eligibility criteria

All quantitative and qualitative studies were included despite no qualitative studies were obtained. PCC or PICo (Participants, condition or intervention, and context) framework was applied. This review considered factors for WTP for CBHI and was limited to literatures published in English and Ethiopia between 2012-March 3, 2022 (Table 1).

2.3. Measurement variables

Determinants of WTP for CBHI were the outcome variable. Factors influencing WTP for CBHI include socio-demographic and economic, scheme-related, and health-related factors.

2.4. Search for literatures

Literatures were searched from PubMed, Science Direct, African Journal of Online, and Google Scholar databases between March 3 and June 18, 2022. Key words used were 'determinants', 'determinant', 'factors', 'challenges', 'predictors', 'willingness to pay', 'community based health insurance', 'community-based health insurance scheme', 'mutual health insurance' and 'Ethiopia'. The search strategy also applied "OR" and "AND" Boolean operators (Supplementary file-Table 2).

2.5. Screening and selection of studies

All citations retrieved were exported to Mendeley referencing manager, and screened by two authors (Desta DA. and Yibeltal AA) using the eligibility criteria. Deduplication was conducted (n = 49). Title followed by abstract screening were conducted (n = 588 articles excluded). Records outside of Ethiopia were removed (n = 3). Disagreements among authors resolved on consensuses. PRISMA flow diagram depicted

Table 1
Eligibility criteria.

Dimensions	Inclusion criteria	Exclusion criteria
Participants	Households/ household head, informal sectors	Households/ household head, formal sectors
Condition (intervention)	CBHI	Social/ private/ employer health insurance
Context	Rural vs urban, Ethiopia	Outside of Ethiopia
Outcomes	Determinants for WTP for CBHI	Determinants for WTP or willingness to join (WTJ) for social/ private/ employer health insurance
Study design	Cross-sectional (observational studies)	Experimental, case reports

included studies (Fig. 1). Extracted study characteristics included: settings, publication year, insurance type, occupation, and determinants of WTP for CBHI.

2.6. Quality appraisal

Newcastle-Ottawa scale, a 9-item checklist with dimensions of (Yes, No), was used to assess the quality of included papers (Modesti et al.) by determining how well a study has addressed the possibility of bias in its design, conduct, and analysis. Two critical appraisers evaluated papers and discrepancies were handled through discussion. Finally, papers with a low risk of bias were considered (Supplementary file-Table 3).

2.7. Data extraction and synthesis

Using Newcastle-Ottawa data extraction template, data were extracted from included studies (Modesti et al.). Authors, study/publication year, design, participants, research question, sample size, settings, and key findings were extracted (Supplementary file-Table 4). Determinants of WTP for CBHI were identified using thematic narrative analysis (Table 5). Each determinant was classified and organized into mutually exclusive themes (Fig. 2). Finally, identified theme was synthesized after evaluating the results, discussion, and conclusion of the included papers.

3. Results

3.1. Search results

Approximately 651 studies were searched and 49 studies were deduplicated. Those non-relevant studies were excluded after screening for titles (n = 585) and abstracts (n = 3). Three studies, outside of Ethiopia, and one study lacking full text were eliminated from this review. Thus, ten studies met the inclusion criteria were analyzed (Fig. 1). Eight of the included studies are original articles, while the remaining are unpublished theses. Most studies used regression analysis, however, type of model used varies: binary logistic (Kruk et al., 2018; Garedew et al., 2020; Kado et al., 2020; Deksisa et al., 2020), probit (Likka et al., 2019; Kruk et al., 2018), interval data logit (Mamo, 2017; Entele and Emodi, 2016), linear regression (Kebede and Gebreslassie, 2014) and tobit model (Minyihun and Gebregziabher, 2019).

