

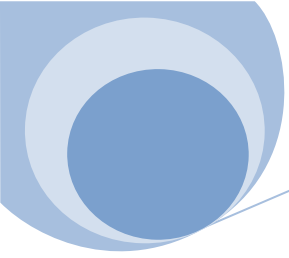
**Assessment of Health Services Extension
Program in Dawro zone, Southwest Ethiopia**



**By
Feleke Milikias (BSc.)**

**A research thesis to be submitted to the College of Public Health and Medical Sciences,
Department of Health Services Management, Jimma University; In Partial Fulfillment of the
Requirement for the degree of Masters of Public Health in Health Services management**

**May 2010
Jimma, Ethiopia**



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**By
Feleke Milikias (BSc.)**

**Advisors: Mr. Yohannes H/Michael (BSc. PH, MPH, DVLDP)
Mr. Shimeles Ololo (BSc. PH, MPH)**

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Abstract

Background: Ethiopia, being one of the least developed countries, its people also suffers from many health problems, the major ones are infectious diseases, which emanate from poor sanitary conditions, nutritional deficiencies and harmful health practices. In response, the government has launched a Health Extension Program that aims for universal coverage of primary health care by 2009. Thus, assessing the progress made on health extension program, factors affecting its achievement and the challenges faced by program implementers was the main intention of this study

Objective: To assess health services extension program in Dawro zone, Southwest Ethiopia.

Methods: a cross-sectional study design was used by applying a quantitative and qualitative method of data collection. The study was conducted in Dawro zone from March to April, 2010. The Study population comprised of all health extension workers and households in three randomly selected districts of rural kebeles. A pretested structured questionnaire was used to collect information from respondents after obtaining a verbal consent. Data were entered, cleaned, edited and analyzed using SPSS Version 16.0 statistical software package. Univariate, bivariate and multivariate analysis was carried out to identify the presence of association and the effect of independent variables on dependent variable.

Results: A total of 755 respondents were interviewed and of whom 21.7% were in the age group of 25 to 29 years and about 688 (91.1%) had married. Among 599(79.3%) respondents who had heard about family health services, 560(74.2%) were informed by HEWs. Similarly, of 693(91.8%) who had awareness on how to dispose wastes, 651(93.9) reported HEWs as the main source of information. About, 587(77.7%) had reported that they knew at least one method of family planning. Those who had no model families in the neighbor were less likely to know as compared to their counter parts [OR=0.41, (0.28, 0.60)]. Of those that responded, 585(85.5%), to know how to prevent malaria, 362(61.9%) mentioned anti malaria drugs, 349(59.7%) bed net, and 253(43.2%) spraying DDT. As knowledge to HIV/AIDS, those who had been visited by HEWs in a weekly interval were 3.5 times more likely to know as compared to two months and above [95%CI (1.25, 9.64)]. Generally, about 61.8% respondents scored mean & above value and 38.2% scored below mean value on knowledge about disease prevention and control packages. About 435(57.6%) had reported as they had discussed about Tuberculosis prevention and control methods with HEWs in the past six months before the survey. In qualitative study, lack and shortage of some supplies and logistics, infrequent refresher training, weak supervision, and absence of water facilities at health post compound were identified as the major factors.

Conclusions: Knowledge of respondents on disease prevention and control packages and hygiene and environmental sanitation was found to be consistent with practice. However, considerable gaps were observed in family health service packages. Thus, health extension workers should give a due attention to increase awareness of the community especially on family health services so as to use the available services.

Key words: Health extension workers, knowledge, attitude, practice, access, packages

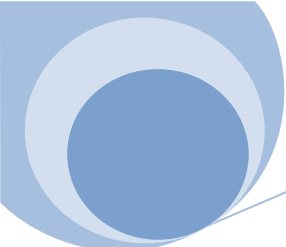
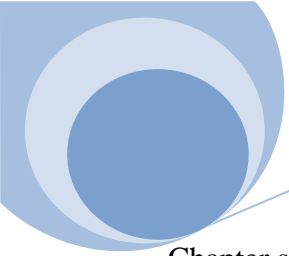
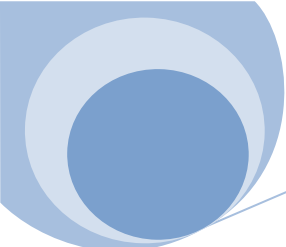


Table of contents	Pages
Abstract	III
Table of contents.....	IV
Lists of figures	VI
List of Tables	VII
Acronyms	VIII
Acknowledgements.....	IX
1.1 Background	1
1.2 Statement of the problem	3
Chapter two: Literature review	6
2.2 Significance of the study	10
Chapter three: Objectives of the study.....	11
4.1 General objectives.....	11
4.2 Specific objectives.....	11
Chapter four: Methods and Materials	12
4.1 Study area and period.....	12
4.2 Study Design	12
4.3 Population	12
4.3.1 <i>Source population</i>	12
4.3.2 <i>Study population</i>	13
4.4 Sample size and Sampling Techniques	13
4.4.1 <i>Sample size</i>	13
4.4.2 <i>Sampling procedures</i>	13
4.5. Data collection process and measurements	15
4.5.1 Data collection instruments:	15
4.5.2 <i>Study variables</i>	15
4.5.3 Data collection methods and personnel.....	16
4.6 Operational definition	17
4.7 Data analysis procedure	18
4.8 Data quality management.....	18
4.9. Ethical considerations	19
4.11. Dissemination plan.....	19
Chapter 5: Results	20
Chapter six: Discussion.....	41



Chapter seven: Conclusions and recommendations.....	50
7.1 Conclusions	50
7.2 Recommendations	50
References.....	52
Annexes.....	56
Annex-IA Quantitative study	56
Questionnaire in English	56
Questionnaire in Dawrogha (local language).....	71
Annex -1B Guides for qualitative study.....	83
Annex II: Map of the study zone.....	91



Lists of figures

Pages

Figure 1 Conceptual frame work for different factors associated with implementation of HEP 9

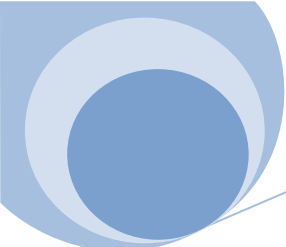
Figure 2: Schematic presentation of sampling procedures 14

Figure 3: Distribution of Households by history of malaria treatment, Dawro zone, April 2010..... 24

Figure 4: Distribution of households by HEWs visit, Dawro zone, April 2010..... 25

Figure 5: Distribution of households on mechanisms to avoid HTPs, Dawro zone, April 2010 28

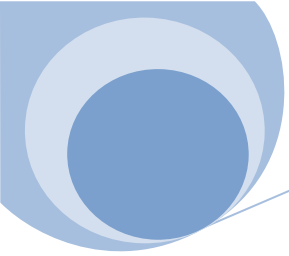
Figure 6: Waste disposal methods reported by households in Dawro zone, April 2010..... 38



List of Tables

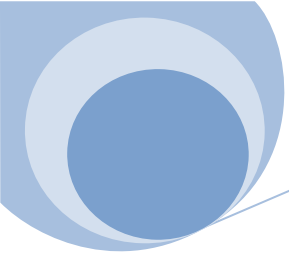
Pages

Table 1: Socio demographic and socio economic characteristics of households, Dawro zone, south west Ethiopia, April 2010.....	21
Table 2: Distribution of households' by information access to communicable diseases, Dawro zone, South West Ethiopia, April 2010.....	23
Table 3: Distribution of respondents by home delivery assistants in Dawro zone, April 2010	25
Table 4: Distribution of households on attitude towards family health services in Dawro zone, April 2010.....	29
Table 5: Distributions of households by use of family planning methods in Dawro zone, South West Ethiopia, April 2010	30
Table 6: Households' practice of family health services by selected variables in Dawro zone, April 2010	31
Table 7: Malaria sign and symptom identified by respondents, Dawro zone, South West Ethiopia, April 2010..	32
Table 8 : Malaria prevention and control methods recognized by households in Dawro zone, South West Ethiopia, April 2010.....	33
Table 9: Peoples reported as more vulnerable to malaria, Dawro zone, April 2010.....	33
Table 10: Sign and symptoms of Tuberculosis identified by households in Dawro zone, April 2010	34
Table 11: Responses of the respondents to attitude questions, Dawro Zone, South West Ethiopia April 2010.....	35
Table 12 Practices of households on disease prevention and control packages by selected variables, Dawro zone, South West Ethiopia, April 2010	36
Table 13: Practice on hygiene & environmental sanitation packages by selected variables, Dawro zone, South West Ethiopia, April 2010.....	40



Acronyms

AEPHCE	Accelerated Expansion of Primary Health Care in Ethiopia
ANC	Ante Natal Care
CHP	Community Health Promoter
CHW	Community Health Worker
CNHDE	Center for National Health Development in Ethiopia
EFY	Ethiopian Fiscal Year
EPI	Expanded Program on Immunization
FMOH	Federal Ministry of Health
HEW	Health Extension Worker
HP	Health Post
HSDP	Health Sector Development Programme
HSEP	Health Service Extension Programme
HW	Health Worker
IMR	Infant Mortality Rate
KAP	Knowledge, Attitude and Practice
MDG	Millennium Development Goal
RHB	Regional Health Bureau
SNNPR	Southern Nation, Nationalities and Peoples Region
SPSS	Statistical Package for Social Science
TVTEC	Technical and Vocational, Educating and Training College
UNDP	United Nation Development Programme
VHW	Village Health Worker



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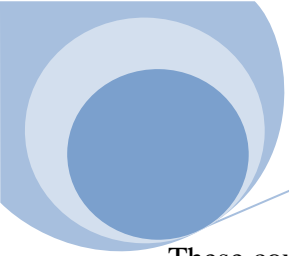
Chapter 1: Introduction

1.1 Background

Following the change of Government in 1991, the Ethiopian government has undertaken a number of fundamental reform measures to address the main health problems and to meet the high unmet demand for health care in rural areas. The first steps in this direction were taken with the development of a new health policy and strategy, democratization and decentralization of the health system and the introduction of a twenty-year health sector investment program (1997-2018) (1-3). The policy developed during this time (1993), demands commitment from all concerned bodies and mainly focused on prevention and promotion components of health care, and development of equitable and acceptable standard of health services to reach all segments of the population, with special attention to mothers and children (4-6). Since then, a series of Health Sector Development Program (HSDP I, II and III 1997-2010) was formulated in line with the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) and to achieve health-related MDGs with the basic objective of improving the coverage and quality of health services (4).

Despite the gains that were made in the implementation of HSDP I, it became clear that basic health services had not reached those in need, owing to lack of primary health care (PHC) services at the community level (5). The Government has therefore decided to introduce an innovative community-based approach aimed at creating healthy environment as well as healthful living by introducing a Health Extension program as a sub component of HSDPII (7). The Health Extension Program (HEP) is an innovative health service delivery program that aims for universal coverage of primary health care by 2009. It places two government-salaried female HEWs in every Kebele, with the aim of radically shifting the emphasis of the country's healthcare system to prevention and improves the uneven resource distribution (6-9). Health posts, therefore, are becoming the first level of healthcare to serve about 5000 peoples of the rural community by functioning under the supervision of the Woreda Health Office, Kebele administration, with technical support from the nearest Health Center (5, 10).

The major courses that HEWs had covered in their one year training were: Community Documentation, Family Health Care, Disease Prevention & Control, and Environmental Health. The other courses were given as supportive (e.g. Health Education) and common courses (5, 11).



These courses had been given at 18 TVETS in Oromia, 7 in Amhara, 5 in SNNPR and the other schools found in the rest of the regions except Dire Dawa, which had no training center (12).

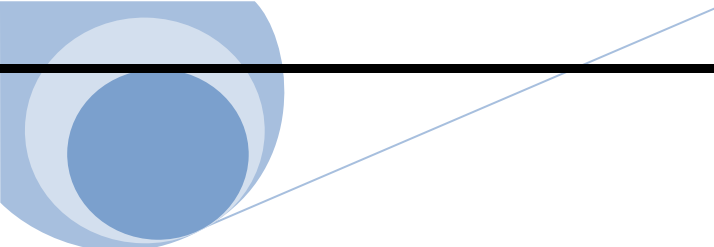
By the end of 2008, 30,190 health extension workers had already started their job at the operational center of the HEP and 11 446 health posts had been constructed against the target of 15 000, to bring primary health care to all communities. The magnitude of the effort that was being undertaken can be best appreciated by noting that the number of new health service staff positions that will be created under HEP in less than five years is more than double the number that was created in the previous decades (9).

HEWs are responsible for explaining and promoting the sixteen health extension packages under four major components (11).

1. Disease Prevention and Control: TB, Malaria, HIV/AIDS and other STI prevention and control and First Aid and emergency measures.
2. Family Health Service: Maternal and child health, Family planning, Immunization, Adolescent reproductive health, and Nutrition.
3. Hygiene and Environmental Sanitation: Excreta disposal, Solid and liquid waste disposal, Water supply and safety measures, Food hygiene and safety measures, Healthy home environment, Control of insects and rodents, and Personal hygiene.
4. Health Education and Communication

In general implementation of health extension program has three components; namely provision of community based health package, capacity building of potential families to be role model households, and service delivery at the health post level (5, 9, 12).

Thus, assessing the progress made on these packages, factors affecting its achievement and the challenges faced by program implementers was the main intention of this study



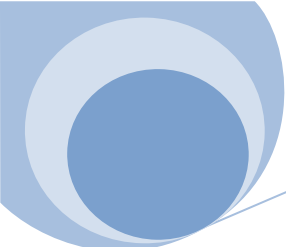
1.2 Statement of the problem

No where are global public health challenges more acute than in sub-Saharan Africa. With just thirteen percent of the world's population, this region carries twenty four percent the global burden of diseases (14). In most African countries the basic health infrastructure, human resources, equipment and supplies are inadequate to provide essential maternal, child and reproductive health services, and to control and treat infectious diseases (15).

Africa is still not on track to meet the health Millennium Declaration targets and the prevailing population trends could undermine progress made. The maternal mortality rate will need to drop from between 500 and 1500 to 228 per 100 000 and Under 5 mortality from 171 to 61 per 1000 to reach their respective Millennium Development Goals (16). The recent reviews of the progress made towards achieving the health Millennium Development Goals (MDGs) indicate that the progress made by many African countries has been slow when compared to the progress on the MDG on education (17).

The current progress in the AIDS response in Africa, notably in the access to antiretroviral treatment and services to prevent mother to child transmission of HIV, by a number of countries, is encouraging. It is a matter of concern , however, that Africa still remains most heavily affected by the epidemic, accounting for the largest share of people with HIV and AIDS-related deaths globally and universal access to HIV prevention services is far off (18) . Countries and international partners are realizing that to adequately meet current health needs, and achieve universal access to HIV services by 2010 and the health-related Millennium Development Goals (MDGs), they must create strategic, forward-thinking and comprehensive plans to produce, retain and manage the people that constitute the health workforce. These people are not limited to doctors and nurses, but also include midwives, physical and occupational therapists, clinical officers, physician and nursing assistants, psychiatrists and other mental health providers, laboratory technicians, nutritionists, social workers, managers and logistical personnel, traditional healers, community health workers and many other cadres of health workers (19).

Ethiopia, being one of the least developed countries, its people also suffers from many health problems, the major ones being infectious diseases, which emanate from poor sanitary conditions, nutritional deficiencies, harmful health practices etc (9).



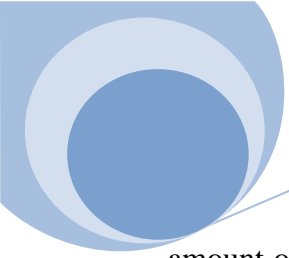
In Ethiopia, particularly in rural area, access to modern health institution is limited at best. Health systems and roads are underdeveloped, and transportation problems are severe, especially during the rainy season. Almost all births take place at home (94%) with only 6% of women delivering in a clinic or hospital. Many of these women live in remote areas that are too far from a road, let alone a health facility where they can receive emergency obstetric care. The majority of these births (61%) are assisted by a relative or some other untrained person and 5% are delivered without any assistance (20).

Contraceptive use, although it has increased consistently over the past decade, remains low with only 15 percent of currently married women using a method of contraception (21). On average, Ethiopian women have 5.4 children during their lifetime, (22). If this condition sustains achieving the Millennium Development Goal on U5MR and maternal mortality ratio will require an annual reduction of 7.9 and 5.9 per cent respectively (10, 23); however, which will be a tremendous challenge for the country (20).

Almost 80 percent of morbidity in Ethiopia is due to preventable communicable and nutritional diseases, both associated with low socio-economic development (11). HIV/AIDS, malaria and tuberculosis are the major causes of adult morbidity and mortality in the country, while measles, malaria, acute respiratory infections and diarrheal diseases are major causes of death among children under five. Seventy five percent (75%) of the land area of the country is considered to be either malarious or potentially malarious, and about 65% of the population in these areas is at risk of infection (24).

Excreta - borne diseases are the other most important and wide spread problem in Ethiopia. Lack of knowledge on the part of communities, poor access to clean and adequate water supply, weak economic capacity of communities, backward lifestyle and culture and working behavior can contribute a lot to this (25).

According to the 2006/2007 Health and Health Related Indicators report, vaccination coverage for BCG was 58.6%, for pentavalent 72.9% and for measles 64.6% (12) though only one in five children was fully immunized(26). Furthermore, since mothers and children, who are beneficiaries of the vaccination service did not take full advantage of the service, it has not been possible to gradually and at the required level, reduce and control the diseases which can be prevented by vaccination(27). To alleviate such conditions, HEP has been given a high priority; however, the



amount of vaccines distributed to the health posts was often insufficient, and HEWs had to travel on foot to distant health centers to obtain vaccines (2)

Therefore, since no preliminary study was conducted in the study area from its inception, the findings from this study will give a highlight into the implementation of health extension packages and will be helpful for the policy makers, program coordinators and service providers to understand if any gaps and come up with appropriate modifications .Moreover, the finding may be used to assess the progress of the program and it will pave the way for future studies.



Chapter two: Literature review

In recent years, focus on health sector reform and decentralization has led to a renewed emphasis on ways to extend coverage to underserved areas as well as to increase local involvement in decision making regarding health service delivery. Policy-makers were concerned about how best to implement primary health care initiatives at the community level (19). Expanding physical health infrastructure and developing a cadre of Health Extension Workers (HEWs) who would provide basic curative and preventive health services in every rural community were strategies that the HEP is applying to meet health related challenges in Ethiopia .

Factors affecting implementation of health extension packages

1. Lack of adequate training


Training on a limited set of topics from the broader HEP curriculum including immunization, family planning, HIV/AIDS, monitoring and evaluation have created gaps in practical skills of HEWs (11). As the 2008 report of FMOH on performance of HEWs in selected woreda of Amhara and southern ethiopia revealed, the HEP packages they have provided so far ranges from 31.2% for Adolescent and reproductive health to 92.4 % for solid waste management. The assessment also shown that they have limited ability to attend to women in labor (2). The other study conducted in wolaita zone by M. Bezabih corroboratd that a small number of HEWs (17.7%) had started providing vaccination services at health posts, and among HEWs who didn't start vaccination services, 77% stated the absence of refrigerator at health posts, and 5% stated the available refrigerator was not functioning (28).

HEWs are envisaged to identify and train model families that have been involved in other development work, and /or that have acceptance and credibility by the community, as early adopters of desirable health practices to become role models in line with heath extension packages(19). How ever, the study conducted in seven zones of SNNPR in 2008 showed that the average achievement on training of certified role model households was only 4.3% (6).

Though HEWs are required to spend 75% of their time conducting outreach activities like health education through house to house visit in a weekly interval (5), the study conducted by Haile N. in communities perspectives on HEP, revealed that about 85% of households received visits at only monthly or less frequent intervals(29). In another study, similarly, more than 60% household respondents mentioned that they were visited by HEWs once within 3 months (28).

2. Lack of functional referral system

Patients who visit health posts for curative aspects are expected to be referred to the near by health center(7); however, as the study done in selected administrative zones of SNNPR pointed out as



there was no strong referral system with follow-up mechanism between the health posts and health centers. According to this study, referral process was handicapped by constraint in physical and material resources (long distance, poor roads, scarcity or high cost of public transport) and contact with nearest health centers was very weak (6).

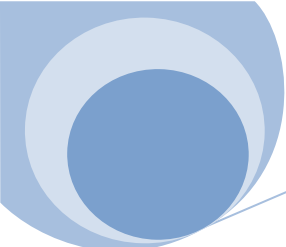
3. Administration and Supervision related problems

As it was written on HEWs implementation guideline, to ensure best quality of health service extension package programme, an ongoing inservice training, continuing education, regular supportive supervision, good supplies of materials are essential elements that are required(7). However, the study conducted by independent investigators showed that due to various reasons and especially staff shortage at Woreda level, comprehensive and strong supervision was very limited. It also revealed that large discrepancies exist between what supervisors believed health workers were doing and what independent observers found about how they actually spent their time (6).

