Women’s satisfaction with their urban health extension programme and associated factors in Gondar administrative city, northwest Ethiopia: a community-based cross-sectional study

Sisay Molla,1 Amsalu Feleke,2 Chalie Tadie Tsehay

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ABSTRACT

Objectives Ethiopia is a developing country striving to achieve universal health coverage using the health extension programme. There is limited evidence about Ethiopian women’s satisfaction with their urban health extension programme. Thus, this study was aimed at assessing the level of women’s satisfaction with their urban health extension services and associated factors in Gondar administrative city of northwest Ethiopia and elucidate factors associated with its access and use.

Design Cross-sectional study.

Setting Community.

Participants Randomly selected 744 women were interviewed using a structured interviewer-administered questionnaire.

Outcome Satisfaction of women over 17 years of age with their urban health extension programme (use and services).

Results Some 29.4% (95% CI 26.2 to 32.5) of women were satisfied with their urban health extension programme. Divorced women (adjusted OR (AOR): 0.35, 95% CI 0.14 to 0.85), women in the age group of 45–53 years (AOR: 0.35, 95% CI 0.14 to 0.85), private employees (AOR: 0.35, 95% CI 0.14 to 0.85), unsatisfactory knowledge (AOR: 0.13, 95% CI 0.07 to 0.25) and perceived accessibility of health extension workers (AOR: 0.99, 95% CI 0.06 to 0.17) were factors associated with women’s satisfaction with their urban health extension programme.

Conclusions Women’s satisfaction with their urban health extension programme was low. This finding was associated with age, marital status, occupation, knowledge of participants and women’s perceived accessibility of services. Therefore, increasing awareness about the programme, promoting and improving accessibility of services, particularly by mothers, may augment the utilisation of the programme ultimately leads to efficient use of scarce healthcare resources in Ethiopia.

INTRODUCTION

Universal health coverage has been considered as a strategy to improve the well-being of the community particularly in the framework of resource-limited countries.1 2 Developing countries are struggling to achieve universal health coverage after the Alma-Ata declaration of ‘Health for all by the year 2000’ movement.3 Despite the efforts applied, nearly 99% of the global maternal and child deaths occurred in developing countries in the year 2015, two-thirds contributed by sub-Saharan Africa.4 5 A study done among 137 counties showed that 15.6 million extra deaths were recorded in low-income and middle-income countries in 2016 alone. Nearly one-fourth of these deaths were directly attributed to the non-utilisation of health services.2 Besides, nearly one-third of the world populations do not use healthcare services.6

Indeed, the health service utilisation rate in Africa is low, especially in sub-Saharan Africa which ranges from 0.2 to 2 visits per annum, particularly in Ethiopia it’s suggested to be about 0.25 visits per person per year, which is very far from the 3 visits of WHO and Millennium Development Goals. The poor utilisation could presumably put the people to different preventable disease crises which are reflected by a higher degree of maternal and child mortality and consequently affect the country’s and individual’s economy.7 According to the 2016 Ethiopian Demographic and Health Survey report, about 88%...
of urban residents had been drinking untreated water, 16% of urban households used improved toilet facilities, high teenage childbearing (13%), contraceptive utilisation was only 36%, low institutional delivery (26%) and low postnatal care (17%).

The low utilisation of the programme is directly affected by service users’ satisfaction as it is one of the determinants of customer devotion to service utilisation. Prior studies also confirmed that satisfaction positively affects customer loyalty.

Sociodemographic characteristics, waiting time, women’s knowledge and attitude about the programme, women’s perception of technical competency of professionals, perceived accessibility of services, and perception of interpersonal relationships are some of the factors affecting women’s satisfaction with the services provided.

Recognising the aforementioned health problems, Ethiopia had introduced an innovative Health Extension Programme (HEP) at rural and urban levels which aims at improving the health status of the community through the provision of primary healthcare services. The urban HEP has been implemented since 2009 at the national level to ensure equity and equal access to essential health services for urban communities focusing on promotive, preventive and selected curative health services. The programme services have been accessed to the community regardless of any conditions. These packages are thematised into four major categories; hygiene and environmental sanitation (solid and liquid waste disposal, personal hygiene and healthy home environment, food and water safety and latrine construction and utilisation), family health (maternal and child health, nutrition, family planning, youth, and adolescent health and immunisation), disease prevention and control (malaria, tuberculosis and leprosy, HIV/AIDS, non-communicable diseases and mental illness) and prevention and control of injury (first aid and referral services).

