ADDIS ABABA UNIVERSITY

FACULTY OF MEDICINE

DEPARTMENT OF COMMUNITY HEALTH

Assessment of Attitudes and Practices of Community-Based Reproductive Health Agents towards Sexual and Reproductive Health Service Provision to Unmarried Young People in North Wollo Zone, Amhara National Regional State, Northeast Ethiopia

By

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DEDICATION

This thesis work is dedicated to my elderly brother

Mengesha Halefom and his wife,Almaz Hagos,

without whose unreserved support since my childhood age, my present life situation

could have not been realized.

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LIST OF ABBREVIATIONS

AAU	Addis Ababa University
ADA	Amhara Developmental Association
ANRS	Amhara National Regional State
AOR	Adjusted Odds Ratio
CBD	Community-Based Distribution
CBRHA	Community-Based Reproductive Health Agents
CBRHP	Community-Based Reproductive Health Programs
COR	Crude Odds Ratio
DCH	Department of Community Health
FGAE	Family Guidance Association of Ethiopia
FOM	Faculty of Medicine
FP	Family Planning
GTZ	German Technical Cooperation
ICPD	International Conference on Population and Development
IUCD	Intra-Uterine Contraceptive Devices
LGV	Lymphogranuloma Venerium
MCH	Maternal and Child Health
MOH	Ministry of Health
NGO	Non-Governmental Organization
OR	Odds Ratio
RH	Reproductive Health
SRH	Sexual and Reproductive Health
SRS	Simple Random Sampling
STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
WHO	World Health Organization

ABSTRACT

Background Information: Sexual and reproductive health needs of young people remain poorly understood and met, with little access to appropriate and acceptable sexual and reproductive health services unlike that of married young people. In Ethiopia information on attitudes and practices of community-based reproductive health agents towards sexual and reproductive health service provision to young unmarried people is very limited.

Objective: To assess the attitudes and practices of community-based reproductive health agents towards sexual and reproductive health service provision to unmarried young people.

Methods: A cross-sectional study was conducted in five woredas of North Wollo Zone, Amhara National Regional State, Northeast Ethiopia from December 2006 to January 2007. Data were drawn from 303 actively functioning community-based reproductive health agents.

Results: A total of 303, 78.5% males and 21.5% females, actively functioning community-based reproductive health agents were interviewed using a structured questionnaire. Out of 285 agents, 46% were considered as good practicing and out of 266 respondents, 52% were with positive outlook towards sexual and reproductive health service provision to the young. Only about 15% and 21% of the respondents reported that their clients for family planning and sex education, respectively, were unmarried young people. About 45% of the total respondents preferred male clients to serve and only about 37% of agents had supported that unmarried

people are eligible for family planning services. Close to 90% of respondents supported the sexual and reproductive health service provision to unmarried young people.

Moreover, about 74% of study subjects were willing to provide information on issues related to sexual and reproductive health of the unmarried young but only about 26% of them had supported the service provision to young unmarried people aged 18 or below years. Agents were also willing in 88% of the cases to give contraceptive services to this group of people but still with a restriction that the clients should be 18 and above years of age.

While knowledge and refresher training were significantly associated with practice of the agents, service duration, supervision, knowledge and basic training of agents on sexual and reproductive health of the young were significantly associated with willingness of agents to contraceptive service provision to unmarried young people.

Conclusions: The agents' comprehensive practice and attitude were moderate. Majority of respondents supported and were willing to provide sexual and reproductive health services in general and contraceptive services in particular to unmarried young people. Nevertheless, this support and willingness was qualified by a condition that the clients should be married and 18 or above years of age. Therefore, frequent supervision and continuous refresher training with emphasis on the sexual and reproductive health needs of the young is highly recommended to be part and parcel of community-based reproductive health programs.