Similarly, the report of HEWs during FMOH assessment portrayed that supervision was irregular and focused more on fault-finding than in supporting the HEW to improve her performance. They found that the current form of supervision was demoralizing and did not improve their work performance. Nearly 60% of the HEWs reported that the duration of the visit did not allow them the opportunity to discuss issues, concerns and receive supportive technical assistance from supervisors that could have helped them improve their performance. Majority of HEWS (67%) were dissatisfied with their WrHO supervisors and lacked clarity on their expected roles and performance objectives (2)

4. Lack of career opportunity for HEWs

As assessment of working condition of HEWs illustrated as there was a high anticipation among HEWs upgrading their status immediately after two years of services. However, there was no clear guidelines and preparation regarding to years of services, number of upgrading HEWs in each year, selection process, and sites for upgrade training (20). Career prospects for HEWs and their aspirations do influence their performance. For example studies by Ballester in 2005 and Scott & Wilson in 2006 in United States of America have shown a significant drop out of CHWs due to lack of career prospects(30). Likewise in Massachusetts, more than 76% of CHWs reported that their only opportunities for advancement consisted of building skills and increasing levels of responsibility within their current position. Only 27.6% reported opportunities for promotions (change in role and/or increase in salary). These promotions are mostly to supervisory positions: 73.1% of CHW supervisors were former CHWs. They also reported that until better pay and



higher grade levels for experience and education were given to them, the agency would continue to lose excellent people (31).

5. Community participation

There is overwhelming consensus that community participation is a vital constituent of successful and sustainable CHW programmes throughout the world. But it becomes successful when substantial and time-consuming investments are made in: (a) securing participation of communities; and (b) involving them in all aspects of the programme, including the identification of priorities and project planning (30). According to HEP implementation guideline, participation of the community in decision-making process is a reflection of the political power of the people for mobilization of resources. This promotes empowerment, self-reliance, responsibility and ownership for health actions (7).

Access of community to health extension services

As one study presented at African economic conference indicated, the variables that were used to capture access (e.g. Distance from the nearest health facility) to health care system was strongly correlated with episodes of illness in both rural and urban study areas (32). Another study conducted by Dubale T at Afar region showed that 56.7% of the study subjects spent three-hour distance on the way to the nearest health care facility (33). According to Ethiopian DHS 2005, distance to health facility together with lack of transport was perceived as a big problem by more than three in five women to seek health care (20).

Knowledge, Attitude and Practice of the community on services of HEWs

In the study conducted in SNNPR, one HEW stated that “In the beginning of the HEP, many of the communities where we were assigned expected that the health post and HEWs would provide care similar to services provided at the health center and hospital, especially curative care; however, these days’ things are changed” (2). In another study conducted in Tigray region, 57% of the respondents stated as services provided by HEWs was represented an improvement over the previous provision (29). However, the study done by Hailemariam L et al on KAP of malaria indicated that only 1.8% of the respondents identified the pregnant woman as a risk group for getting malaria and from 99.4% of the households who had at least one ITN, only 43% answered as all family members were using it(34).

So, as all the reviewed literatures showed there were gaps and conditions which can directly or indirectly hinder the progress of implementation of health extension program and it directs to extend vision to undertake a thorough review on what was going on so far. As presented in the conceptual frame work below, implementation of health extension program can be affected by

many factors which also affect one another. For instance, lack of supportive supervision from woreda health office or health center on HEWs activity may affect the expected out come and indirectly the overall achievement in woreda level when observed with respect to the objectives set already. If this condition continues it is obvious that the participation of communities on implementation activity and the relationship between HEWs becomes weak.

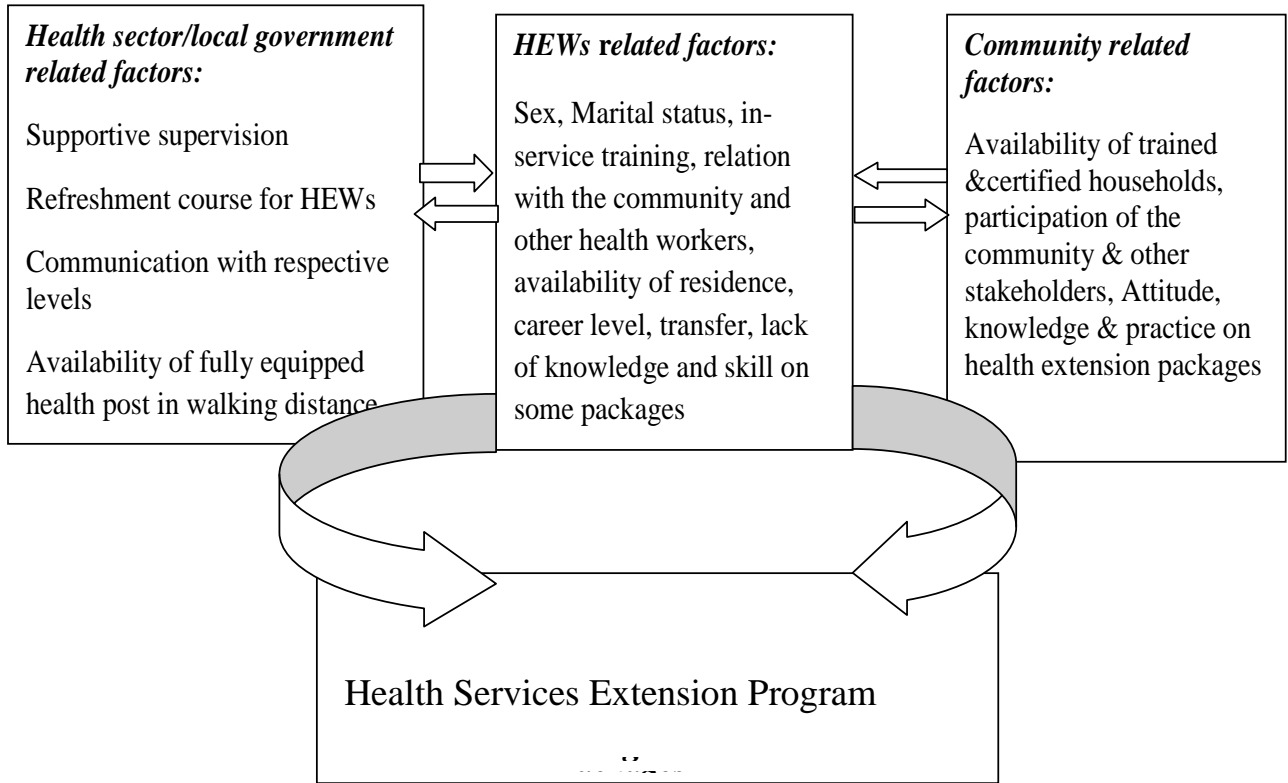
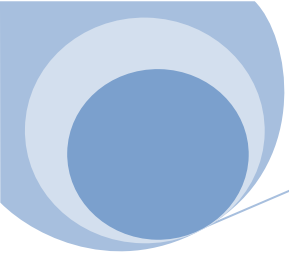


Figure 1 Conceptual frame work for different factors associated with *Health Services Extension Program*



2.2 Significance of the study

Ethiopia has the poorest health status and services mainly indicators attributable to preventable communicable diseases, nutritional deficiencies and complications of pregnancy and childbirth(1). Widespread poverty, inadequate access to clean water and sanitation facilities, and limited access to health services have contributed much to these problems in the country, being aggravated by the high population growth. In response to this, HEP has been given as a package focusing on preventive health measures targeting households, particularly mothers and women through house to house visits, education and demonstration. Further more, HEP is the major vehicle of the countries health program through which the government hoped to achieve health related MDGs in 2015.

Concerning the study area, according to the Dawro zone health extension program coordinator, the implementation of health extension program in the study districts was not assessed sofar. So, taking into consideration all the above conditions, the study aimed to assess the progress of implementation of the program, taking time with the community members in household level, providers and coordinators/supervisors using different approaches, finally to come up with relevant findings that will provide a great opportunity to the policy makers, program coordinators and service providers(HEWs) to back up implementation of HEP for the better improvement of health status of the population at large and mother and children in particular.



Chapter three: Objectives of the study

4.1 General objectives

To assess health services extension program in Dawro zone, southwest Ethiopia, 2009/10.

4.2 Specific objectives

- ❖ To assess the access of households to essential health service packages
- ❖ To identify factors affecting health extension program
- ❖ To determine knowledge, attitude and practice of households on health extension packages



Chapter four: Methods and Materials

4.1 Study area and period

The study was conducted in Dawro zone from March to April, 2010. Dawro Zone was structured as a Zone in 2000 and now it is one of the 13 zones of Southern Nations, Nationalities and Peoples Regional (SNNPR) State and has a total area of 4436.7 sq km. It lies between 6.59-7.34 latitude and 36.68 to 37.52 longitudes, with an elevation ranging 501-3000 meters above sea level. While River Gojeb delimits the region from Jimma Zone in the north, Omo River demarcates Dawro from Kambata Tembaro Zone in the north east, Wolaita Zone in the east, and Gamo Gofa Zone in the south. In the west Konta Special Woreda is adjacent to Dawro sharing Chabara -Churchura National Park in common. It has 5 Woredas (districts) and 1 town administration with a total population of 591,783 as projected from census (2007). From which about 92.8 % of peoples are residing in rural area. Regarding the Agro – Ecology of the zone, out of the total land size, 55.6% is kola (lowland <1500 m), 41.4% Weinadega (Midland 1500-2500) and 3% Dega (High land >2500m). The annual mean temperature and rainfall ranges between 15.1-27.5 c⁰ and 1201-1800mmHg respectively. Tercha is the capital town situated at a distance of 282 km from Hawassa (capital city of the Region) to the west and 512 km away from Addis Ababa (capital city of Ethiopia) to south west.

In general the zone has one government hospital, 17 health centers, 158 health posts and 10 rural drug vendors. The selected districts (Gena, Mareka and Loma) have each 36 health posts and 4 health centers except Mareka which has two health centers. A total of 17 HEW supervisors and 217 HEWs were deployed and working in all the three districts.


4.2 Study Design

A community based cross-sectional study design was employed using both qualitative and quantitative methods.

4.3 Population

4.3.1 Source population

The source population was all populations of rural Kebele of the zone, all health extension workers and all HEP coordinators/supervisors in the zone.



4.3.2 Study population

All households in the rural kebeles of the three randomly selected districts were the study population for quantitative study while all HEWs and HEW Supervisors were study populations for qualitative study.

Study units: For quantitative study: selected households with mothers

For qualitative study: selected FGD & in-depth interview participants.

Inclusion criteria for quantitative study

- ✓ Mothers who lived at least six months in the study area

Inclusion criteria for qualitative study

- HEWs and HEWs supervisors who served one year and above in the study area

Exclusion criteria

- ✓ Seriously ill respondents (individuals who are unable to give response)
- ✓ Respondent who doesn't fulfill inclusion criteria

4.4 Sample size and Sampling Techniques

4.4.1 Sample size

To determine the number of households to be included in the study, formula for single population proportion was used. The proportion of households implementing health extension packages in the study area were assumed from the previous finding in Amhara and SNNPR. The finding revealed that the proportion of households, who constructed shelter for latrine, ever user of family planning methods, ITN users, and pit latrine users were 83.9%, 65%, 79.2%, 93% respectively. Of these, family planning gave maximum sample size and hence, its achievement (p) in the study area assumed 65%. In addition, a design effect of 2, desired precision (d) of 5%, confidence level (α) of 95% and none -response rate of 10% was considered. Therefore,

$$n = \frac{(Z_{\alpha/2})^2 \cdot p \cdot (1-p)}{d^2} = (1.96)^2 \cdot .650 \cdot (.350) / (0.05)^2 = 350 \rightarrow 350 \cdot 2 = 700 \rightarrow 700 \cdot 10\% + 700 = 770$$

For qualitative study four Focus Group Discussions (FGDs), each comprising of 6-8 participants and 18 in-depth interviews were conducted.

4.4.2 Sampling procedures

Three woredas were randomly selected by simple random sampling technique out of the five districts found in the zone. Then, three Kebeles were selected from each district by simple random sampling technique (a total of 9 kebeles). The recent list of households with mothers in each kebele was obtained from HEWs. The sample size was distributed to the nine Kebeles

proportionate to the size of their households i.e. total sample size (n) multiplied by HH with mother in a single kebele (x_1) divided by total HHs with mothers (N) in nine kebeles, which gave y_1 HHs with mothers. Then, simple random sampling technique was employed to include participants from sampling frame obtained from HEWs. Three revisits were made to get mothers who were not available at the time of data collection. One HEW supervisor from each study woreda, nine HEWs (one from each study kebele) and six mothers were participated in in-depth interview. All health posts were observed by investigator for the availability of supplies, recommended drugs, water and latrine facilities, and other related issues. A total of four FGDs were conducted with stakeholders (4 religious leaders & 4 community leaders). About 6-8 discussants had participated in each FGD.

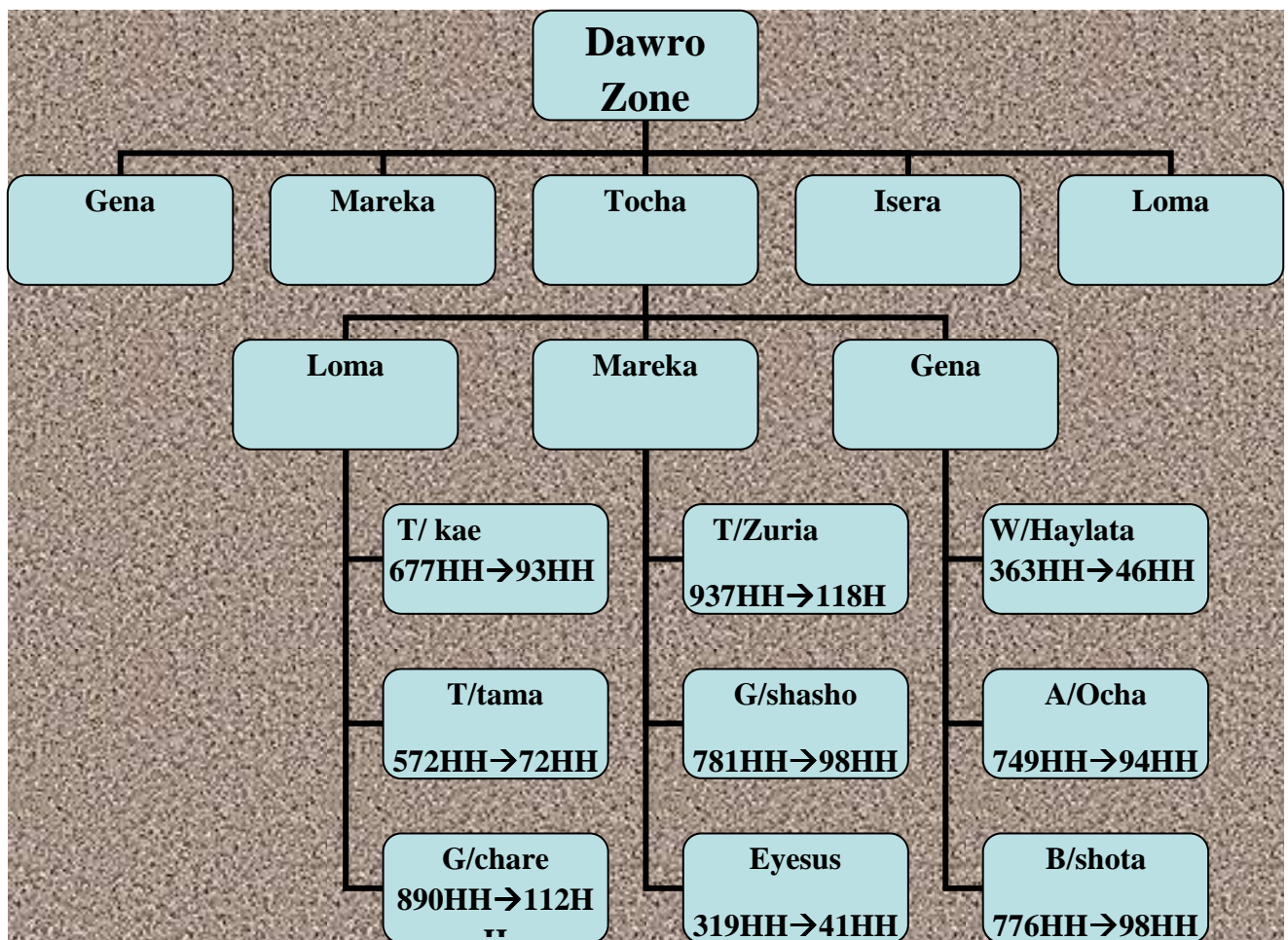


Figure 2: Schematic presentation of sampling procedures

Note: “→” indicates proportionally allocated sample size in each kebele. For example, the allocated sample size for Wozo Haylata was determined by dividing the result of kebele’s total household and the required sample size to the total number of households’ in nine kebeles’ (n of W/haylata= $\frac{363*770}{6124} \approx 46$ HH). The others were also calculated in the same manner.

6124(N)



4.5. Data collection process and measurements

4.5.1 Data collection instruments:

- ✓ Questionnaire was developed after a thorough review of standard questionnaires and other related literatures.
- ✓ FGD guide was prepared after reviewing different literatures
- ✓ Observation checklist for health post review was developed

4.5.2 Study variables

4.5.2.1 Independent variables


- ✓ Age
- ✓ Marital status
- ✓ Occupation
- ✓ Religion
- ✓ Ethnicity
- ✓ Educational status
- ✓ Distance from health post
- ✓ Frequency of home visit by HEWs
- ✓ Family size
- ✓ Information about health extension services
- ✓ Presence of model households in the neighbor
- ✓ Possession of radio

4.5.2.2 Dependent variables

- ✓ Implementation of health extension packages

***Implementation:** was assessed by KAP of households on major components of HEP and other indicators (7, 20), being supported by qualitative findings.

- Disease Prevention and Control
 - Proportions of under-five children and pregnant women who slept under ITN night before the survey
 - Proportion of anti malaria drug users from health post
 - Proportion of households who were knowledgeable about causes, symptoms, transmission and prevention and control of malaria, HIV/AIDS and Tuberculosis.
 - Proportion of participants who have good practice on HIV/AIDS, malaria and tuberculosis prevention and control

- 
- Proportion of households who have positive attitude on malaria, HIV/AIDS and Tuberculosis prevention and control packages.
 - Family Health Services
 - Proportion of children who received specific vaccines before first birth day
 - Proportion of women who have got at least two TT vaccination while pregnant with the most recent birth in last five years.
 - Proportion of pregnant women who attended at least once during the recent pregnancy within past five years by HEWs.
 - Proportion of deliveries assisted by HEWs
 - Proportion of women of reproductive age (15-49 years) at risk of pregnancy who are using a contraceptive method.
 - Knowledge, Attitude and Practice of households on family planning methods, vaccination, breast feeding, harmful traditional practices, maternity services
 - Hygiene and Environmental Sanitation
 - Proportion of households who have latrine and using it
 - Proportion of households who received education and information on the safe handling and disposal of wastes,
 - Proportion of households who were knowledgeable and have good practice on waste disposal
 - Proportion of households who have access to health extension packages

4.5.3 Data collection methods and personnel

I. Qualitative part

This method was utilized to explore inherent views of the participants and further build-up and supplement the findings of quantitative study. Focus group discussion was guided by a semi structured questionnaire (FGD guide) being moderated by the principal investigator. For all groups of FGDs, appropriate sites were selected by communicating with kebele administrator prior to the session. Careful attention was given to establish the frequency of occurrence of themes, phrases and expressions that the discussants were using to describe their opinions relative to the objectives. To make the information more valid, the discussion was captured by tape recorder after getting permission from the participants. The principal investigator have also conducted in-depth interview with HEW Supervisors, HEWs and mothers on different issues related to health extension packages using an interview guide.




II. Quantitative part

The principal investigator selected three supervisors (three BSc. Nurses) and twelve data collectors whose educational status was 10th grade and above from the study area based on their previous experience of data collection. Two days training was provided on objectives and data collection process.

