

Health Extension Program Implementation in Pastoral and Agro Pastoral Communities: Ethiopian Somali Region, Ethiopia 2017

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Received: 27-May-2020, Manuscript No. JPHC-20-11852; **Editor assigned:** 01-Jun-2020, Pre QC No. JPHC-20-11852 (PQ); **Reviewed:** 15-Jun-2020, QC No. JPHC-20-11852; **Revised:** 02-Jan-2023, Manuscript No. JPHC-20-11852 (R); **Published:** 30-Jan-2023, DOI: 10.4172/2167-1079.23.13.1.1000468

Abstract

Background: Health systems in sub-Saharan African countries often suffer from weak infrastructure, lack of human resources, and poor supply chain management systems and access to health services is low particularly in rural areas. In 2004, the Federal Ministry of Health sought a primary care strategy that could immediately scaled up to address the major challenges in the health system by launching the health extension program. Health extension program was launched after four years in 2008 in Ethiopian Somali regional state without base line assessment and consideration of the pastoral and agro pastoral context.

Objectives: The overall objectives of the HEP evaluation study was to assess the implementation process and status of HEP in the Ethiopian Somali regional state and to determine the effect of HEP on health outcome measure pastoral and agro pastoral community of Ethiopian Somali region.

Methods: A multi stage cluster sampling method with kebele as the cluster unit will be used to select sample households. The assessment of the effect of HEP on health outcomes were undertaken through community based cross sectional surveys of a representative sample respondent to assess the change in outcome measures over time. Data collection was collected through personal interviews using structured questionnaires among 557 households and 8 health extension workers. Data were entered on epi data 3.1 and exported to SPSS 20 for further analysis. Descriptive analysis was made for the collected data.

Results: Most of HHs (32.7%) was aware about immunization service among the HEP packages. Around 58% of the HHs was not visited by HEWs in the surveyed communities. Most (29.4%) of the HHs were unsatisfied with delivery service received from the HEWs in the assessed communities. The major constraint was shortage of drug supply 161 (28.9%) followed by shortage of necessary equipment's 155 (27.8) as described by the HHs. In this survey 8 (61.5%) of the HEWs were males.

Conclusion: To improve the HEWs program continuous supply of essential drugs and basic medical equipment's. On top of that recruitment of female HEWs which in line with the recommendation of HEP is needed to improve the HEP program in the region.

Keywords: HEP • HEW worker • Implementation • Somali region • Ethiopia

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome; ANC: Antenatal Care; CSA: Central Statistical Authority; DHO: District Health Office; HIV: Human Immune Deficiency Virus; HEWs: Health Extension Workers; HPs: Health Post; HHs: Households; FMOH: Federal Ministry of Health; VHPs: Voluntary Health promoters; MDGs: Millennium Development Goals; HSDP: Health Sector Development Plan; SSA: Sub-Saharan African; SPSS: Statistical Package for the Social Sciences; WHO: World Health Organization

Introduction

Background

Health systems in Sub-Saharan African (SSA) countries often suffer from weak infrastructure, lack of human resources, and poor supply chain management systems and access to health services is low particularly in rural areas. A few private outlets that are available usually favor urban or wealthy areas. Together with an uneven distribution of health workers this pattern often results in little availability and poor quality of health services in rural areas where the majority of the population still lives. With a population of more than 90 million people, Ethiopia is the second most populous country in Africa. Throughout the 1990's poor nutritional status, infections and a high fertility rate, together with poor access to basic health services, contributed to one of the highest maternal and child mortality ratios in the world. Moreover, their use of available health facilities was low. In 2005 almost all births took place at home, with only 6 percent of women delivering in a clinic or hospital and major causes of morbidity and mortality for children under age five were preventable [1].