Furthermore, the programme encompasses about 15 packages which are provided free of charge to everyone regardless of any conditions. These packages are thematised into four major categories; hygiene and environmental sanitation (solid and liquid waste disposal, personal hygiene and healthy home environment, food and water safety and latrine construction and utilisation), family health (maternal and child health, nutrition, family planning, youth, and adolescent health and immunisation), disease prevention and control (malaria, tuberculosis and leprosy, HIV/AIDS, non-communicable diseases and mental illness) and prevention and control of injury (first aid and referral services).

The packages are primarily implemented by female nurses called urban health extension workers (HEWs) who have special training on the packages. Urban HEWs are expected to spend 75% of their working hours on home visits and outreach activities to improve the health status of the community. They also provide facility-based basic services such as immunisation and injectable contraceptives and selected curative services such as first aid and case referrals to the health centres. Besides, urban HEWs are responsible for graduating model families by providing training for households and health developmental armies in the community.

Households who completed 75% of the training hours and implemented more than 85% of the packages will be graduated as model households. Health developmental armies are selected from model households and they are responsible to supervise 30 households to connect them in one to five networks. These strategies are found to be basic to detect the bottlenecks of low service utilisation and efficient use of resources at the community level in Ethiopia.

Other high-income, middle-income as well as low-income countries that are stressed with chronic conditions and focused on more expensive primary care can get lessons and improve their community health by scaling up initiatives from Ethiopia, such as defining community priorities through community engagement and empowerment of household members and promoting their ability to solve local problems. HEP also stresses the institutionalisation of efforts that resolve the viability of community services through a high degree of political engagement and successful alignment of national policies and leverage. On top of the above essential and cost-effective packages implementation and structures, multiple site-specific studies would have a paramount effect on the achievement of the national programme.

A community-based study conducted in the Hadiya zone revealed that the majority (67.4%) of respondents were satisfied with the services provided by urban (HEWs). Whereas a study in Gamo Gofa zone, southern Ethiopia showed that 37.4% of participants were satisfied with the health extension service. The findings of this study will elucidate components of services that promote greater satisfaction, hence helps to improve the quality of service delivery.

METHODS
Study design and setting
A community-based cross-sectional study was conducted from 1 March to 30 April 2019, in Gondar administrative city, which is one of the three metropolitan cities in the Amhara National Regional State. The city is located 176 and 755 km far from Bahir-Dar, the capital of the Amhara region, and Addis Ababa, the capital of Ethiopia, respectively. Administratively, the city is divided into 12 subcities with 90,847 households and a total of 390,644 people, of these 194,541 were females. There was a total of 76 urban health extension professionals assigned in all subcities.

Women in Gondar administrative city were the source population, whereas women in the selected subcities were the study population. Women aged 18 years and older, who had been living in the selected household for more
than 6 months and who used urban HEP services for the last year were included in the study.

Sample size determination and sampling procedures
The sample size was determined using the single population proportion formula \( (Z_{\alpha/2})^2 * P(1-P) / (d)^2 \) assuming a 67.4% proportion (P) of women’s satisfaction, 95% CI, 5% marginal error (d), design effect of 2% and 10% non-response rate that gave a sample of 744 women.

A multistage sampling technique was applied. Initially, four subcities (30%) of the total subcities were selected using the lottery method. Then, the sample was proportionally allocated to each subcity. Finally, a computer-generated simple random sampling technique was used to select the study participants. For a household having more than one eligible individual, only one respondent was selected and interviewed.

Variables and measurements
The dependent variable of the study was women’s satisfaction. It was measured using 16 items of satisfaction measurement questions with a 5-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree). The sum of these items gave a total score of minimum 16 and a maximum 80 with a mean score of 45.9 and also the Cronbach’s alpha score was 0.673.