4.6 Operational definition

1. **Access:** the ease with which individuals can use the services; for this study it used for distance from home to health post, access to health information, availability of services, access to model households, access to water and latrine facilities.
2. **Attitude:** assessment of the predisposition to respond in favor of or against HEP. It was measured by asking attitude related questions. The respondents attitude was measured using a five-point Likert scales as (1) strongly disagree (2) disagree, (3) neutral (4) agree and (5) strongly agree and mean score was computed and dichotomized into positive and negative. Those who scored mean and above were labeled as having positive attitude and those scored below the mean were labeled as having negative attitude.
3. **Essential health service packages:** sixteen health extension packages; namely HIV/AIDS and other Sexually Transmitted Infections and TB prevention and control, Malaria prevention and control, First Aid emergency measures, Maternal and child health, Family Planning, Immunization, Adolescent Reproductive Health, Nutrition, Excreta Disposal, Solid and liquid waste disposal, Water supply safety measures, Food hygiene and safety measures, Healthy home environment, Control of insects and rodents, Personal hygiene, and health education.
4. **Factors:** any condition from the provider side, beneficiaries or program coordinators which positively or negatively affects the achievement of HEP.
5. **Fully immunized-** capability of the system to provide all vaccine in the child hood schedule at the appropriate age and appropriate interval between doses in the first year of life.
6. **Health extension worker:** worker trained for one year predominantly about prevention and promotive health services to be assigned in health post at Kebele level (1,5,7)
7. **Household:** study units or houses in which mother is available
8. **Iddir:** A social organization established by community members, usually to help each other with modest amounts of money, labor and deeds during mourning, marriage, and/or other social occasions.

- 
9. **Kebele:** The smallest governmental administrative unit with an estimate population of about 5000 peoples.
 10. **Knowledge of health extension services:** those respondents with mean score and above to knowledge questions are considered as having good knowledge and scores less than mean are considered as having poor knowledge.
 11. **Practice:** the households' experience of performing health extension packages, identified by observation and practice related questions. Correct answer was given score 1 and incorrect answer was given score 0. The sum was computed and those scoring above the mean are considered as having 'good practice' and below the mean are considered as poor practice.
 12. **Woreda:** Similar to a district and used interchangeably in this study.

4.7 Data analysis procedure

Data were entered, cleaned, edited, and analyzed using SPSS Version 16.0 statistical software package. Frequency distributions mean, and standard deviations were done accordingly. Chi-square test and logistic regression was employed for categorical and dependent dichotomies variables to see the presence and magnitude of association between variables. To determine the effect of each independent variable on dependent variable multivariate analyses was also carried out. The qualitative data was transcribed manually from audio taped records after carefully reviewing patterns, possible relationship between themes, and contradictory responses.

4.8 Data quality management

The questionnaire was developed in English after reviewing relevant literatures and standard questionnaires. Then, the English version was translated in to the local language (Dawroigna) and a person with BSc in language profession and fluent speaker of Dawroigna has translated it back to English to keep the consistency of the data. The questionnaire was pretested on 5% of the sample size five days prior to data collection in the kebele where the actual survey was not conducted, and necessary modification was made.

Data collectors were selected based on their ability to speak the local language and previous experience of data collection. Training was given for both data collectors and supervisors. In the process of data collection, the supervisors being with the principal investigator have given feedback and correction to the data collectors before they deployed to the field in the following day. The name of the interviewees was replaced by codes and the interview was conducted in private, quiet settings.




4.9. Ethical considerations

Approval was secured first from The Ethical Clearance Committee of the College of Public Health and Medical Sciences, Jimma University. Then, a written letter from the Department of Health Services Management was obtained and submitted to Dawro Zone Health Department. Similar letter written by the Zone was given to all three Woreda Health Offices and thereby to the selected health institutions and Kebeles. Informed verbal consent was obtained from each respondent, they were told to have the right to give-up the interview any time they wish, their response to any of the questions would not be given to anyone else, & no reports of the study would ever identify them.

4.11. Dissemination plan

At first moment, the study results will be communicated to JU scientific Community. After its approval, it will be disseminated to the three woreda Health Office of Dawro Zone; Zonal Health Department and SNNPR Health Bureau either through written report with or without Zonal /Regional formal presentations. Attempts will also be made to present the results in the scientific conference and to publish the result of the study on national and/ or international journals.



Chapter 5: Results

Sociodemographic and socio economic characteristics of study subjects

A total of seven hundred fifty five respondents were interviewed, yielding a response rate of 98.1%. The highest proportion, 21.7%), of the study participants was in the age group of 25 to 29 years. The mean age was found to be 32.25 (\pm SD 9.08) years. Protestant Christianity was the dominant religion in the area accounting for 65.7% of respondents, followed by Orthodox (23.2%) and catholic (10.5%). The predominant ethnic group was Dawro/mala (95.1%), and the rest were mana (2.1%), manja (1.9%) and others (0.9%). The majority of respondents were married 688 (91.1%), house wives in occupation, 551(73.0%), and more than half of the respondents, 449(59.5%), had no formal education. The average family size of the respondents was 5.45(\pm SD1.95). Regarding monthly income of respondents' - the highest proportion 567(75.1%) of respondents had monthly income of lower than 200 Birr. Of the total households, 41% possess radio. (Table 1)

Table 1: Socio demographic and socio economic characteristics of respondents, Dawro zone, Southwest Ethiopia, April 2010

Variables (n = 755)		Frequency(n=755)	Percent
Marital status	Single	6	0.8
	Married	688	91.1
	Widowed	53	7.0
	Divorced	8	1.1
Religion	Orthodox	175	23.2
	Muslim	5	0.5
	Catholic	79	10.5
	Protestant	496	65.7
Age in years	<20	18	2.4
	20-24	127	16.8
	25-29	164	21.7
	30-34	157	20.8
	35-39	143	18.9
	40 and above	146	19.3
Educational status	Illiterate	449	59.5
	Only read and write	88	11.7
	1-4	120	15.9
	5-8	78	10.3
	9-12	18	2.4
	Above 12	2	.3
Occupational status	Farmer	121	16
	Govt employee	8	1.1
	Merchant	72	9.5
	House wife	551	73
	Others*	3	.4

Ethnicity	Dawro	718	95.1
	Wolaita	3	.4
	Mana	16	2.1
	Manja	14	1.9
	Others**	4	.5
Family size	1-5	398	52.7
	6-10	343	45.4
	>10	14	1.9
Monthly income	<100 Birr	247	32.7
	100-199 Birr	320	42.4
	200-299 Birr	109	14.4
	300+ Birr	79	10.5
Possession of radio	Yes	310	41.1
	No	445	58.9
Model families in the neighbor	Yes	317	42
	No	438	58

*student & daily laborer **Hadiya, Konta & Amhara

Access of respondents to essential health extension packages

Out of the total participants, 599(79.3%) had reported that they have heard about family health services. when asked about the source of information, majority 560(74.2%) of them told that they were informed by HEWs and the others reported radio74 (9.8%), community health promoters 73(9.7%), and friends 21(2.8 %). The finding also revealed that 684(90.6%) of respondents had heard about malaria, 622(82.4%) Tuberculosis and 692(91.7%) had heard about HIV/AIDS.

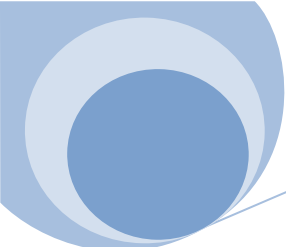


Table 2: Distribution of households' respondent by access of information to communicable diseases, Dawro zone, South West Ethiopia, April 2010

Communicable diseases	Frequency (n=755)	Percent
Malaria	684	90.6
Tuberculosis	622	82.4
HIV/AIDS	692	91.7

Socioeconomic variables known to be associated with access of informations about communicable diseases were analyzed and variables like presence of model families in the neighbor, age group, and possession of radio have shown a significant association at least with one of them. For instance, those mothers in age category of 20 to 24 were less likely accessible to information related to tuberculosis when compared to age 40 and above mothers [OR=0.49(0.26, 0.92), p=0.027]. On other hand, those households who had no radio were less likely accessible to informations related to HIV/AIDS when compared to those who had [OR=0.34, (0.18, 0, 65), p=0.001]. Likewise, households who had no model families in the neighbor were less likely accessible to informations related to malaria when compared to those who were neighbor to those families [OR=0.37(0.21, 0.66)].

Regarding accessibility of health posts with regard to distance from respondents house, majority (90.3%) had replied as the health post took on average one hour on foot with mean travel time of 25.6(±SD 1.97) minutes. Respondents were asked whether there were family members who were sick of malaria two weeks prior the survey, about 338(44.8%) had responded affirmatively. Despite the fact health post is within accessible distance, only 97(28.7%) reported as the patient was treated in the health post. According to the respondents report, Health centers (31.7%), Hospitals (28.7%) and private pharmacies (8%) were the frequently visited facilities.

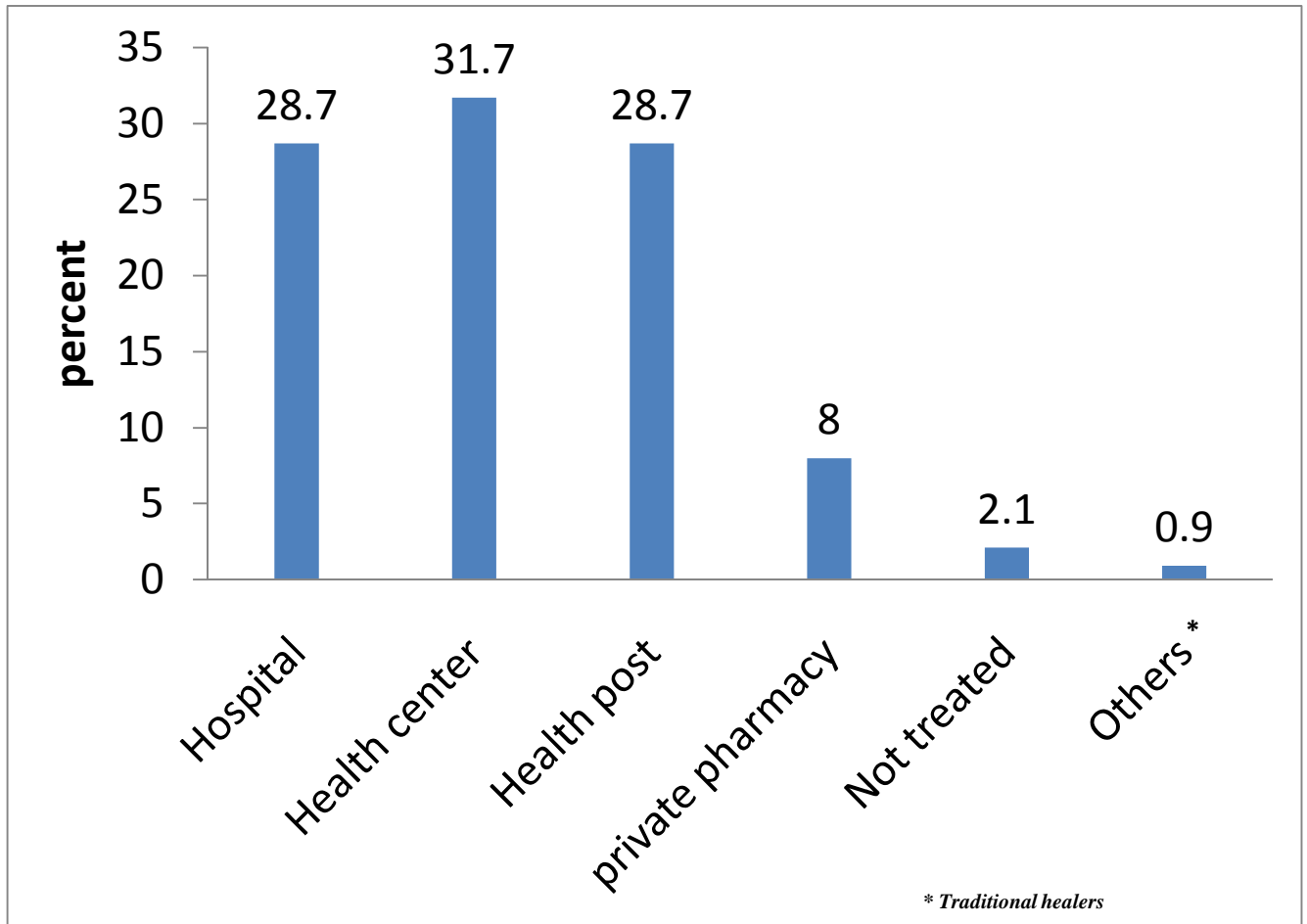
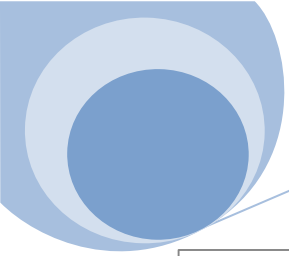


Figure3: Distribution of respondents by history of malaria treatment, Dawro zone, April 2010

The most frequently mentioned reasons why they preferred to visit health center, hospital and private pharmacy since they were expected to be treated at the health post level were: health post is not always open 55(22 %); believe that not manage properly 46(19.1%) and not satisfied with health post services 38(15.8%).

About 316(55.6%) of household respondents mentioned as health extension workers visited their houses in a monthly interval in the last six months prior to study period and others reported once in two months (20.8%), twice in a month (15%), weekly (4.4%) and twice in a week (1.9 %).

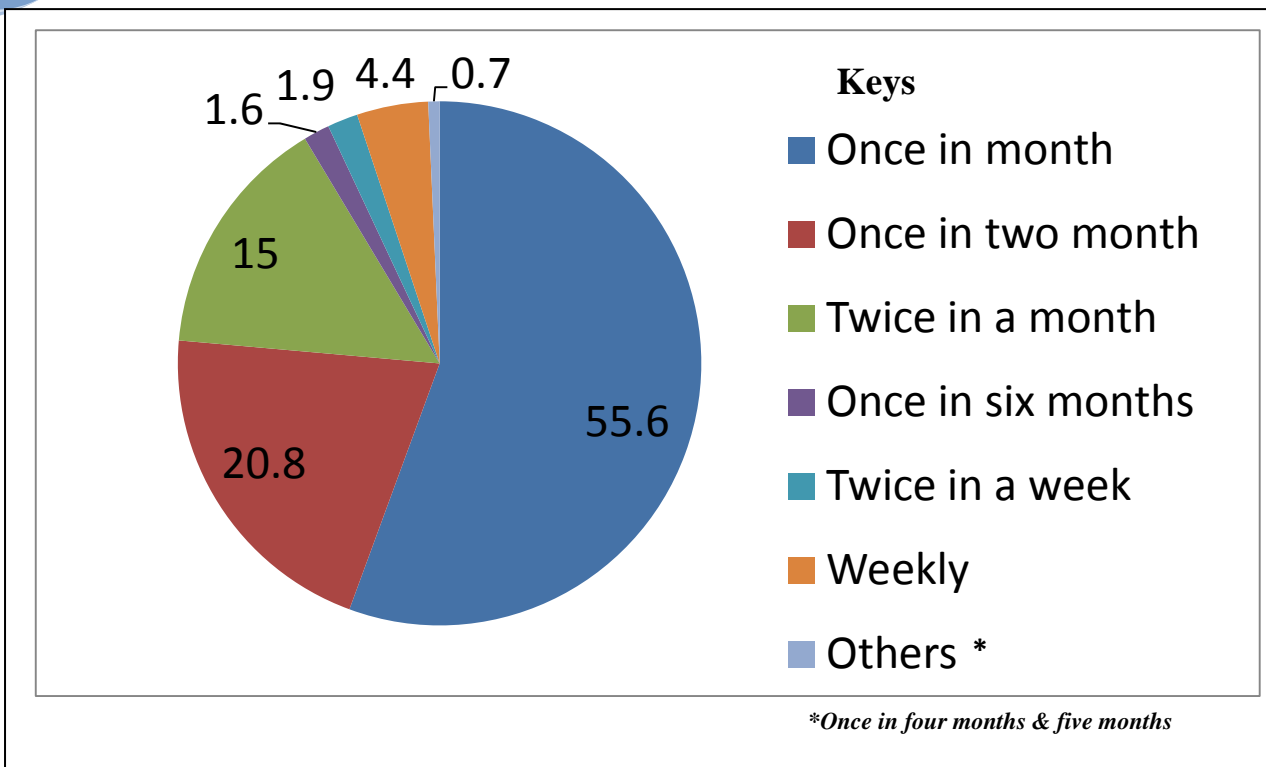


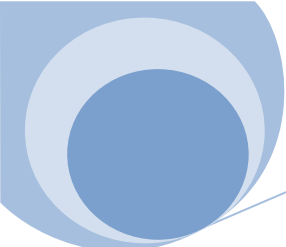
Figure 4: Distribution of respondents by HEW's visit, Dawro zone, April 2010

Of 292(69.7%) respondents who had been followed antenatal care in the past five years for their most recent pregnancy, about 255(87%) had responded as they had been given health education. The frequently reported topics were: child care (82.4%), breast feeding (69%), and family planning services (32.9%).

Concerning access to health post services, of the respondents who had given birth to the last baby in the five years preceding the survey, 397(94.7%) of the mothers reported as they delivered at home and the remaining respondents mentioned hospital 9(2.1%), health center 7(1.7%) and health post 6(1.4%). Of those mothers who gave birth at home, nearly half (46.1%)of them reported as they were not assisted by any one and others mentioned neighbors(30.7%), community health promoters(9.6%), HEWs(9.3%) and relatives(4.3%).

Table 3: Distribution of respondents by home delivery assistants in Dawro zone, April 2010

Home delivery assistants	Frequency(n=397)	Percent
HEWs	37	9.3
CHPs	38	9.6
Relatives	17	4.3



Neighbor	122	30.7
No one assisted	183	46.1

One HEWs supervisor elaborated why some health posts didn't start delivery services:

"...the reason why some health posts didn't start yet is that they had no functional delivery kits and examination tables, and health extension workers are also not equipped with adequate knowledge and skill to manage delivery and labour cases". He added also absence of houses for health extension workers and water facilities at the health post compound especially for those cases coming at night and absence of educational opportunity and salary promotion as the major factor for not effectively performing their duties.

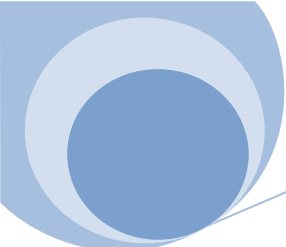
Concerning access of households to water sources, 552(73.1%) of households were using pipe water, and others were using river 126(16.7%), spring 54(7.2%) and well 23(3%) water sources. The mean travel time to reach pipe water source in one trip was 20.8(SD+1.84) minutes.

Knowledge, Attitude and Practice of respondents on health extension packages

Knowledge on family health services

The study tried to assess knowledge of households about family health services including modern family planning methods, the age at which a child should start supplementary foods, vaccine preventable disease, and harmful traditional practices. Regarding to family planning methods, 587(77.7%) reported that they knew at least one of them. Among respondents who listed the methods they knew, about 276(46.8%) stated as modern family planning methods prevents unwanted pregnancy in addition to delaying pregnancy and others explained as it could prevent HIV and STIs 89(15.1%) and decrease the number of children, 137(13.2%). The majority 525(89.4%) of respondents mentioned Injectable followed by pills 404(68.8%) and condom 43(7.3%). Those respondents who had no model families in the neighbor were less likely to know about family planning methods as compared to those living neighbor to them [OR=0.41,(0.28,0.60)].

Concerning knowledge of the time at which the mother start breast feeding after delivery, nearly half of the respondents, 372(49.3%), reported that it should be in the first one hour, and others reported two hour 231(30.6%), three hour 68(9%), half an hour 52(6.9%), and four hours later 30(4%). Furthermore, interviewees were asked about the age at which the child start



supplementary foods to mothers breast milk, and the frequently mentioned ages were six months, four months, two months, three months, one month's with proportions of 409(54.2%), 75(9.9%), 62(8.2%), 61(8.1%), 60(7.9%) respectively.

Regarding knowledge about vaccine preventable diseases, 514(68.1%) responded as they knew at least one of them. Those respondents who were in the age category of 20 to 24 years were less likely to know vaccine preventable disease when compared to age forty and above [OR=0.37, (0.05, 0.74)]. Similarly, those who had no model families in the neighbor were less likely to know these diseases as compared to those who had [0.49 (0.35, 0.68)].

As depicted in the table below, the most widely known diseases were: poliomyelitis (77.4%), tetanus (66.1%), measles (54.5%), and tuberculosis (31.3%)

Table 4: Knowledge on vaccine preventable diseases recognized by respondents in Dawro zone, South west Ethiopia, April 2010

Vaccine preventable diseases	Frequency (n=514)	Percent
Poliomyelitis	398	77.4
Tetanus	340	66.1
Measles	280	54.5
Tuberculosis	161	31.3
Pertusis	14	2.7

As knowledge to harmful traditional practices, female genital mutilation, abduction, early marriage, milk teeth extraction, and uvelectomy accounting 81.1%, 63.7%, 64.8%, 52.1% and 48.6% respectively were reported. Mothers in age groups of 25 to 29 years were less likely to know female genital mutilation as one of harmful traditional practices when compared to age forty and above [OR=0.45,95%CI (0.25, 0.79)]. Despite more than half of the respondents indicated common harmful traditional practices, 297(39.3%) responded as they do not know any means to avoid such practices and only 114(15.1%) had suggested informing to the government body would be a preferable mechanism. Providing education especially in areas where it was frequently happening 167(22.1%), respecting the government rule 156(20.7%), and working together with HEWs and kebele administrators 21(2.8%) were the other directions put by the respondents.

