KNOWLEDGE, ATTITUDE & PRACTICE OF HOUSEHOLD HEADS/SPOUSES ABOUT ONCHOCERCIASIS TRANSMISSION AND PREVENTION IN GAMBELLA WOREDA, GAMBELLA, SOUTH WEST ETHIOPIA, 2015.

By

DEMIS KEBEDE (BSc)

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Jimma, Ethiopia

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DEMIS KEBEDE (BSc**)**

ADVISORS:

SAHILU ASSEGID (MD, MPH, ASSISTANT PROFESSOR)

ALEMAYEHU ATOMSA (BSC, MPH)

May, 2015

Jimma, Ethiopia

ABSTRACT

Background: Peoples in most at risk area were ignorant and hamperd with incorrect beliefs which can lead to negligence in prevention and in seeking appropriate treatment. Although dedicated community engagement is crucial for the success of the control effort, there is little/no information on the levels of community's knowledge, attitude and practice about onchocerciasis. Hence, this study tried to know family heads/spouses Knowledge, Attitude and Practice status and draw possible recommendations.

Objective: To assess Knowledge, Attitude and Practice of families heads/spouses on onchocerciasis transmission & prevention in Gambella woreda, Gambella, Southwest Ethiopia.

Methods:. The study was conducted in thirteen kebeles of Gambella woreda from Feb. – Mar., 2015. The sample size was 750. A community based cross-sectional survey was supported by in-depth interview. EPI DATA and SPSS software's were used for data entry and analysis respectively. Statistical analysis included frequency distribution tables and Bivariate analysis using logistic regression were done using p value <0.05 as the significant level and p value < 0.25 were candidates for multiple logistic regression. Qualitative data had been transcribed and summarized manually. Ethical clearance and formal letter were obtained from Jimma University and Gambella regional health bureau and G/Wo/H/O respectively.

Result: A total of 721(96%) respondents were participated in the study. 92.8% participants heard about the disease. But only 5.1% and 4% subjects knew the causative agent and outcome of the disease respectively. However 76.8% knew the disease is preventable and 72.2% stressed the use of preventive drugs. 90.4% subjects were taken the drug and 76.4% were interrupted the drug in the past. Consequently 27.9% and 72.1% categorized as poor and good practice respectively. In bivariate logistic regression analysis ethinicity, income, knowledge and attitude variables found to be significantly associated with taking of the drug. Agnuwa (AOR= 9.561, 95% CI: 4.375, 22.040) and respondants with adequate knowledge (AOR= 13.769, 95% CI: 6.893, 27.336) were more likely to be engaged in practice.

Conclusion and Recommendation: large proportion of family heads/spouses held misconceptions about its transmission and prevention of the disease. Therefore, community interventions for onchocerciasis ephasized to include health education and behaviour change communications aimed at dispelling misconceptions and increasing risk perception.

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LIST OF ABBREVIATIONS

CDTI	Community Directed Treatment with Ivermectin
CSA	Central Statistics Agency
EDHS	Ethiopia demography and health survey
EOCP	Ethiopia Onchocerciasis Control Programme
FMOH	Federal Ministry of Health
HHs	Households
MDA	Mass Drug Administration
NGOs	Non-Governmental Organization
PPS	Sampling with probability proportional to size
REMO	Rapid Epidemiological Mapping of Onchocerciasis
SNNPR	South Nation Nationalities and Peoples Region
SRS	Systematic random sampling
UNICEF	United Nations Children's Fund
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Globally 125 million people world-wide are estimated at risk of onchocerciasis, and, of these, 96 percent are in Africa. 37 countries where the disease is endemic, 30 are in sub-Saharan Africa, 6 are in the Americas and one is in the Arabian Peninsula. A total of 18 million people are infected with the disease, of whom 99 percent live in Africa (1). (Annex 8)

Onchocerciasis in Ethiopia has been known since 1939 as a result of investigation by Italians in Southwestern Ethiopia. The third REMO carried out in 2013/14 involving parts of five regions of the country (Oromia, Amhara, SNNP, Gambella, and Benishangul Gumuz), among identified regions four out of the five had areas were meso- or hyper endemic to onchocerciasis. Particularly the disease is widespread in western Ethiopia extending from the Takazi valley in the northwest to the Omo valley in the southwest in varying levels of endemicity. Currently more than 10 million Ethiopians are at risk of onchocerciasis and three million are infected (2).

The number of people at risk & affected by the disease is still growing rapidly. Based on the last REMO survey done by FMOH & partner NGOs, 33 additional districts were identified as at risk of onchocerciasis that are adjacent to the 34 endemic districts already identified in the second REMO round conducted in 2011. A total of 78 districts were at risk of the disease & the number of people requiring mass Ivermectin treatment was 6,446,552 in 2012 which is increased to 11,353,243 in 2013/14 (3). (Annex 9)

FMOH has undertaken control measures through EOCP. MDA is being undertaken through CDTI, which is the major strategy for the control of onchocerciasis in the endemic areas. Health education mainly focusing on advocacy, social mobilization and sensitization for the community is the other main strategy of the program. The onchocerciasis control program has been running without interruption for more than 10 years. Currently, there are ten project zones conducting CDTI and health education activities in the country. The geographic coverage of the program was 99.78 percent, while the therapeutic coverage was about 80.42 percent in 2012 (4).

Gambella region is one of the five regional states known to prone to Onchocerciasis transmission. Level of endemicity ranging from meso to hyper endemicity affecting more than

194,095 (42 percent) the region population. Annual mass treatment was conducted from 2004 to 2013 in 5 old districts and 2 additional districts were also included in the intervention programme in 2014. In 2013/14 88,583 (89.77 percent) populations were treated with Ivermectin in the old five woredas and additional 53,872(99.5 percent) peoples received the treatment in two new woredas (5).

1.2. Statement of the problem

Onchocerciasis, also known as 'river blindness', caused by a nematode worm, Onchorcerca volvulus. It is transmitted through the bite of infected Simulium blackflies that breed in fast-flowing streams and rivers. The disease causes several symptoms, including unrelenting itching, physical scars from constant scratching, de-pigmentation and thickening of the skin, impaired vision, and complete blindness.

It is the world's second leading infectious cause of blindness. Blindness affect one-third of the adult population of the most highly affected communities. Globally at least one million are either blind or severely visually disabled. To these are added each year an estimated 40,000 new blind (1). For instance Visual impairment due to onchocercal eye disease demonstrated in about 30 percent of children aged 5years who live in hyper-endemic communities in Nigeria; 35 percent of males and 27 percent of females in such communities are visually impaired at the age of 30years.

Onchocerciasis usually affect people lived in rural areas which were deprived of basic infrastructure and servises. These peoples in most of the area were ignorant and hamperd with incorrect beliefs which can lead to negligence in prevention, control measures and in seeking appropriate treatment. For instanse a report by WHO revealed that population in 25 countries who are at risk of the disease didn't have adequate knowledge about the disease (8). Attitude related with the disease is also mixed with miscoceptions and several traditional beliefs. The same report showed there were at list eight miscocieved belives about transmission and prevention of the disease.

In 2010 APOC technical committee also indicated the prevention strategy were seriously challenged by wrong beliefs and misconseptions regarding the disease transmission and prevention approach (9).Although the APOC's Progress Report (2010) indicated the practice of

taking the drug reached 68.4 million people, in 133,000 communities, in 15 countries, gross challenges still needed to be resolved which was related with people's inadequate knowledge. Attitude also hampered with different misconceptions and beliefs (10).

The onchocerciasis control program in Ethiopia has been running without interruption for more than 10 years. First CDTI project was launched in 2000 and currently number of people treated reaches 4,135, 538.00 with therapeutic coverage of 80.42 percent in 2012 (8). The report showed a clear gap in the therapeutic coverage which was far from the acceptable range which is more than 90 percent. Low treatment coverage usually associated with the people's knowledge and attitude about the seriousness of the disease, cause, potential outcome and its preventabilty. Different independent studies showed that communities lacked sufficient knowledge and/or attitude about the disease. A study in Bebeka, SW Ethiopia found out communities are familiar with onchocerciasis but most of them lack understanding about the cause and method of transmission of onchocerciasis with noticeable misconceptions in both issues. Moreover, most of them have regarded themselves as less prone to the infection.(9).

Gambella onchocerciasis control programme run in the past nign years. Though progrgerss were made in prevention of the disease, the treatment coverage far goes behind the expected achievement. Forinstance the 2012 MOH report indicated only 71.4 percent of the target population took the drug meaning 30,517 registerd population during the census which was done before the campaign missed the drug intake during the campaign (4). These report infact gives an information on a poor practice of the community which usually emanate from lack of knowledge and misconceived belives regarding the disease. Gambel1a woreda is one of the seven programe districts selected for the control of the disease. For the last nign year's people taking the drug were consistently lower than other woredas. In 2013 only 72.37 percent of the woreda illegible population were taking the drug which was the lowest compared to the rest of six woredas (5).

Although dedicated community engagement is crucial for the success of the program, there is little/no information on the levels of community's knowledge, attitude and practice about onchocerciasis in Ethiopia as well as in Gambella. Hence, this study aimed at knowing knowledge, attitude & practice of family heads/spouses on transmission and prevention of onchocerciasis since it has a vital role in the success of different interventions done by government &/or partner NGOs.

1.3. Rationale of the study

Since 2004 Community Directed Treatment with Ivermectin (CDTI) programme is implemented and given mass ivermectin treatment in seven woredas of Gambella regional state. Gambella woreda is one of the woredas consistently achieve low treatment coverage relative to other woredas. Since the strategy clearly states the community direct involvement through full ownership and active role in mass treatment, population treatment coverage expected to be between 90 – 100%. But the reality goes far below the expected coverage which especially gross in Gambella woreda. To attain maximum community participation and design socially acceptable control strategies, programmers must be familiar with people's knowledge, attitude and practice behavior in relation to the disease. Such information is scanty as very few studies have been carried out to understand these issues. Hence, this study tried to know family heads/spouses Knowledge, Attitude and Practice status and draw possible recommendations on gaps seen in the community which will be an input for the programme planners to initiate further study and strengthen the programme success.

CHAPTER TWO: LITERATURE REVIEW

2.1 KAP Study

The KAP is a representative survey conducted on a particular population to identify the knowledge (K), attitudes (A) and practices (P) of a population on a specific topic (10). It serves as an educational diagnosis of the community. The main purpose of this KAP study is to explore changes in Knowledge, Attitude and Practices of the community.

The Knowledge possessed by a community refers to their understanding of any given topic onchocerciasis transmission and prevention in this case. Attitude refers to their feelings towards this subject, as well as any preconceived ideas that they may have towards it. Practice refers to the ways in which they demonstrate their knowledge and attitude through their actions (11).

2.2 KAP and Onchocerciasis Cause, Transmission and Prevention

Onchocerciasis control effort has been achieving a significant success in breakage of microfilariae cycle through Mass treatment, however ignorance and incorrect beliefs which lead to negligence in prevention, control measures and in accepting inappropriate treatment or refusal of appropriate medications had been a challenge in different endemic areas of the disease.

2.2.1 Knowledge and Onchocerciasis Transmission and Prevention

Onchocerciasis cause and mode of transmission knowledge and perception has a huge impact on control effort of the disease especially in remote hyper endemic areas. Findings from different researches showed lack of knowledge about the vector, parasite and its affliction has an effect on attitude towards the disease transmission and exercising control measures (6, 7, 8).

In a study conducted in Nigeria revealed only 30.5 percent of respondents named the disease correctly as onchocerciasis or river blindness; caused by worms, and transmitted by Blackflies/insects. This similar findings also showed that infection by onchocerciasis occurred more among 29 percent people who lacked etiological knowledge (ignorant) of the disease than among 3.5 percent of those who were knowledgeable. Hence this study confirmed Knowledge had a significance effect on the prevalence of infection ($P<0.005$) (15). Another study conducted in hyper endemic villages of Nigeria indicated all the subjects knew that the bite of blackflies followed by itching but none of them knew bites were followed by onchocerciasis transmission (16). A study in Bui, Ghana indicated 79 percent of respondents mentioned Onchocerciasis as the

effects of blackflies bite, they could not express that the blackflies are vectors parasites(17). A study in Ethiopia showed 95.9 percent have heard about onchocerciasis (locally known as 'wara') and only 11.2 percent said that they knew about the etiology of the disease, which was named as filarial worm.

In most of the studies Knowledge about the disease usually related with the disease outcome or most severe signs and symptoms. For instance studies in Nigeria showed 69.5 percent responded with wrong answers by stating one symptom such as itching, nodules, bad skin, eye sigh" as the name of the disease. They could not name the causative agent or the vector of the disease (15). Another study indicated 71.6 percent of participants thought onchocerciasis is only a skin infection and 8.8 percent believed it was a blood-borne infection (18). Furthermore another study showed 36% percent had no idea of the cause of infection while the rest attributed the clinical symptoms of the disease to many other causes (19). A study in in Bebeka, Ethiopia found out that the disease is called as 'yemiasakik yekoda beshita' which means 'itching skin disease'. However, the study demonstrated lack of understanding of the cause and prevention methods of onchocerciasis (20).

Assessing prevention knowledge of participants gives clue to perceptions which drive them to develop attitudes to prevention of the disease. A study result showed more than 90 percent of the subject knew about Ivermectin but none of them knew where to find the drug. 52.5 percent of the participant had good knowledge about the side effects Ivermectin (16). Furthermore a Study in Ethiopia revealed that 88.4 percent knew the name of the drug used to treat the disease i.e. ivermectin/Mectizan and 50.8 percent suggested avoiding river bathing, 49.5 percent mentioned taking drug, 40.9 percent mentioned wearing protective cloths and 37.7 percent mentioned use of bed net as preventive methods (21). Participants from another study indicated 88.2 percent said that onchocerciasis is preventable; the majority (94.7 percent) indicated taking drug, 11.8 percent use of bed net, 10.1 percent killing black fly followed by 7.6 percent wearing protective cloths (20).

2.2.2 Attitude and Onchocerciasis transmission and prevention

Attitude refers to the feelings towards Onchocerciasis cause, transmission and prevention, as well as any preconceived ideas that they may have towards it. People's attitude to a disease process, manifestation, treatment, and various aspects of prevention are influenced by their

knowledge and perception of the condition. Even though KAP studies done in different areas tried to assess the result of each behavioral state, they did not show attitude independently from knowledge (10,11,15).

However a study in South Western Nigeria showed Causes of onchocerciasis were attributed to impure blood (22.8 percent), eating food like “garri” (smoked cassava grains), kolanut, groundnut (21.2 percent), poor hygiene (19.8 percent), impure water (11.6 percent), bacterial infection (8.2 percent), alcohol intake (2 percent) and 8.8 percent had no idea about the cause of the disease (18).