The number of trained health workers has historically been inadequate in Ethiopia, with shortages of almost all cadres of workers, particularly in rural areas. Throughout the early 1990's, universities and health professional training colleges focused on clinically oriented training rather than on more relevant rural oriented community health training. In 1997, the Ethiopian government established a 20 years Health Sector Development Program (HSDP) to meet these challenges. The HSDP is a comprehensive national plan and framework, implemented in four 5 years rolling plans. Under the first 5 years rolling plan of the HSDP, the overall performance of the health sector had improved; however, the ability to deliver essential services in rural settings was less successful. In 2003, at the end of the first 5 years HSDP plan, only one quarter of pregnant women received antenatal care, only one in ten births was attended by skilled personnel and about one third (32.7%) of children were fully immunized as the potential health service coverage was 61.3%.

As a result, the overall levels of disease burden and child maternal mortality appeared to have hardly shifted during the initial HSDP plan period demonstrating that the standard health system through the HSDP model could not address the poor health situation of rural people. Shortages and imbalances of human resources for health, geographical distance from health facilities and socioeconomic factors aggravated by the poor health seeking behaviors of the population were among the major obstacles to attaining wider access to health services [2]. In 2004, the Federal Ministry of Health (FMOH) sought a primary care strategy that could immediately scaled up to address the major challenges in the health system and to meet the health needs of the people and to achieve the World Health Organization (WHO) Millennium Development Goals (MDGs)

within a context of limited country resources by launching the HEP as one of the primary components of the second 5 years HSDP plan. At the country level HEP was launched since 2004 to reach the most underserved rural communities in Agrarian regions (Amhara, Oromia, Tigray and SNNPR). In these regions the implementation process and the program effect on health outcome was evaluated at different time before and after implementation of the program (baseline assessment in year 2003, first evaluation of implementation process in year 2005, second implementation process evaluation in year 2007 and the evaluation of implementation process and its effect on health outcome in year 2010).

Whereas, HEP was launched after four years in 2008 in emerging regions including Ethiopian Somali regional state without base line assessment and consideration of the local context. On top of this, the program implementation process and its effect on health outcome was not adequately evaluated but only once in year 2010. In 2010 program evaluation representative sample was not taken from Ethiopian Somali regional state for instance only 2 out of 11 (18.2%) zones and only 4 out of 93 (4.3%) district were included in the evaluation. Therefore, this study was conducted, to evaluate HEP and analyze the gaps on the program implementation and its effect on health outcome by taking a regional representative samples. In this study, we assessed household survey, Health Provider (HEP) survey, health facility (health post and health center) survey, model family and voluntary community health promoters surveys, supervisors survey, and district health management survey that address all the 17 HEP service packages and the impact of HEP on health outcomes. The overall objectives of the HEP evaluation study were to assess the implementation process and status of HEP in Ethiopian Somali regional states and to determine the effect of HEP on health outcome measures. This study enabled us to track the trend of change by comparing the result with agrarian regions to see how effective the implementation process was and to evaluate the outcome that the program brought on health outcome so as to improve the health extension program in Ethiopian Somali region [3].

Materials and Methods

Study area

Ethiopia, Somali regional state is one of the nine regional states that constitute the federal democratic republic of Ethiopia. Geographically, the region occupies a large area and falls in the Eastern and Southeastern part of the country with land mass area of about 350,000 km² between 40 N-110 N latitude and 40-48-0E longitude. The region has 11 administrative zones consisting of 93 woredas (districts) and 4 town councils, which is further divided into 786 Kebeles. The zones are Dhaawe, Erer, Fafan, Siti, Liban, Afder, Shabelle, Korahe, Dolo, Jarar and Nogob. It shares borders with Somalia to the East and southeast, Kenya to the south and Djibouti to the north. To the northwest and West, it borders with Afar and Oromia regions respectively. Climate is arid in most parts of the region and weather is therefore hot in most parts of the year, with mean temperatures ranging from 18°C to 45°C. Temperatures are cooler in areas of high altitudes like Fafan zone and parts of Afder zone (e.g., Elkare) and hotter in areas around the main rivers of the region. Annual rainfall ranges from 150 mm in the low lying areas of the region to 660 mm received in high altitude areas.