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By

Tuoumay Halefom (BSc)

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirement for the Degree of Masters of Public Health in the Department of Community Health

April, 2007

Addis Ababa, Ethiopia

I. INTRODUCTION

1.1. Background Information

Reproductive health (RH) is defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters related to the reproductive system and its functions and processes (1, 2). World wide, young women and men suffer from a disproportionate share of unplanned pregnancies, abortions, sexually transmitted diseases (STDs) including HIV/AIDS, female genital mutilation, malnutrition and anemia, infertility, sexual and gender violence, and other serious reproductive health problems (3,4,5).

WHO defines adolescents, young people and youth as age groups from 10-19, 10-24 and 15-24 years, respectively and young people currently account for over 30% of the world's total population (1). During these age periods, certain decisions that have an impact on an individual's future are made, including whether to stay in school, find employment, initiate sexual relations or try drugs (6).

During the 1980s the world began to focus on the needs and problems of young people and the United Nations named 1985 the International Year of Young People (7). The Program of Action of the International Conference on Population and Development (ICPD), held in Cairo in 1994, had placed great emphasis on the problems and needs of the young (6).

Millions of young Africans including Ethiopians are at risk for unwanted pregnancies, HIV/AIDS and other reproductive health problems (8). Young people constitute one-third of the total population in Ethiopia and their reproductive health problems are multifaceted and interwoven (9).

Ethiopia is one of the poorest countries in the world and the health care in general and reproductive health service in particular has suffered from inadequate staffing and allocation of resources (10, 11). Recognizing the devastating level of health status, the government has issued a number of development policies, and program guidelines in the past few years. The Health, Population and Women Policies are the most important ones, which give emphasis to reproductive health. (12, 13, 14).

Despite the explicit formulation of these and other development policies, both general health and reproductive health of the nation remained in a poor state. A vigorous effort has been exerted to increase service coverage by expansion and building of new health facilities, although the primary health service coverage is by far low. This low health service coverage has affected implementation of reproductive health programs including maternal and child health (MCH), family planning (FP), HIV/AIDS, and other disease prevention and control programs (11, 15).

In Ethiopia family planning program is amongst the prioritized programs of heath policy and it is given in an integrated manner with maternal and child heath services. The services under family planning include family planning commodity distribution, counseling, education and advocacy.

The sites where these services are provided are at government heath institutions, community levels, commercial markets, private clinics, and drug stores (16).

Given the limited number and geographic availability of health professionals in developing countries, the use of non-health professionals to provide family planning service has greatly expanded family planning service delivery through community-based distribution (CBD) of FP commodities (17). The CBD programs were first introduced in Asia, Africa and Latin America in the 1970s. In Ethiopia, they were first initiated by Family Guidance Association of Ethiopia (FGAE) in 1992. The CBD of contraceptives has proved to be cost-effective and an alternative option to institution-based service delivery in many developing countries including some parts of Ethiopia (18, 19, 20, 21). The program focuses on distribution of family planning materials, mainly contraceptive pills, condoms, and related information through community volunteers, called Community-Based Distributors (CBDs).

Currently, the concept of CBD of family planning methods is being changed into Community-Based Reproductive Health (CBRH) service delivery so as to emphasize wider range of reproductive health activities rather than focusing only on distributing FP commodities (18). The providers of community based RH services are called Community-Based Reproductive Health Agents (CBRHAs).

The community-based reproductive health agents are responsible to deal with a range of activities at community levels such as: -

- Providing family planning services
- Providing services of sexually transmitted infections including HIV/AIDS
- Providing basic services of maternal and child health
- Dealing with harmful traditional practices on the community

The management function of CBRH agents includes planning of activities, collecting supplies, recording, reporting, and participating in monitoring and evaluation of project activities (18). The CBRH agents get all the assistance needed and supportive supervision from health personnel in the nearby health facility, heath posts and clinics.

At time of assessment of CBRH services in Ethiopia during 2002 to 2003, there were 30 non-governmental organizations (NGOs) with CBRH programs in seven regions covering 252 woredas. A total of 12,840 CBRH agents were providing services through NGOs and the German Technical Cooperation (GTZ) program had the largest share of CBRH agents (7,031), followed by Amhra Developmental Association (ADA) (1,070) (22).