3.2. Description of included studies

Among included studies, six of them were conducted in Oromiya (Gisha, 2017; Garedew et al., 2020; Kado et al., 2020; Deksisa et al., 2020; Negera and Abdisa, 2022; Mamo, 2017), three in Amhara (Minyihun and Gebregziabher, 2019; Mamo, 2017; Mekuria, 2019), and one in Southern regions of Ethiopia (Likka et al., 2019). All studies are quantitative, cross-sectional, and community-based using multistage sampling methods. Most studies were conducted between 2013 and 2019. This review addressed 5439 study participants, sample sizes ranging from 422 (Garedew et al., 2020; Mamo, 2017) to 845 (Garedew et al., 2020; Deksisa et al., 2020). One study did not specify a sampling procedure (Entele and Emodi, 2016), while the remaining applied population proportion for categorical variables despite different regression models used for analysis. Two of the articles simultaneously assessed willingness to join and WTP for CBHI (Garedew et al., 2020; Deksisa et al., 2020). All studies were cross-sectional using structured questionnaires. Almost all studies (n = 9) were conducted in rural

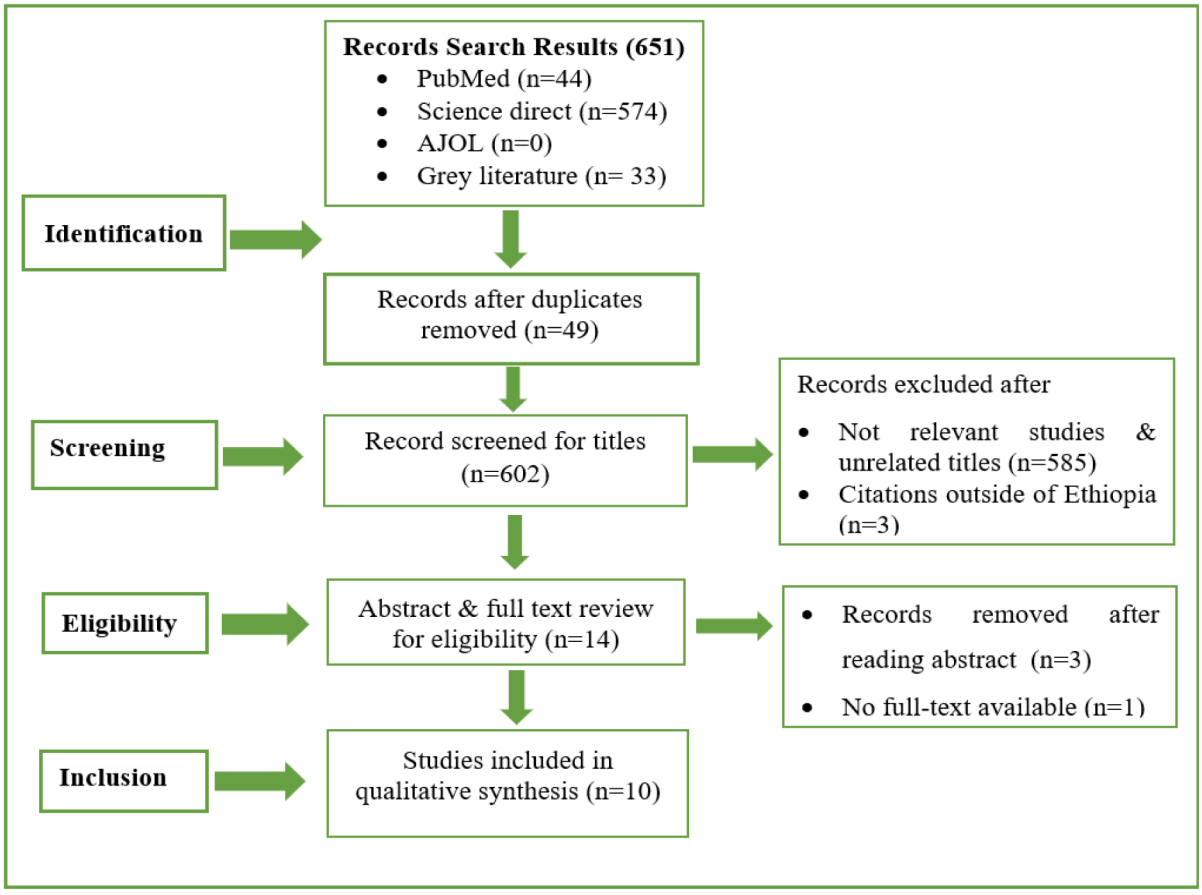

Fig. 1. A PRISMA flow diagram for selection of included studies, Ethiopia, 2022.