Regarding the disease and its prevention methods, a study revealed 69.5 percent of subjects perceived some recorded symptomatic effects of onchocerciasis, namely: itching, nodules, leopard skin, lizard skin and ocular lesion as separate diseases, and not linked to the same causative nematode, onchocercea volvulus. 7.5 percent of the respondent perceived leopard skin and lizard skin as part of the ageing process. 33.3 percent of infected male subjects with nodules, stated that the disease neither incapacitated them nor prevented them from carrying out their routine work and that they were not bothered about the disease. 12.5 percent subjects admitted using traditional herbal medicines for the treatment of onchocerciasis (15).

Transmission of the disease is also misconceived. A study in South Western Nigeria depicted transmission of onchocerciasis was thought to be via fomites (32.2 percent), mosquito bites (17 percent), sexual intercourse (12.2 percent), witchcraft (9.2 percent), heredity (4.2 percent), and food (3.2 percent). Only 12 (2.4 percent) of respondents answered that transmission was due to a black fly bite (17). A study in Bebeka, Ethiopia revealed 55.3 percent of the respondents had at least one misconception about the cause of onchocerciasis including poor personal hygiene, hereditary and Sun scorching and nobody knew about the etiology (causative agent) of the diseases (12). Another study found out that 88.8 percent had at least one misconception about the causative agent of onchocerciasis including black fly biting (58.1 percent), poor personal hygiene, and living in poor environmental sanitation, eating contaminated food, and witchcraft (13). Furthermore a study on rural areas of Ethiopia concluded that although the majority of respondents had ample awareness, a sizable proportion still had misconceptions and misunderstandings about causes, transmission, prevention and control of onchocerciasis (22).

Prevention perception about onchocerciasis is wide and misconceived. for instance a study showed 91percent of respondents were positive that the disease is preventable, out of which 28.8 percent thought by improving personal hygiene, 26.2 percent stressed avoiding contact with infected persons, 13.0 percent use of preventive drugs, 10.5 percent use of preventive herbs and 8.6 percent believed in the maintenance of a wide combination of health behaviors ranging from observing good hygiene, use of drugs, and insecticides, to avoidance of sexual intercourse. On the role of the community in the control of onchocerciasis 34.8 percent respondents claimed the community has nothing to do with disease control and their suggestions on the role of government in controlling the disease ranged from provision of free drugs (79.0 percent) to government recognition of traditional healers (1.6 percent) (18).

2.2.3 Practice and Onchocerciasis transmission and prevention

A study in Guatemala indicated the principal reason identified for refusal to take ivermectin was anxiety about drug-related adverse reactions, and marked differences between communities in acceptance of treatment. For example in one community over 50% of residents initially refused to take the drug (23). Nigeria showed one fourth (20.4%) of respondents who received ivermectin actually did not swallow the drug during the yearly mass distribution in hyper-endemic villages. Among persons not taking the drug 76.6 percent of them claimed that ivermectin had no effect or did not eliminate/cure the disease symptoms; 16.6 percent felt that the period of treatment was too long; and 6.6 percent feared adverse reactions. However, 26.5 percent were not given ivermectin, 50.94 percent were absent, 20.75 percent claimed their names omitted from the treatment list and 28.3 percent rejected the drug because of not know the benefits of ivermectin (15).

In contrast to the above study, Ghana based survey revealed that even though gender disparities, the whole community had received a yearly single-dose treatment of ivermectin drug during the year and populace acceptance of ivermectin (17). Although a report from South Sudan MOH showed total population that has been treated (therapeutic coverage) is only 53.7 percent (24). A study in North-west Ethiopia concluded that only 23 percent had good practice towards the CDTI and use of Ivermectin (21).

All the findings in different study tried to recommend community participation and design socially acceptable control strategies, health program planners and implementers must be familiar with people's KAP status in relation to onchocerciasis. However, the KAP of the

communities about onchocerciasis and OCP has not been studied in Gambella study area. Therefore, this study tried to investigate families KAP status on onchocerciasis transmission and prevention methods in Gambella woreda, Gambella.

Significance of the Study

Onchocerciasis disease has been known to be hyper-endemic in Gambella since Mapping of the disease for intervention purposes. Since then the disease still significant public health problem especially to indigenous peoples of the region. Knowledge and proper understanding about its transmission and prevention approach is vital to the peoples especially lived under consistent treat from the vector which causes the disease. This study tried to pinpoint their KAP status of the parts of the people mentioned above. Which showed their gap to the respective bodies and stakeholders who might use the findings to reevaluate their strategic implementation and incorporate the recommendations in the intervention plan. The study also given insight about the study area and used as a baseline information for further and detailed studies.

Conceptual Framework

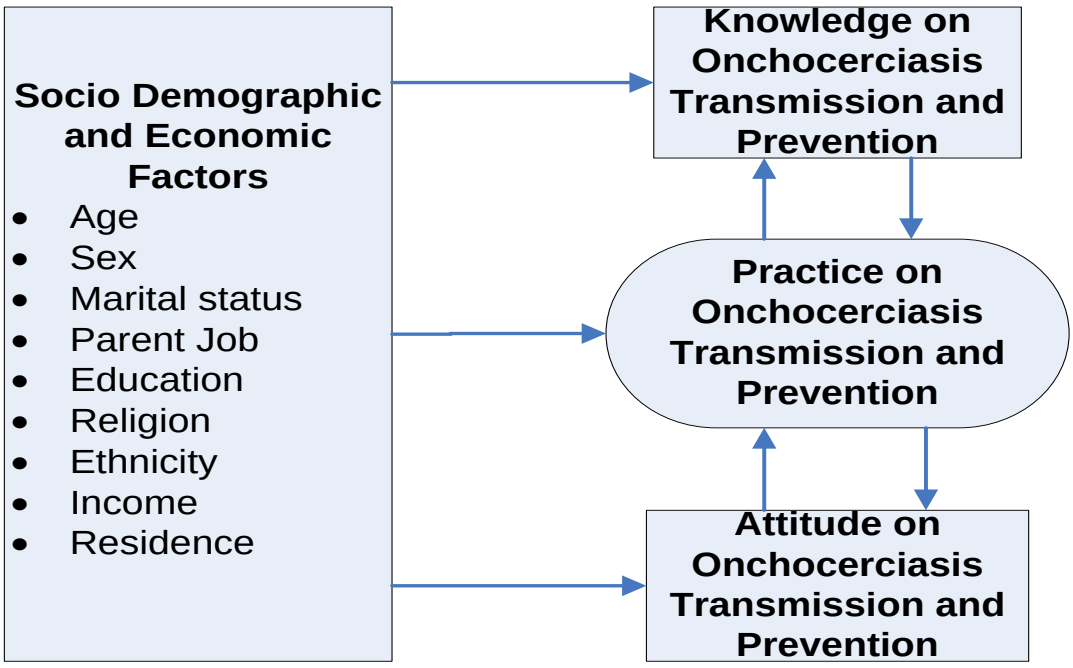

Figure 1: schematic presentation of conceptual frame work

CHAPTER THREE: OBJECTIVE

3.1 General Objective

- To assess Knowledge, Attitude & Practice of Household Heads/Spouses about Onchocerciasis Transmission and Prevention in Gambella Woreda, Gambella, South West Ethiopia.

3.2 Specific Objectives

3.2.1 To identify knowledge related with Onchocerciasis transmission and prevention among family heads/spouses.

3.2.2 To assess attitude related with Onchocerciasis transmission and prevention among family heads/spouses.

3.3.3 To determine practice related with Onchocerciasis transmission and prevention among family heads/spouses.

3.3.4 To assess factors associated with Knowledge, Attitude and Practice.

CHAPTER FOUR: METHODS

4.1 Study area & Period

Based on 1st round Rapid Epidemiological Mapping of Onchocerciasis (REMO) (2001), 5 districts (Dimma, Goderie, Mengeshi, Abobo, & Gambella) of Gambella region were Onchocerciasis endemic. 2nd round REMO (2011) included two more districts (Gog and Itang) which were found to be endemic (25). Since 2004 the regional health bureau in collaboration with FMOH (EOCP), Carter Center & WHO annual Mass Drug Treatment (MDA) using Ivermectin (Mectizan) has been provided under Community Directed Treatment with Ivermectin (CDTI) project (Annex 10).

The study was carried out in Gambella woreda, which is located around Gambella town. There were 13 kebeles of which 2 were semi-urban. The total population of the woreda was 14,799 from which 2914 (20 percent) live in semi-urban and 11,885 (80 percent) population live in rural kebeles in 3042 households. The woreda health service profile showd 2 health center and 11 health posts were functional and provided health care service for the community (26).The study was conducted from February to March 2015 in all kebeles of the woreda.

4.2 Study Design

- A community based cross-sectional household survey were used.

4.3 Population

4.3.1 Target/ Source population

- All household heads/spouses lived in Gambella woreda.

4.3.2 Sample Population

- Sampled household heads/spouses in thirteen kebeles in Gambella woreda.

4.3.3 Study Population

- Sampled household heads/spou who fulfilled eligibility criteria.

4.4 Eligibility criteria

4.4.1 Inclusion criteria

- All head/spouse of households lived in selected households who were willing to participate in the study.

4.4.2 Exclusion criteria

– Head/spouse of households who were at ill state & not able to accommodate interviewing.

4.5 Sample size, technique and Procedure

4.5.1 Sample size determination

The sample size for this study calculated using the single population proportion formula. The value of p is taken as 50%. 5 % margin of error and 95% level of confidence were taken.

$$\mathbf{n = ((z_{\alpha/2})^2 * p\,(1\text{-}p))/d^2}$$

Where **n –** required sample size

$\mathbf{z_{\alpha/2}}$ – value at α = 0.05 or critical value for normal distribution at 95% C.I (1.96)

p – prevalence of KAP on O/C/P (0.5)

d – margin of error (0.05)

The sample size was 384 but Finite population correction formula were used since the total number of household heads/spouses were less than 10,000.

$$n_f = \frac{n_i}{1 + n_i/N} = 384/1 + 384/3042 = 341$$

Considering the design effect, the sample size was doubled. Therefore the total sample size, including 10 % non-response rate, was **750**. For Qualitative Complementary study an in-depth interview involved 6 participants from woreda onchocerciasis control programme, Health extension worker supervisor, Health extension worker (HEW), Kebele leader, Village representative and the Community member.

4.5.2 Sampling technique

The calculated sample size allocated to each kebele based on proportional allocation to size with the following sampling frame.

Table 1: A table showing list of kebeles by proportionally sampled households Gambella woreda, Ethiopia, 2015

Kebele	Population	HHs	Cum. Frequency	Cum. Freq. no	Proportionally Sampled HHs
Solen	234	67	0.02	67	17
SiriMejenger	1733	341	0.13	408	84
Gnikiwo	1718	368	0.25	776	91
Abolkir	811	183	0.31	959	45
Pimoli	805	157	0.36	1116	39
Phinkiwo	2176	460	0.52	1576	113
Oupajna	1097	243	0.60	1819	60
Pukong	352	63	0.62	1882	16
Elei-Uhoi	1444	271	0.71	2153	67
Koben	1210	236	0.78	2389	58
Jewe	305	64	0.80	2453	16
Abol	1284	261	0.89	2714	64
Bonga	1630	328	1.00	3042	81
Total	**14799**	**3042**			**750**

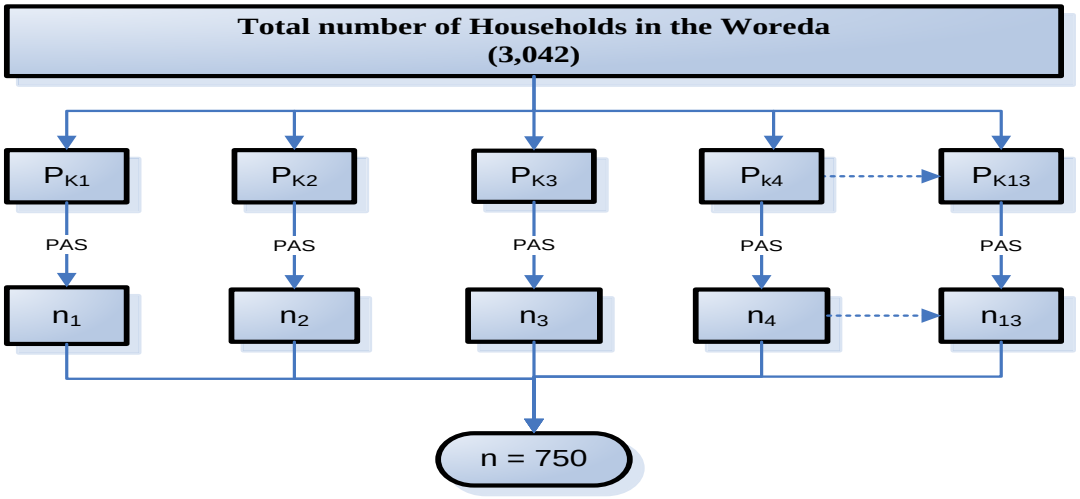

Figure 2: Schematic presentation of the sampling Technique

A systematic random sampling of HHs where sampling interval (K) were total number of HHs in each kebele divided by sample allocated for each kebele. Purposive sampling was employed for qualitative study.

4.5.3 Sampling Procedure

A number between 1 and K (K = 4) was randomly selected to get the starting household. Then every k^{th} (4^{th}) households were included till the sample required reached.

4.6 Variables

4.6.1 Dependent Variables

- Knowledge, attitude and Practice status about Onchocerciasis transmission and prevention

4.6.2 Independent variable

- Demographic and socio-economic factors (Age, Sex, Ethnicity, Religion, Residence, Marital status, parental income, parental educational status, and Parental job).
- Knowledge about Onchocerciasis transmission and prevention
- Attitude about Onchocerciasis transmission and prevention

4.7 Data collection Instrument, Tools and Procedures

4.7.1 Instrument

Interview of head/spouse of the households and in-depth interview and observations (health facility assessment) used.

4.7. 2 Data collection Tools

The quantitative data were collected using a Interviewer-administered questionnaire. The qualitative data were collected with preprepared in-depth interview guide and document review on health facility done using assessment survey checklist.

4.7.3 Data Collection Procedures

Five data collectors (8 ques. / day/ person) and two supervisors were recruited with predefined criteria. One day training was given on goal (KAP definition, etc.), roles and responsibilities, content and use of questionnaires, interviewee's selection procedure, consent and confidentiality, supervision and quality control procedures, etc.

The data were then be collected from each household heads/spouses till expected proportional sample size was achieved. For in-depth interview trained interviewers travelled to get the

respondents to their place of residency.While conducting the interview, interviewer probed to get more detailed information. Document were reviewed include OPD and Laboratory log book.