1.2. Statement of the Problem

The Amhara Regional State Health Bureau is one of the regions to start implementation of CBRHP in a relatively wider scale in collaboration with GTZ, Pathfinder, Plan International, Ethio-Swedish Red Cross, ADA and FGAE in most of the zones including North Wollo Zone (23). The Regional Health Bureau carries out basic and refreshment trainings, supplies, supervisions and overall management of the program in collaboration with the donor agencies (19, 24).

Despite the provision of general health and reproductive health services to the public, the sexual and reproductive health (SRH) needs of young people remain poorly understood and met, with little access to appropriate and acceptable sexual and reproductive health services, unlike that of married young people (22). The assessment of CBRH services conducted in Ethiopia from 2002 to 2003 had shown that only 27% and 5% of CBRH clients were young people and adolescents respectively. On top of that, CBRH clients were married in about 89% and never married in about 2% of the cases.

In many places studies have also shown that young people are unable to access or are restricted from receiving these services, which leaves a gap in the service system (25). Even in some

developed countries, such as the United State and United Kingdom, the young often face barriers to accessing sexual and reproductive health services.

Several obstacles that inhibit the access of unmarried young people, particularly women, to contraceptive and other sexual and reproductive health services have been identified amongst which reluctance and ambivalence on the part of adult gatekeepers (policy-makers, program managers, parents, and service providers) is the prominent(26, 27, 28).

There are few studies in Ethiopia that have explored CBRH agents' attitudes and practices towards provision of SRH services to unmarried young people. This study will explore the attitudes and practices of CBRH agents in North Wollo Zone on the provision of SRH services to unmarried young people and forward important recommendations that will help program planners.

II. LITERATURE REVIEW

2.1. CBRH Programs and the Rationale and Evolution

It was after the Cairo's International Conference on Population and Development that implementation of an integrated and comprehensive reproductive health services caught the attention of policy makers and program planners in Ethiopia and elsewhere (29).

The integration of various reproductive health services, which used to function vertically or at least separately, is still a slow process facing a number of obstacles at both service delivery and management level (18, 30). This is in one hand due to the health administrative structures at program management level which remained the same even after the concept of integration got strong momentum, and on the other hand, the absence of a clear guideline that defines the type of integrated services to be rendered at each level of service delivery (31). This has necessitated prioritization of certain program services for implementation either in integrated form or emphasis of one service depending on the driving factor.

The selection of the service components usually depends on the availability of resources for the specific component, and occasionally on the extent and seriousness of the problem. Nevertheless, due to policy emphasis, the high level of population growth rate, poor maternal and child health status, and high prevalence of HIV/STD, most programs incorporate MCH, family planning, AIDS/STD control and health education components at health facility level.

Unfortunately, the majority of the rural population do not benefit from this range of services as health facilities are far from their reach (10, 31, 32). This was the reason that the health and population policies emphasized on addressing unmet needs, expansion and diversification of services and enhanced program effectiveness (12, 13). One of the service delivery strategies adopted by the Ministry of Health lately is Community-Based Reproductive Health Program (CBRHP). It is considered as an important strategy to promote reproductive health awareness and increase access to services especially for the rural community through community–based reproductive health agents taking the lesson from CBD programs (18, 20, 21, 33).

The rationale for CBRHP includes, the presence of low awareness to RH concepts, low prevalence of contraceptive use, low use of RH/FP services, poor access of the community to clinic-based RH/FP services, shortage of trained medical or health professionals, limited resource to expand clinic services in the rural and remote areas, high magnitude of RH problems that could be reduced by the use of low level health workers, cost- effectiveness of CBRH programs, and presence of cultural and traditional barriers that could be tackled using community health agents (18).

There are very few literatures which assess CBRH programs as it is a relatively new integrated service delivery approach which came into being recently. Most CBD programs in Africa and Asia are still in transition to incorporate the wider RH concept (18, 33, 34).