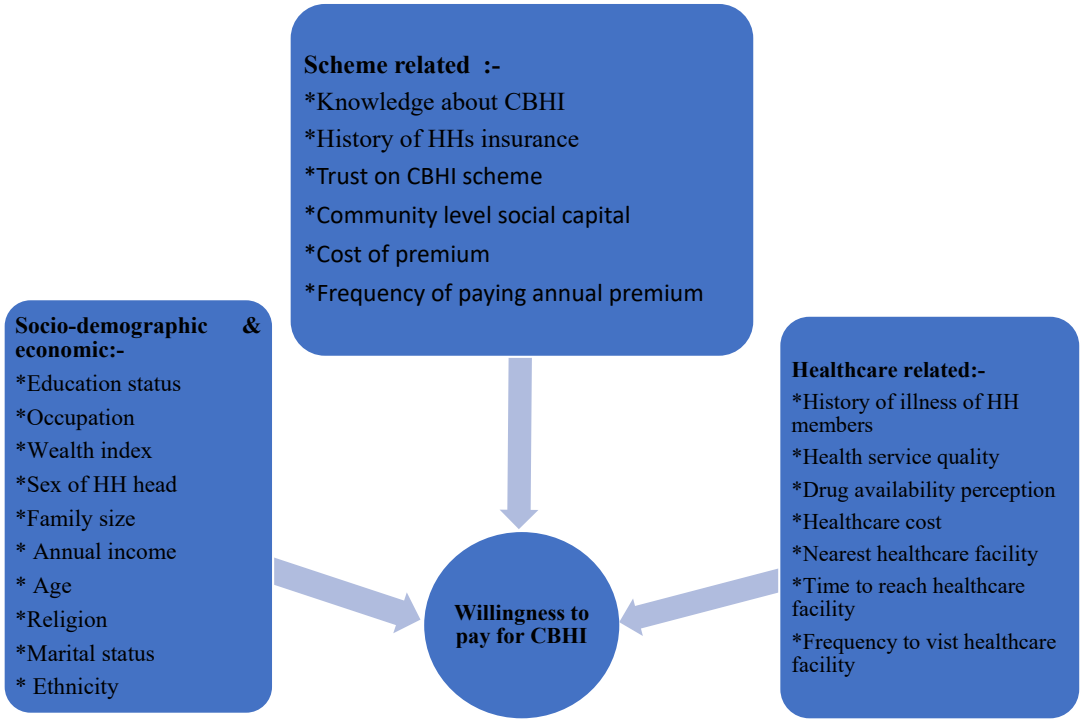

Fig. 2. Thematic categorization of determinants of WTP for CBHI in Ethiopia, 2022.

households (Deksisa et al., 2020). One study used a multistage sampling method without design effect (Kado et al., 2020), but, others used appropriate procedures (Supplementary file-Table 4).

3.3. Themes of the review: Determinants of WTP for CBHI

Evidence on the magnitude of WTP for CBHI in informal sectors ranges from 54 % (Federal Democratic, 2015) to 90 % (Garedew et al., 2020). About 25 determinants were identified in this review (Supplementary file-Table 4). Consequently, the most important determinants influencing WTP for CBHI among Ethiopian households were classified into three themes: socio-demographic and economic; knowledge, social capital, and trust about CBHI; and healthcare-related (Table 5; Fig. 2).

3.4. Socio-demographic and economic determinants

Most studies found that socio-demographic and economic factors influenced household's WTP for CBHI scheme. This review identified ten determinants. Educational status significantly influences WTP. Except in two articles (Likka et al., 2019; Kebede and Gebreslassie, 2014), most studies reported educational status. Whereas in one study, education status of households' head had a negative effect on WTP (Negera and Abdisa, 2022). Occupation was reported as a predictor of WTP in three of studies (Likka et al., 2019; Kado et al., 2020; Kebede and Gebreslassie, 2014), with farmer households tended to be more eager to pay for CBHI than petty traders (Kado et al., 2020; Kebede and Gebreslassie, 2014) and housewife (Likka et al., 2019). While family size of households was reported in six studies (Minyihun and Gebregziabher, 2019; Garedew et al., 2020; Negera and Abdisa, 2022; Mamo, 2017; Entele and Emodi, 2016; Kebede and Gebreslassie, 2014), one study (Negera and Abdisa, 2022), an unexpected finding contradicted with other studies, found that family size had a negative effect on the likelihood of WTP for CBHI. Household socioeconomic status is critical for CBHI enrollment and payment (Likka et al., 2019; Minyihun and Gebregziabher, 2019; Kado et al., 2020; Negera and Abdisa, 2022; Mamo, 2017; Kebede and Gebreslassie, 2014). Although high-income status increased rate of WTP, annual/monthly household income was reported as a factor in the remaining studies (Gisha, 2017; Likka et al., 2019; Garedew et al., 2020; Negera and Abdisa, 2022; Mamo, 2017), and in one study, both wealth status and annual/monthly income positively influenced WTP (Likka et al., 2019). CBHI has pro-poor nature explained low-wealth households had higher WTP for it (Kado et al., 2020. Sex impacts income and is heavily dependent on men in Ethiopia, where men more likely to elicit WTP. Two studies (Mamo, 2017; Mekuria, 2019) found correlation between gender role and WTP. Likelihood of becoming ill increased with age, as does the fact that older people are more WTP for insurance package (Gisha, 2017). Age is also positively related to insurance solicitation (Gisha, 2017) and in Ethiopia, elderly are risk avoiders, and aging has been identified as important predictor of WTP. In one study; religion (Likka et al., 2019), marital status (Likka et al., 2019), and ethnicity (Likka et al., 2019) were all reported to have considerable effect to elicit WTP. Protestant, monogamous, and Amhara ethnicity were more likely to accept WTP bids.