4.8 Data Quality Management

Data quality were ensured during instrument development, collection, coding, entry and analysis. Both the questionnaires translated to Amharic and Agnuwa languages and retranslated back to English before data collection. Different translators were used to keep the consistency of the questionnaire and necessary corrections were taken. Then five data collectors and one supervisor were recruited with predefined criteria and trained about the purpose of the study and how to interviewed questionnaire.

Thirty eight (5%) of the questionaires were pre tested in Itang woreda Kebeles which were adjacent to Gambella woreda and not included in the study but they were at risk of onchocerciasis and showed parallel population composition like Gambella woreda. This was done before the actual data collection period and appropriate correction were taken accordingly. During data collection, questionnaire were checked for its completeness on daily basis by immediate supervisors. Incorrectly filled or missed questionnaire were discarded before analysis, and the supervisors' were submitted the filled questionnaire to the principal investigator after checking its consistency and completeness. The investigator were also rechecked the completed questionnaires to maintain the quality of data. Discussion with data collectors and supervisors were done accordingly if there were problem encounter during data collection. Data quality were also ensured during data coding, cleaning, entry to computer and during analysis.

4.9 Data Processing and Analysis

EPI-data version 3.1 and SPSS version 20 Statistical softwares were used for quantitative data entry and analysis respectively. After organizing & cleaning the data, frequencies & percentages were calculated to all variables that are related to the objectives of the study. The Bivariate logistic regression analysis were done for all potential socio-demographic variables using p value < 0.05 as the significant level and p value < 0.25 were candidates for multivariate analysis. The qualitative data were transcribed and summarized manualy.

4.10 Ethical consideration

After approval of the proposal, Ethical clearance and formal letter were obtained from Research Ethics Committee of Jimma University. Letter of permission and cooperation were obtained from Gambella Regional Health Bureau and G/woreda health office. Informed consent were obtained from the study participants after explaining the purpose of the study. Participants were assured that their name wouldn't be stated, data were kept confidential and anonymous and it was used only for research purpose. They were also informed that they wouldn't be forced to answer the entire question and they could withdraw at any time if they didn't want to participate.

4.11 Dissemination plan

The findings of this study will be disseminated to college of public health and medical science and department of Epidemiology, Gambella Regional Health Bureau and G/Wo/H/office. The findings will be also disseminated to different stakeholders that have a contribution to control and/or eliminate Onchocerciasis. Finally effort will be made to have a chance to present in various seminars and workshops and for publication in international journals.

4.12 Operational Definitions

Knowledge: an individual understanding and awareness on onchocerciasis transmission and prevention and obtained by the magnitude of score a respondent given to 11 questions. The result interpreted as the respondent score $\geq$ 6 defined as having adquate Knowledge and $\leq$ 5 defined as having inadquate Knowledge to O/T/P.

Attitude: an individual feelings as well as any preconceived ideas on onchocerciasis transmission and prevention and obtained by the magnitude of score a respondent given to 17 questions, the maximum score is 85 and the minimum is 17 and score $\geq$ 59 and $\leq$ 58 reflecting favorable and unfavorable attitude to O/T/P respectively which were scored using a 5 point Likert-scale.

Practice: an individual actions expressed/ demonstrated related with onchocerciasis transmission and prevention and obtained by the magnitude of score a respondent given to 10 questions. The result interpreted as the respondent score $\geq$ 6 and $\leq$ 5 defined as having good and poor practice to O/T/P respectively.

CHAPTER FIVE: RESULT

5.1 Socio-demographic characteristics of the study participants

A total of 721 study participants were interviewed from the expected 750 samples. From 30 study subjects, 23 were refused and 7 were not present in a repeated visit during data collection. Hence, response rate was 96%. It is illustrated by kebele (Table 2).

Table 2: A table showing study participant's response rate by kebele, Gambella woreda, 2015.

Kebele	Population	Proportionally allocated HHs	Sample obtained	% response
Solen	234	17	17	100
SiriMejenger	1733	84	74	88
Gnikiwo	1718	91	91	100
Abolkir	811	45	45	100
Pimoli	805	39	39	100
Phinkiwo	2176	113	103	91
Oupajna	1097	60	60	100
Pukong	352	16	16	100
Elei-Uhoi	1444	67	67	100
Koben	1210	58	58	100
Jewe	305	16	16	100
Abol	1284	64	64	100
Bonga	1630	81	71	88
Total	**14799**	**750**	**721**	**96**

About two third or 526 (73%) were head of households. Sex of the study subjects were 522 (72.4%) males and 199 (27.6%) females. The mean (SD) age of male participants was 37 years (SD =11.3) and the range was 54 with minimum 16 and maximum 70. The mean (SD) age of female participants was 32 years (SD = 6.85) and the range was 52 with minimum 18 and maximum 70. The With regard to ethnic composition, the majority were Agnuwa 462 (64.2%) and the rest were Mejenger 119 (16.5%), Oromo 52 (7.2%), Amhara 44 (6.1%), and others 43 (6.1%). Protestant were the dominant religious status 638 (88.5%) of the study participants. Majority of participants were married 577 (80%) and median house hold size was 4. Education status showed 586 (81%) of participant were either illiterates, primary or secondary school status. 282 (39.2%) was specifically illiterate. With regard to occupation 508 (70.7%) were Farmers and 134 (18.6%) were government employee. Monthly family income showed 659

(91.4%) of the participants have got less than or equal to 1500 ETB of which 252 (35%) got less than or equal to 500 ETB. The whole socio demographic status is summarized in Table 3.

Table 3: A table showing Socio-demographic characteristics of Family Heads/Spouses, Gambella, 2015.

Socio-demographic variable	No (%)	Socio-demographic variable	No (%)
Residence		**House hold size**	
Semi-urban*	133 (18.4)	≤ 3	257 (35.7)
Rural	588 (81.6)	4	201 (27.9)
Sex		≥ 5	262 (36.4)
Male	522 (72.4)	**Education status**	
Female	199 (27.6)	Illiterate	282 (39.2)
Age		Can read and write	138 (19.2
≤ 24	67 (9.3)	Primary school	166 (23.1)
25 - 44	499 (69.2)	Secondary school	53 (7.4)
≥ 45	155 (21.5)	Collage and above	81 (11.3)
Ethnicity		**Occupation**	
Agnuwa	462 (64.2)	Farmer	508 (70.8)
Mejenger	119 (16.5)	Gov't employee	134 (18.7)
Oromo	52 (7.2)	Daily laborer	40 (5.5)
Amhara	44 (6.1)	Merchant	36 (5.0)
others	43 (6.0)	**Income per month**	
Religion		≤ 1000	290 (68.9)
Protestant	638 (88.5)	1001 - 2000	198 (27.5)
Orthodox	54 (7.5)	≥ 2001	26 (3.6)
Muslim	14 (1.9)		
others	15 (2.1)		
Marital status			
Married	577 (80.0)		
Single	84 (11.7)		
Divorced	33 (4.6)		
Widowed	27 (3.7)		

* Semi-urban: refers to bonga and abol kebeles.

5.2 knowledge, Attitude and Practice about Onchocerciasis transmission and prevention

5.2.1. Knowledge

A Poster regarding Onchocerciasis was present before starting the interview and only 234 (32.5%) of the participants were able to identify by name about the disease. Majority of the subjects 669 (92.9%) heard about the disease and of them 575 (85.9%) knew about the disease in their respective kebeles and 2003 was the mean year for their first information time. 150 (32.5%) of heads/spouses who are Agnuwa knew the local name for river blindness as "Tilla or kunkongn" and 89 (75.2%) of Mejengrs called it "Longey" which is compared with their own ethnic group. while others 378 (52.4%) named it "Oncho", 9 (1.2%) "gini disease", 6 (0.9%) "Lemit", 4 (0.6%) "Yezer beshita", and 53 (7.3%) subjects did not know the local name of the disease.

Response regarding causes of onchocerciasis were only correctly given by 39 (5.4%) subjects. The rest attributed to 270 (37.4%) pond (stagnant) water, 161 (22.3%) fly, 16 (2.2%) poor hygiene, 15 (2.1%) bad (impure) water, 12 (1.7%) bacterial infection, 36 (5.0%) other responses and 172 (23.9%) subjects had no idea about the cause of the disease. Transmission of onchocerciasis was thought to be via mosquito bites (9.7%), contact with infected person (5.2%), bacterial infection (3.2%), sexual intercourse with infected person (0.7%), sharing clothes (0.3%), other causes (2.4%), and responded did not know (17.3%). But more than half 440 (61.3%) of respondents answered that transmission was due to a black fly bite. (Table 4)

Table 4: A table showing the frequency of study participants Knowledge on name, causative agent and modes of transmission of Onchocerciasis, Gambella, 2015.

Indicative questions on Knowledge	Response categories	No (%)
Show poster	Correctly identified	234 (32.5)
	Incorrectly identified	487 (67.5)
	Total	721 (100.0)
Ever heard about the disease onchocerciasis	yes	669 (92.9)
	no	51 (7.1)
	Total	720 (100.0)
What is the name of the disease	Correct	624 (86.5)
	I don't know	53 (7.3)
	Incorrect	44 (6.2)

	Total	721 (100.0)
What is the causative agent of the disease	Correct	39 (5.4)
	Incorrect	684 (94.6)
	Total	721 (100.0)
Responses given to the question on the causative agent of the disease	pond water	204 (28.2)
	I don't know	172 (23.9)
	fly	161 (22.3)
	stagnant water	41 (5.7)
	worms	39 (5.4)
	Other (mosquito, sex, etc.)	36 (5.0)
	Pond (stagnant) water	25 (3.5)
	poor hygiene	16 (2.2)
	bad (impure) water	15 (2.1)
	bacteria	12 (1.7)
	Total	721 (100.0)
What is the mode of transmissions of the disease	Correct	440 (61.0)
	Incorrect	281 (39.0)
	Total	721 (100.0)
Responses given to the question on the modes of transmission the disease	Black fly bite	440 (61.3)
	I do not know	124 (17.3)
	Mosquito bite	70 (9.7)
	Contact with infected person	37 (5.2)
	Bacterial infection	23 (3.2)
	Others	17 (2.4)
	Sexual intercourse	5 0.7)
	Sharing clothes	2 (0.3)
	Total	721 (100.0)

Regarding the sign/symptoms of the disease 410 (56.9%) of the respondent mentioned one and more than one of the disease sign/symptoms whereas 119 (16.5%) subjects mentioned they didn't know the about It. About the disease outcome only 32 (4.4%) of the respondent correctly responded whereas 541 (75%) of the subjects indicated death as a possible outcome. The detail is summerized under Table 5.

Table 5: A table showing the frequency of study participants Knowledge on sign/symptoms and outcome of Onchocerciasis, Gambella, 2015.

Questions on Knowledge	Response categories	No (%)
What is the Sign and Symptoms of the disease	Correct	410 (56.9)
	Incorrect	311 (43.1)
	Total	**721 (100)**
Responses given to questions regarding sign/symptoms of the disease	itching	207 (28.7)
	itching, swelling	181 (25.1)
	others	163 (22.6)
	I don't know	119 (16.5)
	swelling	19 (2.6)
	blindness	14 (1.9)
	fever	5 (0.7)
	rigor, vomit, fever	4 (0.6)
	itching, swelling, red eye	3 (0.4)
	high fever	2 (0.3)
	headache	2 (0.3)
	wound	2 (0.3)
What is the outcomes/consequenses of the disease	Correct	32 (4.4)
	Incorrect	689 (95.6)
	Total	721 (100)
Responses given to questions regarding disease outcome	death	541 (75.0)
	I don't know	114 (15.8)
	blindness	29 (4.0)
	other	17 (2.4)
	wound & death	7 (1.0)
	akalegodolo	6 (0.8)
	amputation of the leg	4 (0.6)
	blindness, hanging groin	1 (0.1)
	swollen leg, leopard leg	1 (0.1)
	L/skin, blindness	1 (0.1)

A total of 554 (76.8%) respondents were positive that the disease is preventable, out of which 397

(71.7%) stressed the use of preventive drugs as a prevention method whereas the rest 71 (12.7%) claimed avoidance of river bathing, 29 (5.3%) emphasized use of bed net, 27 (4.9%) stressed the

use of protective cloths, 14 (2.1%) believed in the improvement of personal hygiene, 4 (0.7%) indicated avoidance of sexual intercourse and 12 (2.1%) indicated different misconceived prevention approaches.

Table 6: A table showing frequency of study participants Knowledge on prevention and method of prevention about Onchocerciasis, Gambella woreda, 2015.

Indicative questions on Knowledge	Response categories	No (%)
Is onchocerciasis a preventable disease?	Yes	554 (76.8)
	I do not know	139 (19.3)
	No	28 (3.9)
	Total	**721 (100)**
If "yes", what is the prevention method for onchocerciasis?	Taking drug	397 (71.7)
	Avoid river bathing	71 (12.7)
	Use of bed net	29 (5.3)
	Wearing protective cloths	27 (4.9)
	Improving personal hygiene	14 (2.6)
	Others	12 (2.1)
	Avoidance of sexual intercourse	4 (0.7)

A total of eleven questions regarding knowledge on Onchocerciasis transmission and prevention were selected, recoded and counted which the correct responses were given by the study participants. Hence from the total of 721 responses 424 (58.8%) had inadequate knowledge and 297 (41.2%) adequate knowledge about onchocerciasis transmission and prevention.

The Bivariate logistic regression analysis were done for all potential socio-demographic variables using p value < 0.05 as the significant level and p value < 0.25 were candidates for multivariate analysis.

In multivariate analysis residence, sex, religion, marital status, education status, occupation and income showed a significant association with respondent's knowledge. For instanse Male participants were more likely to have an adquate knowledge on onchocerciasis transmission and prevention (AOR= 1.874, 95% CI: 1.209, 2.904). Married participants were more likely to be included in an adquate knowledge category relative to other marital status categories (AOR= 0.214, 95% CI: 0.073, 0.630). Government employee also more likely to be categorized under an adequate knowledge (AOR= 1.430, 95% CI: 0.393, 11.765). (Table 7)

Table 7: A table showing socio-demographic factors association with Knowledge on onchocerciasis transmission and prevention, Gambella, 2015.