According to the population projections of the Central Statistical Authority (CSA) based on the 2007 population and housing census, the total population of Somali region was estimated as 4.4 million (CSA, 2007). According to Central Statistics Agency (CSA, 2013) the population is projected at 5.7 million in 2017 GC. Of the total, 46% and 54% are females and males respectively. The average household size is 6.6. The total urban population of the region is estimated at 14.6%. While 86% are pastoralists and agro-pastoralists. The average population density is calculated at 13 persons per square km, with great variation among woredas of the region. Population densities are highest in agro pastoral zones including Shebele, Fafan and Liban [4]. The vast majority of the population of the region is pastoralists and agro pastoralists who are dependent on livestock and farming for their survival. The region has 17 rural livelihood zones, generically classified as pastoral, agro pastoral, riverine and sedentary farming.

The major sources of income include livestock and livestock product sales, crop sales, firewood and charcoal sales, petty trade. Based on 2007 EFY Ethiopian Somali regional health bureau report, there are about 10 hospitals (1 referral, 7 zonal and 2 districts), 145 functional health centers and 952 health posts and 1713 health extension workers.

Study design

Existing HEP program evaluation: The evaluation aims to assess the implementation process and effect of HEP on health outcome measures. To achieve the overall objectives of the phase I, the study is designed to have two components linked to each other by design:

- Program management, health facility and health provider surveys to assess the implementation process of HEP.
- Household survey to estimate the effect of HEP on health outcome measures.

The assessment of the effect of HEP on health outcomes will be undertaken through community based cross sectional surveys of a representative sample respondent to assess the change in outcome measures over time. The assessment of HEP implementation processes includes the assessment of the health post and HEWs performance, the support and management system of HEP and the demand and perception of the communities. The assessment of HEP implementation process will enable us to compare the implementation process between the different rural districts of the region as well as between the pastoral and agro pastoral communities. Moreover, the information on the HEP implementation process will be used to determine the influence of the HEP implementation environment on the effect of HEP on health outcome measures. To determine the influence of HEP implementation environment on the effect of HEP, the two components of the study are linked to each other by design. Thus, the assessment of the HEP implementation process will be undertaken at different levels of the health system serving the communities where sample households are selected for health outcome determination. Health posts located in the sample villages, HEWs working in these health posts, respective referral health centers, respective HEW supervisors and district health offices responsible for the supervision and management of HEP will be automatically sampled for the assessment of the implementation process [5].

Sample size determination: The sample size for house hold survey was determined by using single population proportion formula with the following assumption; proportions of trained model house hold 63%, level of confidence 95%, margin of error 4%, design effect of 2% and 10% non-response rate. The final regional level sample size is estimated to be 1280 households. Adjustments was made for the population size of the zones in an effort to satisfy the requirement of additional indicators that are more demanding in terms of sample size. After determining the overall sample size requirements in terms of number of households, we determined the number of clusters that needs to be sampled. Based on cluster sampling practice, it is decided that one cluster was contribute 22 households. By dividing the total number of sample households by 22, we determined the number of clusters by region. These procedures resulted in 60 Kebeles. The number of districts to be sampled to contribute kebeles (clusters) was based on the assumption that the selection of four clusters from one district resulted in fairly representative number of districts. Finally, fifteen districts that comprised about 34 percent of the entire population were selected out of forty four districts of the region.

Sampling technique: A multi stage cluster sampling method with kebele as the cluster unit was used to select sample households. The multi stage sampling method involved three stages:

- Systematic random selection of districts (first stage sampling units) from each zone with Probability Proportional to Size (PPS).
- Random selection of kebeles (clusters) within each selected district. Selection of clusters (second stage sampling units) was based on equal probability with the assumption that they have similar population size (average of 5,000 people).

- Random selection of a constant number of households from each cluster at the third stage.

Selection of sample kebeles: A slightly different procedure was used to select kebeles within the selected districts. In this step, all kebeles were given the same chance or probability of selection (this was used because each kebele has roughly 5,000 people). In this step, the objective is to select four kebeles from each selected district. The kebeles sampled at baseline were intended to provide sample households for future cross sectional surveys as well [6].