3.5. Scheme related factors (Perception, readiness and participation of HHs)

Knowledge about insurance scheme fosters household trust in enrolling and paying for CBHI scheme, and it is essential component of household insurance enrollment condition (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Negera and Abdisa, 2022; Mamo, 2017). Lower initial premium loadings (Mamo, 2017) and greater trust in scheme management (Entele and Emodi, 2016) increased WTJ and WTP, which was then used to expand scheme coverage. On the hand, as amount of bid for health insurance rose, households become less WTP for CBHI (Negera and Abdisa, 2022). Social-capital at community level was also certainly linked to WTP (Likka et al., 2019). Membership in any association was crucial social-capital attributes in WTP for CBHI (Negera and Abdisa, 2022).

3.6. Health condition and health-related determinants

As reported in three studies, history of illness (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Mamo, 2017) increased

Table 5
Thematic analysis on determinants of WTP for CBHI.

Themes	Determinants	Main Findings	Source of evidence
Theme-1: Socio-demographic and economic factor	Education status Occupation Wealth-index Annual/farm income Sex of HH head Family-size Age Religion Marital-status Ethnicity	Respondents with higher educational status (AOR = 3.20; 95 % CI = 1.87, 4.53) was more likely WTP pay for CBHI.Acceptance of bids for WTP was increased with being farmers ($\beta = 33.79$; p-value < 0.009).Odds of paying for CBHI (AOR = 5.55; 95 % CI = 4.19, 6.90) was greater in higher socioeconomic status.Sex ($\beta = 16.8$, p-value < 0.005) has an income effect. Income is highly dependent on male in Ethiopia and were more to elicit WTP.Household with larger-size (AOR = 1.95, 95 % CI: 1.21–3.15) was more likely WTP. Premium loading (COR = 2.02, 95 % CI:1.35–3.03) should consider family members, presence of chronic illness in HHs ($\beta = 3.61$, p-value < 0.02) and aging ($\beta = 11.17$, p-value < 0.031) to control adverse selection and moral hazard. Being protestant ($\beta = 0.7$,p-value < 0.05), monogamous ($\beta = 1.34$, P-value < 0.05) and Amhara ($\beta = 0.47$; p-vale < 0.01) was positively associated with bids acceptance.	Kaddo et al., 2020 Minyihun et al., 2019 Deksissa et al., 2020 Mamo et al.,2017 Gisha et al., 2017 Garedew et al., 2020 Likka et al., 2019 Kebede et al.,2014 Entele et al., 2016 Negera et al., 2022
Theme-2: Scheme-related factor (Perception, readiness and participation of HHs)	Knowledge/ awareness about CBHI Household insurance status Membership in any association Scheme trustworthiness Community level social-capital Premium load Bid amountFrequency of paying premium	Higher awareness about CBHI benefit (AOR = 2.96; 95 % CI = 1.61, 4.30) was more likely eliciting WTJ and WTP. Trust in scheme management (β=10.09, p-value < 0.025) was positively correlated with scheme coverage. Previous enrolment ($\beta = 10.98$, p-value < 0.041) was positively associated with WTP. Communities' social-capital e.g. participation in Iddirs ($\beta = 3.55$, p-value < 0.05) was not correlated with accepting scheme bids.Odds of WTJ CBHI was greater in two or more frequency at which respondents want to pay yearly premium (AOR = 2.62; 95 % CI:1.7—6.1).	Kado et al., 2020 Minyihun et al.,2019 Mamo et al., 2017 Deksissa et al., 2020 Likka et al.,2019 Entele et al., 2016Negera et al., 2022
Theme-3: Healthcare-related factors	Household health status HH members' illness experiences Healthcare quality Drug availability perception Healthcare cost Nearest healthcare facility Time to reach facility Frequency of visiting facilities	Odds of WTP for CBHI was higher in HHs' with previous illness experiences (AOR = 3.1, 95 % CI, 1.9, 5.2), hence, risk averser HH is more likely to pay, consistent with theory of adverse selection.Positive perception towards healthcare quality and drug availability ($\beta = 9.26$, p-value < 0.037) was positively related with WTP.WTP was higher in short distance to facilities (AOR = 2.0,95 % CI: 1.1, 3.7). Previous cost of illness ($\beta = 0.0003$; P-value < 0.05) was positively influencing WTP. Odd of WTJ (AOR = 0.37; 95 % CI: 0.17, 0.80) was less likely in higher time to reach nearest healthcare facility.	Kado et al., 2020 Minyihun et al., 2019 Mamo et al., 2017 Likka et al., 2019 Deksissa et al., 2020 Entele et al., 2016Negera et al., 2022