Socio-demographic characteristics		Knowledge		COR (95% C.I.)	P.value	AOR (95% C.I.)	P.value
		Inadquate	Adequate				
		No (%)	No (%)				
Residence	Semi-urban	92 (21.7)	41 (13.8)	0.578 (0.386, 0.864)	0.008	0.504 (0.262, 0.969)	0.040
	Rural	332 (78.3)	256 (86.2)	1.0	1.0	1.0	1.0
Sex	Male	285 (67.2)	237 (79.8)	1.926 (1.360, 2.729)	0.000	1.874 (1.209, 2.904)	0.005*
	Female	139 (32.8)	60 (20.2)	1.0	1.0	1.0	1.0
Age (in years)	≤ 24	53 (12.5)	14 (4.7)	0.347 (0.178, 0.677)	0.002		
	25 - 44	283 (66.7)	216 (72.7)	1.002 (0.697, 1.442)	0.989		
	≥ 45	88 (20.8)	67 (22.6)	1.0	1.0		
Ethnicity	Agnuwa	238 (56.1)	224 (75.7)	2.172 (1.105, 4.270)	0.025		
	Mejenger	93 (21.9)	26 (8.8)	0.645 (0.295, 1.411)	0.272		
	Oromo	36 (8.5)	16 (5.4)	1.026 (0.426, 2.467)	0.955		
	Amhara	27 (6.4)	17 (5.7)	1.453 (0.597, 3.538)	0.411		
	others	30 (7.1)	13 (4.4)	1.0	1.0		
Religion	Protestant	371 (87.5)	267 (89.9)	0.180 (0.050, 0.644)	0.008	0.086 (0.018, 0.406)	0.002*
	Orthodox	43 (10.1)	11 (3.7)	0.064 (0.015, 0.267)	0.000	0.017 (0.002, 0.126)	0.000*
	Muslim	7 (1.7)	7 (2.4)	0.250 (0.048, 1.292)	0.098	0.031 (0.002, 0.396)	0.007*
	Others	3 (0.7)	12 (4.0)	1.0	1.0	1.0	1.0
Marital status	Married	358 (84.4)	219 (73.7)	0.258 (0.111, 0.598)	0.002	0.214 (0.073, 0.630)	0.005*
	Single	53 (12.5)	31 (10.4)	0.246 (0.096, 0.629)	0.003	0.249 (0.066, 0.940)	0.040
	Divorced	5 (1.2)	28 (9.4)	2.358 (0.669, 8.313)	0.182	2.104 (0.340, 13.035)	0.424
	Widowed	8 (1.9)	19 (6.4)	1.0	1.0	1.0	1.0
House hold size	≤ 3	161 (38.0)	96 (32.4)	0.878 (0.616, 1.249)	0.468		
	4	107 (25.2)	94 (31.8)	1.293 (0.892, 1.874)	0.175		
	≥ 5	156 (36.8)	106 (35.8)	1.0	1.0		

Education Status	Illiterate	165 (39.0)	117 (39.4)	1.271 (0.762, 2.122)	0.358	3.214 (0.976, 10.585)	0.055
	Read and write	54 (12.8)	84 (28.3)	2.789 (1.580, 4.925)	0.000	4.824 (1.471, 15.817)	0.009*
	Primary school	121 (28.6)	45 (15.2)	0.667 (0.378, 1.178)	0.163	1.449 (0.481, 4.364)	0.510
	Sec. school	31 (7.3)	22 (7.4)	1.273 (0.625, 2.590)	0.506	3.449 (1.182, 10.064)	0.023
	Collage & above	52 (12.3)	29 (9.8)	1.0	1.0	1.0	1.0
Occupation	Merchant	32 (7.6)	4 (1.4)	1.125 (0.260, 4.871)	0.875	1.286 (0.208, 7.968)	0.787
	Farmer	293 (69.4)	215 (72.6)	6.604 (2.316, 18.832)	0.000	3.853 (1.117, 13.292)	0.033
	Gov't Employee	61 (14.5)	73 (24.7)	10.770 (3.630, 31.955)	0.000	1.430 (0.393, 11.765)	0.000*
	Daily Laborer	36 (8.5)	4 (1.4)	1.0	1.0	1.0	1.0
Income (per month)	$\leq$ 1000	290 (68.4)	207 (69.7)	5.472 (1.622, 8.467)	0.006	2.473 (1.203, 7.342)	0.003*
	1001 - 2000	111 (26.2)	87 (29.3)	6.009 (1.747, 20.670)	0.004	5.215 (2.206, 9.102)	0.002*
	$\geq$ 2001	23 (5.4)	3 (1.0)	1.0	1.0	1.0	1.0

Note: Adquate Knowledge used as reference category.

***** Variable group strongly associated with knowledge.

5.2.2 Attitude

Regarding attitude the respondent asked about their feeling/or opinion using twenty-three statements on Onchocerciasis cause, transmission, prevention and CDTI project. The result got from seventeen questions some of which reversely coded the negative sentences and count each score. Then the whole responses categorized as unfavorable and favorable attitude regarding onchocerciasis transmission and prevention. The result has showed 381 (52.8%) and 340 (47.2%) household heads/spouses had unfavourable attitude and favourable attitude about onchocerciasis transmission and prevention respectively.

Bivariate analysis used to explore the association of demographic variables, using p value < 0.05 as the significant level and p value < 0.25 were candidates for multiple logistic regression. In multivariate analysis using bivariate logistic regression model household size, education status, occupation and income found to be significantly associated with attitude on onchocerciasis transmission and prevention in one or more than one variable groups.

Those participants who had four family size more likely to be engaged with favorable attitude towards the disease transmission and prevention (AOR= 3.199, 95% CI: 2.005, 5.105). Regarding education stuts groups; those who had secondery school level more likely to express favorable attitude which were also the same for illitrates and primary school level respondents. Furthermore all respondents' in the income variable groups showed they were more likely to be involved in favourable attitude regarding onchocerciasis transmission and prevention. (Table 8)

Table 8: A table showing socio-demographic factors association with attitude on onchocerciasis transmission and prevention, Gambella, 2015.

Socio-demographic characteristics		Attitude		COR (95% C.I.)	P.value	AOR (95% C.I.)	P.value
		unfavourable	favourable				
		No (%)	No (%)				
Residence	Semi-urban	64 (16.8)	69 (20.3)	1.261 (0.865, 1.838)	0.228		
	Rural	317 (83.2)	271 (79.7)	1.0	1.0		
Sex	Male	283 (74.3)	239 (70.3)	0.819 (0.591, 1.136)	0.233		
	Female	98 (25.7)	101 (29.7)	1.0	1.0		
Age (in years)	≤ 24	43 (11.3)	24 (7.1)	0.860 (0.475, 1.558)	0.619		
	25 - 44	244 (64.0)	255 (75.0)	1.610 (1.116, 2.324)	0.011		
	≥ 45	94 (24.7)	61 (17.9)	1.0	1.0		
Ethnicity	Agnuwa	285 (75.0)	177 (52.1)	0.651 (0.348, 1.218)	0.179		
	Mejenger	34 (8.9)	85 (25.0)	2.619 (1.277, 5.371)	0.009		
	Oromo	23 (6.1)	29 (8.50	1.321 (0.587, 2.971)	0.501		
	Amhara	16 (4.2)	28 (8.20	1.833 (0.778, 4.320)	0.166		
	others	22 (5.8)	21 (6.2)	1.0	1.0		
Religion	Protestant	354 (92.9)	284 (83.5)	0.123 (0.028, 0.551)	0.006		
	Orthodox	21 (5.5)	33 (9.7)	0.242 (0.049, 1.181)	0.079		
	Muslim	4 (1.0)	10 (2.9)	0.385 (0.058, 2.538)	0.321		
	Others	2 (0.5)	13 (3.8)	1.0	1.0		
Marital status	Married	294 (77.2)	283 (83.2)	2.286 (0.985, 5.306)	0.054		
	Single	45 (11.8)	39 (11.5)	2.058 (0.812, 5.221)	0.128		
	Divorced	23 (6.0)	10 (2.9)	1.033 (0.340, 3.135)	0.955		
	Widowed	19 (5.0)	8 (2.4)	1.0	1.0		
House hold	≤ 3	147 (38.6)	110 (32.4)	1.193 (0.840, 1.694)	0.324	0.767 (0.435, 1.350)	0.358

size	4	73 (19.2)	128 (37.8)	2.795 (1.911, 4.088)	0.000	3.199 (2.005, 5.105)	0.000*
	≥ 5	161 (42.3)	101 (29.8)	1.0	1.0	1.0	1.0
Education Status	Illiterate	172 (45.3)	110 (32.4)	0.357 (0.213, 0.596)	0.000	0.156 (0.049, 0.497)	0.002*
	Read and write	59 (15.5)	79 (23.2)	0.747 (0.424, 1.315)	0.312	0.337 (0.107, 1.063)	0.064
	Primary school	94 (24.7)	72 (21.2)	0.427 (0.247, 0.739)	0.002	0.149 (0.050, 0.448)	0.001*
	Secondary school	26 (6.8)	27 (7.9)	0.579 (0.286, 1.172)	0.129	0.128 (0.043, 0.381)	0.000*
	Collage and above	29 (7.6)	52 (15.3)	1.0	1.0	1.0	1.0
Occupation	Merchant	27 (7.1)	9 (2.7)	0.097 (0.034, 0.279)	0.000	0.130 (0.035, 0.484)	0.002*
	Farmer	288 (75.8)	220 (65.1)	0.222 (0.103, 0.475)	0.000	0.425 (0.161, 1.120)	0.083
	Gov't Employee	56 (14.7)	78 (23.1)	0.404 (0.179, 0.916)	0.030	0.792 (0.244, 2.572)	0.698
	Daily Laborer	9 (2.4)	31 (9.2)	1.0	1.0	1.0	1.0
Income (per month)	≤ 1000	265 (69.6)	232 (68.2)	3.677 (1.365, 9.906)	0.010	1.357 (0.315, 5.283)	0.001*
	1001 - 2000	95 (24.9)	103 (30.3)	4.554 (1.651, 12.557)	0.003	2.143 (0.945, 4.701)	0.002*
	≥ 2001	21 (5.5)	5 (1.5)	1.0	1.0	1.0	1.0

Note: Favorable attitude used as a reference category.

* Variable group strongly associated with attitude.

5.2.3 Practice

A total 653 (90.6%) respondents heard about the drug (Mectizan) and the source of information about the drug were 274 (42%) from community drug distributers (CDDs), 262 (40.1%) from health extension workers (HEWs), 37 (5.7%) from radio, 36 (5.5%) from Family, friends, and neighbors, 25 (3.8%) from Billboards, Brochures, and posters and the rest 19 (2.9%) heard from religious and schools.

652 (90.4%) subjects were known to take the drug and highest numbers (132 (20.2%)) started in 2003E.c. 321 (49.2%) of the participants were taken the drug in 2007E.c. Those participants who didn't take the drug reasoned absenteeism were 42 (61.8%), nobody asked me 18 (26.8%), I don't want the drug 5 (7.4%) and I am healthy 3 (4.4%).

Regarding the drug distribution campaign 583 (89.4%) subjects knew the annual interval of the campaign and 271 (41.6%) respond the correct dose of drug by saying "it is depend on the length of an individual". 608 (93.3%) of the participants knew the drug was given free of charge.

Table 9: A table showing frequency of study participants taking the drug on Knowledge of Interval, numer taken at atime and Cost of Mectizan, Gambella woreda, 2015.

Knowledge about CDTI campaign		No (%)
How was the interval of the drug distribution?	Annual	583 (89.4)
	Biannual	42 (6.4)
	Others	27 (4.1)
How many drug is/are taken at onetime?	only one	4 (0.6)
	Depend on size	271 (41.6)
	three	14 (2.1)
	two to four	329 (50.5)
	I do not know	34 (5.2)
How much is the cost of the drug?	It is free	608 (93.3)
	I do not know	44 (6.7)

From study participants who were taken the drug, 495 (76.4%) confirmed they were interrupting the drug one or more than one time. 227 (45.9%) reasoned long period treatment and 171(34.5%) reasoned fear of the drug adverse effect. For question "why did you take the drug?" 364 (55.8%) respondents answered "it kills worms inside the body" and 269 (41.3%) reasoned "it kills onchocerciasis worms. 636 (97.5%) of the respondents didn't know for how many time they

should take the drug. Regarding better information source, 469 (65%) of the respondent preferred government health facilities as their source of information about the disease.

Table 10: A table showing frequency of study participant's interruption status; reasons for interruption and taking the drug, Gambella woreda, 2015.

Practice	response	No (%)
Have you ever interrupt in taking the drug which is given by CDTI project?	yes	495 (76.4)
	no	156 (23.6)
Why did you interrupt in taking the drug?	No effect or did not eliminate	12 (2.4)
	Long period of treatment	227 (45.9)
	Feared adverse reactions	171 (34.5)
	Even if I was registered, the CD didn't gave me	1 (0.2)
	Others	84 (17.0)
Why do you take the drug?	I saw peoples gathered and took	18 (2.8)
	It kills the worm which causes d	364 (55.8)
	It kills the onchocerciasis worm	269 (41.3)
	Others	1 (0.2)
How many time you should take the drug in the future?	yes	16 (2.5)
	no	636 (97.5)

To determine the overall practice status of the heads/spouses of the households, ten questions were selected, recoded, counted and categorized. Therefore 201 (27.9%) and 520 (72.1%) categorized as poor practice and good practice regarding Onchocerciasis transmission and prevention respectively.

Bivariate analysis used to explore the association of demographic variables using p value < 0.05 as the significant level and p value < 0.25 were candidates for multiple logistic regression.

In multivariate analysis using bivariate logistic regression ethinicity and occupation found to be significantly associated with practice on onchocerciasis transmission and prevention behaviors. Agnuwa respondents were more likely to be engaged in practice behavior (AOR= 14.712, 95% CI: 4.918, 44.015) and farmer participans also more likely to be involved in practice (AOR= 2.741, 95% CI: 1.052, 7.141). Participants with adequate knowledge and favorable attitude also more likely to be engaged in taking of the drug. (Table 11)

Table 11: A table showing socio-demographic factors association with Practice on onchocerciasis transmission and prevention, Gambella, 2015.