Selection of sample households: The random walk method used in EPI (Expanded Program of Immunization) cluster surveys were employed in the selection of sample households within each village. This method involves:

- Randomly choosing a starting point and a direction of travel within a sample cluster.
- Conducting an interview in the nearest household.
- Continuously choosing the next nearest household for an interview until 10 per cluster target households will be obtained.

The following procedures were used to select the starting point:

- The central location in the kebele (cluster) were identified with a local guide who knows the locality very well.
- A starting direction were selected at random by spinning a bottle or pen.
- By moving in a straight line in that direction (from the central location to the periphery of the kebele), a number were assigned to each house found in that direction.

From these numbered houses, one household were selected randomly. This household constituted the first household to be visited for the interview. After selecting the first household, the second household to be visited was the one, which is nearest to the first. The next nearest household were the one whose front door is closest to the front door of the household first selected. The subsequent households were selected by moving clockwise (towards the right hand) from one household to the next nearest household. This process was continued within the cluster until 10 households are interviewed.

Data collection tool and procedures: Data collection was undertaken through personal interviews using structured questionnaires and checklist based observation. Questionnaires were be used for the baseline surveys will be employed. The household level data collection employed questionnaires addressed:

- Household module on household characteristics
- Hygiene and environmental sanitation module
- Malaria module
- Family health module
- HIV/AIDS module
- Community perception, demand and satisfaction of HEP services
- Model household module
- At the health post level:
 - HEW perception and satisfaction module

- HEW competence module
- Model household module

Model household module will be used to collect data from HEWs for the assessment of their performance. HEW supervisors and district health office questionnaires were used for the assessment of the management and support systems to HEP. All the questionnaires were translated into local languages. The study questionnaires were household module, water and environmental sanitation module, malaria and tuberculosis module, HIV/AIDS module, family health module, community satisfaction and perception on HEP module, model family, module and voluntary health promoter module, health facility (health post) performance module, HEW perception, working environment and time use module, health provider's (HEWs) competence module, HEW model family implementation module, health center module, HEW supervisor performance module, woreda health management module and woreda administration module [7].

Survey teams included interviewers, supervisors and regional coordinator. The interviewers and supervisors were selected for their ability and motivation to perform their tasks. Field workers who are willing to follow instructions precisely and accurately, polite and able to establish a good relationship with the respondents were selected. One interviewer per district and one supervisor per district to supervise interviewers were recruited. The recruitment and training of field workers as well as coordination of the fieldwork were undertaken in each geographic zone. In this survey 15 data collectors and 5 supervisors were hired for each zone, bringing the total number of zonal supervisors to be 5, and there were 60 local guiders staffs of the regional health bureaus and zonal were recruited to coordinate the fieldwork. It will also serve as a capacity building mechanism for the staff. Quality of the collected data was assured through two day training; close follow up and supervision and pretest. The study was approved by Jigjiga university ethical review committee and as oral and written well informed consent was taken from study participants.

Data processing and data analysis: Upon completion of the data collection and editing, data entry clerks having competency and experience was hired. The survey data was entered in epi data 3.1 statistical software. To ensure quality of data, double data entry was done. Data was cleaned and analyzed with SPSS v. 21. Descriptive analysis such as frequency, mean, median and percentage as per the type of the data. The result was presented through text, table and graphs as per the type of the data [8].

Results and Discussion

Household survey

In this study a total of 557 Households (HHs) were participated making the response rate of 97.4%. Most of HHs (32.7%) were aware about immunization service among the HEP packages. Around 58% of the HHs were not visited by HEWs in the surveyed communities. Most (30%) of the HHs were received immunization service from the HEWs in their respective kebeles (Table 1).

Table 1. Types of services received by households from the HEWs, Ethiopian Somali region, Eastern, Ethiopia, May, 2018 (n=557).

Study variable	Frequency	Percentage
Types of services received from HEWs		
Family Planning	5	0.9
ANC	17	3.1
Delivery	17	3.1
PNC	4	0.7

Immunization	167	30
Nutrition related education	16	2.9
Micronutrient supplement	14	2.5
Food supplement	22	3.9
Malaria treatment	11	2
Diarrhea treatment	13	2.3
Treatment of other diseases	163	29.3
Health education other than nutrition	18	3.2
Water sanitation	80	1.8
Vector control	1	0.2
Disease investigation	1	0.2
Others	8	1.4
Total	557	100

Community perception towards HEWs: Around 37.7% of HEWs involved in community work within the kebele. For the success of HEP the HEWs should involve in different community service activities (Table 2).