acceptance to pay for insurance membership. Risk-averse people are more inclined to sign up for insurance (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Mamo, 2017). Whereas, household health status is another determinant where households which experienced sickness (Negera and Abdisa, 2022) and attended health center (Entele and Emodi, 2016) often have higher out-of-pocket expenses, hence are more WTJ and WTP for CBHI plan. Premium loadings should contemplate the presence of chronic illness in HH, its episode and history of illness to control adverse selection and moral hazard. Perception of health-care quality and drug availability increased likelihood of WTP (Mamo, 2017). Level of conventional health institution closest to HHs has an effect on WTP (Likka et al., 2019), as does the amount of previous illness cost (Likka et al., 2019). Time taking to nearest health facility was related to willingness to use CBHI (Kado et al., 2020; Deksisa et al., 2020), the tendency to pay for CBHI declines with distance from facility.

4. Discussion

This review identified ten Ethiopian studies that reported variety of factors related to WTP for CBHI schemes. We narratively reviewed included studies to identify determinants of WTP for CBHI and its

implication towards UHC. Determinants that facilitate WTP for CBHI in Ethiopia include being a farmer, generating a high income, maleness, being elders, protestant in religion, Amhara ethnic identity, monogamous, social-capital, being members in existing associations, having good knowledge on CBHI, trust and reciprocity of insurance, lower initial premium prices, illness experience, presence of chronic illness in households, good quality of care, drug availability and nearest to healthcare facilities (Gisha, 2017; Likka et al., 2019; Garedew et al., 2020; Kado et al., 2020; Mamo, 2017; Kebede and Gebreslassie, 2014). Healthcare financing initiatives have contributed to healthcare infrastructure, supplies, and services (Deksisa et al., 2020). In contrast, poor healthcare services quality, higher education level, smaller family size, higher initial premium bids, being merchant, and higher wealth status, were major barriers associated with low WTP (Gisha, 2017; Mamo, 2017; Entele and Emodi, 2016; Kebede and Gebreslassie, 2014). Furthermore, adverse selection escalates rate of insurance enrolment, whereas WTP is also challenged by inadequate awareness, lack of consistency, and trust in insurance technology (Negera and Abdisa, 2022; Mamo, 2017). Historical medical expenditures also made enrolment easier (Mamo, 2017).

Although insurance is an ancient practice in the world to facilitate vision of UHC, it was a recent historical phenomenon in Ethiopia (Federal Democratic, 2015). Therefore, literatures on CBHI uptake and potential determinants in Ethiopia is limited. Furthermore, despite the fact that those studies (Bayked et al., 2021; Gnawali et al., 2009; Dror, et al., 2016; Mebratie et al., 2013; Philipa and Pascal, 2015; Shigute, 2017; Ahmed et al., 2016) used a cross-sectional design based on contingent valuation method, which did not test consumers' effective demand, they were unable to demonstrate real acceptance to pay premium bided so as to obtain benefit packages of CBHI scheme, despite the fact that double-bounded dichotomous choice variant of contingent valuation method may reduce response bias (Kado et al., 2020). This could be attributed to the use of instantaneous interview and assessment methods during data collection. Furthermore, the reviewed studies only assessed temporal effect and correlation among studied variables; therefore, longitudinal prospective and comprehensive studies should be planned to overcome poor CBHI premium bidding elicitation. Only one article out of ten studies did not use contingent valuation method to elicit purchase of health insurance (Gisha, 2017).