2.2. Attitudes towards Provision of Information on Sexuality and Contraception to Unmarried Young People.

In a study conducted in China in 1998, the respondents (FP-distributors) agreed that young people in China were poorly informed on issues related to sex, contraception, and sexually transmitted infections, and more than 90% of respondents agreed that educational activities on sexuality were inadequate and limited (28).

The respondents' attitudes about the provision of sexual health information to unmarried young people were positive. About 92% of respondents agreed for more in-depth and explicit information provision about sexuality and contraception for the unmarried young and felt that the advantages and complete information far outweigh the disadvantages (28).

In the same study, respondents were more conservative, however, in their perceptions of appropriate content and timing of sex education. With regard to content, 81% of all respondents agreed that sex norms, psychological and physiological issues were central to sex education. In

addition, 53% agreed for the inclusion of information on contraception and available methods, and 29% agreed for the inclusion of counseling facilities alongside the provision of sex education.

Similarly, considerable ambivalence was seen with respect to appropriate timing of sex education. Fewer than one third of all respondents (30%) approved the provision of sex education to adolescents aged under 18 years, most (about 37%) considered 18 years (the average age for graduation from high school) as appropriate, and the remaining one-third (about 33%) agreed that such education should be held back until young people reach the legal minimum age for marriage-that is 20 years old (28).

Whatever their misgivings, greater than 80% FP-workers (respondents) expressed their willingness to provide information and counseling about sex and contraception to unmarried young people who sought it.

2.3. Attitudes towards Provision of Contraceptive Services for Unmarried Young People

Findings showed similar ambivalence about provision of contraceptive and other reproductive health services to unmarried young people (28). In the same study done in China, a series of

questions were asked to the respondents that probed their attitudes to the provision of services to unmarried young people. Findings suggest that although more than two-third (about 68%) of all respondents were willing to provide contraceptives to unmarried young people, they qualified such willingness with the condition that the clients were aged 18 and above years.

At the same time, respondents were more divided about regulating the provision of services to unmarried young people. About 60% of respondents approved government provision of contraceptive services to unmarried young people, and about half agreed that services should be provided at workplaces and colleges or universities (51% and 55%, respectively). But only about a quarter (27%) agreed that contraceptives should be provided at senior high school level (28).

Gender norms can create barriers to contraceptive use, especially when adolescents are the clients. In many cultures, sexual activity for young unmarried women is frowned up, while sexual activity among young men is an accepted sign of manhood. This discrepancy was evident in Kenya, where CBD workers were more willing to serve adolescent boys than girls.

Although most workers (81%) said they would provide services to an unmarried boy with no children, only 26% would provide contraception to an unmarried girl who had not yet had a child. This provably reflects general societal bias against unmarried women being sexually active and the fact that there are often myths that contraceptives inhibit fertility, so a woman should

prove her fertility first (35). This bias was found to be stronger amongst CBD agents in the rural programs. If an unmarried girl has been pregnant, however, the vast majority (96%) of agents said that they would have no problem supplying her with contraceptives. Clearly this shows that the CBD agents are concerned and misinformed about the possibility of contraceptives influencing a woman's ability to conceive.

In a survey of Kenyan CBD clients, most of those interviewed supported CBD workers discussing FP-services with youth adults (80%) and unmarried young people (83%).However, only 6% of female and 7% of male respondents indicated that they have ever received any sex education from the CBD agents.

In the same survey in Kenya, respondents from the unmarried interviewed confirmed that these attitudes translate into practice. Amongst this group, 28% of the females and 35% of the males knew of a CBD agent, but only 6% of them had ever had a personal talk with the agent.

Moreover, of the 23% of females and 44% of males in this group currently using a method, only 8% got their current method from a CBD agent. This shows that the young remain an underserved group for CBD programs, in terms of both information on sexuality and contraception and provision of services (35).

2.4. Supervision, Training and Motivation of the CBRH Workers

A study in Kenya concludes that CBD agents who are supervised more frequently tend to meet with more clients. The research record done in Kenya generally shows that paid workers perform better than volunteers. When agents are paid, supervision can be rigorously exercised, programs can be standardized and designed to cover populations, and service quality can be maintained. Community based distribution programs that use volunteer workers are more complex to manage (22, 36).

