Perceived barriers and enablers influencing health extension workers toward home-based hypertension screening in rural northwest Ethiopia: interpretive descriptive study

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Abstract

Background: Hypertension, a major but modifiable risk factor for cardiovascular diseases, is a global health problem including Ethiopia. In a limited infrastructure task sharing of hypertension screening for community health workers is a feasible strategy to improve hypertension management. Recent finding have shown that trained health extension workers (HEWs) can identify high blood pressure, which was effective and feasible. Identifying barriers and enablers for home-based hypertension screening by HEWs is crucial for its implementation. This study aimed to explore barriers and enablers that influence health extension workers’ home-based hypertension screening in the community.

Methods: The interpretive descriptive design was implemented. In-depth interviews were conducted during October, 2020. A total of 26 participants including HEWs, supervisors, and heads of district health office were purposively selected. They were asked to describe their perception toward home-based hypertension screening by the HEWs. The interviews were audio-recorded, transcribed verbatim into Amharic, and translated into English. The transcripts were coded and themes were identified. Thematic approach was used for data analysis.

Results: The participants identified key perceived barriers and enablers of HEWs home-based hypertension screening. The most common barriers were a lack of hypertension training, blood pressure measuring devices, blood pressure guidelines and manuals, skilled HEWs, financial incentives, and poor community awareness of the disease. The most common enablers were support from community leaders, presence of functional development army and community trust for HEWs, presence of routine campaign on vaccination and community based health insurance, and an integrated health system.

Conclusions: Our findings have implications for the HEWs’ ongoing implementation of home-based hypertension screening. Successful implementation of this strategy requires scaling up of hypertension training programs for health extension workers and their supervisors, provision of standardized protocols, provision of adequate blood pressure measuring equipment, and regular supportive supervision.

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Keywords: Hypertension screening, Health extension workers, Barriers, Enablers, Ethiopia

Background
Hypertension often called the “silent killer” is a long-term medical condition in which the blood pressure (BP) in the arteries is persistently high [1]. Hypertension, the most important modifiable risk factor for coronary heart disease, stroke and other cardiovascular diseases (CVDs), is an important public health problem all over the world [2]. In Ethiopia, as in other developing countries, hypertension is the major modifiable risk factor for CVD morbidity and mortality [3], accounting for more than half of all CVDs deaths [4]. For example, hypertension was the predominant risk factor for CVDs in studies conducted at Ayder Comprehensive Specialized Hospital (36.7%) [5], Jimma University medical center (40.2%) [6], Saint Paul Hospital Millennium Medical College (46.7%) [7], and Gondar University Specialized Hospital (62.3%) [4].

Nearly one out of every five Ethiopian rural adults suffers from hypertension [8]. A few pocket studies conducted in Humera (15.2%) [9], Arba Minch HDSS (17.5%) [10], Dabat district (18.5%) [11], and Dabat and Gondar district (25.3%) [12] show that hypertension is prevalent in rural areas of Ethiopia. These group of people are more at risk for hypertension complications than the urban populations because of poor awareness about hypertension either due to poor health literacy or low level of education[13], long distance to healthcare services [14], poor access to health information [15], poor access to health care [16, 17], and poor health-seeking behavior [18].

People with hypertension may go years without knowing they have the condition [19]. Long-term high blood pressure (HBP), however, is major risk factors for ischemic heart disease, strokes, peripheral vascular disease, chronic kidney disease, atrial fibrillation, and pulmonary embolism [20–24]. Early screening for HBP can help identify high-risk groups, resulting in timely treatment, BP reduction [25], and better BP control [26, 27]. However, large proportion of the population is unscreened and unaware of their condition [12, 28], resulting in less treatment and BP control [29]. For instance, a study conducted in Ethiopia showed that 77% of the population never had their BP measured [30] and 60% were unaware of their hypertension status [12, 28]. Other authors have found that when a sample is screened for hypertension, the prevalence is 3.5 times higher than what the subjects reported [31].