Table 2. Social affair involvement as perceived by the HHs, Ethiopian Somali region, Eastern Ethiopia, May, 2018 (n=557).

Study variable		Frequency	Percentage
Health Extension Worker (HEW) social involvement	Community work	210	37.7
	Good conduct	140	25.1
	attending sad and happy time	89	16
	Work in committee	97	17.4
	Others	21	3.8
	Total	557	100

Most (65.7%) of the HEWs were found at the health post followed by neighboring houses (11.7%). The most convenient place to find our HEWs by the HHs is the health post as per the HEP guideline. However for house to house visit they might be away from their HPs (Table 3).

Table 3. Most common place to find out HEWs as per the HHs experience, Ethiopian Somali region, May, 2018.

Study variable		Frequency	Percentage
Most common places to find the HEWs during the working hours	Health Post	366	65.7
	HEWs house	33	5.9
	Neighboring house	69	16.7
	Community	19	3.4
	Church/mosques	4	0.7
	Others	28	5
Total	557	100	

Level of satisfaction with HEWs service: Most (29.4%) of the HHs were unsatisfied with delivery service received from the HEWs in the assessed communities. The finding is also similar in family planning service where by around 153 (27.5%) received poor service from the HEWs as described by the HHs. However, these two services are the major pillar in the HEP that should be delivered by

HEWs to meet the need our community in a very good manner (Figure 1) [9].

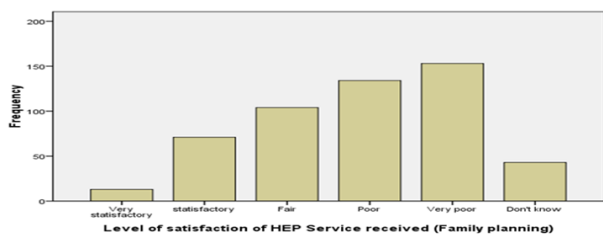


Figure 1. Satisfaction level of service rendered by HEWs, Ethiopian Somali region, May/2018.

Community perception on constraints of HEWs: The major constraint was shortage of drug supply 161 (28.9%) followed by shortage of necessary equipment's 155 (27.8%) as described by the HHs. For the smooth service deliver the HP should be equipped with basic supplies and medical equipment's (Table 4).

Table 4. Community perception on the constraints of health post, Ethiopian Somali region, May/2018. Table 4. Community perception on the constraints of health post, Ethiopian Somali region, May/2018.

Study variable	Frequency	Percentage
Recommendation to improve the HEP		
Drug supplies	161	28.9
Increase professional level of HEWs	106	19
Necessary equipment's	155	27.8
Increase motivation	61	11
Assign skilled professionals	28	5
Increase working hours	2	0.4
Increase space	2	0.4
Increase number of HEWs	31	5.6
Supervise HEWs	1	5.6
Supervise HEWs	1	0.2
Make HEWs regularly available	6	1.1
Involve the community	1	0.2
Others	1	0.5
Total	557	100

Health Extension Worker (HEWs) related survey

In this survey 13 HEWs working in 13 districts and 4 zones were included. In this survey 8 (61.5%) of the HEWs were males which is against the basic principles of HEP where by all HEWs should be female.

In the other regions HEWs are only females since they are expected to delivery friendly service to mothers and children as well (Table 5) [10].

Table 5. Socio demographic characteristics of HEWs Ethiopian Somali region, May/2018 (n=13).