An assessment of CBRH services conducted in Ethiopia during 2002-2003 had shown that agents had supervisors (22). Only 58% of the CBRHAs said that the supervision they received was adequate. In the same study, a significant proportion of the agents (48%) recommended that supervision should be more frequent to ensure improved and efficient provision of family planning services. Most observers agree that the quality and intensity of agents' training is the most important single determinant of program quality and impact. Training generally works better when it is competency based, incremental and practical (35).

In Kenya, although STD/HIV prevention and control are part of the national CBD training curriculum, 15% of the agents said that they had not received any formal training on these topics. When asked whether they were satisfied with their level of training, 40% felt that it was inadequate for providing FP-services. Of those who had been trained in STD/HIV one half felt that it was not adequate. Almost all agents stated that although they have been trained in HIV/AIDS, gonorrhea and syphilis, the vast majority had not been taught about chlamydia, condidiasis, trichomoniasis or chancroid (35).

Even though the current curriculum of community based reproductive health agents (CBRHAs) addresses services such as family planning, information-education communication, STIs including HIV/AIDS and traditional birth related practices, generally to the reproductive age groups, it does not include and give great emphasis to the reproductive health matters of adolescents and unmarried young people (18).

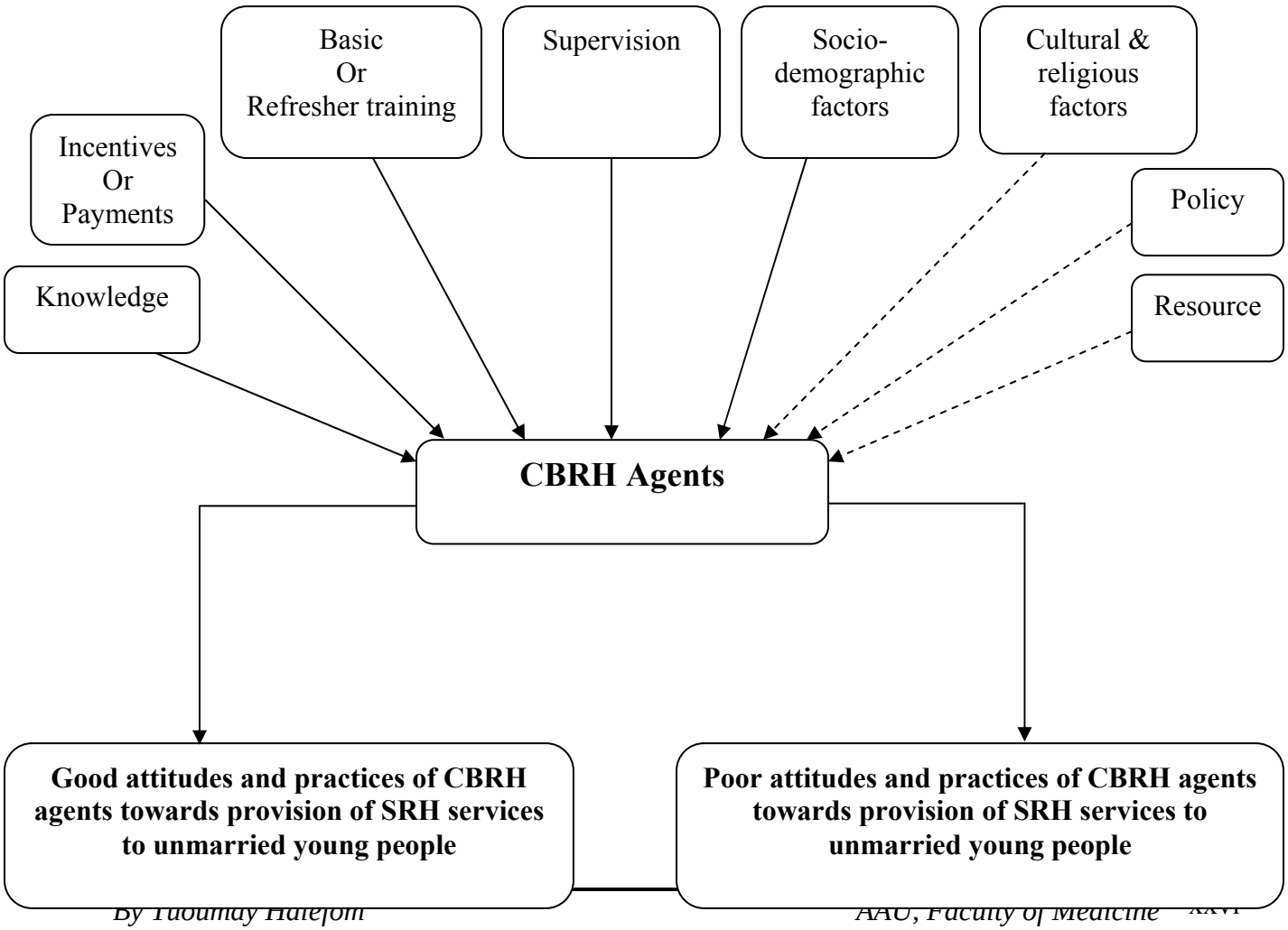


Fig-1: Conceptual framework of the study

Key:-

⟶ Addressed in this study

⇢ Not addressed in this study

III. OBJECTIVES

3.1. General Objective

- To assess the attitudes and practices of CBRH agents on the provision of sexual and reproductive health services to unmarried young people in North Wollo Zone, of Amhara National Regional State.

3.2. Specific Objectives

- To determine the attitudes and practices of CBRH agents towards the provision of sex education to unmarried young people.