Ethiopia’s Federal Ministry of Health intends to increase the proportion of diagnosed hypertensive adults and making patients aware of their condition from 40 to 50% by 2022 and 60% by 2025 as part of its second health sector transformation plan (HSTP-II) [32]. However, a lack of access to care and shortage of trained health care providers may limit the country’s capabilities to meet those targets, necessitating strategies to make better use of available resources. To alleviate the burden of a shortage of highly skilled health professionals in areas where access to health services is limited, the WHO recommends a task-sharing strategy that promotes mid-level health workers in clinical tasks [33]. For instance, in low-resource settings, task sharing of hypertension screening from high-level health care providers to lower-level health care provider was found to be an effective strategy [34–36].

Health extension program is one of the most innovative community-based health program in Ethiopia [37]. Health extension workers has been found to be effective in managing a variety of health conditions in Ethiopia, including malaria, HIV, tuberculosis, maternal and child health problems [38]. A recent study also found that trained HEWs can correctly identify HBP in reliable and valid way [11]. Hence, for a strategy to be successful, evidence on barriers that will impede HEWs’ home-based hypertension screening intervention and solutions that enable the program to be real, must be identified. We conducted an interpretive descriptive qualitative study to describe the perceived barriers and enablers that will influence HEWs’ participation in home-based hypertension screening. This study generates evidence on effective, practical, and sustainable intervention programs for lowering BP, controlling hypertension, and preventing cardiovascular disease.

Methods
Study design and setting
The interpretive descriptive qualitative study was carried out in the rural areas of Gondar Zuria and Dabat districts of northwest Ethiopia. It was conducted in October 2020 to explore barriers and enablers that influence HEWs’ home-based hypertension screening. Gondar Zuria is one of the districts in Central Gondar Zone of north-west Ethiopia. In this district, 42,753 households were counted, resulting in an average of 4.48 people per household. Dabat is one of the districts, and it is located in the North Gondar Zone. In this district, a total of 31,111 households were counted, resulting in an average of 4.68 people per household [39]. The details are described elsewhere [11].
Current role of health extension workers in Ethiopia
Health Extension Workers are the key drivers of the health extension program. Each health post has two to three HEWs assigned to it. The HEWs are responsible for identifying pregnant women within their catchment area, providing antenatal care, and connecting them with the formal health system if there is a high risk or complications. They are also responsible for following women during the postnatal period, when care for both mother and newborn is critical [40]. The details are described elsewhere [11].

Study participants and sampling strategy
This study was conducted as part of the research project “improving hypertension management through task sharing with the Health Extension workers in rural districts of northwest Ethiopia”. This study included HEWs, supervisors of HEWs, and heads of districts health office. Purposive sampling was used to recruit study participants. Data saturation is a criterion for determining sample size in qualitative interview studies. It means that if interviews with new respondents do not yield new themes, the number of respondents is sufficient. Accordingly, 17 HEWs (one from each candidate kebele), 7 immediate supervisors, and 2 districts health office heads took part in the study. We used the consolidated criteria for reporting qualitative research (COREQ) with a 32-item checklist to report the findings [41].

Study tool development and training of the research team
A semi-structured interview guide with open-ended questions was used to explore perceived barriers that can make HEWs’ home-based hypertension screening difficult to perform, enablers that can make the screening intervention more accessible in the study settings, and solutions to be made the strategy to be successful. A thorough review of relevant literatures, available tools, and consultation with content experts were conducted. The interview guide was prepared in English, reviewed by the experts for face validity, and then translated into the local language (Amharic). The researchers have more than 10 years of teaching and research experience. The research team was trained for three days to ensure that they understand the study’s objective, the research tool, and how to collect data from participants. They were also taught how to handle sensitive situations appropriately by using appropriate wording, supportive statements, and avoiding excessive probing. A pre-test was done in the study setting to ensure cultural and contextual appropriateness of the interview guide to the Ethiopian context.