Socio-demographic characteristics		Taken the Drug			COR (95% C.I.)	P.value	AOR (95% C.I.)	P.value
		Yes	No	Total				
		No (%)	No (%)	No (%)				
Residence	Semi-urban	104 (16.0)	29 (42.0)	133 (18.4)	0.262 (0.155, 0.441)	0 .000*		
	Rural	548 (84.0)	40 (58.0)	588 (81.6)	1.0	1.0		
Sex	Male	477 (73.2)	45 (65.2)	522 (72.4)	1.454 (0.860, 2.457)	0 .162		
	Female	175 (26.8)	24 (34.8)	199 (27.6)	1.0	1.0		
Age (in years)	≤ 24	60 (9.2)	7 (10.1)	67 (9.3)	0.785 (0.298, 2.064)	0.623		
	25 - 44	450 (69.0)	49 (71.0)	499 (69.2)	0.841 (0.443, 1.594)	0.595		
	≥ 45	142 (21.8)	13 (18.8)	155 (21.5)	1.0	1.0		
Ethnicity	Agnuwa	454 (69.7)	8 (11.6%)	462 (64.2)	12.971 (4.591, 36.646)	0.000*	9.561 (4.375, 22.040)	0.000*
	Mejenger	98 (15.1)	21 (30.4)	119 (16.5)	1.067 (0.433, 2.627)	0.888	1.177 (0.435, 3.189)	0.748
	Oromo	33 (5.1)	19 (27.5)	52 (7.2)	0.397 (0.153, 1.030)	0.057	0.519 (0.173, 1.563)	0.244
	Amhara	31 (4.8)	13 (18.8)	44 (6.1)	0.545 (0.200, 1.489)	0.236	0.337 (0.095, 1.195)	0.092
	others	35 (5.4)	8 (11.6)	43 (6.0)	1.0	1.0	1.0	1.0
Religion	Protestant	594 (91.1)	44 (63.8)	638 (88.5)	0.964 (0.124, 7.503)	0.972		
	Orthodox	35 (5.4)	19 (27.5)	54 (7.5)	0.132 (0.016, 1.079)	0.059		
	Muslim	9 (1.4)	5 (7.2)	14 (1.9)	0.129 (0.013, 1.288)	0.081		
	Others	14 (2.1)	1 (1.4)	15 (2.1)	1.0	1.0		
Marital status	Married	528 (81.0)	49 (71.0)	577 (80.0)	1.347 (0.392, 4.633)	0.637		
	Single	70 (10.7)	14 (20.3)	84 (11.7)	0.625 (0.165, 2.364)	0.489		
	Divorced	30 (4.6)	3 (4.3)	33 (4.6)	1.250 (0.231, 6.760)	0.796		
	Widowed	24 (3.7)	3 (4.3)	27 (3.7)	1.0	1.0		
House hold size	≤ 3	217 (33.3)	40 (58.8)	257 (35.7)	0.306 (0.162, 0.578)	0.000*		
	4	187 (28.7)	14 (20.6)	201 (27.9)	0.754 (0.351, 1.620)	0.469		
	≥ 5	248 (38.0)	14 (20.6)	262 (36.4)	1.0	1.0		

Education Status	Illiterate	267 (41.0)	15 (22.1)	282 (39.2)	3.719 (1.712, 8.082)	0.001*		
	Read & write	133 (20.4)	5 (7.4)	138 (19.2)	5.558 (1.921, 16.083)	0.002*		
	Prim. school	146 (22.4)	20 (29.4)	166 (23.1)	1.525 (0.727, 3.203)	0.265		
	Sec. school	39 (6.0)	14 (20.6)	53 (7.4)	0.582 (0.251, 1.348)	0.206		
	Collage & above	67 (10.3)	14 (20.6)	81 (11.2)	1.0	1.0		
Occupation	Merchant	24 (3.7)	12 (17.9)	36 (5.0)	0.759 (0.285, 2.023)	0.581		
	Farmer	485 (74.5)	23 (34.3)	508 (70.8)	7.999 (3.557, 17.986)	0.000*		
	Gov't employee	113 (17.4)	21 (31.3)	134 (18.7)	2.041 (0.885, 4.708)	0.094		
	Daily Laborer	29 (4.5)	11 (16.4)	40 (5.6)	1.0	1.0		
Income (per month)	$\leq$ 1000	460 (70.6)	37 (53.6)	497 (68.9)	2.873 (0.877, 9.408)	0.081	0.174 (0.031, 0.992)	0.049
	1001 - 2000	170 (26.1)	28 (40.6)	198 (27.5)	1.843 (0.582, 5.831)	0.298	0.160 (0.032, 0.789)	0.024
	$\geq$ 2001	22 (3.5)	4 (5.8)	26 (3.6)	1.0	1.0	1.0	1.0
Knowledge	Adequate	358 (54.9)	66 (95.7)	424 (58.8)	8.067 (2.623, 16.052)	0.000*	13.769 (6.893, 27.336)	0.000*
	Inadequate	294 (45.1)	3 (4.3)	297 (41.2)	1.0	1.0	1.0	1.0
Attitude	Favorable	341 (52.3)	40 (58.0)	381 (52.9)	2.041 (0.885, 4.708)	0.037	2.105 (1.075, 4.121)	0.030
	Unfavorable	311 (47.7)	29 (42.0)	340 (47.1)	1.0	1.0	1.0	1.0

Note: "Yes" category used as a reference.

***** indicate groups showed strong assossiation with practice.

5.3. Qualitative result

5.3.1 In-depth interview

In-depth interview sessions had been conducted with six participants who selected purposefully from two groups. The first group comprised of three participants from woreda onchocerciasis control programme coordinator, Health extension worker supervisor, and Health extension worker. Second group involves Kebele leader, Village representative and community member.

Five area focused questions were selected thematic areas were chosen for discussion including: Current status of onchocerciasis in the woreda, Opinion about Knowledge on the name, cause, mode of transmission and prevention regarding the woreda population, Practice level and involvement of the community in drug distribution campaign and process of drug distribution and approach on health information and health education regarding Onchocerciasis disease

Interviewing of participants were done in Abol woreda after consent obtained. It takes up to 30 – 50 minutes per participant. Data was collected using note book and it was summarized and transcribed manually.

Result from the first three participant who were involved in the programme directly indicated the programme started before they were engaged in work. Regarding the current status all three mentioned all the woreda illegible population were taken the drug or in their respective catchment area. The woreda coordinator showed the report prepared for the current year which indicated 100% geographic coverage and 92% therapeutic coverage. About the knowledge of the community, they were confident that all most all the community knew about the disease and its mode of transmission and how to prevent it. But they notified negligence to take the drug was their primary challenge faced each year. The HEW specifically quoted "*the approach is good but since the campaign has been conducted for long time and on annual interval time people are sometimes missed knowingly or due to absence*" about the campaign strategy. The woreda coordinator also quoted "*I know some CDDs were kept some of the drug for themselves even I was called by RHB before two years due to Mectizan tin which was caught during inspection of private pharmacy*" when he explained the use of CDDs were getting faulty

especially those involved for long time and lived in nearby villages to Gambella town. Regarding health education all three were stressed the strength of health education and their using of billboard, leaflet, t-shirts and posters however all of them mentioned it was done for short period of time and conditioned only before the campaign.

The in-depth interview taken from the Phinkiwo kebele leader, Oupagna village representative and head of household showed all the three knew about disease and even they were mentioned it by local name "Tilla". Regarding the current status, all the three mentioned "*we know its cause and its consequent suffering caused by the disease. Hence, we all take the drug."* But all three had at least one misconception about the disease transmission and prevention methods. About the campaign, they (kebele leader & village head) accept the problems regarding CDDs but they suggest "*there was no problem in the past before the coming of HEWs. After that the CDDs knew that HEWs get the perdiem during the campaign. Since then some of the CDDs do have compliant …as a solution giving incentive in cash, item or moral like paper award or recognition, increasing number of CDDS…".*

CHAPTER SIX: DISCUSSION

Knowledge

Most of the study participants were familiar with onchocerciasis; this is clearly due to the endemicity of the disease in the study area. In the woreda, the disease named as "Tilla or kunkongn" and "Goye" by Agnuwa and Mejenger ethnic families respectively. Which in both cases mean 'itching skin disease'. However, more than half or 487 (67.5%) didn't identify the iconic poster regarding the disease. This finding consistent with the studies in rural communities of Nigeria (17, 19, 22, 23). Furthermore only 37 (5.1%) knew about the etiology (causative agent) of the disease and the majority held at least one misconception about the cause of onchocerciasis which is consistent with the findings of other studies (20, 23, 24, 25). On the other hand, 440 (61.3%) of the respondents were correct about the mode of transmission of the disease by identifying the bite of black flies, which were almost comparable to the finding of study conducted in Bebeka, Southwest Ethiopia and Quara, north Gonder, Ethiopia (20, 25). Similarly, in this study, majority of the participant's knowledge on mode of transmission of onchocerciasis consistent with the findings of the study conducted in the above studies (17, 20, 25).

Regarding sign and symptoms 407 (56.4%) of family representatives responded one or more of the disease sign and symptoms. However. Outcomes or consequences of the disease was only known by less than 5% of the individuals. Results on causative agent and outcomes might be due to the faulty approach of health education and particularly the educations were incorporated and given with other diseases especially Malaria. Evidences about this was seen in "causative agent" 285 (39.5%), "mode of transmission" 70 (9.7%) and "sign/symptoms" 14 (2%) attributed to Malaria. Regarding the disease Preventability and its method, more than two-third of participant (554 (76.8%)) knew it is preventable and from whom 400 (72.2%) responded correctly to prevention methods. This finding is consistent with the findings of other studies (18, 19).

Male study participants showed more likely to be engaged in adquate knowledge group which might be due to relatively had more opportunity to different information sources. Participants with income level below 1000 ETB more likely involved in adquate knowledge group. This might be due to a reapeted experience about the drug distribution programme. This was also a possible reason for groups who could only read and write. Government employee participants

were also more likely to be engaged in adequate knowledge. The reason might be due to their awerness about the seriousness of the disease.

Attitude

Regarding levels attitude expressed by study participants, Majority 622 (86.3%) of the study subjects agreed that onchocerciasis is a serious or a very serious disease. This finding is also in agreement with the findings of the studies conducted in Bebeka Southwest Ethiopia (24), Quara (25) and Sequa area, Southwest Ethiopia (26). However 245 (34%) of the participant did not believe Baro River as a risk factor for the disease. This finding showed agreement with the findings of the studies conducted in Bebeka Southwest Ethiopia (24), Quara (25), Sequa area, Southwest Ethiopia (26) and studies in Malawi and Nigeria (17, 18, 22). 520 (72.1%) had indicated they did not agree about "subcutaneous nodules as a suggestive of onchocercal disease" which was also one of the major misconceptions seen in other studies (22). Other striking finding of the study indicated 591 (82%) of subjects didn't agree on Blurred vision and blindness as an outcome of Onchocercal disease. Which was consistent with the knowledge question regarding outcomes of this study and which also supported by the findigs of other studies (22, 25).

Regarding stigma and discriminatory attitudes towards the disease, almost one-third or 214 (29.7%) of respondents believe if they got the disease, they will not seek help and remain hide. 233 (32.3%) respondents also felt right to statement "Person with onchocercal disease should be ashamed of himself". Though 601 (83.4%) participants agreed to notion statement "everybody should give help and support persons with onchocerciasis". The above findings were also observed in studies from Nigeria, Malawi and Ghana (17, 21, 23). 527 (73.1%) of the participants believed onchocerciasis can be prevented. It is concurrent with the study findings from north Gonder (25).

In contrast to knowledge result, participants who had scondry eduction level more likely to be involved in favorable attitude. Which might indicate an opportunity to pull this category to practice behaviour. Heads/spouses with four family size more likely to behave favorably to the disease transmission and prevention. The education status of the preceed group were in primery and secondry level in which group's strong association observed with favorable attitude.

Practice

652 (90.4%) participant taken the drug and 495 (76.4%) of them interrupted the drug in the past. This finding also consistent with the study in rural communities of Nigeria and Ethiopia (17, 18, 20, 24, 25). In addition interruption status against ethnic composition of participants showed interruption status were related with ethnicity (P-value < 0.003). Age also related with interruption (P-value < 0.001).

Regarding practice related feelings/or perceptions, 503 (77.2%) subjects agreed on the usefulness of the drug in spite of 151 (23.2%) subjects who didn't care whether it will be given or not in the future. A study in both Nigeria and Ethiopia also indicated the previous findings in their study (23, 24, 25). Regarding the side effect of the drug, 325 (45.1%) agreed on the statement "I don't want the drug because of its side effects" which is actually responded by 171 (34.5%) individuals as reason of their interruption in taking the drug.

Concerning CDTI strategy and drug distribution campaign, 205 (28.4%) agreed "the drug in the campaign given forcefully and I don't know the use" but 499 (69.2%) affirmed the good strategy of CDTI. Though 53% of study participants disagree on "The drug given in the campaign reaches to all people" Which is supported by study (21).

Finaly participants who had adequate knowledge more likely to be engaged in practice. This result indicated if the woreda population got adequate knowledge about the disease, they were likely to be involved in the campaign. Supportive findings also seen in studies (21, 25).

CHAPTER SEVEN: STRENGTH AND LIMITATION OF THE STUDY

7.1. Strength of the study

- All etnic groups lived in dfferent kebeles of the woreda especially “Oupoo” and “Komo” minorities were involved. Which increased representativeness of the study to the woreda population.
- The study was conducted where the prevention and control programme regarding the disease was active for the past nign years. Hence it gives base line information for planning and interventions of onchocercal disease in the woreda.

7.2. Limitation of the study

- Recall bias was expected problem of the study regarding knowledge and practice questions which asked “first and last time of taking the drug” and “first time heard about the disease and where did they heared about it” possess the above mentioned bias.

CHAPTER EIGHT: CONCLUSION AND RECOMMENDATION

8.1. CONCLUSION

Though many of the families knew and heard about onchocerciasis, most of them lack sufficient knowledge on the correct causative agent, mode of transmission, potential sign/symptoms, possible outcomes and prevention of onchocerciasis which were conspicuous misconceptions in all issues.

People's attitude towards the disease none of the study participants scored and categorized as having unfavorable attitude to the disease which was a relatively appreciative and conducive for the effort of prevention and control of the disease. However CDTI strategy and drug distribution approach has caused a significant proportion of the study subjects felt the programme was unreliable and confined to the native societies. Drug distribution approach is also under scrutiny because of theft and some financial related issues.

Good practice level of the participants were low relative to the intervention history in the woreda. Intensive and cosistant health education and creating a condusive environment needed for community to have a good practice. Regarding misconceptions about long period of treatment and the drug adverse effect, most of the study participant reasoned for their interruption of the annual based drug intake. Such misconseptions aroused from the education gap which had to be filled.

8.2. RECOMMENDATION

Based on the findings the following recommendations have been forwarded:

1. Large proportion of the family heads/spouses held misconceptions about its causation, transmission, prevention and risk. Therefore, community interventions for onchocerciasis need to include behaviour change communications aimed at dispelling misconceptions and increasing risk perception.
2. Consistent and weekly based health education need to be given with properly trained health professionals.
3. Target oriented health education to different community members at public places (school, market areas, religious institutons, etc.) prior to the campaigning period.
4. Further study regarding Knowledge, Attitude and Practice of the community about the disease need to be conducted in all seven programme woreda (districts).