The independent variables were sociodemographic characteristics (such as age, marital status, educational status, monthly income, religion, and occupation), knowledge and attitude of respondents about HEP, perception of participants about HEWs (competency, interpersonal relationship, and ways of communication, time spent and access to HEWs).

Knowledge was measured using seven items of questions and participants who scored greater than or equal to four out of the seven questions, we considered as having ‘satisfactory knowledge’, otherwise as ‘unsatisfactory knowledge’. The Cronbach’s alpha value for the seven items of questions was 0.942.

The attitude was measured using six items of questions with a 5-point Likert scale (1=strongly disagree to 5=strongly agree). Participants who scored greater than or equal to the mean score (22.2) were categorised as having a ‘favourable attitude’ and below the mean score considered as ‘unfavourable attitude’ and the Cronbach’s alpha score was 0.673.

Data collection tools and procedures
An interviewer-administered standardised structured questionnaire was developed after reviewing relevant studies. The questionnaire was first prepared in English and translated into the local language (Amharic) and finally back to English to ensure consistency. Four trained diploma nurses and two BSc degree graduates were recruited as data collectors and supervisors, respectively.

RESULTS
Sociodemographic characteristics of participants
A total of 744 women responded to the interviewer-administered questionnaire. About 43% were between the age of 27 and 35 years and 61.8% were married. Religious preference for 66.8% of the women was Orthodox Christian; 53.1% attended college or above, while 5.5% went to primary school; and 22.8% were government employees (table 1).

Knowledge and attitude towards the urban HEP
The mean score of study participants’ knowledge about urban HEP was 4 and more than half (52.6%) of the participants who scored greater than or equal to four out of the seven questions were considered as having ‘satisfactory knowledge’, otherwise as ‘unsatisfactory knowledge’. The Cronbach’s alpha value for the seven items of questions was 0.942.

The attitude was measured using six items of questions with a 5-point Likert scale (1=strongly disagree to 5=strongly agree). Participants who scored greater than or equal to the mean score (22.2) were categorised as having a ‘favourable attitude’ and below the mean score considered as ‘unfavourable attitude’ and the Cronbach’s alpha score was 0.673.

Data processing and analysis
The collected data were entered and cleaned using Epi Info V.7 and exported to SPSS V.20 for analysis. Both descriptive statistics and binary logistic regression analyses were done. Variables with p values of less than 0.2 in the bivariable logistic regression analysis were candidates for the multivariable logistic regression analysis. In the final multivariable logistic regression analysis, a p value of less than 0.05 and adjusted OR (AOR) with 95% CI were used to identify statistically associated factors with women’s satisfaction.

Patient and public involvement
No patient or the public were directly involved in the development of the research questions, the design, results and dissemination plan of the study. However, the participants and administrative officials were informed about the research questions, objectives and data collection process. The findings were disseminated to the Gondar administrative city health department. On top of that, the results will be distributed to potential stakeholders who are involved in the programme implementation after publishing on a peer-reviewed scientific reputable journal. Informed written consent was obtained from each participant after a brief explanation of the research objectives and data collection process of the study. Participants were also informed about their right to withdraw at any time or to skip for a single question or number of questions. After ensuring their volunteerism, those participants who could read and write signed on the space provided. Whereas, for those who were unable to read and write, a fingerprint (finger thumb) was taken. Finally, the confidentiality of the information was maintained by omitting personal identifiers.
participants had satisfactory knowledge. Similarly, the mean score of the study participants’ attitude towards urban HEP was 22.2. A large fraction (87.4%) of participants had a favourable attitude towards the urban HEP.

### Perceived interpersonal relationship, competency and accessibility

Slightly more than half (52.3%) of the respondents perceived that HEWs had a positive interpersonal relationship with women. Most of the respondents (84.8%) knew that urban HEWs in-person. Moreover, 44.5% of the study participants perceived that urban HEWs had good communication. Two hundred sixty-eight women responded that urban HEWs were accessible (table 2).

### Overall women’s satisfaction

The overall women’s satisfaction with their urban HEP was found to be 29.4% (95% CI 26.2 to 33.2; table 3).