Data collection procedures
Three researchers (DFT, TYA, and MS) fluent in English and Amharic conducted individual face to face in-depth interviews in Amharic. They used a semi-structured interview guide for all the informants to describe their perception about the HEWs home-based hypertension screening intervention. This method enabled interviewers to customize questions to the needs of the various participants. Participants were asked probing questions during the interview to provide more detail on their responses. Data were collected until saturation was reached. Each in-depth interview lasted 20–31 min. All interviews were conducted privately at the participants’ workplaces. All in-depth interviews were recorded using voice recorders. A research assistant also took notes on the proceedings of the session. Information exchange by telephone and close supervision by the principal investigator and supervisor were made on a daily basis.

Data analysis
All audio recordings from in-depth interviews were transcribed verbatim into local language (Amharic) and translated into English by the individual who conducted the interviews. An inductive approach was used to analyze the data. The data were then analyzed in two steps. Initially, the primary investigator (DFT) and a co-investigator (MGA) independently read and reviewed the transcripts for accuracy. The researchers identified sections containing information about perceived barriers and enablers of HEWs’ home-based hypertension screening. Second, all of the selected sections of the interview transcripts were manually coded and thematically analyzed. To illustrate each important theme identified, quotations from the data were used. The codes and themes were also discussed and decided upon. To increase the credibility of our analysis, we used a pretested interview guide, experienced and trained data collectors (credible researchers), and the analyst triangulation method. Moreover, the credibility of the data was ensured using member checking during and after data collection to verify the information gathered and the interpretation of our findings. The data collection and analysis from the in-depth interviews followed the Standards for Reporting Qualitative Research (SRQR).

Results
Participants characteristics
This study included 17 HEWs, 7 HEWs’ supervisors, and two district health office heads. Participants were middle-aged, ranged from 24 to 38 years. All of the
HEWs, as well as two of the supervisors, were female. The majority of the HEWs had more than 10 years of work experience, ranging from one to fifteen years (Table 1).

Perceived barriers for home-based hypertension screening by HEWs
We identified four themes and seven subthemes of barriers to implementing a HEWs’ home-based hypertension screening intervention, including: low skilled HEWs; lack of training, equipment, guidelines, or manuals; inadequate human power; lack of financial incentives; lack of supportive supervision, and lack of community awareness of the disease (Table 2).

Low skilled health extension workers
According to some interviewees, one of the barriers to implementing a HEWs’ home-based hypertension screening intervention, including: low skilled HEWs; lack of training, equipment, guidelines, or manuals; inadequate human power; lack of financial incentives; lack of supportive supervision, and lack of community awareness of the disease (Table 2).

Table 1  Characteristics of participants (n = 26)

| Characteristics                      | Number |
|--------------------------------------|--------|
| Type of Health care worker           |        |
| Health Extension workers             | 17     |
| Supervisors                          | 7      |
| Head of the district health office   | 2      |
| Sex                                  |        |
| Male                                 | 7      |
| Female                               | 19     |
| Age                                  |        |
| 21–30                                | 12     |
| 31–40                                | 14     |
| Work experience                      |        |
| 1–5                                  | 7      |
| 6–10                                 | 5      |
| 11–15                                | 14     |

Table 2  Healthcare providers’ perspectives on barriers to task sharing in hypertension screening with HEWs by theme

| Themes                      | Subthemes                                         |
|-----------------------------|---------------------------------------------------|
| Human resources             | Human power                                       |
|                             | Lack of training (R01, R02, R03, R04, R05, R06, R07, R13, R14, R16, R19, R20, R25) |
| Material resources          | Training                                           |
|                             | Lack of BP measuring equipments (R02, R03, R04, R05, R06, R08, R09, R11, R13, R14, R15, R16, R18, R20, R21, R22, R25, R26) |
|                             | Blood pressure measuring equipment                 |
|                             | Lack of BP measuring equipment (R02, R03, R04, R05, R06, R08, R09, R11, R13, R14, R15, R16, R18, R20, R21, R22, R25, R26) |
|                             | Guidelines and manuals                              |
|                             | Unavailability of manuals and guidelines to measure BP readings(R08, R18, R20, R24) |
|                             | Financial incentives                                |
|                             | Lack of financial incentives for the HEW and development army (R05, R08, R13, R18, R24, R25, R26) |
| Health system related       | Supportive supervision                              |
|                             | Lack of supportive supervision (R03, R04, R13, R14, R20) |
| Community awareness         | Perception about hypertensive disease              |
|                             | Lack of community awareness of hypertension (R06, R18, R20, R21, R24, R26) |