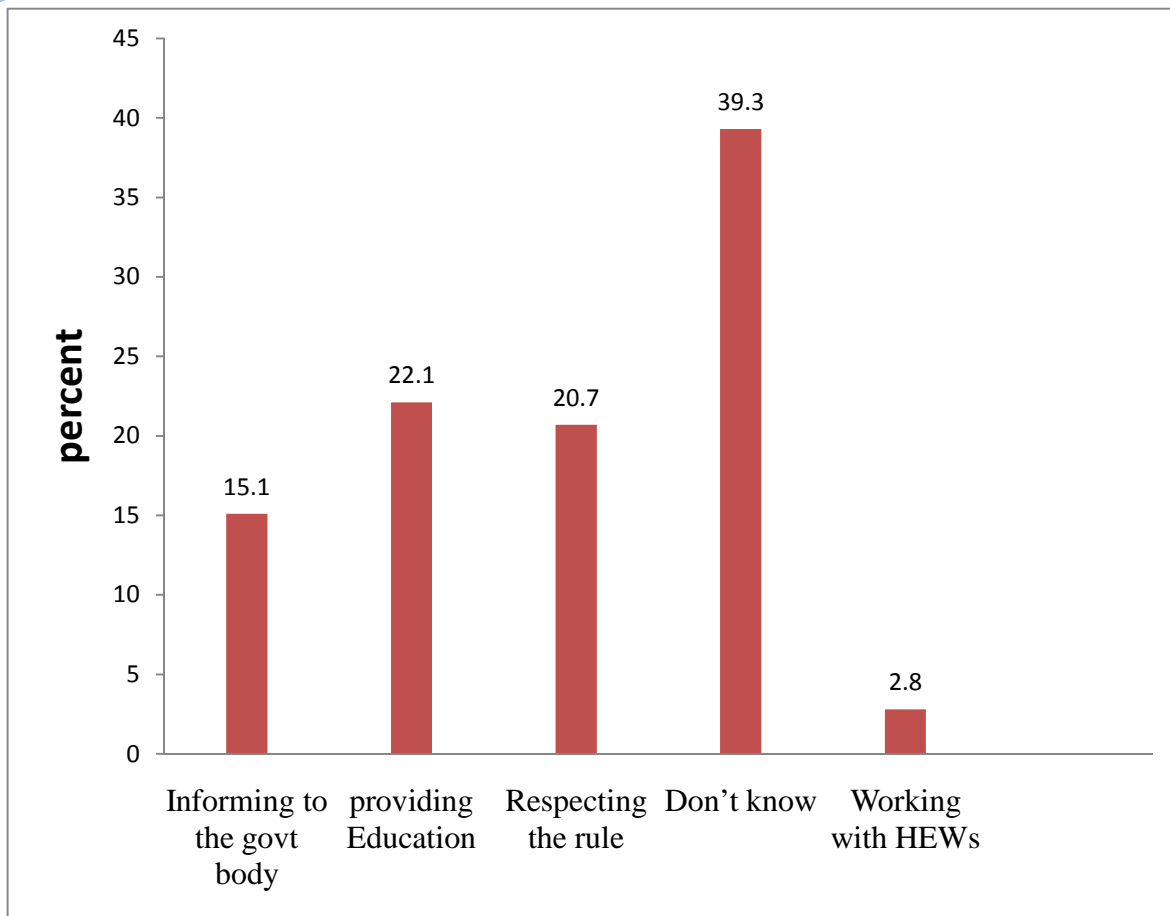


Figure 5: Distribution of respondents on mechanisms to avoid HTPs, Dawro zone, April 2010

Finally, mean score was calculated based on items prepared to measure knowledge of households about family health services. It was found to be 10.71 (\pm SD 2.46) and those who have scored mean & above the mean were considered to be knowledgeable (52.2 %) while those below the mean were not, accounting for (47.8%). Educational status of respondent has significant association with knowledge about family health services. Those mothers who had not attended formal education were less likely knowledgeable about family health services as compared to secondary and above [OR=0.55(0.32,0.93)]

Attitude of household respondents towards family health services

Respondents were requested to show their opinion on six attitude questions prepared on packages under family health service component. Among total respondents 61.3% revealed strong agreement for the appropriateness of delivering family health services by female HEWs. Similarly in the preference of HEWs to untrained traditional birth attendants' and in all others, more than 60 % of respondents were strongly agreed. Mean score of attitude on family health service was found

to be 27(\pm SD2.58 and 406(53.8%) had scored mean and above value whereas 349 (46.2%) scored below the mean value.

Table 4: Distribution of respondents on attitude towards family health services in Dawro zone, April 2010.

Attitude questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Delivering family health services by female health extension worker is the appropriate way.	463(61.3)	254(33.6%)	7(0.9)	15(2)	16(2.0)
Health extension workers are preferable to traditional birth attendants during labour and delivery	463(61.3)	216(28.6)	33(4.4)	19(2.5)	24(3.2)
Family Planning help couples to become responsible parents	512(67.8)	215(28.5)	9(1.2)	7(0.9)	12(1.60)
Child spacing helps protect the health of children and mothers	542(71.8)	191(25.3)	7(0.9)	9(1.2)	6(0.8)
The youth should be provided with adequate and reliable information on Sexual and reproductive health services	500(66.2)	240(31.8)	5(0.7)	4(.5)	6(.8)
Female genital mutilation is one of the harmful traditional practices that cause problems of adolescent reproductive health	429(56.8)	247(32.7)	20(2.6)	31(4.1)	28(3.7)

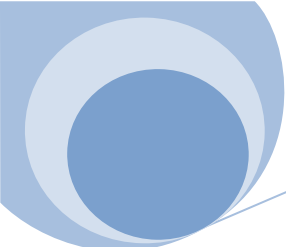
Practice of Household respondents on family health services

Out of the total 729(96.6%) respondents in reproductive age group, 457(62.7%) were ever user of family planning services from health posts and among them 407(89.1%) reported as still they were using it. From the modern family planning methods, Injectable 356(87.5%), oral pills 216(53.1%), and Condoms 16(3.9%) were commonly used methods currently. The major reasons mentioned by the defaulters (10.5%) and other non-users (39.5%) why they had stopped or not started yet were: fear of side effects 29(51.8%), to have more children 12 (21.4%), my husband don't want 10(17.9%) and preferred method is not available 5(8.9%).

Table 5: Distributions of respondents by use of family planning methods in Dawro zone, South West Ethiopia, April 2010

Currently used FP methods	Frequency (n=407)	Percent
Injectable		
Yes	356	87.5
No	51	12.5
Pills		
Yes	216	53.1
No	191	46.9
Condom		
Yes	16	3.9
No	391	96.1
Others		
Yes	14	3.4
No	393	96.6

Respondents who had got pregnancy in the last five years, 419 (57.5%) were asked whether they had followed antenatal care in the health posts for their recent pregnancy and 292(69.7%) responded as they had attended. The most frequently mentioned reasons for not attending antenatal service were not seeing the need to attend 63(50%), and belief that the care was not adequate 45(35.7%) and some others mentioned work load 10 (7.9%). Respondents who had not been visited by HEWs in past six months preceding the survey were less likely to attend antenatal



follow up as compared to those who had been visited [OR=0.27(0.16,0.45)]. As the vaccination card and mothers oral report showed, 61(14.6%) had vaccinated for TT₃, 75(17.9%) had for TT₂, 123(29.4%) had vaccinated for TT₁ in their last pregnancy. With regard to children vaccination service, of the total 143 under two years children, the report of mothers and vaccination card showed that about 72(50.3%) were vaccinated for Oral Polio Vaccine (OPV₀), 101(70.6%) for BCG, 121(84.6%) were vaccinated for OPV1 and Penta1, 107(74.8%) were for OPV2 & penta2, 98(68.5%) OPV3 & Penta3, 109(76.2%) were vaccinated for measles and 65(45.5%) were fully immunized.

Generally, about 31% respondents had a good practice on family health services and the remaining 69% had poor practice. Those households who were not knowledgeable about family health services were less likely to practice as compared to knowledgeable [OR=0.15, 95%CI (0.71, 0.32)]. On the other hand, those respondents who live in the neighbor of model families were about 1.1 times more likely to practice family health services as compared to those who were not [95%CI (1.74, 3.63)].

Table 6: Practice of respondents on family health services by selected variables, Dawro zone, April 2010

Selected variables		Practice of HHs on Family health services		OR(95%CI)	
		Good	Poor	Crude	Adjusted
Possess radio	Yes	86	42	1	1
	No	38	39	0.50(0.28,0.89)	0.47(0.21,0.95)
Knowledge	Not knowledgeable	18	62	0.18(0.93,0.36)	0.15(0.71,0.32)
	knowledgeable	54	34	1	1
Attitude	Positive	55	65	1	1
	Negative	25	60	0.49(0.27,0.89)	0.69(0.34,1.43)
Educational	No formal education	31	47	1.12(0.53,2.38)	1.46(0.55,3.88)
	Primary	32	49	1.11(0.53,2.35)	1.13(0.41,2.76)
	Secondary & above	29	17	1	1
Neighbor of model family	Yes	62	41	2.33(1.53,5.21)	1.07(1.74, 3.63)
	No	39	63	1	1



Knowledge of household respondents on disease prevention and control packages

Knowledge of respondents was assessed using knowledge related questions particularly on causes, signs and symptoms, transmission and mechanisms to prevent and control of the three major communicable diseases: malaria, tuberculosis and HIV/AIDS.

Out of the total participants, 684(90.6%) responded that they had heard about malaria. Shivering was one of the most common symptoms reported by more than 95% of the study participants followed by fever (70.8%), headache (50.1%), vomiting (32.9%), and loss of appetite (31.1%).

Table 7: Malaria sign and symptom identified by respondents, Dawro zone, South West Ethiopia, April 2010

Sign and symptoms	Frequency(n=684)	Percent
Chills/shivering	651	95.2
Fever	484	70.8
Headache	343	50.1
Vomiting	225	32.9
Loss of appetite	213	31.1
Others	15	2.2

Of 223(32.6%) respondents who responded as malaria a transmissible disease, 202(90.6%) had pointed out mosquito bite, 77(34.5%) body contact with infected person, 16(7.2%) fly bite, and 17(7.6%) when patient breaths. Other misconceptions including body contacts (like sweat, sharing cloths, saliva, vomit), fly bite, breathing or making contacts with malaria patients and bed bugs/fleas could cause malaria were also suggested as ways of malaria transmission.

Of those 585(85.5%) respondent that responded to know how to prevent malaria 362(61.9%) mentioned anti malaria drugs, 349(59.7%) bed net, 253(43.2%) spraying DDT and (32.8%) draining stagnant water.

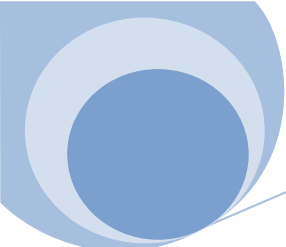


Table 8 : Malaria prevention and control methods recognized by respondents in Dawro zone, South West Ethiopia, April 2010

Malaria prevention methods	Frequency	Percent
Anti malaria drugs	362	61.9
Bed net	349	59.7
DDT spraying	253	43.2
Draining stagnant water	192	32.8
Others	9	1.5

Nearly forty seven percent of respondents identified that both pregnant woman and under- five children are more likely to get malaria when compared to other categories. As presented in the table below, 77% of the respondents indicated under -five children followed by pregnant woman (63%), Non pregnant woman (29.5%), father (25.7%) and others like adolescents (3.2%).

Table 9: Respondents knowledge on high risk (vulnerable) for malaria, Dawro zone, April 2010

Peoples at higher risk of malaria	Frequency(n=684)	Percent
Pregnant woman	431	63
Under five children	527	77
Non pregnant woman	202	29.5
Father	176	25.7
Others	22	3.2

Of the total interviewees, 82.4 % replied that they had heard what tuberculosis is and when asked to list the common sign and symptom of Tb, more than three-fourth had identified cough for three weeks and over, 59.4% cough with sputum, 24.1% fever and night sweating, and 22.3% loss of appetite and body weight. Respondents who possess radio were about 1.9 times more likely to point out loss of appetite and body weight as clinical picture of tuberculosis as compared to households no radio [95%CI (1.20, 2.8)]. Similarly, respondents whose educational status was primary were less likely to mention cough with sputum as compared to secondary and above [OR=0.48(0.28, 0.83)] and those whose age below 20 years were less likely to report fever and night sweating as symptom of tuberculosis when compared to age forty and above [OR=0.30(0.11, 0.86)].

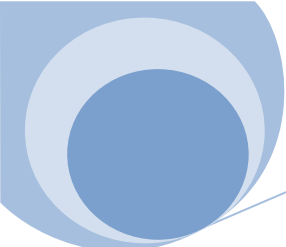


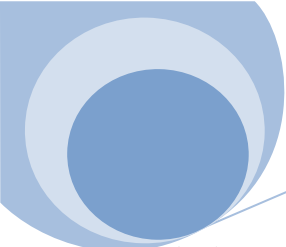
Table 10: Sign and symptoms of Tuberculosis identified by respondents in Dawro zone, April 2010

TB Clinical pictures	Frequency (n=622)	Percent
Coughing for three weeks & over	469	75.4
Cough with sputum	369	59.3
Fever & night sweating	150	24.1
Loss of appetite & body weight	139	22.3
Others*	19	3.1

*weakness, dizziness, shortage of breathing

Concerning knowledge about transmission of tuberculosis, majority of the respondents reported that TB is spread through the air when the patient is coughing or sneezing and using utensils in common, 531(85.4%) and 495(79.6%) respectively. Touching Tb patient’s body 57(9.2%) and sexual intercourse 31(5.0 %) were the misconceptions reported as transmission ways.

As to transmission of HIV/AIDS, use of sharp materials in common 613(88.6%), unprotected sexual intercourse 470(67.9%), and mother to child transmission during pregnancy, delivery and breast feeding 134(19.4%) were the frequently mentioned routes of HIV transmission. Majority of respondents pointed out the right methods of HIV prevention, like abstinence before marriage 463(70.7%), being faithful to their husband or wife 409(62.4%), and keeping oneself from sharp injury (53.6%), and condom use 260(39.7%). About 37(5.3%) replied that they don’t know any methods of prevention. Those respondents who had no radio were less likely to mention prevention ways of HIV/AIDS as compared to those who had [OR=0.47(0.23, 0.99)]. The calculated mean score of knowledge about disease prevention and control packages was found to be 13.9(±SD 3.95). About 61.8% respondents scored mean & and above value and 38.2% scored below. Those respondents who received HEWs’ visit were 1.6 times more knowledgeable when compared those not in the past six months of preceding the survey [95% CI (1.01, 2.42)]. Moreover, those who had been visited in a weekly interval were 3.5 times more knowledgeable as compared to two months and above [95% CI (1.25, 9.64)].



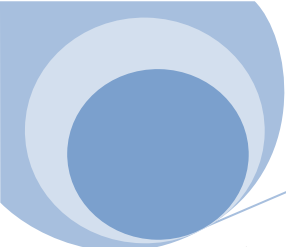
Attitude of respondents on disease prevention and control packages

Of the total respondents, about 51.3% had positive attitude towards disease prevention and control packages and the remaining 48.7% had negative attitude for the items presented in the following table.

Table 11: Responses of the respondents to attitude questions, Dawro Zone, South West Ethiopia April 2010

Items	strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean score
People with AIDS virus should be ashamed of themselves.	221(31.9%)	97(14%)	30(4.3%)	245(35.4%)	99(14.3%)	20.47 (±SD 2.97)
People with AIDS virus should be blamed for bringing the disease into the community.	263(38%)	119(17.2%)	48(6.9%)	177(25.6%)	85(12.3%)	
Malaria can be prevented by eliminating mosquito breeding places and by using insecticide treated mosquito nets	561(74.3%)	178(23.6%)	7(0.9%)	4(0.5%)	5(0.7%)	
Malaria prevention and control activity is the responsibility of all peoples	512(67.8%)	203(26.9%)	15(2%)	20(2.6%)	5(0.5%)	
The prevention and control of tuberculosis requires collective efforts of communities and the population at large.	503(66.6%)	230(22.2%)	6(0.6%)	5(0.5%)	11(1.1%)	
Families can prevent substance use among young adults to reduce the risk behavior that expose them to HIV/AIDS	337(44.6%)	243(32.2%)	95(12.6%)	37(4.9%)	43(5.7%)	

Knowledge of respondents on disease prevention and control package was showed a significant association with attitude on the same packages. Those respondents who were knowledgeable about disease prevention & control packages were 1.8 times more likely to have positive attitude as compared to not knowledgeable [95% CI (1.23, 2.57)].



Practice of respondents on disease prevention and control packages

Household possession for at least one mosquito net in the surveyed households was found 550(72.8%). Of them, 424(77.1%) had replied at least one family member slept under the bed net the night before the survey. Among the total of 336 under-five children, the proportion of who slept under treated net during the night preceding the survey was 144(42.9%). Those respondents in the neighbor of model families were about 1.7 times more likely to utilize bed nets compared with who were not [95%CI (1.13, 2.52)].

About 435(57.6%) had reported as they had discussed about Tuberculosis prevention and control methods with HEWs and of whom 132(30.3%) had reported as they had take time to discuss with their family members also. Mean score of households on practice of disease prevention and control package was 3.7(±SD 0.67). About 60.8% of the respondents had scored mean and above value where as 39.2% scored below the mean value. Those respondents who were not knowledgeable about disease prevention and control packages were less likely to practice as compared to knowledgeable respondents [OR=0.41(0.19, 0.87)]. Similarly, those who were not neighbor to model families were less likely to practice as compared to their counter parts [OR=0.45, (0.22, 0.92)].

Table 12 Practices of households on disease prevention and control packages by selected variables, Dawro zone, South West Ethiopia, April 2010

Selected Variables	Practice on disease prevention and control packages		OR(95% CI)		
	Good	Poor	Crude	Adjusted	
Educational status	No formal education	150	90	0.74(0.41,1.34)	0.26(0.10,0.66)
	primary	63	56	0.50(0.26,0.95)	0.46(0.16,1.37)
	secondary& above	45	20	1	1
Knowledge	Knowledgeable	106	62	1	1
	Not knowledgeable	43	63	0.39(0.24,0.66)	0.41(0.19,0.87)

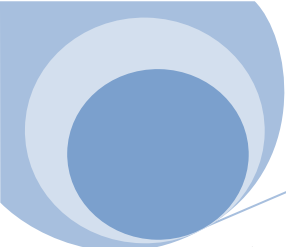


Table 12 continued...

Neighbor to model family	Yes	84	79	1	1
	No	174	87	0.53(0.36,0.79)	0.45(0.22,0.92)
Possess radio	Yes	98	82	1	1
	No	84	160	0.63(0.42,0.93)	0.39(0.19,0.81)

Knowledge, Attitude and practice of households on Hygiene and Environmental sanitation packages

Knowledge about hygiene and environmental sanitation

Of the total household respondents, 693(91.8%) had responded that they had awareness on how to dispose wastes, indicating HEWs 651(93.9) as the main source of information followed by community health promoters 85(12.3%).

“...Many people, including me may speak about health, but knowledge about health was very limited previously, thanks to the HEP, after assignment of HEWs here in our community, I get the opportunity to comprehend what health is, what personal hygiene is, what environmental sanitation is, of all what health is.” said a 36 years old orthodox religious leader.

Nearly ninety percent of households had awareness on safe disposal methods of solid wastes and around three fourth of them mentioned disposing in pits 534(77.0%), followed by burning 481 (70.2%), burying 251 (36.6%) and 9(1.3%) had indicated disposing on open fields and roads. On the other hand, when asked about the consequences of disposing wastes improperly, about 511(67.7%) replied as it could be the main place for breeding of flies and mosquitoes, and others mentioned environmental pollutions 510(67.5%), health problem for human being & animals 306(40.5%).