Variables	Frequency	Percentage (%)	
Sex	Male	8	61.5
	Female	5	38.5
Marital status	Single	6	46.2
	Married with children	6	46.2
	Married with children	1	4.3
Place of residence prior to becoming HEW	Current kebele	4	30.8
	Other kebele with in woreda	6	46.2
	Other woreda in the zone	2	15.4
	Other zone in the region	1	7.7

Reason of joining HEP	In search of job	4	30.7
	To help the community	9	69.2
Year of pre service training	<1 Year	1	7.7
	1-2 Year	9	69.2
	2-3 Year	2	15.4
	>3	1	33.3
Service year as HEW (Years)	<1 Year	1	7.7
	1-3 Year	6	46.2
	3-5 Year	2	15.4
	5 and above	2	15.4
Monthly salary	1700-1900	7	53.8
	1900-2100	2	15.4
	2300-2500	2	15.4
	2500 and above	2	15.4

HEWs perception and satisfaction: Most (46.2%) of the HEWs were living outside the HP while only 2 (15.45%) were living with in the HP compound. Hence they are expected to travel around 2 km from their home on a daily base.

This might create some fatigue and delay on service delivery. The average monthly salary of HEWs was about 1826.61 birr. Most (38.6%) of HEWs feel as their monthly salary is very low (Table 6).

Table 6. HEWs perception towards their monthly salary, Ethiopian Somali region, May/2018 (n=13).

Study variable		Frequency	Percentage
HEWs perception towards their monthly salary	Higher	3	30.8
	About the same	2	15.4
	Lower	3	23.1
	Very lower	5	38.46
	Total	557	100

Among the total 8 (61.5%) of HEWs were actively involved in committee related activities. Of the total HEWs 5 (38.5%) of them were not involved in model HHs training. However, all HEWs are expected to train model HHs and the HHs will share their experience to the others accordingly. This will limit the diffusion of knowledge among HHs and community members in the kebele.

recommended that HEWs should take vital statistics (birth, death, ht, wt, age, BP, pulse rate, RR and others too) during care. Most of (76.9%) the HEWs were skilled at vaccination service delivery with the least in health education delivery (7.7%). But health education is a key task since our community has poor awareness on different health related issues included HEP packages (Table 7).

HEWs knowledge and skills: Of the total 5 (38.5%) of HEWs didn't take vital statistics during care provision. However, the HEP guideline

Table 7. Services provided by HEWs as an entry point to the community, Ethiopian Somali region, May/2018 (n=13).

Study Variable		Frequency	Percentage
HEP services for which they have more skill	Vaccination services	10	76.9
	Family planning	2	15.4
	Health education and Communication		7.7

Support and continuous educational development: Continuous Professional Development (CPD) is an integral part of HEP. HEWs should update and upgrade their professionals through short and long term trainings. Despite this recommendation, 4 of HEWs didn't

take any kind of training in the past one year. All most all (92.1%) of the assessed HEWs stated that they need additional refreshment training to properly execute their duties and responsibilities.

Supportive supervision: Of the total HEWs 9 (69.2%) of them were supervised by respective official in past three month preceding the survey. Following this supervision regular oral feedback were the most frequent (46.2%) means of feedback delivery mechanism. Additionally, 4 (30.8%) them didn't get any form of feedback from the higher officials (Figure 2).

Challenges for HEWs: The major challenge as described HEWs were poor road network 7 (53.8%) followed by shortage of refreshing training 2 (15.4%). Such challenges might increase staffs turnover and as well compromise service quality rendered by HEWs (Table 8).

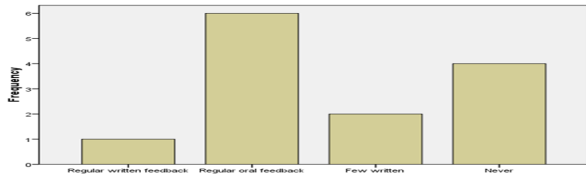


Figure 2. 4 supervision feedback approach used by supervisors, Ethiopian Somali region, May/2018.

Table 8. Social and organizational challenges of HEWs, Ethiopian Somali region, May/2018 (n=13).