Lack of training regarding hypertension
The majority of the HEWs emphasized the importance of home-based hypertension screening by the HEWs, while focusing on the need of training. One HEW stated: “I believe a lack of training is one of the barriers to implementing hypertension screening at the community level by the HEWs” (R04, HEW). One of the HEWs’ immediate supervisors also mentioned the importance of home-based hypertension screening by the HEWs. “Because our primary goal is to save the health of the community, I don’t think it would be a problem if we did this together. However, HEWs must take the training seriously” (R19, HEW supervisor).

Lack of blood pressure measuring devices
Availability of BP measuring equipments are the most important prerequisites for home-based hypertension screening by HEWs. The majority of participants stated that BP measuring equipment such as sphygmanometer and Stethoscopes are required to carry out this program. The majority of HEWs described the lack of BP measuring equipment in the health post as the main barrier to implement HEWs home-based hypertension screening intervention in the community. One HEW expressed her concerns about lack of BP measuring device in the health post by saying: “If we have a functional BP measuring device in hand, there is
nothing stopping us from measuring individuals. We can, of course, view training as a challenge. However, if we think about the affected community, even if the health extension workers are stressful, we may not be concerned too much about the workload” (R02, HEW). Another HEW expressed her thoughts on the necessity of BP measuring device as follows: “It would be great if we had a BP measuring device to save our people from the effects of HBP. We all have no problem doing such activities now that if everything is in place” (R09, HEW). One more HEW emphasized the importance of blood measuring device and training, saying, “The message I want to transfer to the Ministry of Health is that BP measuring devices must be met. We are willing to work if the BP apparatus is provided” (R13, HEW). The following is how one of head of the district health office explained the need for BP measuring materials for the HEWs. “They will need BP measurement equipment such as BP measuring device, a stethoscope, and materials that explain what BP means in order to measure it. These medical devices are required because there is a scarcity of materials and measuring instruments on the market. Registration books and manuals with BP definition and disease stages must also be prepared for HEWs” (R18, Head of district health office).

Unavailability of guidelines or manuals to measure blood pressure
Most of the participants believe that lack of standard guidelines and manuals will make it difficult to implement home-based hypertension screening. One of the participant said that “…I don’t believe the service can be launched until the guidelines are available at all health post levels” (R24, Head of district health office). The other participant also said that “…Registration books and manuals with BP definition and disease stages must also be prepared for HEWs” (R18, Head of district health office).

Lack of financial incentives
Some participants perceived a lack of financial support to be one of the most significant barriers to implement home-based hypertension screening by HEWs. “In the past, there were non-governmental organizations that helped us. Nowadays we are in a lot of trouble after these non-governmental organizations diminished their support. We need an incentive at least once every 4 to 6 months to encourage HEWs. The development army are also exhausted at this point. A HEW supervisor working in one of the districts said that: “When we asked the heads of the district health offices for incentives for the health development army, they began to calculate the budget, which came to hundreds of thousands of birr, and it was not possible to pay these people financially. In this regard, development teams are exhausted and out of work. If we are supported, it will be easier for us to do this work” (R26, HEW). In contrast, another participant stated that if home-based hypertension screening is shared with HEWs, a lack of incentives will not be a major barrier. He stated that “I don’t think lack of incentives appears to be an impediment to sharing these activities to the HEWs” (R24, Head of district health office).

Lack of supportive supervision
Some participants stated that supportive supervision is required in order to have a successful home-based hypertension screening by the HEWs. One participant stated the importance of supportive supervision of the HEWs “First, HEWs must be trained in skill development, and then BP measuring instrument should be in place in all health posts. The other is that health centers should support HEWs. Just because a person is trained does not mean that he or she works” (R14, HEW). One of the HEWs’ supervisors also mentioned the importance of supportive supervision for the task sharing strategy to be effective. “Not only does the program need to be included, but also needs to be monitored. Giving an assignment to a person and ignoring him means helping a person sleep but not waking him up. As far as I know, the first and most important thing that we can do to prevent HBP is to get HEWs ready. This means that health workers from the federal level down to the kebele level should be ready to save the people” (R20, HEW supervisor).