### Factors associated with women’s satisfaction with their urban HEP

In the multivariable logistic regression analysis, age, marital status, educational status, occupation, perceived accessibility of urban HEWs and knowledge of women on urban HEP were significantly associated with women’s satisfaction with their urban HEP.

Accordingly, divorced women were 65% less likely to be satisfied by their urban HEP than married participants (AOR: 0.35, 95% CI 0.14 to 0.85). Women in the age group of 45–53 years were 3.9 times more likely to be satisfied than those age group of 18–26 years (AOR: 3.9, 95% CI 1.12 to 13.8). Privately employed women were 63% less likely to be satisfied compared with governmental employees (AOR: 0.37, 95% CI 0.19 to 0.75). Women who had unsatisfactory knowledge about urban HEP were 87% less likely to be satisfied than those who had satisfactory knowledge (AOR: 0.13, 95% CI 0.07 to 0.25). Moreover, those who had a good perception of the accessibility of HEWs were 1% less likely to be satisfied compared with their counterparts (AOR: 0.99, 95% CI 0.06 to 0.17; table 4).

### DISCUSSION

Overall, in the study field, 29.4% of women were satisfied with their urban HEP in the study area. The finding of this study showed that more than two-thirds of women were not happy with the services provided by the programme, which would have a negative influence on their service utilisation. This result was higher than that of a study done in Shanghai, China (25.4%). In Shanghai, the provision of essential drugs was included in the study which significantly reduced their satisfaction. On the other hand, our study was focused on service packages that do not include essential drugs. However, the finding was lower than studies conducted in the Gamo Gofa zone, Ethiopia (37.4%), Hadiya zone, Ethiopia.
(67.4%), and Jimma zone (69.6%). The community members of Gamo Gofa were voluntarily participating in the planning process of the programme that implied community involvement during problem identification, in planning and service evaluation could improve not only their understanding but also their responsibility sharing of the programme services. Unlike Jimma’s study, this study was conducted among urban-dwelling women. Poor community acceptance of the HEP, which implies this study was conducted among urban-

Table 3 Overall women’s satisfaction with their urban health extension programme (HEP) in Gondar Administrative city, northwest Ethiopia, 2019 (n=744)

| Variables                                                      | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---------------------------------------------------------------|-------------------|----------|-----------|-------|---------------|
| **HEWs services provision was comfortable**                  | 203 (27.3)        | 388 (52.2) | 11 (1.5)  | 134 (18.0) | 8 (1.1)       |
| **Urban HEP saved time**                                     | 207 (27.8)        | 369 (49.8) | 22 (3.0)  | 138 (18.5) | 8 (1.1)       |
| **Urban HEP saved money**                                    | 214 (28.8)        | 373 (50.1) | 16 (2.2)  | 126 (16.9) | 15 (2.0)      |
| **Urban HEWs gave quality services**                         | 33 (4.4)          | 226 (30.4) | 314 (42.2) | 155 (20.8) | 16 (2.2)      |
| **Urban HEWs did not use medical terms for communication**   | 218 (29.3)        | 314 (42.2) | 15 (2.0)  | 160 (21.5) | 37 (5.0)      |
| **Convenience of office hours to visit HEWs**                | 204 (27.4)        | 355 (47.7) | 16 (2.2)  | 151 (20.3) | 18 (2.4)      |
| **Wanted to visit HEWs in the future**                       | 70 (9.4)          | 154 (20.7) | 375 (50.4) | 131 (17.6) | 14 (1.9)      |
| **Urban HEWs treated in a friendly manner**                  | 208 (28.0)        | 374 (46.6) | 10 (1.3)  | 160 (21.5) | 19 (2.6)      |
| **Urban HEWs’ explanation was easy to understand**           | 208 (28.0)        | 294 (39.5) | 25 (3.4)  | 203 (27.5) | 14 (1.9)      |
| **Urban HEWs encouraged to talk for all concerns**           | 186 (25.0)        | 342 (46.0) | 13 (1.7)  | 182 (24.5) | 21 (2.8)      |
| **Provide information to others to use urban HEP**           | 27 (3.6)          | 167 (22.4) | 360 (48.4) | 175 (23.5) | 15 (2.0)      |
| **Urban HEWs used quality instruments for medical care**     | 177 (23.8)        | 295 (39.7) | 120 (16.1) | 129 (17.3) | 23 (3.1)      |
| **Cleanliness of the health post was good**                  | 87 (11.7)         | 232 (31.2) | 29 (3.9)  | 267 (35.9) | 129 (17.3)    |
| **Urban HEWs were courteous and respectful**                 | 26 (3.5)          | 127 (17.1) | 10 (1.3)  | 382 (51.3) | 199 (26.7)    |
| **Urban HEWs spent more time during home to home visit**     | 181 (24.3)        | 415 (55.8) | 10 (1.3)  | 118 (15.9) | 20 (2.7)      |
| **Urban HEWs teach about mental health continuously**         | 215 (30.2)        | 460 (61.8) | 5 (0.7)   | 46 (6.2)   | 8 (1.1)       |