- To identify the attitudes and practices of CBRH agents towards the provision of family planning services to unmarried young people.

IV. METHODS AND SUBJECTS

4.1. Study Design

The study design was a cross-sectional type of study design conducted from December 2006 to January 2007.

4.2. Study Area

The study was conducted in North Wollo Administrative Zone of the Amhara National Regional State (ANRS). North Wollo Zone is one of the 11 zones in the region. The total population of the zone was estimated to be 1.7 million at the end of 2006. Its capital town, Woldia, is located at a distance of 520 km Northeast of Addis Ababa and majority of the population lives in rural areas.

The zone is divided into nine woredas with health infrastructures of two hospitals, nine health centers, and 202 health posts.

4.3. Source and Study Population

4.3.1. Source Population

The source population was all community based reproductive health agents working in North Wollo Zone.

4.3.2. Study Population

The study population was the actively functioning community based reproductive health agents working in North Wollo Administrative Zone.

4.4. Sample Size Estimation

The sample size required for the study was calculated on the basis of the prediction that the proportion of CBRHAs' support towards SRH service provision to unmarried young people is 50%, as there was no similar study in Ethiopia that shows proportion of CBRHAs' attitudes and practices towards SRH service provision to unmarried young people. Therefore, the following formula was used to determine the sample size.

$$n_i = \frac{[Z_{\alpha/2}]^2 \, p\,(1-p)}{d^2}$$

Where, n_i = initial sample size

$Z_{\alpha/2}$= value of the standard normal distribution corresponding to a significant level of alpha (α) 0.05, which is 1.96

p = the assumed proportion of CBRHAs who support the provision of SRH services to unmarried young people = 0.5

d = marginal error = 0.04

Therefore, $n_i = [1.96/0.04]^2 * 0.5 (1-0.5)$

= 600

Because the source population (N=506) is less than 10,000, therefore the correction method was used as follows to calculate final sample size (n_f)

$$n_f = [\, n_i \,/\, 1 + (n_i / N)\,]$$

= [600/ 1+ (600/506)]