Lack of community awareness of the disease
Some participants believed that poor community perception of the disease would impede the implementation home-based hypertension screening by HEWs. One participant said that: “The challenges can be seen in many ways. When you come to the affected community, the first thing you notice is that people are ignoring their HBP and not following the instructions that their health care provider gives them” (R18, Head of district health office). One of the HEWs’ supervisors agreed and stated, “The major barrier is poor community perception of the disease. That is, if you tell them you have HBP and don’t eat this, don’t drink this, don’t do this, and do exercise, they will not understand easily” (R26, HEW supervisor).

Perceived enablers for HEWs’ home-based hypertension screening
Several enablers for engaging HEWs in home-based hypertension screening categorized in to two themes and six subthemes were identified in this study. Support from community leaders, the presence of various community development armies, community trust for HEWs, the presence of routine campaigns on vaccination and community based health insurance, an integrated health
system, and proximity of the community to the health facility are all enabling factors (Table 3).

Support from community leaders
One of the opportunities to perform home-based hypertension screening by HEWs were getting support from the community leaders. This was echoed as follows: “The opportunities to implement home-based hypertension screening at the community level are very welcoming of the kebele leaders for the program and have a good help to work. The kebele leaders are enthusiastic about the program and eager to help HEWs in mobilizing community members” (R01, HEW).

Presence of various functional community development army
The presence of various development armies in each kebele, such as 1 to 5 development network and women’s organizations, is the main opportunity described by informants, which may facilitate home-based hypertension screening by HEWs: “The good thing is that we can raise the issue of hypertensive disease at the church on Sundays and holydays in collaboration with kebele special organizations, namely the kebele administration and women’s organization” (R04, HEW). “We can take the existence of a 1 to 5 development group as the ideal condition, and the community’s attitude toward it as very good”, said a 35-year-old HEW with a level 4 educational status (R05, HEW). This idea was also supported by the HEWs’ immediate supervisor, who stated, “One of the best things to do in the community is to have a 1 to 5 organization and development team. It’s a great opportunity to work with them” (R22, HEW supervisor).

“IT is convenient to provide the service for the affected community because we have the support of women’s development groups. This is one good opportunity” (R12, HEW). One of the HEWs supervisor was also supported this idea: “The best opportunities to do these activities are having women’s organization at the kebele level. There are also committees from the education, agriculture, and health departments that may be of assistance to the HEWs. There are community-based routine activities that should be done every month with religious leaders, elders, teachers, and government officials” (R18, Head of district health office).

Community trust for the health extension workers
The trust of communities and individuals in HEWs was perceived as vital enabling factor in implementing home-based hypertension screening by HEWs. Nearly half of the HEWs believed that providing hypertension screening for the community increases their acceptance as the HEW. A 32 years old HEW said that: “The people are very welcoming and have good attitude with us. When we taught them at church, they said “you measured the BP for some of the kebeles, why not for others”? I informed them that this one was required for research purpose.” (R01, HEW).

One HEW also said that: “HEWs are not far from the community. As we live with the community. We have a good opportunity to reach out people and provide services easily because we live in the community” (R14, HEW). A 27 year old HEW with 9 years of experience described the community’s attitude toward them as one opportunity to implement home-based hypertension screening by the HEWs as follows: “The service is free, and the community has a positive view for us. They see us as mothers, brothers, and fathers, and it’s a good opportunity to come as an additional package” (R17, HEW).

Presence of routine campaign on vaccination and community based health insurance
Some participants highlighted the presence of routine campaigns as opportunities to implement home-based hypertension screening by the HEWs. “There are some remote areas that are inaccessible”, said one HEW. “However, we have a campaign that will run alongside, and we will be able to reach them during the campaign. Therefore,
it is a good opportunity to work together with the campaign” (R06, HEW).