Study variable	Frequency	Percentage
Lack of refresher training	7	53.8
Poor road networks	4	30.8
Poor communication system	1	7.7
Lack of promotion	1	7.7

Health posts' performance survey

Among the surveyed HPs 10 (76.9%) were had toilet facility where only 5 (38.5%) were had access to water service. With regard to service delivery, 11 (84.6%) of the HPs rendered immunization services for the catchment population.

in the assessed health posts. Home delivery kit and stethoscope were not sufficient as per the standard. Since they are expected to attend home deliveries and thus they have delivery kit in every health posts (Table 9).

Availability of medical equipment: Blood pressure (61.5%) and delivery bed (61.5%) were the most available medical equipment's

Table 9. Available medical equipment's at the HPs, Ethiopian Somali region, May/2018.

Study variable	Frequency	Percentage
Types of available medical equipment	BP apparatus	8 61.5
	Delivery bed	8 61.5
	Feto scope	7 53.8
	Adult weighting scale	6 46.2
	Neonatal resuscitation mask and bag2	2 13.4
	Home delivery bag/kit	2 13.4
	Stethoscope	1 7.7
Immunization	Refrigerator	10 76.9
	Vaccine carriers	8 61.5
	Ice box	8 61.5
	None	1 7.7
First aid care	First aid kits	6 46.2
	Basic dressing tray	6 46.2
	Kidney dishes	6 46.2
	Sterilization set/autoclave	1 7.7

Supervision and feedback: Almost all 12 (92.3%) HPs were supervised by respective officials as per the schedule. Supervision is one of the means to support and strengthen HEWs.

Most (84.6%) of the supervision were performed by the Woreda health followed by the nearest health center 30.8% (Table 10).

Table 10. Supervision and feedback given in the past three months, Ethiopian Somali region, May/2018 (n=13).

Study variable		Frequency	Percentage
Received supervision	Supervised with records	3	23.1
	Supervised without records	9	69.2
	Not supervised at all	1	7.7
Feedback given	Written	10	76.9
	Oral	3	23.1
Supervision provider	Woreda health office	11	84.6
	Nearest health center	4	30.8
	Zonal health office	1	7.7
	Regional health bureau	1	7.7

Conclusion

Around 58% of the HHs were not visited HEWs in the surveyed communities. Most of the HHs (30%) was received immunization service from the HEWs in their respective Kebeles the HEWs were good enough on immunization service as evidenced by HHs survey. Most (29.4%) of the HHs were unsatisfied with delivery service received from the HEWs in the assessed communities. Health education on HIV/AIDS was not properly delivered. The major constraint was shortage of drug supply 161 (28.9%) followed by shortage of necessary equipment's 155 (27.8) as described by the HHs. In this survey 8 (61.5%) of the HEWs were males which is against the basic principles of HEP where by all HEWs should be female. Most (38.6%) of HEWs feel as their monthly salary is very low. Of the total HEWs 5 (38.5%) of them were not involved in model HHs training. Of the total 5 (38.5%) of HEWs didn't take vital statistics during care provision. All most all (92.1%) of the assessed HEWs stated that they need additional refreshment training to properly execute their duties and responsibilities. Home delivery kit and stethoscope were not sufficient as per the standard. The HEW should be given continuous supply of essential drugs and basic medical equipment's. Recruitment of female HEWs which in line with the recommendation of HEP. Closely support and supervise HEWs and HPs as per the stated schedule should be done regularly. Full implementation of the HEP service packed by HEW workers should be given much emphasis on model house hold. Strive for upgrading their professional skill and knowledge.

Acknowledgement

We would like to express our gratitude Jigjiga university for budgetary support, data collectors, supervisors and study participants for their conscientiousness and commitment in the collecting and inputting high quality data used in the study.

Availability of Data and Materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors' Contributions

LA, WS, SG and AA had taken a principal role in the conception of ideas, developing methodologies, data collection, analyses and write up of the article. LA, WS and SG participate in data analysis and had a great contribution to the write up of the draft and approval of the final version of the manuscript. All authors read and approved the final manuscript.

Conflict of Interest

We have no conflict of interest.

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Cite this article: Assefa L, et al. "Health Extension Program Implementation in Pastoral and Agro Pastoral Communities: Ethiopian Somali Region, Ethiopia 2017". Prim Health Care, 2023,13(1), 1-9.