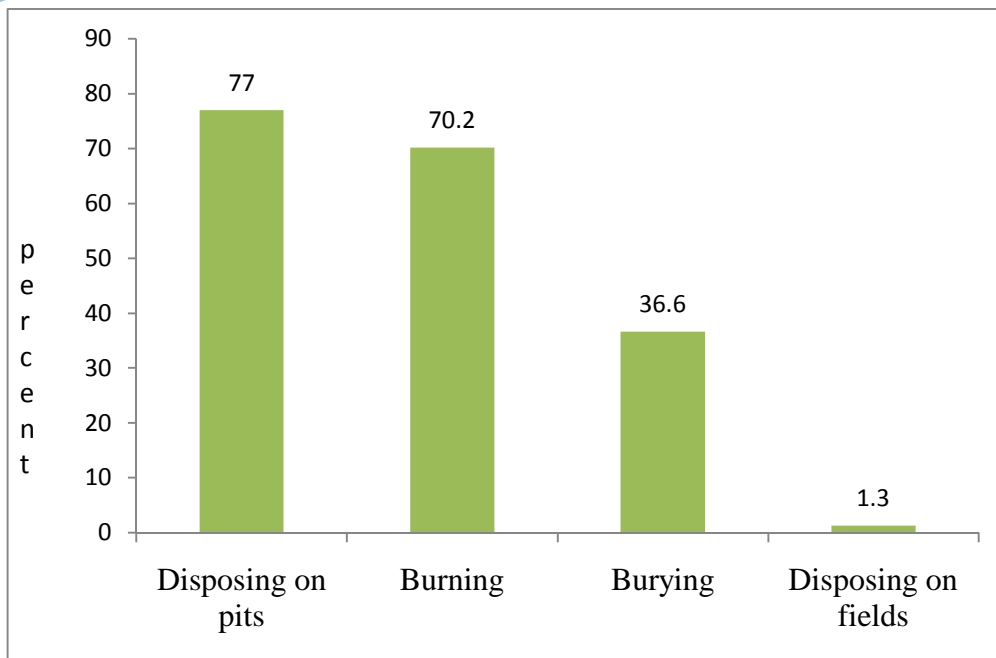


Figure 6: Waste disposal methods reported by households in Dawro zone, April 2010

On the other hand, of those who responded as they know how to control diseases related to water 322(42.6%), about 43.3% respondents reported handling water with clean container and others mentioned safe disposal of human excreta 32.4%, and drinking boiled and cooled water 3.7%.

Regarding knowledge about food contamination, about 531(70.3%) reported preparing food with dirty hands or eating, 427(56.6%) dropping foods on the ground, 421(55.8%) preparing foods with contaminated water, and 417(55.2%) indicated keeping foods uncovered. Similarly, when asked how to handle water fetched for home use, majority of respondents reported covering with clean cover 542(71.8%), using clean container 508(67.3%), putting in clean place 234(30.1%) and about 121(16%) responded as they don't know any method.

Finally, the mean score of knowledge was calculated and found to be 4.6(\pm SD 1.21). Totally, 79.9% had scored mean and above value whereas 20.1% scored below the mean value. Respondents whose educational status was primary were less likely knowledgeable as compared to secondary and above [OR=0.34, (0.16, 0.73)]. On other hand, mothers in the age category of 25 to 29 years were 1.8 times more likely knowledgeable about hygiene and environmental packages than forty and above years [95% CI (1.03, 3.33)].



Attitude towards hygiene and environmental sanitation packages

The attitude of respondents towards hygiene and environmental sanitation packages was assessed using attitude questions and mean value was determined at last. The finding revealed that, about 601(79.6%) had scored mean and above value and the rest scored below 154(20.4%) the mean value. Hence, majority of the respondents have positive attitude towards hygiene and environmental sanitation packages. Those households which had been visited by HEWs in the past six months prior to the survey were 2.1 times more likely positive attitude as compared to not visited [95% CI (1.45, 3.11)].

Practice of respondents on hygiene and environmental sanitation

Almost all the households 693(91.8%) had privately owned pit latrines and when asked whether they were using it or not, about 681(98.3%) explained that all the family members of greater than five years old were using latrines.

“...for instance, currently almost all households in our village had a pit latrine. HEWs do not teach how to construct pit latrines but also how to use and maintain the cleanness of the pit latrine, using soap or ash to wash our hands after defecation.” stated by a 38 years old discussant.

Among the reasons given by the non users, staying out for work, latrines were not functional, and the pit was full were the frequently mentioned reasons. Respondents who had reported the presence of model families in their neighbor were 1.5 times more likely to practice as compared to none [95% CI (1, 2.24)].

“... Strategies like ‘model household’ approach have been crucial in helping other community members understand the benefits of and apply preventive health practices. Further, improvement of health status of model households’ children as a result of vaccination and environmental sanitation has stimulated others to immunize their children and build additional pit latrines.” said a 34 years old discussant.

Similarly, respondents who were not knowledgeable about hygiene and environmental sanitation were 0.18 times less likely to practice as compared to knowledgeable [95% CI (0.11, 0.29)].

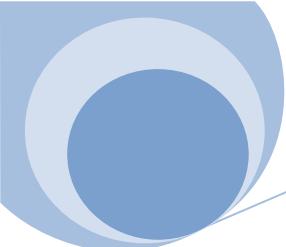



Table 13: Practice on hygiene & environmental sanitation packages by selected variables, Dawro zone, South West Ethiopia, April 2010

Selected Variables	Practice on hygiene & environmental sanitation packages		OR(95% CI)		
	Good	Poor	Crude	Adjusted	
Family size	1-5	192	88	0.20(0.02,1.56)	0.17(0.02,1.48)
	6-10	124	112	0.10(0.01,0.79)	0.08(0.01,0.64)
	>10	11	1	1	1
Knowledge*	Knowledgeable	281	122	1	1
	Not knowledgeable	28	69	0.17(0.11,0.29)	0.18(0.11,0.29)
Neighbor of model H	Yes	169	80	1.62(1.13,2.31)	1.49(1.00,2.24)
	No	158	121	1	1

*Knowledge about hygiene & environmental sanitation packages

Concerning hygiene and environmental sanitation packages discussed during home visiting, higher proportion 399(70.2%) of household respondents reported excreta disposal, followed closely by water supply and safety measures 385(67.8%), healthy home environment 335(59%), waste disposal(46.8%) and food and safety measures 220(38.7%). Personal hygiene and control of insects & rodents were among the least mentioned packages, 19.2% and 22.5% respectively.

The calculated mean value for practice was 5.0 (\pm SD 1.65) and about 61.9% of respondents scored mean and above value and 38.1% below the mean value. Those respondents who were not knowledgeable about hygiene and environmental packages were less likely to practice as compared to knowledgeable [OR=0.17, (0.11, 0.28)]



Chapter six: Discussion


Of the total 755 households involved in the study, about 79.3% had information access about family health services and of whom 74.2% reported HEWs as the main source of information. This indicates that health extension workers have played a great role in the provision of informations and education on matters related to family health issues.

According to the Health Extension program's implementation guideline, increasing percentage of women delivered by health extension workers or trained traditional birth attendants is among the main targets of the program. However, this study revealed that deliveries attended by health extension workers were about 10.7% and of which 9.3% were attended at home and 1.4% were at health post. Totally, about 94.7% of women gave birth at home, being in consistent with EDHS (97%) (20) and the finding in rural Ethiopia (93.8%) (35); the other study conducted in rural Bangladesh also showed that 94% of deliveries took place at homes (36). Although deliveries attended by HEWs seem trifling, it will have much contribution on regional 35.5% and national 16.4% of the 2007, in which no deliveries attended by HEWs (12).

Further attempt was also made using in-depth interview and FGDs with certain group of populations to dig out why most women deliver at home. Majority of the discussants and interviewees indicated limited skill of HEWS, absence of functional delivery kits in most of the health posts, unavailability of water facilities and living rooms for HEWS in the health post compound as the major problem of health post delivery.

The study also showed that the proportion of households who had access to informations related to HIV/AIDS, Malaria and Tuberculosis was more than eighty percent even if HEWs were the major sources of information for majority of them. About 55% and 71% of the study households, for instance, were getting informations related to tuberculosis and malaria respectively from HEWs. Though radio was the infrequently mentioned source of information, households who do not possess radio were less likely accessible to HIV/AIDS related information as compared to who had radio[OR=0.34, (0.18, 0, 65)].

This study tried to identify the contribution of model households being as source of information for communicable diseases mentioned earlier. Respondents who were not in the neighbor of model families were less likely accessible to informations related to malaria when compared their counter parts [OR=0.37(0.21, 0.66)]. Discussants in FGDs also reported model family's approach as a crucial strategy in helping other community members understand the benefits of and apply

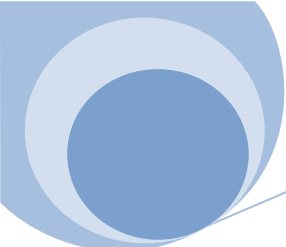


preventive health practices. Since HEWs were undertaking strong effort to identify and train additional model families on a continuous basis, it is hoped that the capacity of more and more role model households (HHs) will be built up soon and as a result the proportion of households who would have information about these diseases will be increased.

If the issue of access considered with respect to distance, more than ninety percent of respondents reported as health post took less than one hour on foot, with a mean travel time of 25.6(\pm SD 1.97) minutes; which is higher than the finding of M.E.Kruk et al, where 83.9% of respondents reported average time of one hour (35). The higher proportion in present study could be as a result of the government strategy to cover each kebele with one HP in 2008/9. In the other study in Tigray region, the average time it takes was identified as 70.5 minutes (34). Even though health post is found in accessible distance, some peoples were not using the service for various reasons. For example, 71.3% of households who had reported the presence of at least one malaria cases in the last two weeks prior to the survey, did not visit health post for treatment rather resorted other facilities. Absence of HEWs in the service area, & not manage properly were the frequently mentioned reasons. During qualitative study this issue was raised for discussion and detailed elaboration with HEWs and FGD discussants. HEWs related the condition with absence of anti malaria drugs and RDT in the health post, which was also confirmed during observation time; about three- fourth of the observed health posts had no anti malaria drugs, and RDT kits. This shows that accessibility of health post only with regard to distance and information no longer helps the community for which it designed to serve.

According to HEP implementation guideline, HEWs are required to spend 75% of their time conducting outreach activities by going from house to house (7). However, this was not evidenced in the current finding where more than 55% of households reported as they have been visited in a monthly interval and only 2% reported a two weekly visit. The proportion of households which had received HEWs visit at a recommended weekly interval (4.4%) was lower than previous study in Welkait (12%) (29). Moreover, any of the observed health post had no weekly as well as monthly written home visit schedule and it is also compounded by weak and non supportive supervisory activities.

“... We are always here to serve our community and seeing a great change on behavior as well as health status of the population. But if the supervisor assigned here is not come and show us what our strong and weak side is, how could we achieve our objectives effectively? The only possible




opportunity that we can make contact with him is when submitting our monthly report or collecting some logistics and supplies from health center.” stated by a 26 years old HEW.

The study also tried to assess whether the households had access to latrine and water facilities. The proportion of households who had private pit latrines was 91.8%, almost similar to the SNNPR coverage of 92% but much higher than the EDHS result of rural area (18.6%) (20). On other hand, those who had access to pipe water were 73.1%, with a mean time it takes to reach, 20.8(SD±1.84) minutes. This is a very astonishing figure when compared to the 2002 Dawro zone annual report of below 10% and the SNNPR 16% in both facilities. Moreover, it is far greater than the EDHS 2005 finding of 13 % (20). This improvement is might be attributable to the government effort on increasing latrine coverage, especially in rural area using health extension workers to bring remarkable awareness on preventive and promotive activities.

Among the family planning methods, Injectables, pills, condoms, and traditional methods were known by 89.7%, 69.8%, 7.4% and 1.9% of respondents. It is comparable with the study done in Amhara region where Injectable and pill were known by 71.8% and 66.8% respondents respectively. The other study conducted in rural area of Tanzania showed that pill (81.2%) was the most widely known method followed by Injectable (76.8%) and condom (29.7%) (37). Among those mothers who listed the methods they knew, about 45.9% stated as modern family planning methods prevents unwanted pregnancy in addition to delaying pregnancy and the remaining mothers explained as it could prevent HIV and STIs (5.7%) and decrease number of children (21.9%). Those households which had no model families in the neighbor were less likely to know family planning methods as compared to those living neighbor to them [OR=0.41,(0.28,0.60)]. This indicates that model households could have a significant effect in diffusing promotive activities within communities.

With regard to vaccine preventable diseases, about 68.1% household's respondents replied as they knew at least one of them. The most widely known diseases were: polio (77.4%), tetanus (66.1%), measles (54.5%), and tuberculosis (31.3%). The level of awareness on vaccine preventable disease is lower than the 87% in rural Nigeria (38). This might be due to the presence of many long year community level programs in Nigeria which can disseminate informations easily

The study also tried to assess knowledge of respondents about harmful traditional practices. The prominently mentioned practices were female genital mutilation, abduction, early marriage, milk




teeth extraction, and uvelectomy which account 81.1%, 63.7%, 64.8%, 52.1% and 48.6% respectively. This is similar finding with EDHS 2005 of SNNPR, Amhara and Tigray region (20).

Awareness of household's respondent was also assessed regarding the time at which the new born put on mother's breast milk and start supplementary foods. About 49.3% of the respondents had reported the first one hour after delivery as the appropriate time to give the child breast milk. On other hand, 54.2% indicated six months of age as an appropriate time to start supplementary foods. This indicates that still half of the study population lacks awareness on the recommended time of breast feeding as well as time of starting additional foods. This is comparable with the finding in rural Ethiopia in which 49% of women had awareness on exclusive breast feeding (39).

Finally, mean score was calculated for knowledge of respondents about family health services and found to be 10.71 (\pm SD 2.46) and about 235 (52.2 %) of the respondents were knowledgeable and the rest were not 215(47.8%). This also indicates that still much effort is expected from health workers and community health promoters to increase awareness of households on different types of family health services.

Concerning practice of family health services, about 62.5% household respondents were ever user of family planning methods from health posts and 407(55.7%) were current users. This is a higher proportion when compared to the study conducted in rural Nigeria in which the proportions of current users were 42.9 % (37); but the proportion of ever user is similar to the previous study in Amhara region and SNNPR (2). Injectable was widely used method (87.5%) followed by pills, (53.1%) and Condom (3.9%). But this is lower than the study done in India where condom, natural methods and oral pills 34.5%, 26.2%, and 18.9% respectively were most common method ever used by the respondents (40). The major reasons mentioned by the defaulters (10.5%) and other non-users (39.5%) for their cessation or not starting yet were: fear of side effects (51.8%), to have more children (21.4%), my husband does not want (17.9%) and preferred method is not available (8.9%). The proportion of respondents who reported fear of side effect was in line with the above finding in which 30.3% of women not using due to the same reason. The study by S.Kumar also showed that almost two third of the study women did not use family planning method because of wanting more children and due to its side effects, 50% and husband not allow, 15%(40).

Antenatal care especially when thought early allows regular checkups for the health of the pregnant woman and early interventions incase of any complications. Result of this study showed that about 69.7% sought antenatal care at least once during their recent pregnancy. This is lower than the Ugandan 94.4 % (41), study in rural India (73.9%) (42) and southern Tanzania (99%)



(43); but higher when compared to the EDHS 2005 result of 23.7 % (20) and studies in SNNPR (59.1%) (2). This much of change within six years, especially when compared with the national survey finding probably as a result of the meticulous effort of HEWs in their respective sites and equipping each kebeles with one health posts within accessible distance.


The most frequently mentioned reasons for not attending antenatal service were not seeing the need to attend 50%, and belief that the care was not adequate 35.7% and some others mentioned work load 7.9%. Mothers who had not been visited by HEWs in past six months preceding the survey were less likely to attend antenatal follow up as compared to those who had been visited [OR=0.27, 95% CI (0.16,0.45)].

As the vaccination card and mothers oral report showed, 14.6% had vaccinated for TT₃, 17.9% had for TT₂, 29.4% for TT₁ in their last pregnancy. On the other hand, of the total 143 under two years children, about 50.3% were vaccinated for Oral Polio Vaccine (OPV₀), 70.6% for BCG, 84.6% were vaccinated for OPV1 and Penta1, 74.8% were for OPV2 & penta2, 68.5% OPV3 & Penta3, 76.2% were vaccinated for measles and 45.5% were fully immunized

Generally, about 39% of respondents had a good practice on family health service packages and 61% had a poor practice. Further, this was not consistent with the respondents' knowledge; those respondents who were not knowledgeable about family health services were less likely to practice as compared to knowledgeable [OR=0.15, 95% CI (0.71, 0.32)].

Concerning knowledge of households to major communicable diseases, an overwhelming majority (90.6%) of those interviewed had, at the very least, heard of malaria disease. The previous study conducted in Ethiopia also showed almost similar proportion, 93 % (45) but a bit lower than study conducted in central highlands of Ethiopia (97.5%) (46). The probable reason for this difference may be respondents educational level, accessibility to informations and the strategies made by service providers to disseminate informations. As symptom of malaria, more than 95% of respondents had mentioned shivering, followed by fever (70.8%), headache (50.1%), vomiting (32.9%), and loss of appetite (31.1%). The finding is comparable with the rural Tigray, where 74% and 55% reported shivering and fever respectively (34). The higher proportion in current study could be as a result of continuous education using different strategies since the previous study was conducted.

Of those who responded malaria a transmissible disease, 90.6% had pointed out that malaria can be transmitted by mosquito bite whereas 14.3% do not know whether it is transmissible or not. Others

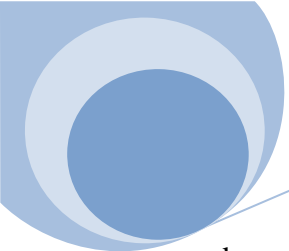


mentioned misconceptions like body contacts (like sweat, sharing cloths, and saliva), fly bite, breathing or making contacts with malaria patients and bed bugs/fleas as ways of malaria transmission. In other study also about 17.6% of respondents had mentioned mosquito bite whereas others associated the disease with drinking dirty water, eating fresh maize, exposure to bad air, starvation /thirst and eating food outdoor (47). Of those that responded to know how to prevent malaria (85.5%), 61.9% mentioned anti malaria drugs, 59.7% bed net, 43.2% replied spraying DDT as preventive ways. But in the previous finding environmental management (82.3%) and impregnated bed nets (46.2%) were the most commonly mentioned preventive strategies (34).

The finding also revealed that about 63% and 77% of respondents had indicated that pregnant woman and under- five children respectively are at higher risk of getting malaria when compared to other categories. But the study in Kenya showed that 96% of respondents knew young children to be at highest risk of suffering from malaria and 76% also knew of pregnant women being at increased risk (47). The awareness gap in Kenyan and the present study respondents may be attributable to the number of health workers, sociodemographic characteristics of respondents and sources of informations.

Regarding knowledge about Tuberculosis, about 75.4% of respondents reported cough for three weeks and over as sign and symptom of tuberculosis and others mentioned cough with sputum (59.3%), fever and night sweating (24.1%), loss of appetite and body weight (22.3%). The proportion of households who reported cough for three weeks and above were higher than the EDHS (2005) finding of 59 % (20). The higher proportion could be as a result of the governments' emphasis on combating communicable diseases including tuberculosis through preventive and promotive actions at the grass root level to achieve HSDP III goal as well as its MDG. On other hand, air droplets during coughing or sneezing and using utensils in common were mentioned by 85.4% and 79.6% of respondents respectively as transmission ways. This is also higher than the study in rural Vietnamese, where 63 % of participants reported air droplets (48).The others reported misconceptions like touching Tb patient, 9.2% and sexual intercourse 5%.

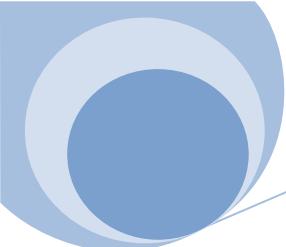
Regarding to HIV/AIDS, relatively higher proportion (91.6%) had heard about it; which is nearly similar to the previous finding (88%) (20). The frequently mentioned transmission ways were using sharps in common (88.6%), sexual intercourse without condom (67.9%) and mother to child transmission (19.4%). The Study in Gambella showed that 79.8% of respondents mentioned unprotected sex as the main way of transmission and 78.2%, 76.5% and 64% reported faithfulness,



condom use and abstinence respectively as the major prevention ways (49). But in the current finding, abstinence before marriage, being faithful, keeping from sharp injury, and use of condom were mentioned by 70.7%, 62.4%, 53.6%, and 39.7% respondents respectively. The probable reason for the existence of such difference in Gambella and the present area could be the difference in target population; the former was conducted in the town. In EDHS 2005 also 33.3% and 59.3% of mothers in rural had mentioned condom and abstinence respectively as ways to reduce risk of getting AIDS; which was almost similar with the present finding. On other hand, it is easily explicable that knowledge of condom and the role that it can play in preventing transmission of the AIDS virus is much less common among study households. Moreover, about 5.6% household's respondent don't know any methods to prevent HIV/AIDS. Some others claimed that HIV can be prevented by avoiding body contact like kissing and shaking hands with infected patient. This is also another indication to give much attention and emphasis to increase the awareness of rural populations by designing different strategies.