A 30 year old participant with 6 years of work experience agreed with the previous HEW’s idea and stated that: “….Health extension workers operate 85% of their work from house to house, making it easier for them to go and measure it. This is an effective approach to measure BP” (R18, HEWs supervisor). One of the participants perceived that the presence of community-based health insurance in the community as an opportunity to implement hypertension screening in the community with the help of HEWs. “We go from home to home to make them pay for a community-based health insurance, which we usually find the elderly people and we can easily do it together” (R07, HEW).

Integrated health system
Some of the participants believed that the presence of an integrated health system was critical in implementing home-based hypertension screening by HEWs. “There are mothers who came for family planning service and it would be a good opportunity to measure them”, said a 35-year-old HEW (R10, HEW). A 38-year-old supervisor agreed with the previous idea, saying, “It is good to include as one package in the health extension program. If the service is started at the health post level, there is nothing wrong with our organization because it is being recognized. We have a complete HEWs that we call convenient conditions. Everything is complete” (R26, HEW supervisor).

The community's proximity to the health post
The HEWs also felt the proximity of the kebele to the health facility as one of the opportunity to implement this task sharing strategy of hypertension screening with the HEWs. “The proximity of the health post and the presence of a trained professional provide opportunities for HEWs to share hypertension screening” (R13, HEW).

Discussion
Our findings showed that HEWs are eager to do home-based hypertension screening and disease prevention. They did, however, explored various barriers that will impede their contribution to hypertension screening in their community. Participants expressed their concerns how to place this task-sharing strategy into action and keep it going. One of the potential barriers to implementing home-based hypertension screening intervention by HEWs is their lack of knowledge and skill about hypertension. Our finding is consistent with those from Nigeria [42] where community health workers expressed a need for noncommunicable diseases prevention and control staff capacity building. This could be because a health care worker with a lack of knowledge is unable to correctly measure BP.

Effective training of community health workers is critical for obtaining the knowledge and skill set required for hypertension screening and management performance [43]. However, in this study, HEWs had never been trained in hypertension. Participants in this study emphasized the importance of HEWs training for the successful implementation of HEWs’ home-based hypertension screening, which is consistent with research from Kenya [44], Ghana [45], Nepal [46, 47], Bangladesh [48], China [49], and India [50]. A systematic review conducted in low and middle-income countries also found that non-physician health care workers training, as well as the provision of algorithms and screening protocols, are crucial for implementing task sharing strategy [51]. This indicates the need for in-service training on hypertensive disease. The routine provision of refresher trainings is also important in reinforcing and updating skills and knowledge of the HEWs.

Lacks of BP measuring devices are the most important barriers cited by most of the participants in this study. Though the HEWs have the necessary knowledge and skills to provide home-based hypertension screening to their communities, they are often challenged by the context in which they work. Consistent with study conducted in Nigeria [42] and Bangladesh [48] lack of necessary BP measuring equipments for hypertension screening are considered to be a significant work related challenge to implement home-based hypertension screening expressed by most HEWs.

Some participants believed that unavailability of hypertension manuals and guidelines would be a barrier to implement home-based hypertension screening by the HEWs. Our findings are consistent with those of studies that looked at task shifting/sharing strategies for hypertension management. Studies in Nigeria [52], Nepal [46], and a systematic review in LMIC [51] revealed that inadequate use of guidelines by healthcare professionals impedes hypertension management. These supplies are very helpful to categorize individuals having hypertension or not and to take immediate action. This implies that the HEWs need to have the necessary equipment, guidelines, and manuals at each health post to make the strategy effective and sustainable.

Maintaining the motivation of CHWs to consistently conduct their responsibilities is a challenging, but crucial element in CHW programs. In this study, participants perceived that lack of financial support may influence the initiation and sustainability of this task sharing strategy for hypertension screening with the HEWs. This is consistent with the study conducted on Nurse-led task shifting in Ghana [45]. In study of a community-based health
extension program in Ethiopia, researchers concluded that incentives and recognition of contributions could help to improve motivation and retention of HEWs [53]. Thoughtful consideration should be given to incentive structures as part of a strategy to retain trained CHWs.