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Annex I: Survey Questionnaire

Consent Form

My name is_____ I came from Jimma University to interview on knowledge, attitude and practices about Onchocerciasis transmission and prevention. The interview will take _____ minute. Your response will help in improving the problem of Onchocercea disease. Your answers will not be released to anyone and will remain anonymous. Your name will not be written on the questionnaire or be kept in any other records. Your participation is voluntary and you may choose to stop the interview at any time. Do you agree to participate in the interview?

Yes_____

No_____

Thank you for your assistance!

If yes, proceed to the next page.

JIMMA UNIVERSITY COLLAGE OF

PUBLIC HEALTH AND MEDICAL SCIENCE DEPARTMENT OF EPIDEMIOLOGY

Questionnaire on KAP Status of Families on O/C/P in Gambella Woreda, Gambella

Date: ___ / ___ / _____

Questionnaire code: _____

I: General Information

Name of the data collector_____

Kebele_____

House no_____

Date_____

Signature_____

II. Personal Information

Instruction for Interviewer: Place a circle mark on the selected answer(s). Do not read listed alternatives unless the directions indicate.

No	Question	Responses coding	Remark
101	Respondent Status	1. Head 2. Spouse	
102	Sex of respondent	1. Male 2. Female	
103	Age of respondent	_____ years	
104	What is your ethnic group?	1. Agnuwa 2. Nuer 3. Mejenger 4. Oromo 5. Amhara Other specify _____	

105	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Others Other specify_____	
106	Marital Status	1. Single 2. Married 3. Divorced 4. Widowed	
107	Household size	_____	
108	Education Status	1. Illiterate 2. Can read and write 3. Primary school 4. Secondary school 5. Collage and above	
109	Occupation	1. Farmer 2. Merchant 3. Gov't Employee 4. Daily Laborer Other (Specify) _____	
110	Monthly Family Income in birr	_____	

III. Knowledge

201	(Show the poster) what is it?	_____ _____	
202	Have you ever heard about the disease onchocerciasis?	1. Yes 2. No ⟶	If "No" skip to Q 205
203	When did you first learn about Onchocerciasis disease?	_____ _____	

204	Where did you first learn about Onchocerciasis disease?	_____ _____	
205	What is the local name for the disease?	_____ _____	
206	What is/are the causative agent of onchocerciasis?	_____ _____	
207	What is/ are the mode of transmissions of the disease?	1. Black fly bite 2. Contact with infected person 3. Mosquito bite 4. Through breath 5. Sharing clothes 6. Bacterial infection 7. Alcohol intake 8. Sexual intercourse with infected person 9. I do not know Other (specify) _____	Do not read alternatives
208	What is/ are the signs and symptoms of the disease?	_____ _____ _____	
209	What will be the outcome/ consequence of the disease	_____ _____ _____	

210	Is there any other disease/ diseases with similar manifestations?	1. Yes 2. No ⟶	If "No" skip to Q 212
211	If "yes", How do you distinguish them?	_____ _____	
212	Have you ever had this disease?	1. Yes 2. No ⟶	If "No" skip to Q 214
213	If "yes", when?	_____	
214	Is there any member in the household who had the disease since 1 year?	1. Yes 2. No ⟶	If "No" skip to Q 219
215	If "yes", what was done?	_____ _____	
216	Where was the treatment?	_____	
216	What was given?	_____	
217	If medication, characterize	Color of tablet_____ Number of tablet _____ Duration of treatment_____ Dose of tablet_____ Side effect _____ _____ _____	
218	Was the diagnosis and treatment is free or paid?	_____	
219	Do you think onchocerciasis is	1. Yes	If the choice

	preventable disease?	2. No 3. I do not know →	other than option '1' skip to Part V
220	If "yes", what is/ are prevention methods for onchocerciasis?	1. Avoid river bathing 2. Taking drug 3. Wearing protective cloths 4. Use of bed net. 5. Improving personal hygiene 6. Use of preventive herbs 7. Avoidance of sexual intercourse Others (specify) _____	Do not read alternatives

IV. Attitude

No	Items	Strongly disagree	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Not available
301	Onchocerciasis is a serious disease						
302	Onchocerciasis disease selectively infect peoples						
303	Onchocerciasis can infect anybody living in the woreda						
304	Contact with infected person, Mosquito bite, Alcohol intake, and Sexual intercourse with infected person could transmit Onchocerciasis to healthy person						
305	Baro River is a risk factor for the disease transmission						
306	Subcutaneous nodules seen in an individual is a suggestive of onchocercal disease						

No	Items	Strongly disagree	Disagree(2)	Neutral (3)	Agree (4)	Strongly agree (5)	Not available
307	Blurred vision and blindness is the outcome of Onchocercal infection						
308	Person with onchocercal disease should be ashamed of himself						
309	Anybody with onchocercal disease manifestation should go immediately to health facility						
310	Everybody should give help and support persons with onchocerciasis						
311	Onchocerciasis is not my problem since I don't get the disease						
312	If I got the disease, I will remain hide and do not seek others help						
313	Onchocerciasis can be prevented						
314	Onchocerciasis drug given by the Wo/H/O is safe and useful						
315	The drug in the campaign given forcefully and I don't know the use						
316	The drug given in the campaign reaches to all people						
317	The drug given through CDDs is the correct strategy						
318	CDDs kept some of the drug for themselves even if people need to take their part given by RHB or Wo/H/O						
319	The Drug given in the campaign distributed where all people are gathered and at appropriate time for all the villagers						

No	Items	Strongly disagree	Disagree(2)	Neutral (3)	Agree (4)	Strongly agree (5)	Not available
320	The drug given in mass drug treatment for past years help me to be prevented from the disease						
321	The drug is not that much useful and I don't care if it is given or not in the future						
322	I don't want the drug because of its side effects						
323	I do know now about the disease cause, transmission and prevention because of the CDTI programme						

V. Practice

401	Have you ever heard about drug (Mectizan) used to prevent Onchocerciasis disease?	1. Yes 2. No ⟶	If "No" skip to Q 403
402	If "Yes" to Q 37, where did you heard about the drug (Mectizan)?	1. CDDs 2. Radio 3. Billboards, Brochures, and posters 4. HEWs 5. Family, friends, neighbors and colleagues 6. Religious leaders 7. Teachers Other (specify):_____	Do not read alternatives
403	Have you ever taken the drug which given during MDT for	1. Yes 2. No ⟶	If "No" skip to Q 406

	onchocerciasis?		
404	When did you start taking the drug?	_____ (place in year)	
405	When did you take the drug for the last time?	_____ (place in year)	
406	Why didn't you take the drug?	_____ _____ _____	
407	How was the interval of the drug distribution?	1. Annual 2. Biannual 3. Quarterly Other (specify) _____	Do not read alternatives
408	What is the name of the drug?	_____	
409	How many drug is/are taken at onetime?	_____	
410	How much is the cost of the drug?	_____	
411	What is/are the side effect of the drug?	_____	
412	Have you ever interrupt in taking the drug which is given by CDTI project?	1. Yes 2. No ⟶	If "No" skip to Q 414
413	Why did you interrupt in taking the drug?	1. No effect or did not eliminate/cure the disease symptoms 2. Long period of treatment 3. Feared adverse reactions 4. Even if I was registered, the CDD told me the drug is already	Do not read alternatives

		distributed Other (specify): _____	
414	Why do you take the drug?	1. I saw peoples gathered and took the drug. So I took it. 2. It kills the worm which causes discomfort in the body 3. It kills the onchocerciasis worm if it is in our body Other (specify): _____	Do not read alternatives
415	Do you know for how many time you should take the drug in the future?	1. Yes 2. No ⟶	If "No" skip to Q 417
416	Why?	_____ _____	
417	What are the sources of information most effectively reach people like you with information on Onchocerciasis?	_____ _____ _____	

Annex 2: Survey Questionnaire (Agnuwa Language)

Kwäänö kï pïëc yïtha atude Wëël pïëc ki met ec

Nyinganga ---------- a käla Jimma yunibëërciiti kipper no pënya ki täw tïla gina ngäu kipere (wala kwäanyø maru), rangngø maru bät täw manøgø, tïïc mana tïu kipere, muuö mare ki jöö man mane kigø. Piëcmoï kädø ki dïgige mo ----------.Dwøl manu cëëpi kunyø kipper täw tïla.

Gïnu deøgï ba manypøt bang dhanø mør ngti mannø mare bemare. Nyïngï bagöör ïwäl pëëc man gööra piny kanyørø mana cëëpï ri kiper pëëc man be meetec kanyo løgï møa manyi løäy man nyudi kace.

Ïna jïäy ki man pänyïne?

Anajey _____

Jïrabär _____

Ibapwöc

Ninäk ïnojey pöötø nymo ïtpäëc moga

Jïmma unibärcïtï køllïc, løøk mar Jööt dëël mar jø paac ki tägø mar Täwe, pïëc keänynyø ki rängngø ki Tïïc bäät täw tïla yi Gambëëla wäräda

I, Tïet döötï beet

Nyäng ngato poïëo _____

Atut _____

Ngää mar øttø _____

Nïne _____

Pïrma _____

II. Döötï

Jöör pïëc: Lwïek gïno løøk jïri. Döötï moa nu ocïïp piny kir kwani jA ngato pïenyä ni näk mo pa jöö mana caani.

J.P	Pïëc	Ngää mar ngat oduuni	
101	Bëët ngat cöp accaara	1	
102	Pääö mare	1. Dïcwø 2. Dhaagø	
103	Cwiiri moe	Cwïïrï ----------	
104	Wïjur mare	1.Anywaa 2. Nwäär 3. Majang 4. ørøømø 5. Amäära møøk	
105	Jwøk mari	1. Orthødøk 2. Mucliim 3. Prøteectan møøk	

J.P	Pïëc	Ngää mar ngat oduuni	
106	Jöör nywöm	1. Kir nywömö 2. Dnywömö 3. Gïnopääö 4. cïïthøø	

107	Kwän jiey moen paac	----------	
108	Jöör göör mare	1. kar göödö 2. kwäänö göödö 3. ot-göör 1-8 4. ot-göör 9-10 5. køleej keel maal	
109	Tïïc mare	1. Ngat puur 2. Ngat gat 3. Tïïc mar akwöma 4. Tïeö ki bade møøk	
110	Gwe; (bïri) mo jooto ki idwaanyi		

III Gïnangïïyi kïpere

201	Ngïï man en yï warakata ngïï? Angøïï?		
202	Dïgin moyï mïïnø kipper täw tïla?	1. Dagø 2. Bung - gø	Ninak bung – gø løøk pïëc-205
203	Abwäne nijïti ki pwöc kipper täw tïla?		
204	Kanya (paana) peony ïïni yie?		
205	Nyeeng täw ki dhøk maru		
206	Täw tïla täge kirï ngønï?		
207	Jöör muuø mare?	1. Kalari mieø 2. Bëëtökaciel kin gat täw 3. Kiri jwïëy 4. Läw abïëye 5. Kiri bëëyö 6. Kiri twööngimoa reyyø 7. Ri math køøngngø 8. Ri gääbö ki dhaanhø motuu 9. Mwääö møøk	
208	Ngïëye moe aangøni?		

209	Gïna käl täwi manøgø angøni		
210	Da täw morige calø ki täw man?	1. Dagø 2. Bung – gø	Ninak bang- gø løøk pïëc 212
211	Ninäk modagø päägi ki jöö monyïëdi?		
212	Ïïnu mak täwe manøgø dikwøag?	1. Anotuu 2. Akiruu	Ni näk mokirtuu pïëc - 214
213	Ni näk mo tuu aywäne?		
214	Dïdhanø mo tuu dëëtu køør cwïïr mo pwöödhø	1. Dagø 2. Bunggø	Ninäk bung- gø pïëc – 219
215	Nïnäk mo døgø agïïne ni tääc kipere?		
216	Øt jaath mana ciiyeakaa		
217	Agïna ngø ni nï cïïp		
218	Ni näk be kïïe ni cïïp	Kïdø margi kwän moa cïïp Anguun løøng margi Rumaai margi Gïno kale niraac	
219	Ngïce motäw ki kïïne di coolø wala ki wat?		
220	Icaarø ni täw tïla løøng ki mänø?		
221	Ni nAk løøng ki manmäne ki jöö mo nyäädi?	Bungløøk inam Maath k. Abu motøøng Buut ya- alanguteya Tïïc dääl ni tøng Kønyääl ki lweet jin Man dääl ki gääbø møøk	Döötï moï kir kwani

IV. Rängngø margi

T.P		Akwiere døc døc	Akweer	Bungløe (enadier)	Ajïë døc	Ajïe	Bung-girpiny
301	Täw tïla ena täw mo raac døc døc						
302	Tïla maga dhanø keri						

303	Tïla løng maa mak jïy bëë mo bëëdö waräääda						
304	Bëëtö ka ciel ki dhanhø mo tuu , dhanhø mo kac bëëyö, kikøngø , ki gääbo ki dhanhømotuu , be jöör muu mar rïla						
305	Nam – opëënö ena jöö maa muu tïla kigø						
306	Kanyo näk mo kwöt däär djamø panyawøk ni gønyi gønyø be tila						
307	Täw tïla gïnu kale nyina na jïm känø kicöø						
308	Dhanø mo dëri da tïla manya gø neräc gø nengi						
309	Kanyo de nyuthe mo taw tïla mo nënø där ngath maaø manyagø neci øt jat icaanic						
310	Ngati mannø manyagø ni dhanø modëri datïla ne kønye						
311	Buggïn kïthani ri dhanø mo dare da tïla kipper abime						
312	Kanyu ötäwe no mak ani bungngat nyïïth buuta abamany kony mar thanø						
313	Täw tïla løny man mäni netïme nebunggø						
314	Kïïne mo ceep akwöm jööt dïl marbätngøm						
315	Kïïne mo cëëp ri many cëëp kiteek køny margi kuwatuw						
316	Kïïne moa cëëp ri many jiy arømø bïït						

317	Kïïne moa cëëp ki bäät jø CDD be jöö mana näk kare						
318	Kääl ni näk juy manya kädø ki kïïne bang RHB/ WHO jo cDDs kïïne møk akan – gi kipper dät ga.						
319	Kïïne moa cëëp ri mäng acoony aknya nak jiy rigi coong yee bäät ki caa mo kare						
320	Køør cwiri mo pöödhö kïïne moa cëëp ji jøu beet kipper täw akunynyø raa						
321	Kïïne bakunyi døøøc na adïri inyimme jïra dengø gicëëpø wala gibacëëpi.						
322	Abamany kïïne kipper cänaga känø gää møørøraa						
323	Ki kør prøgram mar jo CDTI jör täw mantäge kägø , jør möö mare kïl jö manmäne kigø bunggïn mo ngaa						

V. Tïïc mana tïïc

401	Kiri wïnyø bare kina, mecthjan täwtïla mane mänø	1. Kare (awïnya)	Ni ïak kiri wïnyø
402	Ninäk mo iwänyø ki køør pää 37, mecthejan awïnyø kaa?	1. Bang jo prøgram CDDS 2. Radio 3. Jap-pwööc mo cwoth piny , weiat pwööc 4. Akïme mo enïta atuute 5. Jø paac nyiawädi ki ya atut 6. Kwari mo øt jwøk 7. Dïpöye møøk	Döötï moi kir kwane

403	Bung kina moikälø kanya tïme ri MDT kipper tila?	1. BunggP 2. Dogø	Ninak mo bunggø pëëc - 406
404	Kïïne itääø ki iwääne?		
405	Line moa nan a-nyudi ikälø ki- iwäne?		
406	Aperngø nibakäli kïïne?		
407	Akwöri adïï opäng kïïne kigøni?		
408	Nying kina cwøli nidïï?		
409	Nyiang kïïne adïï ni käli nikälu ki yia aciel?		
410	Gäät kïïne adïï?		
411	Gino käl kïïne niraac		
412	Kïïne moa cïïp jø CDTI kire ngøeø bare?	1. Angøla 2. Kirangølo	NiaäK MO KIRE NGøLø- PIëC 414
413	Kïïne ingølø kiperngø?	1. Bung gin kønye täw bareme 2. Løøng mare yebäär 3. Kanø ki täw mør 4. Käl ni näk mo nyinga ya göörø aløkäl kanymobäär møøk	Döötï moi ki kwani
414	Lïïae ikälø kiperngø?	1. Ajota jiy kaceel nigikatø ki kïïne køre anakätø thøw 2. Näo ki twøw mo käne kigir litdäl 3. Ni nak mo tila dagø dardhanø näenaø møøk nedøgø	
115	Yonyïme man näk me kädø ki kïïne ngäyl	1. Ngaa 2. Kwää	Ninäk mo kwee piëc 417
416	Kiperngø		
417	Keteeng mana wïnynyiennø kwøro jitu ye kiäth oa pergilet døøc kipper täw tila akwörangi?		