The calculated mean score of knowledge about disease prevention and control packages was found to be 13.9(\pm SD 3.95). About 61.8% of respondents were knowledgeable about disease prevention and control packages and 38.2% were not. Those who reported as HEWs visited their house were 1.6 times more knowledgeable when compared those not visited in the past six months of preceding the survey [95% CI (1.01, 2.42)]. Moreover, those who had been visited in a weekly interval were 3.5 times more knowledgeable as compared to two months and above [95% CI (1.25, 9.64)]. The finding revealed that the information transmitted during home visiting has much impact on awareness creation if conducted as implementation guide line recommends.

Concerning attitude of respondents toward disease prevention and control packages, about 31.9% respondents have showed strong agreement for the statement 'people with HIV/AIDS should be ashamed of themselves' This shows that still there were peoples who had negative attitude about people living with HIV/AIDS and generally, needs much effort to change the perception of those peoples towards HIV/AIDS as well as people living with it. However, about 35.4% of respondents reflected their disagreement for the same issue. On the other hand, nearly 68% of respondents strongly agreed on statement of 'malaria prevention and control activity is the responsibility of all peoples' and only 0.5% had indicated as they were strongly disagreeing. Generally, Mean score of household's attitude for the given items was identified as 20.47(\pm SD 2.97) and 51.3% of respondents had positive attitude whereas 48.7% had negative attitude about disease prevention and control packages. Knowledge of respondents on disease prevention and control package was



showed a significant association with attitude on the same packages. Those respondents who were knowledgeable about disease prevention & control packages were 1.8 times more likely to have positive attitude as compared to not knowledgeable [95% CI (1.23, 2.57)].

About 72.8% of households had at least one mosquito net in their house. Of them, 22.9% households had not slept under the bed net the night before the survey. Among the total of 336 under-five children reported, the proportion of who slept under treated net during the night preceding the survey was 42.9%. In another study, the proportion of under 5 years children who slept under bed net was 68.6% and pregnant woman was 52.1 % (46). The finding of the present study shows that the proportion being slept was a little bit lower than the proportion of households that possessed a net. Furthermore, this utilization is infrequent and does not constitute proper use. Malaria is seasonal and characterized by epidemics every two, three or four years. This may affect the adherence of households towards ITNs.

Households in the neighbor of model families were about 1.7 times more likely to utilize bed nets compared with who were not [95%CI (1.13, 2.52)]. Model households could be a good benchmarks for those who had no experience of ITN utilization as well as who had had negative attitude towards ITN.

Mean score of households on practice of disease prevention and control was 3.7(\pm SD 0.67). About 60.8% of the respondents had scored mean and above value where as 39.2% scored below the mean value. Those respondents who were not knowledgeable about disease prevention and control packages were less likely to practice as compared to knowledgeable respondents [OR=0.41(0.19, 0.87)]. This shows that increasing awareness of the households on issues related to disease and prevention package would help to utilize the available services according to their needs.

Regarding hygiene and environmental sanitation, nearly ninety percent of households had awareness on safe disposal methods of solid wastes and around three fourth (77%) of them mentioned disposing on pits followed by burning(70.2%), burying (36.6%) and 1.3% had indicated disposing on fields and roads considering as a safe way. The finding revealed that higher proportion of households in present study had awareness when compared to other studies in SNNPR (2). This could be as a result of continuous training and certifying of model families, progressive community conversation, the joint action of community health promoters and health extension workers since the previous study conducted.



Strength and limitation

Strength

- The study conducted at zonal level, therefore, it can create an image in overall progress of HEP implementation. Moreover, since it used both quantitative and qualitative methods of data collection, the accuracy of the finding may increase.
- The response rate is high

Limitation

- This research is limited by the fact that the investigator cannot with certainty ascribe any changes to HEWs' inputs, because the design is neither comparative nor longitudinal.
- Recall bias might be admitted especially on verbal report of vaccination history, antenatal follow up and HEWs visit.



Chapter seven: Conclusions and recommendations

7.1 Conclusions


Although health extension program is a newly initiated program, encouraging effort made to provide health services to the less advantaged segment of the rural peoples: While more than 60% of respondents were knowledgeable and had a good practice on disease prevention & control packages, 79.9% & 61.9% were knowledgeable and had good practice respectively on hygiene and environmental sanitation packages. However, considerable gaps were observed between knowledge about family health service packages and practice on these packages.

Furthermore, the study identified a number of factors which affects the success of HEP: Two-third of the observed health posts did not provide key services like delivery because of limited skill of HEWs & lack of delivery beds (in some health posts due to maintenance problems). In about three forth of the observed health posts there was lack and shortage of some basic drugs (like anti malarial), residence house, water and latrine facilities especially in health post compound. Lack of supportive supervision, salary promotion and career opportunity for health extension workers were also another factors identified.

There was a substantial difference in knowledge and practice of households living in the neighbor of model families and other households. Similarly, households that received HEWs' visit in a recommended weekly interval had a better awareness in all the packages.

7.2 Recommendations

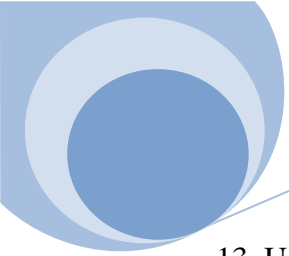
- Woreda health office and health center should provide refresher training for health extension workers especially on labour and delivery services.
- Zonal health department together with woreda health office should communicate with regional health Bureau regarding career structure for HEWs in order to make the program achieve its intended objectives.
- The woreda health office and health center should provide logistics like delivery kit and coach and more importantly anti malaria drugs (quartem) on a sustainable way.
- Health extension workers should conduct a frequent home visiting as recommended in HEP implementation guideline
- Woreda Health office should adjust transportation access for Health extension worker supervisors to enhance supervisory activities especially hard to reach health posts.

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- HEWs should continue training and certifying of model families in sustainable way
 - Zonal health department, woreda health office and health extension workers should strengthen dissemination of health service extension related informations using different information, education and communication materials to increase awareness of the community especially on family health services .
 - Further evaluative study is recommended on health service extension program to come up with changes attributable to the program.




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Annexes

Annex-IA Quantitative study

Questionnaire in English

JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES,
DEPARTMENT OF HEALTH SERVICES MANAGEMENT

Post graduate study

QUESTIONNAIRE FOR ASSESSMENT OF IMPLEMENTATION OF HEALTH EXTENSION PACKAGES IN DAWRO ZONE, SOUTH WEST ETHIOPIA, FEB 2009

Questionnaire ID Number _____

Woreda _____ Kebele _____

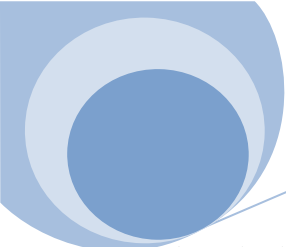
INTRODUCTION:

Hello, allow me to introduce myself. My Name is _____ I am part of people who are carrying out a survey of implementation of health extension packages in Dawro zone. I would like to invite you to have a short interview concerning this study. Before we go to our discussion, I will request you to listen carefully to what I am going to read to you about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study.

VERBAL CONSENT FORM BEFORE CONDUCTING THE INTERVIEW

The purpose of this study is to assess the implementation of Health Extension packages. In this locality, your household is randomly selected to be one of the study units. The study will be conducted through interviews. I am asking you for a little of your time, about 45 min, to help me in this study. As your participation is very important to the outcome of the study, I kindly request you to give me your sincere and truthful answer. At the end, it is hoped that the information you give me could help to reflect what the service looks like and generate recommendations on what should be done to improve the HEP implementation in general. I could like to assure you that this privacy should strictly be maintained throughout. A code n^o will identify every household and no name will be used. Your responses to any of the questions will not be given to anyone else & no reports of the study will ever identify you or your household. If a report of results is published, only information about the total group will appear. You don't have to answer any questions that you don't want to answer and you may end this interview at any time you want to.

So, I would like to get your prior consent as to whether or not you are willing to participate in the interview. Your participation/ non-participation/, or refuse to respond to the questions will have no effect now or in the future, on services that you or any member of your family may receive from any service provider.



At this time, do you want to ask me anything about the survey?

Are you, thus, willing to participate in the interview?

1. Yes: -..... Thank, and continue to the next page

2. No: -..... Thank, and Skip to the next participant

Start time____: _ End time____: _ Date____/____/____

Interviewer name_____ Signature_____

Checked by supervisor: Name_____ Signature_____ Date_____

Instructions to the Interviewers:

1. The interview will be continued only after the respondent will agree on the consent
2. Fill the questionnaire only with pen
3. Circle the answer from the options of possible responses or tick in front of the options when required
4. Strictly follow the skipping pattern

I. Socio demographic and economic characteristics of the respondents

S. N ^o	Questions	Responses /Coding category	Skip to
101	Age of respondents in years	_____ years	
102	Religion	<ol style="list-style-type: none"> 1. Orthodox 2. Muslim 3. Catholic 4. Protestant 5. Others, Specify_____ 	
103	Marital status of the respondent	<ol style="list-style-type: none"> 1. Single 2. Married 3. Widowed 4. Divorced 	
104	Educational status of the respondent	<ol style="list-style-type: none"> 1. Illiterate 2. Read and write 3. 1 to 4th grade 4. 5 to 8th grade 5. 9 to 12th grade 6. Above 12th grade 	
105	Occupation of the respondents.	<ol style="list-style-type: none"> 1. Farmer 2. Government employ 3. Merchant 4. House wife 5. Other, specify _____ 	
106	Ethnicity	<ol style="list-style-type: none"> 1. Dawro(mala) 2. Wolaita 3. Kambata 4. Mana 5. Manja 6. Other, specify_____ 	
107	Family size of the respondent	_____	
108	How long have you been living continuously in this kebele (Name	_____years	



	of current place of residence)?		
109	Does your household have radio?	1. Yes 2. No	
110	Monthly income (for employ, merchant)	_____ birr	
111	Annual income (farmers) in quintal or other measurements	Teff _____ Maize _____ Sorghum _____ Coffee _____ Wheat _____ Pea _____ Others _____	
112	How long does it take to go health post on foot?		

IIA. Respondents Knowledge, Attitude and Practice on Family Health Services

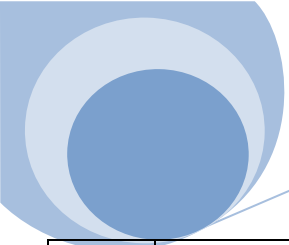
KNOWLEDGE QUESTIONS

201	Have you heard about family health services in the health post?	1. Yes 2. No	If “No” → Q203
202	If yes for Q201, from where? (multiple answer is possible)	1. Radio 2. HEWs 3. Community health workers 4. Friends/relatives 5. Others(specify)	
203	Do you know any modern family planning method which helps to delay/avoid pregnancy?	1. Yes 2. No	If “No” → Q205
204	If yes for Q203, what are they? (multiple answer is possible)	1. Pills 2. Injectable 3. Condoms 4. Others _____ 88. Don’t know	
205	What is the advantage of modern family planning methods in addition to delaying/avoiding pregnancy? (multiple answer is possible)	1. Prevents unwanted pregnancy 2. Child spacing 3. Prevents HIV and other STIs 4. Reduces family size 5. Others(specify) 88. Don’t know	

206	What are the advantages of pregnancy follow up in health post?	_____ _____ 88. Don't know	
207	For how long should a mother wait to put the child to breast milk for the first time after birth?	_____ minute or _____ hour	
208	What is the age at which the child can start additional food to breast milk?	_____ 88. Don't know	
209	Do you know the diseases that can be prevented by vaccination?	1. Yes 2. No	If "No" → Q211
210	If yes for Q208, what are they? ?(multiple answer is possible)	1. Tuberculosis 2. Measles 3. Tetanus 4. Polio 5. Others(specify) 88. Don't know	
211	In your opinion, which one of the following is harmful traditional practice? ?(multiple answer is possible)	1. Female genital mutilation 2. Abduction 3. Early marriage 4. Milk teeth extraction 5. Uvelectomy 6. Others (specify) 88. Don't know	
212	For Q210, What methods do you know to prevent /avoid such practices?	_____ _____ _____ 88. Don't know	

ATTITUDE QUESTIONS

213	Delivering family health services by female health extension worker is the appropriate way.	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree	
214	The approach of health extension worker while providing services is satisfactory.	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree	



215	Community participation has a great role on implementation of health extension packages	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
216	Health extension workers are preferable to traditional birth attendants during labour	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
217	Family Planning help couples to become responsible parents	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
218	Child spacing helps protect the health of children and mothers	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
219	The youth should be provided with adequate and reliable information on Sexual and reproductive health services	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
220	Female genital mutilation is one of the harmful traditional practices that cause problems of adolescent reproductive health	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	

PRACTICE QUESTIONS

221	Have you ever used any modern family planning methods?	<ol style="list-style-type: none"> 1. Yes 2. No 	If “No” → Q225
222	If yes for Q221 , are you using it currently?	<ol style="list-style-type: none"> 1. Yes 2. No 	If “No” → Q224
223	If yes for Q222 , what methods are you using now? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Pills 2. Depo provera 3. Condom 4. Others(specify) 	



224	If you ever used contraceptive methods but not currently using, what is your main reason to stop using currently? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Desire to have more children 2. Fear of side effects 3. Preferred method is not available 4. My husband doesn't want 5. Religion 6. Source of contraceptive is far 7. Others(specify) 88. Don't know 	
225	Had you been pregnant in the last five years?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q300
226	Did you go to health post for ANC check up while you were pregnant?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q232
227	If yes for Q226 , have you been given an injection on the arm?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q229
228	If yes Q227 , how many times did you receive such injections?	<ol style="list-style-type: none"> 1. Once 2. Twice 3. Three times 88. Don't know 	
229	What was the main reason that initiated you to start ANC follow up?	_____	
230	Have you received health education while in ANC follow up?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q233
231	If health education was given, on what topics? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Baby care 2. Breast feeding 3. Family planning 4. Others (specify) 88. Don't know 	
232	If you did not attend ANC, Why? (multiple answer is possible)	<ol style="list-style-type: none"> 1. No or little knowledge about ANC 2. Being in a state of good health 3. Too busy to attend ANC 4. Health post is too far from my home 5. It is forbidden by religion 6. Others (specify) 	
233	Where did you deliver your last baby?	<ol style="list-style-type: none"> 1. Hospital 2. Health center 3. Health post 4. Home 5. If other 	
234	If you delivered at home, who assisted you during delivery?	<ol style="list-style-type: none"> 1. Health extension workers 2. TBA 	



		3. Relatives/friends 4. Neighbors 5. No one 6. Others specify_							
235	Have you ever breastfed?	1. Yes 2. No	If "No" → Q300						
236	If yes for Q235, how long after birth did you first put the child to the breast?	_____ hours							
237	Do you have child(ren) less than two year/s?	1. Yes 2. No	If "No" → Q300						
238	If yes for Q 237, how many are they?	_____							
239	If yes for Q237, has the child vaccinated?	1. Yes 2. No							
240	If yes for Q238, does the child have vaccination card?	1. Yes 2. No							
241	If yes, fill on the space provided!	Date of vaccination							
		Q239	Antigen	Day	Month	Year	Response		
		1	BCG					1. Yes 2.No	
		2	OPV0					1. Yes 2.No	
		3	Penta1					1. Yes 2.No	
		4	OPV1					1. Yes 2.No	
		5	Penta2					1. Yes 2.No	
		6	OPV2					1. Yes 2.No	
		7	Penta3					1. Yes 2.No	
		8	OPV3					1. Yes 2.No	
9	Measles					1. Yes 2.No			

IIB. Respondents knowledge, Attitude and Practice about disease prevention and control

KNOWLEDGE QUESTIONS

300	Have you ever heard about malaria?	1. Yes 2. No	If "No" → Q308
301	If yes for Q300, from where did	1. Radio	



	you get this information? (multiple answer is possible)	<ol style="list-style-type: none"> 2. HEWs 3. Community health promoters 4. Friends/relatives 5. Others(specify) 	
302	What are signs and symptoms of malaria? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Fever 2. Chills 3. Backache 4. Joint pain 5. Headache 6. Vomiting 7. Loss of appetite 8. Others (specify) 88. Don't know 	
303	Is malaria transmissible disease?	<ol style="list-style-type: none"> 1. Yes 2. No 88. Don't know 	If "No" → Q305
304	If yes for Q303 , how does it transmit from person to person? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Through mosquito bite 2. Through bodily contact with patients 3. By flies 4. Breathing 5. Others, specify 88. Don't know 	
305	Is malaria a preventable disease?	<ol style="list-style-type: none"> 1. Yes 2. No 88. Don't know 	If "No" → Q307
306	If yes for Q305 , what methods do you know to prevent malaria? (multiple answer is possible)	<ol style="list-style-type: none"> 1. House spray with insecticides 2. Take tablets 3. Drain stagnant water 4. Use of mosquito net 5. If other_____ 88. Don't know 	
307	Whom do you think are at high risk for malaria? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Father 2. Pregnant mother 3. Non pregnant mother 4. Under five children 5. Others(specify) 6. Don't know 	
308	Have you ever heard of an illness called tuberculosis or TB?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q312
309	If yes for Q308 , from where did you get this information? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Radio 2. HEWs 3. Community health workers 4. Friends/relatives 	



		5. Others(specify)	
310	What are the common signs and symptoms of pulmonary TB? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Coughing for three weeks and over 2. Cough with sputum and sometimes stained with blood 3. Chest pain, fever and profuse sweating in the night 4. Loss of appetite and body weight 5. If others _____ 88. Don't know 	
311	How does tuberculosis spread from one person to another? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Through the air when coughing or sneezing 2. Through sharing utensils 3. Through touching a person with TB 4. Through sexual contact 5. If other _____ 88. Don't know 	
312	Have you heard about a disease called HIV /AIDS?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q318
313	If yes for Q312 , what are the routes of transmission? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Sexual intercourse without condom 2. By sharing unsterilized sharps 3. Mother to child during pregnancy, delivery and breast feeding 4. Others 88. Don't know 	
314	Is there anything a person can do to avoid getting HIV/AIDS?	<ol style="list-style-type: none"> 1. Yes 2. No 88. Don't know 	If "No" → Q316
315	If yes for Q314 , what are they? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Sexual abstinence 2. Remain faithful to a partner 3. Using condoms in every act of sexual Intercourse 4. Others specify _____ 88. Don't know 	
ATTITUDE QUESTIONS			
316	People infected with HIV virus should be ashamed of themselves.	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
317	People with HIV virus should be blamed for bringing the disease into the community.	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
318	Malaria can be prevented by eliminating mosquito breeding	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 	



	places and by using insecticide treated mosquito nets	3. Neutral 4. Disagree 5. Strongly disagree	
319	Malaria prevention and control activity is the responsibility of all peoples	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree	
320	Families can prevent substance use among young adults to reduce the risk behavior that expose them to HIV/AIDS	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree	
321	The prevention and control of tuberculosis requires collective efforts of communities and the population at large.	6. Strongly agree 7. Agree 8. Neutral 9. Disagree 10. Strongly disagree	
322	Families can help young adults postpone early sexual intercourse at a young age	1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree	

PRACTICE QUESTIONS

323	Was there any one who attacked by malaria in your family?	1. Yes 2. No	If “No” → Q324
325	If yes for Q321 , from where did he/she get treatment?	1. Hospital 2. Health center 3. Private pharmacy 4. Health post 5. If others (specify) 6. Didn’t get any treatment	
326	If the answer for Q322 is other than health post, what was the reason? (multiple answer is possible)	1. Not satisfied with health post services 2. Long distance 3. Thinking not manage properly 4. Lack of information about the services 5. Health post is not always open 6. Referral reason 7. Others _____	
327	Have ever participated in malaria prevention and control activities?	1. Yes 2. No	
328	Does your family have mosquito nets?	1. Yes 2. No	If “No” → Q400



329	If yes, how many nets do you have?	_____	
330	Did anyone sleep under this mosquito net in the last night?	1. Yes 2. No	If “No” → Q400
331	If yes for Q325, who slept? multiple answer is possible	1. Father 2. Mother 3. Under five children 4. No one 5. Others	
332	Have you ever discussed the prevention and control ways of HI/ AIDS with HEWs?	1. Yes 2. No	
333	If yes for Q331, did you take time to discuss this issue within your family?	1. Yes 2. No	
334	Have you ever got health education on Tuberculosis prevention and control ways?	1. Yes 2. No	
335	If yes for Q333, who taught you?	1. HEWs 2. Community health promoters 3. Relatives 4. Model families in the neighbor 5. Others	
336	Did you discuss within your families what you had got from those peoples?	1. Yes 2. No	