Little research has focused on the feasibility and sustainability of health insurance by assessing WTP for CBHI in resource-limited settings. Despite millions suffered and died due to inability to pay for healthcare; factors influencing acceptance of voluntary health insurance schemes are unknown. Knowledge of potential interventions can be used to ensure the sustainability of scheme by government. Cross-sectional studies identified factors influencing the ability to pay for CBHI. Importantly, factors identified may not be practical for health insurance interventions as majority of dominant factors identified in this review were socio-demographic and economic in nature. Education can help protect community health by raising awareness of health insurance schemes (Akhtar et al., 2020).

This review identified educational status and awareness of CBHI are important factors for enrollment and WTP, similar to previous studies (Adams et al., 2015; Sha and Hassali, 2013; Wafo et al., 2020; Dong and Cairns, 2004). With the exception of one study included in this review (Negera and Abdisa, 2022), household heads with formal education (Gisha, 2017; Minyihun and Gebregziabher, 2019; Garedew et al., 2020; Kado et al., 2020; Deksisa et al., 2020; Mamo, 2017; Entele and Emodi, 2016) and basic knowledge of CBHI scheme had a higher preference to pay for CBHI (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Mamo, 2017). Similarly, educated heads have better understanding the need to accepting insurance scheme (Adams et al., 2015; Noubiap et al., 2013) and literate households may have enhanced health seeking behavior, increasing the rate of financing healthcare through insurance package. This highlights the need for scheme institutions need to use social marketing and promotion to raise awareness about scheme package.

In this literature review, WTP average amount for CBHI varied with occupational status, similar to other studies (Ahmed et al., 2016). Farmer-headed households were WTP more than petty traders (Kebede and Gebreslassie, 2014). In contrast, other studies explained that those who merchandize (Likka et al., 2019; Kado et al., 2020) were more WTP for CBHI than farmers. The higher the WTP of merchants, the greater their access to liquid money, as they can get cash sales in every exchange of goods and services without having to wait for scheduled salary. Merchants had easy access to media coverage, which helped them quickly understand CBHI benefits. Furthermore, compared to farmers, being a housewife (Kado et al., 2020) increased likelihood of WTP; this is supported by a study that found female-headed households are more likely to enroll in and pay for CBHI than male-headed households (Chankova et al., 2008; Mussa et al., 2021). In patriarchal societies for example Ethiopian, women were more responsible for their families' hygiene and health, and their nature made them more risk averters than males, making them more likely to pay for CBHI to protect against the unanticipated financial catastrophe of upcoming health expenses. In contrast, findings from reviewed studies revealed that likelihood of WTP was higher among male-headed households (Mamo, 2017; Kebede and Gebreslassie, 2014; Dong and Cairns, 2004). The reason for this is that in countries where equal employment opportunities are impractical; males are the sole breadwinners in the household and empowered to decide on elicitation. Subsequently, policy decisions in expanding schemes should consider gender and occupation.

Economic condition of household plays a critical role in demand for health insurance, provided that the wealthier quintals have enough funds to pay for insurance premiums and are protected from catastrophic expenditure (Akhtar et al., 2020). Similar to previous researches (Ahmed et al., 2016; Adams et al., 2015); our narrative review found that WTP was related to income quintiles (Gisha, 2017; Likka et al., 2019; Kado et al., 2020; Negera and Abdisa, 2022; Entele and Emodi, 2016). Wealthy households were more WTP premiums than poorer households (Likka et al., 2019; Minyihun and Gebregziabher, 2019; Kebede and Gebreslassie, 2014). However, wealth status had no significant effect on accommodating second bids of preferences (Likka et al., 2019). According to other studies (Mebratie et al., 2019; Mebratie et al., 2015; Mebratie et al., 2015), poorer households had higher WTP for CBHI than richer households (Kado et al., 2020; Entele and Emodi, 2016). This finding suggests wealth status and WTP is not always linear. This implies that CBHI scheme packages favor pro-poor nature of government-subsidized households, which is why it has a low and flat rate premium loading system (Bayked et al., 2021). Similarly, WTP for CBHI decreased as herd size increased with income (Entele and Emodi, 2016).