Annex 3 : የአማርኛ መረጃ መሰብሰቢያ ቅፅ

የስምምነት መጠየቂያ ቅፅ

ስሜ_____ ሲሆን የመጣሁት ከጅማ ዩኒቨርሲቲ ነው። የመጣሁበት አላማም የኦንኮሰርኪያሲስ በሽታ መተላለፊያ እና መከላከያ መንገዶችን አስመልክቶ ያሎትን እውቀት፣ ባሐሪ እና ተግባር ለመጠየቅ ነው። ጥያቄው የሚወስደው_____ደቂቃዎችን ነው። የእርሶ ምላሽ የኦንኮሰርኪያሲስ በሽታ ችግርን ለማሻሻል ይረዳል። የሚሰጡት ምላሽ ለማንም ሰው የማይለቀቅ እና በዘላቂነት የማይታወቅ ይሆናል። ስሞ በመረጃ መጠየቂያ ቅፅ ላይ የማይሞላ ወይም በየትኛውም መመዝገቢያ ላይ እንዳይታይ ይደረጋል። ተሳትፎዎ በፈቃደኝነት እና በቃለ መጠይቁ ወቅት በፈለጉበት በየትኛውም ጊዜ ማቋረጥ ምርጫ ይኖሮታል። በጥናቱ ላይ ለመሳተፍ ፈቃደኛ ኖት?

አዎ እሳተፋለሁ _____

አይ አልሳተፍም _____

ለትብብርዎ አመሰግናለሁ !!

ምላሹ አዎን ከሆነ ወደ ቀጥይ ገፅ ተሻገር/ሪ

ጂማ ዩኒቨርስቲ

የህብረተሰብ ጤናና የህክምና ሳይንስ ኮሌጅ የኢፒዲሞሎጅይ ትምህርት ክፍል

ቀን _____

የመጠየቂያ ቅፅ ኮድ _____

I. **አጠቃላይ መረጃ**

የመረጃ ሰባሳቢ ስም _____

ቀበሌ _____

የቤት ቁጥር _____

ቀን _____

ፊርማ _____

II. **የግል መረጃ**

የመረጃ ሰብሳቢ መመሪያ፡ በተመለሱ አማጮች ላይ ይከበብ፡፡ የተለየ ማሳሰብያ ካልኖረ በስተቀር ተቀመጡትን አማራጮች ለተጠያቂው እንዳይነበብ፡፡

ቁጥር	ጥያቄ	አማራጭ መልስ	ማሳሰቢያ
101	የመላሽ ሁኔታ	1. አባወራ 2. እማወራ	
102	ፆታ	1. ወንድ 2. ሴት	
103	እድሜ	_____	
104	ዘር	1. አኙዋ 2. ኑዌር 3. መጀንገር 4. ኦሮሞ 5. አማራ 6. ሌላ ካለ _____	
105	ሓይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ሌላ ካለ _____	
106	የጋብቻ ሁኔታ	1. ያላገባ 2. ያገባ 3. አግብቶ የፈታ 4. በሞት የተለየ	

107	የቤተሰብ ብዛት	_____	
108	የትምህርት ደረጃ	1. ያልተማረ 2. መፃፍና ማንበብ 3. አንደኛ ደረጃ 4. ሁለተኛ ደረጃ 5. ኮሌጅና ከዚያ በላይ	
109	የስራ መስክ (አይነት)	1. ገበሬ 2. ነጋዴ 3. የመንግስት ሰራተኛ 4. በቀን ስራ የሚተዳደር 5. ሌላ ካለ ይገለፅ _____	
110	የወር ገቢ መጠን (በብር)	_____	

III. እውቀት

ቁጥር	ጥያቄ	አማራጭ መልስ	ማሳሰቢያ
201	(በእጅ የሚገኘውን ምስል አሳይ) ይህ ምንድነው?	_____ _____ _____	
202	ከዚህ ቀደም ስለ አነኮሰርኪያሲስ በሽታ ሰምተህ ታውቃለህ/ሽ?	1. አዎ 2. አይደለም	ሀ
203	ለመጀመሪያ ጊዜ ስለ አነኮሰርኪያሲስ በሽታ የተማርከው መቼ ነበር?	_____ _____	
204	ለመጀመሪያ ጊዜ ስለ አነኮሰርኪያሲስ በሽታ የተማርከው የት ነበር?	_____ _____	
205	የአንኮሰርኪያሲስ በሽታ በአካባቢያችሁ ምን በመባል ይጠራል?	_____ _____	
206	የአንኮሰርኪያሲስ በሽታ የሚከሰትበት ምክንያት/ቶች ምንድነው/ናቸው?	_____ _____	
207	የበሽታው መተላለፊያ መንገድ/ዶች ምንድነው/ናቸው?	1. በጥቁር ዝንብ ንክሻ 2. በበሽታው ከተያዘ ሰው ጋር በሚደረግ ንክኪ 3. በወባ ትንኝ ነክሻ 4. በትንፋሽ 5. ልብስን በጋራ በመጠቀም 6. በባክቴሪያ 7. በአልኮሉል መጠጦች	ምርጫዎችን ለተጠያቂው አታንብብ/ቢ

		8. በበሽታው ከተያዘ ሰው ጋር በሚደረግ የግብረስጋ ግንኙነት 9. በምን እንደሚተላለፍ አላውቅም ሌላ ካለ ይገለፅ _____	
208	የበሽታው ምልክትና ስሜቶች ምን ምን ነው/ናቸው?	_____ _____	
209	የበሽታው የመጨረሻ ውጤት (የሚያስከትለው ሁኔታ) ምንድን ነው/ናቸው?	_____ _____	
210	ሌላ/ሌሎች የምታውቀው/ቃቸው ከበሽታው ጋር የሚመሳሰል ፀባይና ምልክት ያለቸው በሽታዎች አሉ?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 212 ዝለል
211	መልሱ “አዎ” ከሆነ እንዴት ለየሃቸው?	_____ _____	
212	ከዚህ ቀደም የአንኮሰርኪያሲስ በሽታ ይዞህ ያውቃል?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 214 ዝለል
213	መልሱ “አዎ” ከሆነ መቼ ነበር?	_____	
214	ከቤተሰቦ አባል መካከል ባለፈው አነድ አመት በበሽታው የተያዘ ነበር?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 219 ዝለል
215	መልሱ “አዎ” ከሆነ ምን አደረጋችሁለት?	_____ _____	
216	የት ነበር የታከመው?	_____ _____	
217	ምንድን ነበር የተሰጠው?	_____ _____	
218	መድሃኒት ከሆነ አብራራው	የክኒኑ ቀለም _____ የክኒኑ ብዛት _____ ሕክምናው የወሰደው ጊዜ _____ ክኒኑ የሚወሰድበት መጠን _____ የጎንዮሽ ጉዳት _____	

		_____ _____	
219	ምርመራውና ሕክምናው ነፃ ወይስ በክፍያ ነበር?	_____	
220	የኦንኮሰርኪያሲስ በሽታን መከላከል የሚቻል ይመስልሃል/ሻል?	1. አዎ 2. የለም ⟶ 3. አላውቅም	መልሱ ከምረጫ 1 ውጪ ከሆነ ወደ ክፍል IV ዝለል
221	መልሱ "አዎ" ከሆነ የበሽታው መከላከያ መንገድ/ዶች ምንድን ነው/ናቸው?	1. ወንዝ ወርዶ መታጠብን ማቆም 2. መድሓኒት መውሰድ 3. ሰውነትን የሚከላከሉ ልብሶችን ማድረግ 4. አጎበር መጠቀም 5. የግል ንፅህናን ማሻሻል 6. መድሃኒትነት ያላቸው የመከላከያ ቅጠሎችን መጠቀም 7. የግብረስጋ ግንኙነትን በበሽታው ከተጠቃ ሰው ጋር አለመፈፀም 8. ሌላ ካለ ይገለፅ _____ _____ _____	

IV. ባሕሪ

ተ.ቁ	አቋም ያዘለ አርፍተነገር	በጥብቅ አልስማማም (1)	አልስማማም (2)	መሓል ቤት (3)	እስማማሃሁ (4)	በጥብቅ እስማማሃሁ (5)
301	ኦንኮሰርኪያሲስ አደገኛ በሽታ ነው					
302	የኦንኮሰርኪያሲስ ክሰው ሰው በመለየት የሚያጠቃ በሽታ ነው					
303	ኦንኮሰርኪያሲስ በወረዳው ውስጥ የሚኖር ማንንም ሰው ሊያጠቃ ይችላል					
304	በበሽታው ከተያዘ ሰው ጋር በሚደረግ ንክኪ፣የወባ ትንኝ ነክሻ፣ የአልኮሉል መጠጦች አና በበሽታው ከተያዘ ሰው ጋር በሚደረግ የግብረስጋ ግንኙነት ኦንኮሰርኪያሲስን ወደ ጤነኛ ሰው እንዲተላለፍ ሊያደረጉ ይችላል					
305	የባሮ ወንዝ ለኦንኮሰርኪያሲስ በሽታ መተላለፊያ መንገድ የሚያጋልጥ ነው					

306	በግለሰብ ቆዳ ስር ሚታዩ እባጮች የኦንኰርኪያሲስ በሽታን የሚያመላክቱ ናቸው					
307	የተዛባ እይታና አይነስውርነት የኦንኰርኪያሲስ በሽታ ውጤቶች ናቸው					
ተ.ቁ	**አቋም ያዘለ አርፍተነገር**	**በጥቂቱ አልስማማም (1)**	**አልስማማም (2)**	**መካከል ቤት (3)**	**እስማማሁ (4)**	**በጥቂቱ እስማማሁ (5)**
308	በኦንኰርኪያሲስ በሽታ ተያዘ ሰው በራሱ ሊያፍር/ሊሸማቀቅ ይገባል					
309	የኦንኰርኪያሲስ በሽታ ምልክቶች የታዩበት ማንኛም ሰው ባፋጣኝ ወደ ጤና ደድርጅቶች መሄድ አለበት					
310	ሁሉምሰው በኦንኰርኪያሲስ በሽታ ለተያዘ ሰው ድጋፍና አርዳታ መስጠት አለበት					
311	በበሽታው እስካልተያዝኩ ድረስ ኦንኰርኪያሲስ የኔ ችግር አይደለም					
312	በበሽታው ብያዝ እራሴን እደብቃለሁ እናም የሌሎች ሰዎችን ድጋፍ አልሻም					
313	የኦንኰርኪያሲስ በሽታን መከላከል ይቻላል					
314	በወረዳው ጤና ጥበቃ ጽሕፈት ቤት የሚሰጠው የኦንኰርኪያሲስ መከላከያ መድሃኒት/ኪኒን ጠቃሚና ከችግር ነፃ ነው					
315	በዘመቻ ወቅት የሚሰጠው መድሃኒት በግዳጅ ነው እናም ስለጥቅሙ የማውቀው ነገር የለም					
316	በዘመቻ ወቅት የሚሰጠው መድሃኒት/ኪኒን ለሁሉም ሰው ይደርሳል					
317	ከህብረተሰቡ መካከል በተውጣጡ መድሃኒት አዳዮች በኩል መድሃኒቱ/ኪኒኑ መሰጠቱ ትክክለኛ እስትራቴጂ ነው					
318	በጤና ቢሮ/ በወረዳው ጤና ጥበቃ ጽሕፈት ቤት በኩል የሚሰጠው የኦንኰርኪያሲስ መከላከያ መድሃኒት/ኪኒን ህዝቡ መውሰድ ቢፈልግም የተወሰኑ መድሓኒቶችን/ኪኒኖችን የመድሃኒት አዳዮች ለግላቸው ያስቀሩታል					
319	በዘመቻ ወቅት የሚታደለው መድሃኒት/ኪኒን ሁሉም ነዋሪ በተሰማማበት ቦታና በሚመች ጊዜ ነው					
320	ባለፉት አመታት በዘመቻ ወቅት የሚታደለው መድሃኒት/ኪኒን ከበሽታው እራሴን እንድከታተል ረድቶኛል					
321	መድሓኒቱ/ኪኒኑ ያን ያህል ኤይጠቅምም እናም ለወደፊቱ ቢሰጥም ባይሰጥም እኔን አይቸግረኝም					

322	በጎንዮሽ ጉዳቱ ምክንያት መድሓኒቱን/ኪኒኑን አልፈልግም					
323	የCDTI ፕሮግራም ቢኖርም የኦንኮሰርኪያሲስ በሽታ መነሻ፣ መተላለፊያ እና መከላከያ መንገዶችን አላውቅም					