IIC. Knowledge, Attitude and practice of respondents on hygiene and environmental sanitation

KNOWLEDGE QUESTIONS

400	Have you got any information on how to dispose wastes?	1. Yes 2. No	If “No” → Q402
401	If yes for Q400, from where? (multiple answer is possible)	1. HEWs 2. Community health workers 3. Friends 4. Radio 5. Others(specify)	
402	Do you know safe disposal methods of solid wastes?	1. Yes 2. No	If “No” → Q404
403	If yes, what are they? (multiple	1. Burying	



	answer is possible)	<ol style="list-style-type: none"> 2. Burning 3. Use of garbage pit or composting 4. If other(specify) 88. Don't know 	
404	In your opinion, what will happen if wastes are disposed improperly? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Breeding places for flies and mosquitoes 2. Pollute the environment 3. Health problems for human being and domestic animals 4. Others (specify) 88. Don't know 	
405	Do you know how to control diseases related to water?	<ol style="list-style-type: none"> 1. Yes 2. No 	
406	If yes, what methods do you know?	<ol style="list-style-type: none"> 1. Safe disposal of human excreta 2. Treating water 3. Drinking boiled and cooled water 4. Handle water with clean container 5. Avoid contact with snail infected water 6. Others 	
407	Do you know some ways in which food may be contaminated?	<ol style="list-style-type: none"> 1. Yes 2. No 	
408	If yes, what are they?	<ol style="list-style-type: none"> 1. Preparing food with dirty hands or eating 2. Food dropped on the ground 3. Food washed or prepared with contaminated water 4. Food kept uncovered 5. Others 	
409	Do you know how to prevent foods from contamination?	<ol style="list-style-type: none"> 1. washing hands with soap and water 2. Eating prepared food while hot 3. Keeping food and food contact utensils from exposing flies 4. Not using contaminated water for food preparation 5. Others 	
<i>ATTITUDE QUESTION</i>			
411	Health extension program enables households to construct latrines from locally available resources	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
412	Health extension worker encourages people to participate in environmental sanitation activities?	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	



413	Washing hands before and after eating of food will have no health impact	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
414	People should always wash their hands with soap and water after visiting latrine.	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
<i>PRACTICE QUESTIONS</i>			
415	Did health extension Workers visit your family for the last six months?	<ol style="list-style-type: none"> 1. Yes 2. No 88. I don't remember 	If "No" → Q410
416	If yes for Q407 , how frequently?	<ol style="list-style-type: none"> 1. Once in a month 2. Once in two month 3. Twice in a month 4. Weekly 5. Twice in a week 6. Others(specify)_____ 88. Don't remember 	
417	What issues did you discuss with her especially regarding to hygiene and environmental sanitation? (multiple answer is possible)	<ol style="list-style-type: none"> 1. About Excreta disposal 2. Solid and liquid waste disposal 3. Water supply and safety measures 4. Healthy home environment 5. Control of insects and rodents 6. Food hygiene and safety measures 7. Personal hygiene 	
418	Do you have latrine?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q413
419	If yes for Q408 , are you using it now?	<ol style="list-style-type: none"> 1. Yes 2. No 	If "No" → Q413
420	What initiated you to construct latrine? (multiple answer is possible)	<ol style="list-style-type: none"> 1. Advice from health extension workers 2. Advice from community health workers 3. Self initiation 4. Seeing others 5. Others/specify 	



421	Does model families are found in your neighbor	<ol style="list-style-type: none"> 1. Yes 2. No 	
422	If yes for Q409 , what did you learn from those families?	_____	
423	From where do you get water for domestic consumption?	<ol style="list-style-type: none"> 1. River 2. spring 3. Well 4. Pipe 5. Other (specify) _____ 	
424	How long does it take to go there, to fetch water?	_____ minutes	
425	How do you handle water in your home?	<ol style="list-style-type: none"> 1. Keep covered with clean cover 2. Handle water with clean container 3. Put in clean place 4. No care is given 5. Others 	
426	How do you prevent foods from contamination	<ol style="list-style-type: none"> 1. washing hands with soap and water 2. Eating prepared food while hot 3. Keeping food and food contact utensils from exposing flies 4. Not using contaminated water for food preparation 5. No care was given 6. Others 	

Questionnaire in Dawroigna (local language)

Annex- IIB Jimma Universittiyaan Dere asaa Payyatethanne Aakimetetha Sayinise Kollojiyan, Payyatethaa Kaaalethiya Timmirte kifile.

Dawuro zooniyaan payyatetha ekistenshiniya porograamiyaa simmi xeelo qaala oosha, usuppunniya 2002 M.L.

Woraday -----qabaliy-----

Qaala geliyaa formiyaa

Ta sunthay -----geettes. Taani Dawuro zooniyaani payyatetha ekisteeshinniya paakeejeta simmi xeelliyaa asatappe issuwa. Hagaappe kaallada guutha qaala ooshata hintena oochchana

Ha xiinattiyas huuphe yewoy payyatetha ekkisteeshinniya paakejiya simmi xeelo gidishiin ha heerappe hintte keethay ha ooshaas exani(saamani) doorettis. Hintte ha ooshas immiya qofay nu oosuwas darissi maddiya gishshaw hintew beettiya qofaa qottenan immanaadan bonchuwana oochaysi. Ha ooshaa waraqaatan hintte sunthay woykko hintte keetha sunthay xaafetenna. Ooshaa doommi simmidika hintte zaaranaw koshshenna ooshay de7ooppe bashanaw maatay de7ee. Hewaa gishshaw itti guutha wodiyaas tanaanna takanaw/gam77anaw dandda7iitee?

1. Ee, gam77ana; xoossi immo, galatay!
2. Dandda7ike

Ooshay doometho saatii _____ wuro saatii _____ qammay ____/____/____

Oochchiyaawanthu eranaw bessiyaabata

1. Ooshay doomethanaw bessiyaawee ooshetiyanwanthu qaala glooppe guyiyaana
2. Zaruwaa kunttiide iskiribitoppe haraba go7etopite
3. Ooshetiyaawanttu zaaruwaas, Zaruwaa doorotuppe sinthanne ha malaathaa(✓) wotuwa dogoppite
4. Iitti ooshaappe haraw adhite giyaa maaraa loyithi kaallithe

Keetha Asaa Qaala Oosha

I. Soshshodemographikenne keetha asaa maxo/shalo bolla giigida Ooshata			
Paydo	Ooshata	Zaarota	Aadhite
101	Yeleta laytha	_____ laytha	
102	Amanoy	<ol style="list-style-type: none"> 1. Orthodoxise 2. Musliime 3. Katholike 4. Phenxe 5. Harayde7iko yoota _____ 	
103	Gelo hanota	<ol style="list-style-type: none"> 1. Akki beenawa 2. Akkeeddawaa 3. Machchiya/aznay hayqida 4. Bilededawa 	
104	Timirtte daraja	<ol style="list-style-type: none"> 1. Nababonne xaaf danda7enawaa 2. Nababonne xaaf danda7iyawa 3. 1 ppe 4^{tho} kifile 4. 5 ppe 8^{tho} kifile 5. 9 ppe 12^{tho} kifile 6. 12^{tho} ppe bolla 	
105	Oosoy	<ol style="list-style-type: none"> 1. Goshshancha 2. Kawo oosancha 3. Zal77anchcha 4. Golle macca asaa 5. Haray de7iko yoota _____ 	
106	Zariyii/yaray	<ol style="list-style-type: none"> 1. Dawuro 2. Wolaytta 3. Kambaata 4. Manaa 5. Manjjaa 6. Haraa _____ 	
107	Keetha asaa qooday	_____	

108	Wooyisa laytha gam77addii	_____laytha	
109	Raadooni hinte keethan de7i	1. De7ee 2. Baawa	
110	Itti agina giddoon beettiya shaloy(kawo oosancha, zal77anchcha)	_____bira	
111	Itti laythan beettiya shaloy(goshanchcha)	1. Gaashe _____ 2. Badala _____ 3. Sinddiyaa _____ 4. Atariyaa _____ 5. Baa7ela _____ 6. Haray de7iko odite _____	
112	Xeene kella gediyan aappun saatiya/daqiiqa hometissii?	_____	

IIA. Keetha Asaa Pyyatetha Ekisteshinniya paakejjiyaas de7iyaa Eraa, Qofaa(xeelo)nne Oosuwa bolla giigida Ooshata

Eraa Ooshata

201	Xeena kellan imettiya keetha asaa payyatetha oosuwa sisi eriiite?	1. Ee 2. Erike	“2” gidoope → p203
202	Haqappe? (Ittuwaappe bolla zaaruu dandda7etee)	1. Radooneppe 2. Xeena ekisteshine oosanchchatappe 3. Heera payyatetha oosanchchatappe 4. Lagethappe 5. Haray de7oppe odite _____	
203	Wodiyaa yelo essiya wogaa eritee ?	1. Ee 2. Erike	“2” gidoope → p205
204	Eriko aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Kinine 2. Narppe 3. Kondome 4. Haray de7iko odite _____	
205	Yelo essuwappe bollan hara maaduu aye? (Ittuwaappe bolla zaaruu dandda7etee)	1. Koyetti beena shahaara teqqe 2. Nana aassi aassi yelanaw 3. Eedisenne malatiyawanttappe teqqe 4. So asaa qooda guuthee 5. Haray de7iko odite _____ 88. Erike	

206	Shaharatetha wodiyaan xeena kellan imettiya haggaa zuwa maaduu ayee?	1. _____ 88. Erike	
207	Itti maccawuna yelowappe guyen woysa saatiyappe doomade na7a dhanthanaw bessi?	_____saate	
208	Itti maccawuna dhanthaappe hara qumaa awude domanaw bessi?	_____	
209	Kittibaatiyaan teqqetiya harggiyaa eriite?	1. Ee 2. Erike	“2” gidooppe → p211
210	Eriko ayba aybate? (Ittuwaappe bolla zaaruu dandda7etee)	1. Tiibiya/qufe hargge 2. Kufune 3. Tetanoose 4. Poliyo 5. Haray de7iko odite _____ 88. Erike	
211	Ne qofaan, ha kaalli de7iyawanttuppe asaa payyatheta qohiya limaadeti haqawanttee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Macca na7a qaxara 2. Horuwa 3. Naatethan geluwa 4. Mmatha achchaa shodetha 5. Qoorebaa qanxxiso 6. Haray de7ooppe odite _____ 88. Erike	
212	Ha payyatheta qohiyabata dhayssiyaa ogeti ayba aybate?	_____ _____ 88. Erike	
Keetha Asaa Payatethas de7iyaa Qofaa(Xeelo) ooshata			
213	Keetha asaa payatheta haggaa zuu macca payatetha ekistenshine oosanchataan imetiyawee maara oge..	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
214	Payatetha ekistenshine oosanchchatu kiitha/haggaa zuwaa imuwa wogay ufayisiyawa.	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	

215	Heera asa ittippe gidoy/qaaxuu payatetha ekistenshine oosuwano daro maaduu de7ee.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
216	Payatetha ekistenshine oosanchchati yelisauwaan hara heeran yelisiyawanthuppe dooretiino.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
217	Keetha asaa yelo teqethaa halchchuu azinawne machchiyaa bantha soyaasi loythi qofanaadan oottee.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
218	Naana aassi aassi yeluu guutha naananne aayethu payatetha teqqanaw maaddee.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
219	Yelaga naanawu maccuwanne attumawa gaketetha baganna koshshiya timirttii immetanawu bessee.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
220	Macca naana qaxaru, yelagatu payatetha yeleta qohiya limmadetuppe/wogatappe ittuwaa.	<ol style="list-style-type: none"> 1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike 	
<i>Keetha Asaa Payatethas de7iyaa Ooso Ooshata</i>			
221	Wodiyaa keetha asaa yelethaa teqqiyaa halchchu77aa wogata go7etti eriite?	<ol style="list-style-type: none"> 1. Ee 2. Erike 	“2” gidoope → p225
222	Erooppe, ha77i go7etiitee?	<ol style="list-style-type: none"> 1. Ee 2. Go7ettike 	
223	Go7etoppe, aya aya go7etiitee?	<ol style="list-style-type: none"> 1. Kinine 2. Narppe 3. Konddome 4. Hari de7oppe dite_____ - 	

224	Kase go7etiidde ha77i bashowa gidoope, ayawu basheeditee? (Ittuwaappe bolla zaaruu dandda7etee)	<ol style="list-style-type: none"> 1. Cora naana yelanawu 2. Mittooppe sakiyawaw 3. Ta koyiyawee baynawawu 4. Ta azinay dosenawawu 5. Ammanu tekkiyawawu 6. Ta soyaappe haako gidowawu 7. Hari de7oppe odite_____ 88. Erike 	
225	Ha aadhdhida ichchashu laytha giddoon uluwaan naanay atto (shahaara gido) wodii de7ii?	<ol style="list-style-type: none"> 1. Ee de7ee 2. Baawa 	“2” gidoope → p300
226	Shahaaratethan, shahaara xeeletanawu xeenaa kella beedditee?	<ol style="list-style-type: none"> 1. Ee 2. Babiike 	“2” gidoope → p232
227	Bowaa gidoope, hashiyani cadetiya narppiya ekkeeditee?	<ol style="list-style-type: none"> 1. Ee 2. Ekkabeeke 	“2” gidoope → p229
228	Cadettowaa gidoope, aappun kaalla cadeteeditee?	<ol style="list-style-type: none"> 1. Itti gede 2. La7u gede 3. Heezzu gede 88. Erike 	
229	Shaharatetha xeeluwaa kaallanadan hinttena aye qaatetowee?	_____	
230	Ha shaharatetha xeeluwaa kaaluwan payatetha timirti imetheedde?	<ol style="list-style-type: none"> 1. Ee 2. Imettibeenna 	“2” gidoope → p233
231	Imethowaa gidoope, ay huuphe yohuwaan imetteedde? (Ittuwaappe bolla zaaruu dandda7etee)	<ol style="list-style-type: none"> 1. Guutha naana nagiyaa wogaan 2. Xantha xanttiyaa wogaan 3. Keetha asa yelo teqqiyaa halchchuwan 4. Hari de7oppe odite_____ 88. Erike 	
232	Shaharatetha xeeluwaa kaalli beenawa gidoope, ayawu kaalli beekitee? (Ittuwaappe bolla zaaruu dandda7etee)	<ol style="list-style-type: none"> 1. Eray baawa/guutha 2. Faxa gidowawu 3. Kiithay dareedda 4. Xeenaa Kellay haakuwan de7iyaawawu 5. Amanu digiyawaw 6. Hari de7ooppe odite_____ 	
233	Wursetha la7aa haqan yeleedditee?	<ol style="list-style-type: none"> 1. Hospitaalayaan 2. Heena xaabiyan 3. Xeenaa kellan 4. Soyaan 5. Hari de7ooppe odite_____ 	

234	Soyaan yelowaa gidoope,ooni yelisseedde?	<ol style="list-style-type: none"> 1. Payatetha ekistenshine oosanchatu 2. Heeran yelisuwaan erettiyawantu 3. Dabbuu 4. Shooruu 5. Oonne maaddi beenna 6. Hari de7ooppe odite_____ 	
235	Hawaappe kase naana xantteeditee?	<ol style="list-style-type: none"> 1. Ee 2. Xantha beekke 	“2” gidoope → p300
236	Xanthowaa gidoope, aappun saatiyaappe guyiiyaan na7aas xantha immeedditee?	_____saate	
237	Ichchashu laythaappe garssa naanay de7ii?	<ol style="list-style-type: none"> 1. Ee 2. Baawa 	“2” gidoope → p300
238	De7ooppe, aappunee?	<ol style="list-style-type: none"> 1. Itha 2. Laa77a 3. Heezza 4. Ooydda 5. Hari de7ooppe odite_____ 	
239	Hewantuppe aappunay kittibaatiyaa ekkede	<ol style="list-style-type: none"> 1. Itha 2. Laa77a 3. Heezza 4. Ooydda 5. Hari de7ooppe odite_____ 	
240	Ittuunne ekkibeennawa gidoope, aye diggowee ? (Ittuwaappe bolla zaaruu dandda7etee)	<ol style="list-style-type: none"> 1. Era xayuwaa 2. Haakotetha 3. Kitibaatey haggazuu baawa 4. Kitibaatii sakuwaa kaalethee 5. Hari de7ooppe odite_____ 	

IIB. Keetha Asaa Harggiyaa Teqetha bolla de7iyaa Eraa, Xeelo(Qofa) nne Ooso Ooshata

Eraa Ooshata

300	Uunnuwaa/shekkeere sakuwaa sisi eritee ?	<ol style="list-style-type: none"> 1. Ee 2. Erikke 	“2” gidoope → p308
301	Hentte zaaruu ‘ee’,gidoope haqappe siseeditee? (Ittuwaappe bolla zaaruu dandda7etee)	<ol style="list-style-type: none"> 1. Radoonappe 2. Payatetha ekistenshine oosanchchatuppe 3. Heera payatetha oosanchchatuppe 4. Dabbo asaappe 5. Hari de7ooppe odite_____ 	

302	Uunnuwaa/shekkeere sakuwaa malaatati ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Misho 2. Kokkorssa 3. Huuphe sako 4. Cooshsha 5. Quma mizenna 6. Hari de7ooppe odite _____ 88. Erikke	
303	Uunnuu/shekkeere harggii asaappe asawu aadhdhii?	1. Ee 2. Aadhenna 88. Erike	“2” gidoope → p305
304	Erooppe, ayaan adhii? (Ittuwaappe bolla zaaruu dandda7etee)	1. Biinniyaa sa77ooppe 2. Uunnuwaa harganchchaanna bollay gakettooppe 3. Udunxey sa77ooppe 4. Shemppu7an 5. Hari de7ooppe odite _____ 88. Erike	
305	Uunnuwaa/shekkeeriyaa sakuwaa teqanawu danda7etii?	1. Ee 2. Danda7etenna 88. Erike	
306	Eriyawagidooppe, ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Keemiikaaliyaa caccafo 2. Uunnuwaa xiyyiitiyaa 3. Eello haatha gussiyawa 4. Agoberiya go7ettuwaa 5. Hari de7ooppe odite _____ 88. Erike	
307	Uunuwa sakuwaan daro qohetanawu danddayiyanwanthu onee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Aawaa 2. Shahara aatho 3. Sharagidenne aatho 4. Ichchashu laythappe garssa naana 5. Hari de7ooppe odite _____ 88. Erike	
308	Tibiyaa/qufe sakuwaa sisi eriitee?	1. Ee 2. Erike	“2” gidoope → p312
309	Sisowaa gidoope, haqappe siseeditee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Radooneppe 2. Payatetha ekistenshine oosanchatuppe 3. Heera payatetha oosanchatuppe 4. Lagetuppe 5. Hari de7ooppe odite _____	
310	Tibiyaa/qufe sakuwaa malaatati ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Heezzu saaminttaanne bollaa takida qufe 2. Suuthanna wolaka cuchchaa/akithaa 3. Mishonne qamma cawaa 4. Qumay ma ma geenna	

		5. Hari de7ooppe odite _____ 88. Erike	
311	Tibii asappe asawu wooti kanthii? (Ittuwaappe bolla zaaruu dandda7etee)	1. Hargganchchay qufishin 2. miishshaa gatho go7etiyawaan 3. Hargganchchaa bolla bochchooppe 4. Maathuma gakatethan 5. Hari de7ooppe odite _____ 88. Erike	
312	Eedise harggiyaa siseeditee?	1. Ee 2. Sisabiike	“2” gidooppe → p318
313	Zaaruu ‘ee’ gidooppe, asaappe asa kanthiyaa ogetii ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Kondome go7etennan maccanna/attumanna gaketho 2. Caddiyaa/qanxxiyaa miishshata gatho go7ethuwaa 3. Shaharathethan, yelishininne xanttishiin aattippe na7aas adhee 4. Hari de7ooppe odite _____ 88. Erike	
314	Itti asi Eediseppe bana teqqanawu danddayiya ogiyii de7ii?	1. Ee 2. Baawa 88. Erike	“2” gidooppe → p316
315	Erooppe, ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Macca/Attuma gaketethaappe teqettuwa 2. Ba keethaayees/keethaawas ammanethiyawa 3. Maathuma gaketetha wodiya ubban kondome go7ettiyaawa 4. Hari de7ooppe odite _____ 88. Erike	
<i>Keetha asas harggiyaa tegetha bolla de7iyaa qofaa eranaw giigida ooshata</i>			
316	Eedisee oyqo asay bana guuthi xeellanawu bessee.	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
317	Eedise harggiyaa hintte heera ehida asi ooshettanawu bessee?	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
318	Uunnuwa harggii, uunnuwaa ekiyaa bimbbta yelettiyaa sa7aa xaaysooppenne agoobere go7ethoppe teqethanawu	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike	

	dandda7ee	5. Mintha mayettike	
319	Uunnuwaa teqthaa oosuu ubba asa wolqqaa koyee	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
320	Tiibiyaa harggiyaa teqqanaw asi ubbi baaxethanaw bessee.	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	