In this study one of the most important perceived barriers to implement home-based hypertension screening by HEWs identified by most of the study participants was lack of community awareness about hypertension. This finding is consistent with studies conducted in Nigeria [42] and Bangladesh [48], where patients’ lack of awareness on noncommunicable diseases risk factors and symptoms were key challenges for hypertension screening at the community level.

Health extension workers commonly quote a lack of supervision and support from the health system as a barrier to implement home-based hypertension screening intervention by HEWs. This is consistent with study done in South Africa [54], Bangladesh [48], and systematic review in China [49] where lack of support by the government was one of the barriers perceived by the participants that may hinder the implementation of task sharing strategy of hypertension screening.

Despite these barriers, participants provided an ample of enabling factors that may help HEWs’ home-based hypertension screening intervention effective. Participants perceived that community leaders support, the presence of functional development army, community trust in them, the presence of routine campaign, and integrated health system as enablers that could help the task sharing intervention effective and sustainable.

The study revealed that positive community response to the program is a potential enabling factor that will facilitate HEWs’ home-based hypertension screening. It was consistent with a study in Bangladesh [48] where community support systems was one of the facilitating factors to engage community health workers in noncommunicable disease prevention and control.

Most of the participants perceived that community trust on the HEWs were one of the most enabling factors to engage HEWs in home-based hypertension screening. This finding was consistent with studies conducted in Kenya [44], South Africa [54], and China [49] where community trust on the community health workers served as a facilitator for the implementation of this strategy.

**Study strengths and limitations**

This is the first study of its kind in Ethiopia to shed light on the task sharing strategy of HEWs for hypertension screening. The study explored the perceived barriers and enablers of home-based hypertension screening by HEWs in rural communities of Northwest Ethiopia. The findings of this study will inform the development of national policies and guidelines for involving HEWs in hypertensive disease prevention and control. However, this study did not include the perspectives of services recipients.

**Conclusion**

We found that having low skilled HEWs, lack of training regarding hypertension, lack of BP measuring devices, guidelines and manuals, lack of financial incentives, lack of supportive supervision, and lack of community awareness of the disease may make it difficult for HEWs to implement home-based hypertension screening. Obtaining support from community leaders, the presence of functional development army and community trust for HEWs, the presence of routine vaccination campaign and community based health insurance, and an integrated health system are all opportunities for HEWs to implement home-based hypertension screening. This research found that hypertension measurement by HEWs is a feasible task sharing strategy. Successful implementation of this strategy requires: scaling up hypertension training programs for HEWs and supervisors, provision of standardized protocols, provision of adequate BP measuring equipment, and regular supportive supervision. With such systems in place there are substantial opportunities for major improvements in healthcare quality and outcomes for hypertension management in Ethiopia.

**Abbreviations**

BP: Blood pressure; CVD: Cardiovascular Diseases; HBP: High Blood Pressure; HEWs: Health Extension Workers; LMIC: Low and Middle-Income Countries.

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**Authors’ contributions**

DFT is the principal investigator of the study. DFT was involved in the conception, design of research questions, study conduct, data analysis, and manuscript writing. SAB, TAA, AA, MS, MGA, GM and KAG participated in selecting appropriate research design and critical review of the manuscript. All authors read and approved the manuscript.

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**Availability of data and materials**

This manuscript includes all data generated or analyzed during this study. We do not intend to share the data because it is a qualitative study with the raw data contains participant identifications, including their names. However data can be made available upon reasonable request from Destaw Fetene Teshome.
Declarations

Ethics approval and consent to participate
This study was approved by the Institutional Review Board (IRB) of the University of Gondar (Ref No. V/P/RCS/05/1580/2020). An information sheet was prepared and explained to the study participants. Each participant provided written informed consent, and agreed to participate in the study voluntarily. All study records were secured with passwords. To identify data collection forms, codes were used. All records containing names or other personal identifiers were saved separately. In terms of privacy, interviews were held in private and comfortable settings. All participants agreed to the publication of their data. All methods were carried out in accordance with the Helsinki declaration.

Consent for publication
Not applicable.

Competing interests
Authors declare no competing interests.

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