HEWs, health extension workers.
Table 4  Multivariable logistic regression analysis of factors associated with women’s satisfaction with their urban health extension programme (HEP) in Gondar administrative city, northwest Ethiopia, 2019 (n=744)

| Variables                  | Satisfaction category | Crud odds ratio (95% CI) | AOR (95% CI) |
|----------------------------|-----------------------|--------------------------|--------------|
|                            | Satisfied  | Dissatisfied  |                      |              |
| Age in years               |            |              |                      |              |
| 18–26                      | 26         | 31           | 1.82 (1.03 to 3.22)  | 1.79 (0.71 to 4.52) |
| 27–35                      | 101        | 219          | 2.34 (1.29 to 4.25)  | 2.01 (0.74 to 5.48) |
| 36–44                      | 63         | 176          | 3.26 (1.56 to 6.86)  | 3.90 (1.12 to 13.8) * |
| 45–53                      | 17         | 66           | 3.59 (1.10 to 6.11)  | 1.77 (0.39 to 8.17) |
| 53                         | 11         | 34           | 0.76 (0.43 to 1.35)  | 0.37 (0.13 to 1.00) |
| Marital status             |            |              |                      |              |
| Married                    | 129        | 331          | 1.33 (0.87 to 2.03)  | 0.49 (0.89 to 1.97) |
| Single                     | 36         | 123          | 0.39 (0.23 to 0.66)  | 0.35 (0.14 to 0.85) * |
| Divorced                   | 33         | 33           | 0.76 (0.43 to 1.35)  | 0.37 (0.13 to 1.00) |
| Widowed                    | 20         | 39           | 0.76 (0.43 to 1.35)  | 0.37 (0.13 to 1.00) |
| Educational status         |            |              |                      |              |
| Unable to read and write   | 13         | 126          | 0.28 (0.12 to 0.62)  | 1.05 (0.31 to 3.40) |
| Read and write             | 16         | 43           | 0.28 (0.12,0.69)     | 0.82 (0.19 to 3.59) |
| Primary school (grades 1–8)| 11         | 30           | 0.30 (0.14 to 0.62)  | 1.13 (0.36 to 3.49) |
| Secondary school (grades 9–12) | 28     | 82           | 0.17 (0.09 to 0.31)  | 0.52 (0.19 to 1.45) |
| Certificate and above      | 150        | 245          | 0.13 (0.09 to 0.19)  | 0.37 (0.22 to 1.05) |
| Occupation                 |            |              |                      |              |
| Government employee        | 49         | 121          | 0.52 (0.34 to 0.83)  | 0.37 (0.19 to 0.75) * |
| Private employee           | 69         | 90           | 1.42 (0.91 to 2.21)  | 0.46 (0.21 to 1.03) |
| Housewife                  | 58         | 203          | 1.18 (0.67 to 2.09)  | 0.57 (0.23 to 1.43) |
| Merchant                   | 24         | 70           | 0.95 (0.49 to 1.80)  | 0.48 (0.15 to 1.52) |
| Daily labourer             | 18         | 42           | 0.27 (0.19 to 0.37)  | 0.64 (0.37 to 1.08) |
| Attitude                   |            |              |                      |              |
| Unfavourable               | 8          | 86           | 0.19 (0.93 to 0.41)  | 0.44 (0.16 to 1.25) |
| Favourable                 | 210        | 440          | 0.13 (0.09 to 0.19)  | 0.37 (0.22 to 1.05) |
| Perceived technical competency |         |              |                      |              |
| Not competent              | 49         | 360          | 0.13 (0.07 to 0.25)  | 0.31 (0.18 to 1.03) |
| Competent                  | 169        | 166          | 0.49 (0.35 to 0.68)  | 1.16 (0.67 to 2.02) |
| Perceived time spent       |            |              |                      |              |
| Less                       | 72         | 341          | 0.27 (0.19 to 0.37)  | 0.64 (0.37 to 1.08) |
| Good                       | 146        | 185          | 0.95 (0.49 to 1.80)  | 0.48 (0.15 to 1.52) |
| Perceived interpersonal relationship |       |              |                      |              |
| Poor                       | 77         | 278          | 0.27 (0.19 to 0.37)  | 0.64 (0.37 to 1.08) |
| Good                       | 141        | 248          | 0.49 (0.35 to 0.68)  | 1.16 (0.67 to 2.02) |
| Perceived way of communication |         |              |                      |              |
| Poor                       | 49         | 364          | 0.13 (0.09 to 0.19)  | 0.37 (0.22 to 1.05) |
| Good                       | 169        | 162          | 0.04 (0.02 to 0.06)  | 0.99 (0.06 to 0.17) † |
| Perceived accessibility of HEWs |        |              |                      |              |
| Not accessible             | 35         | 441          | 0.13 (0.09 to 0.19)  | 0.37 (0.22 to 1.05) |
| Accessible                 | 183        | 85           | 0.04 (0.02 to 0.06)  | 0.99 (0.06 to 0.17) † |
| Knowledge                  |            |              |                      |              |
| Unsatisfactory             | 20         | 333          | 0.06 (0.04 to 0.10)  | 0.13 (0.07 to 0.25) † |
| Satisfactory               | 198        | 193          | 1                      |              |