V. ተግባር

ቁጥር	ጥያቄ	አማራጭ መልስ	ማሳሰቢያ
401	የኦንኮሰርኪያሲስ በሽታን ለመከላከል ስለሚጠቅመው ሜክቲዛን ስለተባለ መድሃኒት ከዚህ ቀደም ሰምተህ ታውቃለህ?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 403 ዝለል
402	መልሱ “አዎ” ከሆነ የት ነበር ስለ ሜክቲዛን የሰማሀው?	1. ከመድሃኒት አዳዮች 2. ከራዲዮ 3. ከቢልቦርዶች፣ ከብሮንፑሮች እና ፖስተሮች 4. ከጤና ኤክስቴሽን ባለሙያዎች 5. ከቤተሰብ፣ ጓደኞች፣ ጎረቤቶች እና ከሚቀርቡ ሰዎች 6. ከሓይማኖት መሪዎች 7. ከአስተማሪዎች ሌላ ካለ ይጠቀስ _____ _____	ምርጫዎችን ለተጠያቂው አታንብብ/ቢ
403	በዘመቻ መልክ በእደላ የሚሰጠውን የኦንኮሰርኪያሲስ መከላከያ መድሓኒት ወስደህ/ሽ ታውቃለህ/ሽ?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 406 ዝለል
404	መድሃኒቱን/ኪኒኑን መውሰድ የጀመርከው/ሽው መቼ ነበር?	_____(በአመት ይቀመጥ)	
405	ለመጨረሻ ጊዜ መድሃኒቱን/ኪኒኑን የመውሰድከው/ሽው መቼ ነበር?	_____(በአመት ይቀመጥ)	
406	ለምንድነው መድሃኒቱን/ኪኒኑን ያልወሰድከው/ሽው?	_____ _____	
407	የመድሃኒት እደላው ወቅት እንዴት ነበር?	1. በየአመቱ 2. በየግማሽ አመት 3. በየሩብ አመት ሌላ ካለ ይገለፅ _____	
408	የመድሃኒቱ ስም ምን ነበር?	_____	
409	በአንድ ጊዜ የሚወሰደው የመድሃኒቱ / የኪኒኑ ብዛት ስንት ነው?	_____	
410	የመድሃኒቱ / የኪኒኑ ዋጋ ስንት		

	ነው?	_____	
411	የመድሃኒቱ / የኪኒኑ የጎንዮሽ ጉዳቶት/ቹ ምንድነው/ናቸው?	_____ _____	
412	በዘመቻ ወቅት የሚሰጠውን መድሃኒት/ ኪኒን አቋርጠህ/ሽ ታውቂየያለህ/ሽ?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 414 ዝለል
413	ለምንድነው ያቋረጥከው/ሽው?	1. ምንም ለውጥ ስለሌለው ወይም የበሽታውን ምልክቶች ስላላጠፋልኝ/ ሰላላስወገደልኝ 2. ረጅም ጊዜ የሚፈጅ ህክምና ስለሆነ 3. የጎንዮሽ ጉዳቱን ስለፈራሁ 4. ብመዘገብም መደሃኒት አዳዩ ተከፋፍሎ አልቋል ስላለኝ ሌላ ምክንያት ካለ _____ _____	ምርጫዎችን ለተጠያቂው አታንብብ/ቢ
414	ለምንድነው መድሓኒቱን/ ኪኒኑን የምትወስደው?	1. ሰዎች ተሰብስበውና መደሓኒቱን ሲወስዱ ስላየሁ እኔም ወሰድኩ 2. ምቾት የሚነሱ በሰውነቱ የሚገኙ ተላትሎችን ስለሚገልልኝ 3. የኦንኮሰርኪያሲስ ትል በሰውነታችን የሚገኝ ከሆነ ስለሚገልልን ሌለ ምክንያት _____ _____	ምርጫዎችን ለተጠያቂው አታንብብ/ቢ
415	ከዚህ በኋላ መድሃኒቱን ለምን ያህል ጊዜ እንደሚወሰድ ታውቃለህ/ሽ?	1. አዎ 2. የለም ⟶	የለም ከሆነ ወደ ጥያቄ 417 ዝለል
416	ለምንድነው?	_____ _____	
417	የኦነኮሰርኪያሲስ በሽታን አስመልክቶ መረጃዎችን እርሶን የመሳሰሉ ሰዎች በተቀላጠፈ መልኩ የሚደርሳቸው ከምን ምንጭ ነው?	_____ _____ _____	

Annex 4: Indepth Interview guideline

Good morning/afternoon, thank you for your coming on time.

My name is _____. I came from_____

Read the following as it is:

"After a brief introduction I will be asking you different points about Knowledge, Attitude and practice of families on Onchocerciasis transmission and prevention and related issues." I will be asking you questions related to your experience of O/C/P issues in your area and issues regarding factors for accepting Mectizan treatment and reasons to refuse.

Would you be willing to participate in the in-depth interview?

If yes, proceed. If no, thank and stop the interview.

Signature_____ (Signature of the interviewee)

Date_____ Time_____

Guideline questions for indepth interview

1. Current status of onchocerciasis in the woreda
2. Opinion about Knowledge on the name, cause, mode of transmission and prevention regarding the woreda population
3. Practice level and involvement of the community in drug distribution campaign and process of drug distribution
4. Approach on health information and health education regarding Onchocerciasis disease

Thank you very much for participating in the Interview!

Annex 5: Interviewer's and supervisor's qualifications

An interviewer's qualifications

- ☞ Can read and write the appropriate local language
- ☞ Speaks the local language fluently
- ☞ Knows the geographical area of the survey
- ☞ Enjoys working in a team
- ☞ Is able to demonstrate knowledge of research in general and the specific objectives of the survey in Particular
- ☞ Good listening and communication skills
- ☞ Is well organized
- ☞ Experience of community survey

A supervisor's qualifications

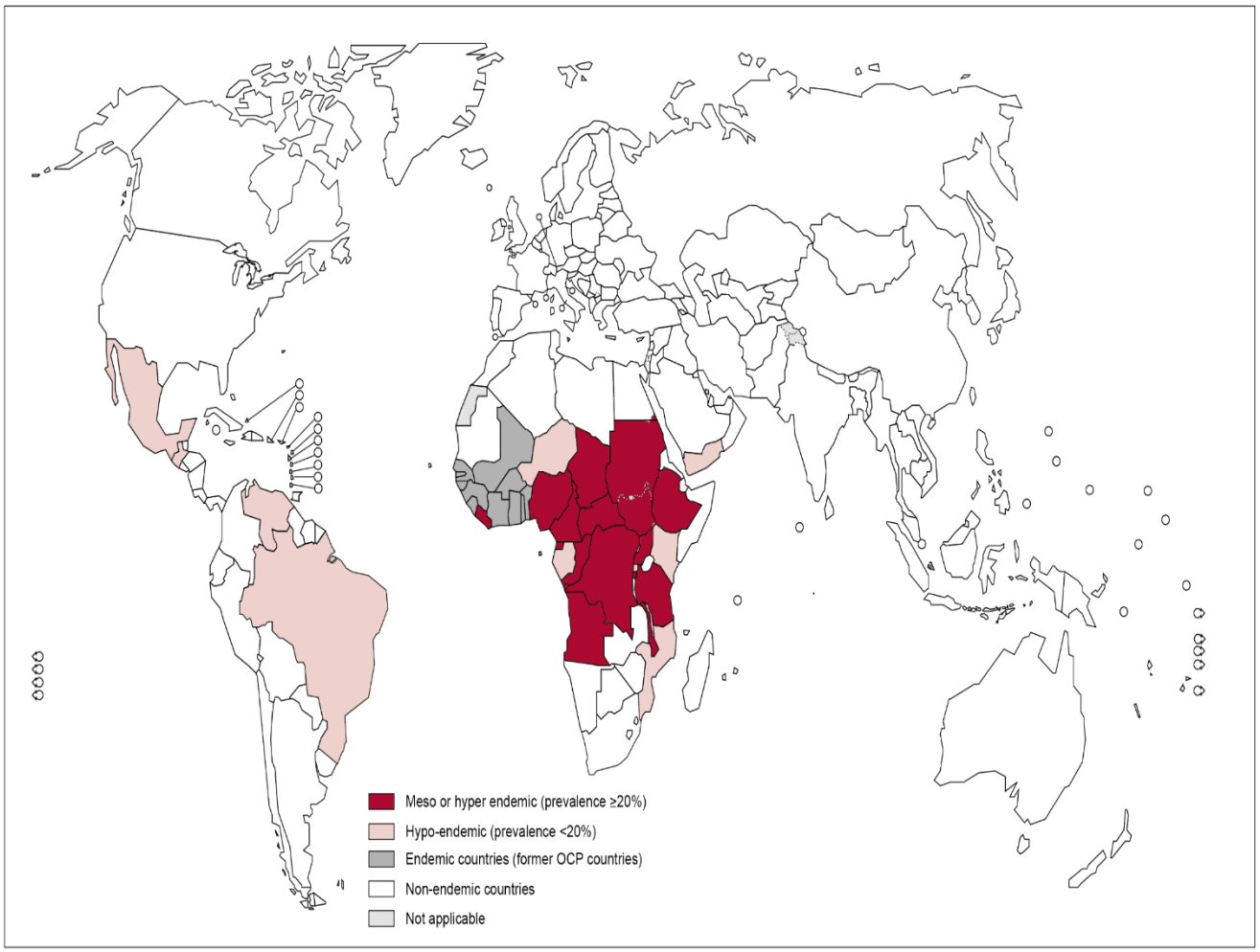
- ☞ Knows how to read and write English or relevant international language
- ☞ Has good knowledge of local languages
- ☞ Has experience of team management skills in the field
- ☞ Has previous experience of working on a survey (KAP, ethnographical, demographical, epidemiological, etc.)
- ☞ Knows the geographical area
- ☞ Is available for the entire duration of the project
- ☞ Excellent communication and observational skills
- ☞ Is patient and used to giving constructive feedback to employees

Annex 6: Training content for Data collectors and Supervisors

- The goal of the survey (KAP definition, etc.);
- The roles and responsibilities of the interviewer and the supervisor;
- The content and use of questionnaires and survey materials (prospectus, photography, etc.);
- A complete examination of each question, item by item, without forgetting filter questions and the various instructions for the questionnaire process;
- The interviewee's selection procedure;
- The consent and confidentiality procedure linked to data collection;
- A summary of frequently asked or suggested questions and answers;
- Personal interview techniques, with a list of the interviewer's golden rules (do's and don'ts);
- An explanation of supervision and quality control procedures governing work in the field;
- A demonstration of an interview/questionnaire process which functions with different scenarios allowing people to pass on question via various filter questions;
- Role plays and interview simulation 2 by 2;
- About questionnaire pre-test;
- Logistical planning.

Annex 7: A map showing distribution of Onchocerciasis, worldwide, 2013

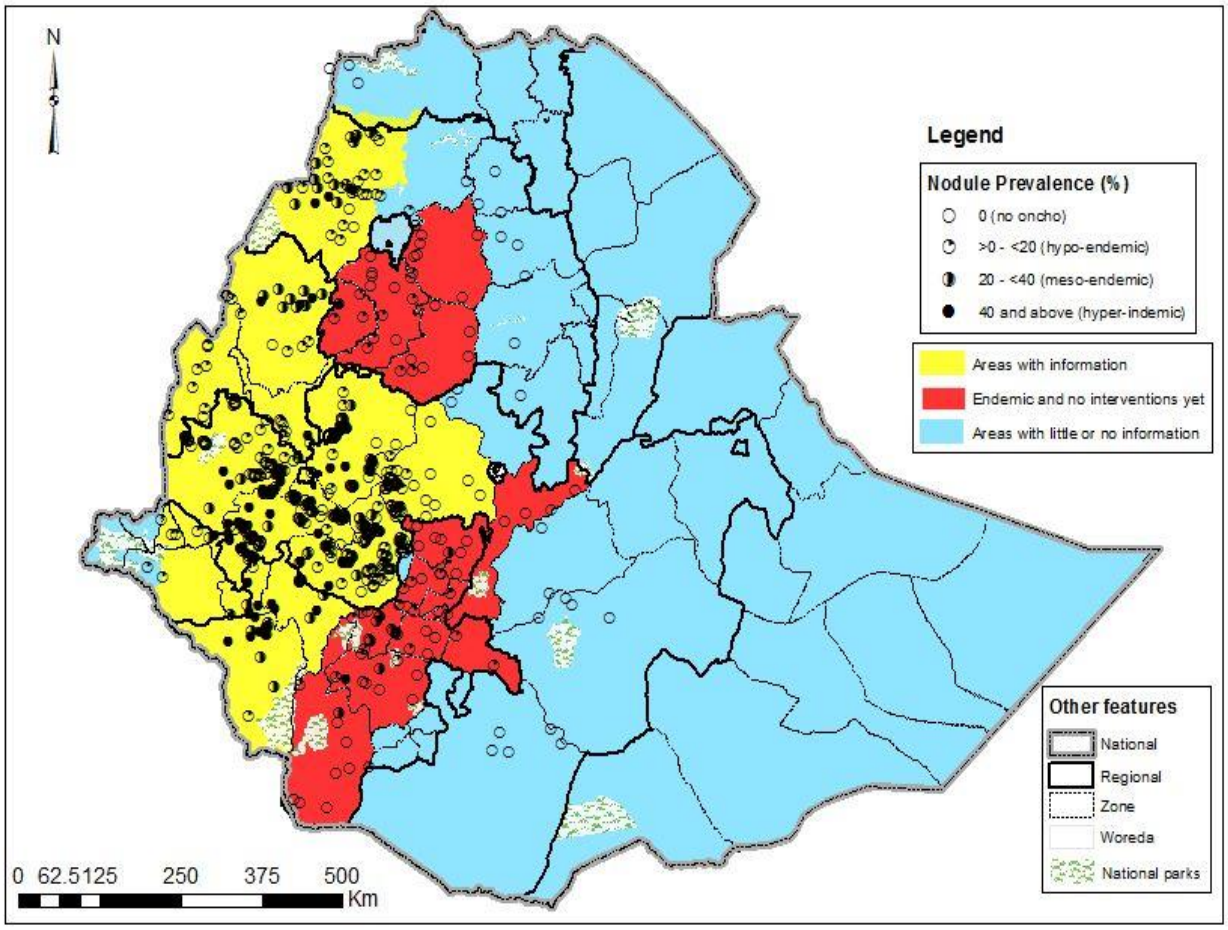
Distribution of onchocerciasis, worldwide, 2013



Data Source: World Health Organization
Map Production: Control of Neglected Tropical Diseases (NTD)
World Health Organization

World Health Organization

Annex 8: A map showing current operational status of Onchocerciaiss program in Ethiopia



Annex 9: A map showing Onchocerciasis control program woredas (districts) in Gambella, Ethiopia