Economic theories held that demand for healthcare and medical expenditure increased with age because health status deteriorated with age and likelihood of WTP for health insurance was significantly higher among elderlies (Zhang et al., 2006). A reviewed study supported this hypothesis (Garedew et al., 2020). However, studies found that as people aged, they became less WTP (Ahmed et al., 2016; Adams et al., 2015; Dong et al., 2004; Donfouet et al., 2011). This could be attributed to lack of ability to pay because of less in generating income and perception that elders' health has to be kept by children and government. This is an intriguing quandary, as anecdotal evidence suggests elders need additional health services.

Household size and marital status (Deksisa et al., 2020) were determinants of CBHI participation preference, supported by current review (Likka et al., 2019; Minyihun and Gebregziabher, 2019; Garedew et al., 2020; Deksisa et al., 2020; Negera and Abdisa, 2022; Mamo, 2017; Entele and Emodi, 2016; Kebede and Gebreslassie, 2014). Family size positively correlated with WTP (Minyihun and Gebregziabher, 2019; Garedew et al., 2020; Deksisa et al., 2020; Mamo, 2017; Kebede and Gebreslassie, 2014), consistent with other studies (Bayked et al., 2021; Wafo et al., 2020; Mebratie et al., 2015; Mebratie et al., 2015). Given

Ethiopia has a flat rate premium loading system, the larger the family, the more affordable the premium. This could also be explained that Ethiopia's premium policy is set regardless of marital status, similar to this review (Likka et al., 2019) and earlier literatures (Akhtar et al., 2020; Mamo, 2017; Mebratie et al., 2019; Mebratie et al., 2015). However, being single has a significant impact on WTP (Basaza et al., 2019). Furthermore, the single may have a higher economic status and greater ability to cover cost of consumed healthcare without insurance. Nevertheless, family size has a negative impact on WTP (Negera and Abdisa, 2022; Entele and Emodi, 2016). The chance of living in poverty increases with household size, and household size also affects how much they can afford to pay.

Households' WTP for health insurance is influenced by not only the quality of healthcare, scheme trust, social-capital, and initial premium bids but also by their religion, ethnicity, and cultural practices. Our review found that religion (Likka et al., 2019) influenced WTP, analogous to other studies (Donfouet et al., 2011), and that proclivity to accept first and second premium bids also varied by ethnic group (Likka et al., 2019), supported by literature (Sha and Hassali, 2013). Given insurance scheme improved health infrastructure, reduces OOP, and protects financial risk, households rarely mistrust the scheme due to fraud, misinformation, and low participation in decision-making. This claim is supported by literature (Donfouet et al., 2011; Basaza et al., 2019; Kassahun et al.) and the current review that trust in insurance programs has paramount implication on WTP (Mamo, 2017).

In other study (Pythagore et al., 2011), membership to social organizations had higher magnitude (Fenenga et al., 2015) and was positively correlated with WTP. Moreover, social-capital, is a tool for building solidarity, trust, and empowerment, increases the likelihood of successful CBHI enrollment (Kassahun et al.). In contrast to popular belief, social-capital was negatively associated with WTP (Likka et al., 2019). Yet, history of enrollment pretentious WTP (Negera and Abdisa, 2022; Mamo, 2017), which corresponds to another study (Adams et al., 2015). This is due to the expectation that households with prior enrollment will understand scheme and insurance management should target those with no history of health insurance.

Healthcare quality and health status influenced demand for health insurance (Akhtar et al., 2020; Wafo et al., 2020; Kassahun et al.). These assumptions were very similar to findings of the current appraisal (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Mamo, 2017), which found that household members' prior history of illness increased probability of WTP for CBHI. An illness in a household caused a catastrophic expenditure in the uninsured, so they are likely to enroll in CBHI, consistent with theory of adverse selection. The rate of demand for health insurance is affected by one's health status (Akhtar et al., 2020; Wafo et al., 2020; Kassahun et al.). These assumptions were quite consistent with the findings of this appraisal (Minyihun and Gebregziabher, 2019; Kado et al., 2020; Negera and Abdisa, 2022; Mamo, 2017), in which household members with history of illness increased likelihood of WTP for CBHI. An illness in household caused catastrophic expenditure in the uninsured, so they are likely to enroll in CBHI, similar to theory of adverse selection. Furthermore, availability of package and quality of care in facility (Akhtar et al., 2020; Wafo et al., 2020; Donfouet et al., 2011) and geographic accessibility (Garedew et al., 2020; Deksisa et al., 2020) of healthcare amenities with which the insurer has an agreement influenced the preference for health insurance. This evaluation, however, confirmed that insurance companies were an alternative source of finance for maintaining care quality (Mamo, 2017).