*Statically significant at p<0.05.
†Statically significant at a p<0.001.
AOR, adjusted OR; HEWs, health extension workers.
difference in measurement, in the current study, knowledge was assessed based on fifteen programme packages whereas in the above studies it was assessed using only solid and liquid west management packages, which is one of the four programme thematic areas.\(^\text{10}\)

Furthermore, participants who had good access to urban HEP were 1% less likely to be satisfied with their urban HEP than those who had poor access. The study in Hadiya zone supported the result of this study (25.2%) less satisfied.\(^\text{10}\) The descriptive result (34.6%) was less than that of a study conducted in the Jimma zone (51%).\(^\text{23}\) But this finding is contradicted with a study done on model households in Ethiopia and showed that women who were visited frequently by HEWs were 1.3 times more likely to visit health posts than women who did not get frequent visits.\(^\text{45}\) This could be due to the participants’ level of exposure to the programme. Model households are more engaged and graduated to HEP compared with none model households that enhance their satisfaction. This discrepancy might be also explained by the high expectation but low availability of services such as drugs, equipment, long waiting times and poor interpersonal relationships (50.3%) in this study. The other reason might be the inadequate number of staff, unfavourable working environment, lack of commitment to serve the community and lack of intense supervision.

Limitation of the study
Even though the women were interviewed with separate and privacy secured areas, using a structured interviewer-administered questionnaire, still social desirability bias could be a factor. Similarly, the women were interviewed about the last 12 months of exposure; there might also be recall bias.

CONCLUSIONS
The present study clearly showed that the majority of respondents were not satisfied with the services provided by the urban HEP. Age, marital status, occupation, knowledge of participants towards HEP as well as the accessibility of HEWs were factors associated with women’s satisfaction towards their urban HEP. Therefore, awareness creation about urban HEP, improving the accessibility of services, promotion of services and improving the frequency of home visits will increase women’s satisfaction with their urban HEP in Ethiopia.

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Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

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ORCID iD Chalie Tadie Tsehay http://orcid.org/0000-0001-5264-3858

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