Keetha Asaa Harggiyaa Teqqiyaa Oosuwaa Eranaw giigida Ooshata

321	Hinthe soyaan hawaappe kase uunnuu/shekkeere sakuu oyqqo asi de7ii?	1. Ee 2. Baawa	“2” gidoope → p324
322	De7ooppe haqaan akametteedde?	1. Hospitaaleen 2. Xeena xaabiyaa 3. Gille farmaasiyaan 4. Xeena kellaan 5. Hari de7ooppe odite _____ 6. Akkamettibeenna	
323	Zaaruu xeena kellaappe haraa gidoope, aye gaasuu? (Ittuwaappe bolla zaaruu dandda7etee)	1. Xeena kella haggazuwaa kalla beekke 2. Xeena kella haako gidowaaw 3. Loytti akamokona gaada 4. Xeena kellaan akkamettiyaawaa era beeke 5. Xeena kella corawode dooyettenna 6. Xeena kella azazeedda/bo geedda 7. Hari de7ooppe odite _____	
324	Hintte soyaas agooberi de7ii?	1. Ee 2. Baawa	“2” gidoope → p400
325	Ziizoni agooberiya garssaan giso asi de7ii?	1. Ee 2. Baawa	“2” gidoope → p400

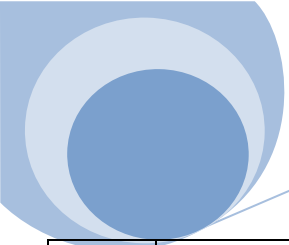
IIC. Bare huuphenne heera geeshshatethan keetha asaassi de7iyaa era, qofa(xeelo)nne ooso bolla giigida ooshata

Era ooshata

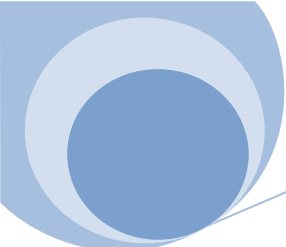
400	Hawaappe kase fituwaa (qoshaasha) oliyaa maara wogaa	1. Ee 2. Sisabeeke	“2” gidoope
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	siseeditee?		→ p402
401	Sisowaa gidooppe, hakappe(ooppe) siseeditee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Payatetha ekistenshine oosanchchatuppe 2. Heera payatetha oosanchchatuppe 3. Lagetuppe 4. Radooneppe 5. Hari de7ooppe odite_____	
402	Mela fitota(qoshashata) oliyaa wogata eriitee?	1. Ee 2. Erike	“2” gidooppe → p404
403	Erooppe, ayba aybatee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Mooguwaa 2. Xuugiyawaa 3. Ollan oluwaa 4. Hari de7ooppe odite_____	
404	Ne qofaan, qitabata(fitota) demmosaan oluu ayaa kaalettii?	1. Udunxxetinne uunnuwaa ehiyaa biinneti yeletanaadaan oottee 2. Heera mooree 3. Asanne miyaa payatetha qohee 4. Hari de7ooppe odite_____	
<i>Xeelo(Qofaa) bolla giigida Ooshata</i>			
405	Payatetha ekistenshine porograamey asi bawu de7iyawaappe sheeshsha keetha keexanadan mintetee	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
406	Payatetha ekistenshine oosanchchati asi heera geeshshatetha oosuwaan qaxanadan udino?	1. Mintta mayethay 2. Mayethay 3. Ayannedenna 4. Mayettike 5. Mintha mayettike	
<i>Oosuwaa ooshata</i>			
407	Payatetha ekistenshine oosanchchatu aadhida usuppun aginatu giddoon hintte soya yeedinoo ?	1. Ee 2. Yibeekino	
408	Yiidawa gidooppe, woysu giziyaa gam77i yiino?	1. Aginaan itti gede 2. La77u aginaan itti gede 3. Aginaan la77u gede	



		4. Saaminthan saaminthan 5. Saaminthaan la77u gede 6. Hari de7ooppe odite _____ 88. Dogaaddi	
409	Yo saatiyan, aya aya inaanna maqquetiitee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Wora sheeshsha sheshiyaa wogaan 2. Irxxanne mela qoshaashata xayissiyaa wogaan 3. Haatha naago wogaan 4. Keetha giddo geeshshatetha 5. Iso, ottoronne melatiyawantta xayissiyaa ogiyaan 6. Miyaa qumaa oyiqqiyyaa woogaan 7. Huuphe geeshshatethaan	
410	Sheeshsha keethay de7ii?	1. Ee 2. Baawa	“2” gidooppe → p413
411	De7ooppe, ha77i go7etiitee?	1. Ee 2. Go7etiko	“2” gidooppe → p413
412	Sheeshsha keetha keexanaadan aye denttethowee? (Ittuwaappe bolla zaaruu dandda7etee)	1. Payatetha ekistenshine oosanchchatu maqquu 2. Heeraa payatethaa oosanchchatu maqquu 3. Oonne qaattennaan tawuka 4. Hara asawaa xeellada 5. Hari de7ooppe odite _____	
413	Hintte heeran payatetha ekistenshine oosanchchatuun tamaridi moodele gidida keethi de7ii?	1. Ee 2. Baawa	“2” gidooppe → p415
414	De7ooppe, henttuppe ayaa tamaareeditee?	1. _____ 2. Ayaanne Tamarabeeke	
415	Haatha haqappe ushiitee?	1. Shaafaappe 2. Fultto hathaa 3. Ollan eello haathaa 4. Bonbbaa 5. Hari de7ooppe odite _____	
416	Hintte soyaappe, haatha duuqqanaw aappun saatiyaa/daqiiqaa hemetissii?	_____	



Annex -1B Guides for qualitative study

I. IN-DEPTH INTERVIEW GUIDE FOR HEALTH EXTENSION WORKERS (HEWS)

My name is _____. I came from Jimma University to carry out a survey of implementation of health extension packages in Dawro zone.

The main aim of this interview is to gather information regarding to the services that the health post (HP) is providing; the strengths that you have exhibited; the weaknesses that you need to deal with; the challenges that you faced and how you overcame them. The information obtained from this interview will help all responsible bodies being as a background to improve the health status of the rural community through HEP.

I would like to assure you that the information you give me will be confidential, and it will only be compiled and organized along with that of other HEWs. So, I would like to get your prior consent as to whether or not you are willing to participate in the interview. Are you willing now?

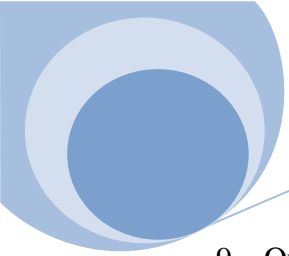
If **YES**, Thank and continue the interview;

- I. Age of HEW _____years
 - II. Religion of HEW _____
 - III. Current marital status of HEW _____
 - IV. To which ethnic group do you belong to? _____
 - V. Where do you live currently? _____
 - VI. How long does it need to reach health post from your house (in minute)

 - VII. For how long have you been serving in this HP? _____years
 - VIII. Have you continued your higher education? _____
 - IX. If yes, what type of Discipline? _____
 - X. For how many more years do you plan to work in this HP? _____years
 - XI. On average, how long does it take to go to the woreda health office from your health post?

1. Do you have means of transport to go to the health center or woreda health office?_____
 2. Did you get refresher courses after your basic training?_____
 3. What were the topics you received during refresher training?

 4. Do you have a written annual plan? _____
 5. Do you have books, manuals and leaflets with you to refer from? _____
 6. Do you have access to health informations disseminated by radio, newsletters, magazines etc)?
 7. What health extension packages did you perform so far?
 8. What was the reason for the packages not being performed?



9. Out of the health extension packages that you have performed, which was relatively better performed?
10. How do you describe the contribution of the community in the various activities that the health Post has performed so far?
11. What strategies did you use for the packages performed well?
12. Have you ever supervised? _____
13. Who supervised you? _____
14. What were your working relationships with the Kebele administration?
15. Are there voluntary community workers in the areas of your operation? _____
16. If yes, how do you describe their working relationship with you?
17. How frequently do you meet with the Woreda's Health Extension Desk?

18. What working relationship does the HP have with the health center?
19. What do you think are the reasons for the health center not to establish a working relationship with your HP?
20. What do you think should be done to establish a good working relationship between your HP and the health center?
21. Where do you report your monthly activities? _____
22. Do you have patient referral format? _____
23. If your answer is NO, what do you use to refer the patient? _____
24. What problems did you face while implementing the health extension packages?

Thank you for your cooperation!



II. IN-DEPTH INTERVIEW GUIDE FOR WOREDA HEWs SUPERVISORS

INTRODUCTION

My name is _____. I came from Jimma University to carry out a survey of implementation of health extension packages in Dawro zone.

The aim of this interview is to gather information regarding to the services that the health post (HP) is providing; the strengths that you have exhibited; the weaknesses that you need to deal with; the challenges that you faced and how you overcame them. The information I obtain from you will help all responsible bodies being as a background to improve the health status of the rural community through HEP.

I would like to assure you that the information you give me will be confidential, and it will only be compiled and organized along with that of other supervisors. Although this interview is being done with the knowledge and permission of the zonal health department and woreda health office, still I need to get your prior consent as to whether or not you are willing to participate in the interview. Are you willing now?

If **YES**, Thank and continue the interview;

1. Profession of the supervisor
2. Age of supervisor
3. Sex of supervisor
4. Service year of the supervisor
5. How frequently do you visit each HP?
6. What are the major activities that you were doing in your supervision visits?
7. What challenges did you face during supervision time?
8. What is your opinion on skill of HEWs and their relationship with other workers?
9. How many of the HPs in your woreda are successfully implementing HEP?
10. What was the reason for their successful?
11. What were the reasons for the rest of the HPs not being successful?
12. What possible solutions did you suggest to improve the situation?
13. In your opinion, what were the factors that could affect the achievement of HPs?
14. What do you say about the working relationship between health posts and health centers in your woreda?
15. What differences did you observe about the health problems of the people in the woreda before and after the launching of the HEP?
16. As being HEW supervisor, what weakness and strength did you observe from HEP in general?
17. What do you plan for the future to improve the implementation of HEP in the Woreda?

I heartedly thank you for taking your time to come here and share your observations regarding the HEP!



III. FGD guide for stake holders

My name is _____. I am part of a team who are carrying out a survey of implementation of health services extension program in Dawro zone.

I am here today, to discuss the services and factors associated with the operation of the HPs at your kebele. As you can observe, participants of this stakeholders meeting are invited from the religious groups, community leaders, and kebele administrations. You being part of the beneficiary community, tapping your experience is believed to extraordinarily enrich the assessment findings. I would like to assure you that the information you give me will be confidential, and it will only be compiled and organized along with that of other stakeholders.

So, are you volunteer to participate?

If yes, thank and continue with those who gave the consent.

1. Residence year of participants in the kebele: _____
2. Age of participant : _____
3. Sex of participant : _____
4. Category of participant: _____
5. Educational status of participant: _____

Discussion points

1. What was your involvement in the establishment of the HPs?
2. What community health differences did you observe between the days before and after the HEP was launched in your localities?
3. If there was difference, what was your involvement and contributions in the areas where better change observed?
4. If no difference, what do you think are the reasons for not seeing any commendable performance in the health service delivery of the HP?
5. What is your opinion on the services provided by HEWs?
6. What would you suggest to do differently to enable the health posts perform better than the current?
7. What contributions do you think could you make to improve the current health service status?
8. Which of the existing health problems in your area affect the public most?
9. In which of the health intervention do you think you would find yourself fit to contribute?
10. Please if you have issues that were not raised in our discussion, speak them out and let's discuss on them?

I heartedly thank you for taking your time to come here and share your observations regarding the HEP!



V. In-depth interview guide for mothers

My name is _____. I am part of a team who are carrying out a survey of implementation of health services extension program in Dawro zone. The ultimate purpose of this interview is to explore some important points which help health extension program coordinators and implementers to understand and improve all beneficiaries' aspects of the HEP. I would like to assure you that the information you give me will be confidential and your name will not be exposed to anyone else. **So, Shall we continue the interview?**

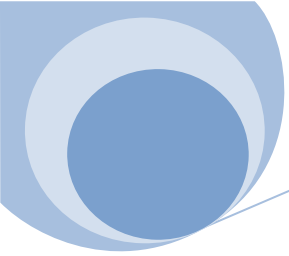
If yes, thank and continue!

1. Woreda _____
2. Kebele _____
3. Age of participant _____
4. Educational status _____
5. Residence year of participants in the kebele _____
6. Ethnicity of participant _____

Interview points

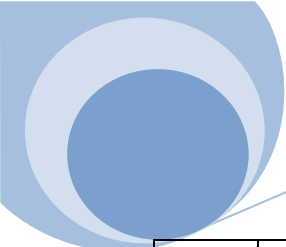
1. Do you know the presence of Health posts in your kebele?
2. Could you tell me the services that health post is providing in your kebele?
3. How did you come to know about these services?
4. What is your opinion on the approach of health extension worker while serving you?
5. What factors did you observe that prevents you receiving health extension services?
6. From where do you get health related informations?
7. Whom do you think the most beneficiaries of the health extension services? Why?
8. What community health differences did you observe between the days before and after the HEP was launched in your localities, especially on maternal and child health?
9. If no difference, what do you think are the reasons for not seeing any commendable performance in the health service delivery of the HP?
10. What would you suggest to do differently to enable the health posts perform better than the current?

I heartedly thank you for taking your time to share your observations regarding the HEP.

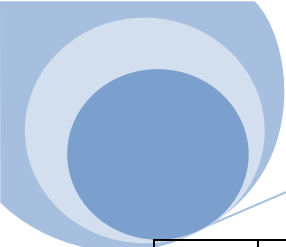


VI. Observation checklists

S.No	Questions	Response categories	Remark
1	Does the health post (HP) have a road?	1. Yes 2. No	
2	What is the HP's source of water?	1. Piped water 2. Protected well 3. Unprotected well 4. Protected spring 5. Unprotected spring 6. River 7. Other, specify _____	
3	Does the Health Post have toilet facility?	1. Yes 2. No	
4	Does the HP have a solid waste disposal pit or the like?	1. Yes 2. No	
5	Does the HP have a registration book with client's sex, age and address entries	1. Yes 2. No	
6	Does the HP have clear weekly and monthly activity plans?	1. Yes 2. No	
7	Do the HEWs have plans for making home visits?	1. Yes 2. No	
8	Are the achievements of the HP clearly and comparably documented against	1. Yes 2. No	

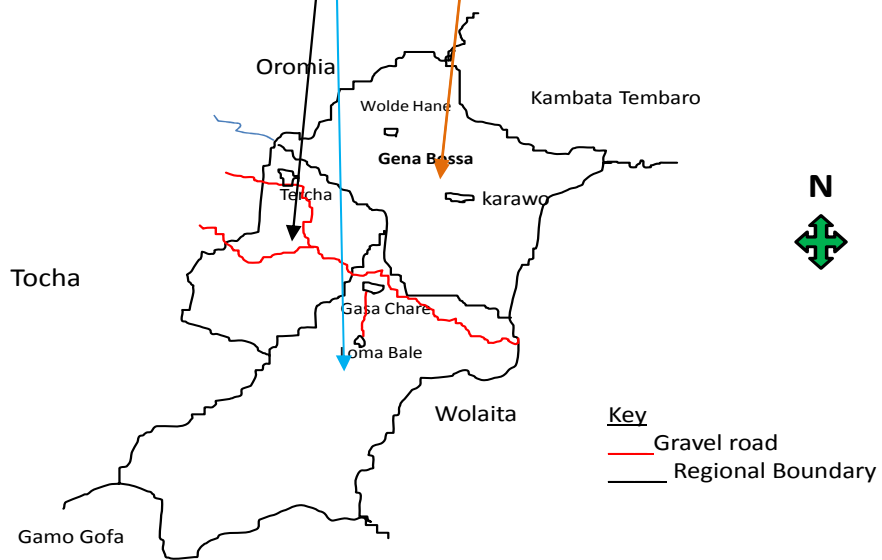
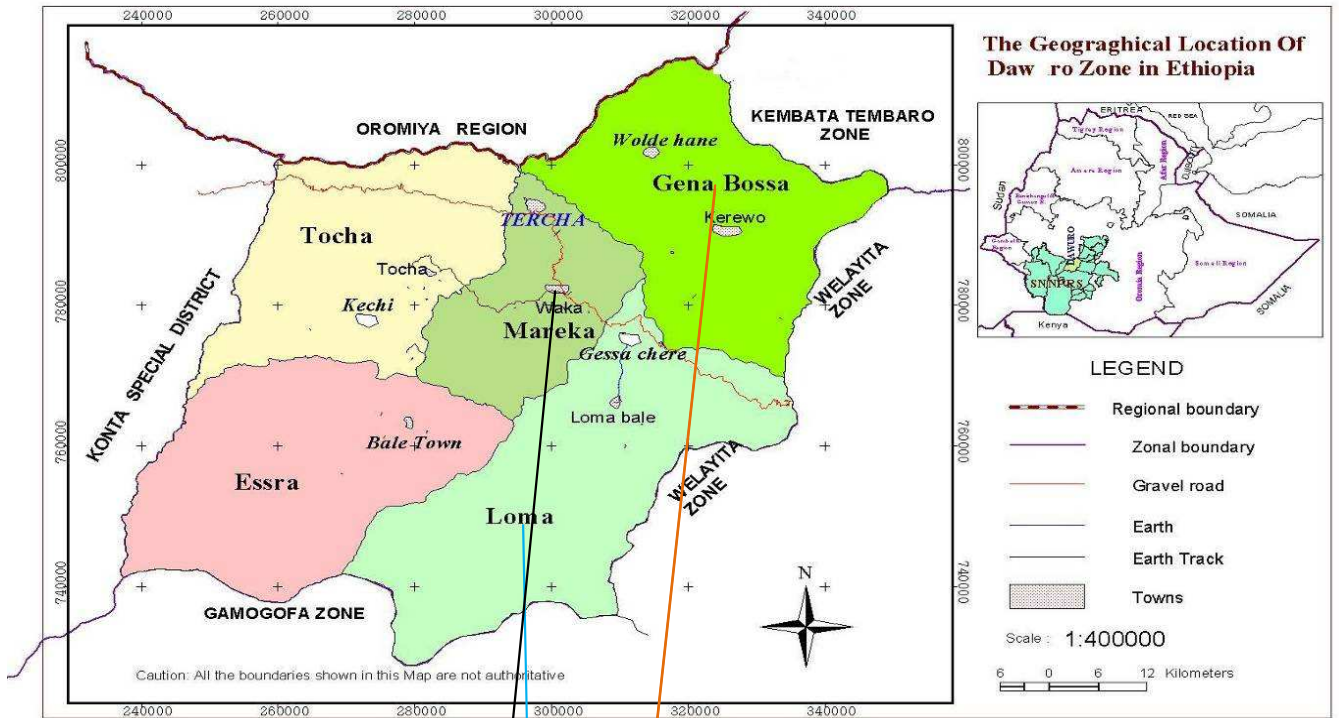


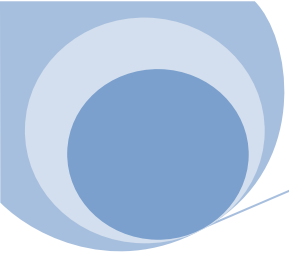
	plans?		
9	Fill the following blank spaces from HP's 2008/2009 immunization plan/schedule	BCG: Planned _____ Achieved _____ % Achieved _____	
		Pentavalent+3: _____ Planned _____ Achieved _____ %	
		Tetanus toxoid (TT2+): Planned _____ Achieved _____ % Achieved _____	
		Measles: _____ Planned _____ Achieved _____ %	
		Fully immunized: Planned _____ Achieved _____ % Achieved _____	
10	Observe and tick available logistic supplies and materials (✓) from the given lists	<ol style="list-style-type: none"> 1. Contraceptives 2. Condoms 3. Penis models 4. Disposable/reusable syringes and needles 5. Salter scale/hanging scale 6. Vaccines 7. Ice boxes kerosene refrigerators 8. ORS 9. Ergometrine tablets 10. Oral malaria drugs 11. Blood pressure apparatus 12. First Aid kits 13. Delivery kits 14. Examination tables 15. Chairs 16. Benches for patients 17. Filing cabinets 18. Shelves 19. Notice board 20. Educational materials/kits 	



		<ol style="list-style-type: none">21. Thermometers and tongue depressors22. Female gowns23. Stationeries (Pencils, and pens, registration books, folders, antenatal and family planning cards, inventory cards, referral forms, report formats, writing pads)24. Alcohol25. Savlon26. Cotton27. Bandage28. Plasters29. Stethoscope30. Delivery bed31. Office desk32. Growth monitoring card/ EPI cards33. Health extension packages34. Reference books35. Guidelines	
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Annex II: Map of the study zone





DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis have been fully acknowledged.

Name: _____

Signature: _____

Name of the institution: _____

Date of submission: _____

This thesis has been submitted for examination with my approval as University advisor

Name and Signature of the first advisor _____

Name and Signature of the second advisor _____