Similarly to the current review (Negera and Abdisa, 2022; Entele and Emodi, 2016), as initial bid of premium loading increased, WTP decreased and its affordability decreased (Donfouet et al., 2011, Basaza et al., 2019; Noubiap et al., 2013). The periodicity of paying premiums was also observed in this study (Deksisa et al., 2020), which has significant influence on WTP (Akhtar et al., 2020; Noubiap et al., 2013). Furthermore, as previous research has reflected, cost of healthcare incurred prior to enrolling in an insurance plan has an impact on WTP (Likka et al., 2019). Geographical proximity of health facilities was linked to healthcare utilization behavior and was then solicited to CBHI [61]. Consequently, WTP was found to be increased because time required to reach the nearest health facility was trivial (Gnawali et al., 2009; Dror, et al., 2016; Philipa and Pascal, 2015).

4.1. Evidence before this study

Although there were systematic reviews and primary studies on enrolment and CBHI coverage, synthesized evidences were limited on characteristics of WTP for CBHI in Ethiopia. However, barriers to WTP for CBHI was an interacting system of multi-dimensional factors. This review sought to provide comprehensive evidence on detracting and facilitating factors of WTP for CBHI.

4.2. Added value of this review

This review adds to existing literature by demonstrating potential determinants of WTP for CBHI, highlighting policy findings to reduce the low enrolment rate, and classifying determinants into three independent thematic areas.

4.3. Policy implication of the review

This review identified determinants of WTP for CBHI and directed prospects for future policy implications to improve enrolment. It suggested a lack of knowledge and awareness regarding CBHI and its benefits, underlining the need for a robust promotional intervention to increase consumer trust in the program. The results also implied how program managers are able to maintain the viability of the scheme package (e.g. the expansion of facilities nearest to consumers, ensuring quality service delivery) so that consumers are attracted to enrolment. It also highlighted the need to work in collaboration with local self-help organizations (e.g. village-based microfinancing schemes) to build the financial capacity of the insurance that is able to accommodate the needs of members. This comprehensive synthesis of the review indicated whether a CBHI program functionality should balance equity and efficiency. It recommends the scheme consider family size and introduce co-payment policies to sustain financial viability to controlling adverse selection. Future policies should include charge exemption, subsidization, waiver, and equitable premium loading system. The review provides evidence to evaluate and modify healthcare financing policies.

4.4. Limitation

The scope of the review was limited, assessing only the potential determinants of WTP for CBHI and not the prevalence. The cross-sectional study design was used in all of the studies that were reviewed. Unlike prospective designs, it only reflected the temporal relationship and did not address the long-term equity and sustainability issues of CBHI.

5. Conclusion

Determinants of household WTP for CBHI in Ethiopia were multi-dimensional: socio-demographic and economic factors, scheme-related factors, and health-related factors. Despite policy changes having a larger impact on managing scheme and health-related factors than they did on some innate characteristics (e.g. age, sex, ethnicity, and religion), socio-demographic determinants still had dominant influence on WTP for CBHI. Expansion of the CBHI scheme should be equitable and tailored to include socio-demographic and economic factors. Co-payment mechanisms should be implemented to mitigate effects of adverse selection. CBHI is an alternative source of financing for low-income people and be enhanced to improve healthcare equity and increase access and utilization of quality healthcare in hard-to-reach areas.

A health system, socioeconomic, and political leaders play a pivotal role in influencing communities' WTP CBHI while increasing government spending on health toward UHC by consolidating awareness of CBHI benefits.

6. Ethics approval and consent to participate

Ethical approvals were not required as the study was a narrative review of articles and studies found in electronic databases. There is a trial to register it with the PROSPERO. The result of the review disseminated through publication in an academic peer-reviewed journal and presented at scientific conferences.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.pmedr.2023.102474.

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