= 275 and adding contingency of 10%

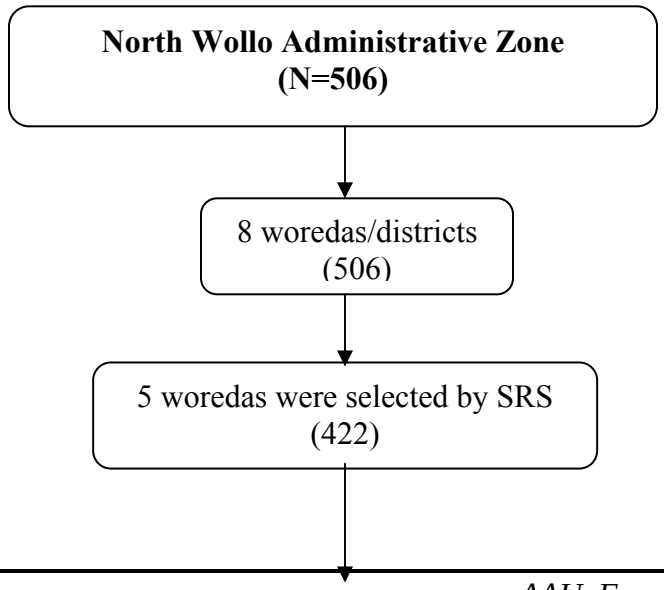
= **303** study subjects

4.5. Sampling Procedure

The sampling frame consisted of eight woredas within North Wollo Zone, which has a total of 506 actively functioning community-based reproductive health agents. One woreda was excluded from the sampling frame as it had no CBRH agents. For the reason of resource feasibility, five woredas out of the eight woredas were selected using simple random sampling (SRS) method and all active CBRH agents were identified at the Woreda Health Office level.

After identifying the actual number of the CBRH agents at the Woreda Health Office level, proportional size of CBRH agents were allocated to each woreda and next these proportionally allocated number of study subjects in each woreda were selected using systematic sampling

method to get the sample size of the study. Finally, the selected community-based reproductive health agents were approached and interviewed during their monthly reporting time.



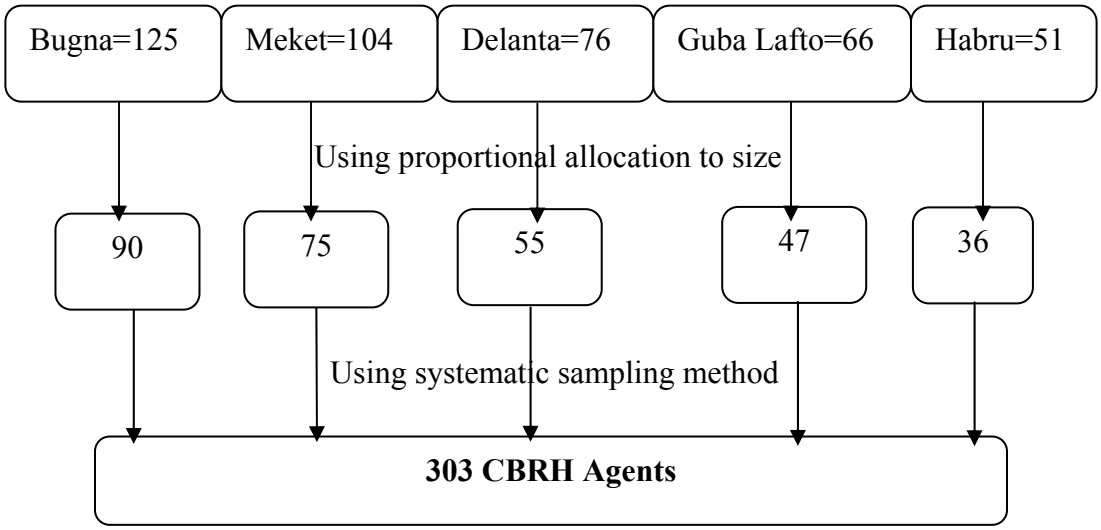


Fig-2: Schematic presentation of the sampling procedure

4.6. Measurement Variables

The independent variables include

- socio-demographic characteristics of the study subjects
- supervision,
- refresher training,
- basic training on SRH of young people
- knowledge and
- service duration of the agents

The dependent variables are

- attitudes and
- practices of CBRH agents towards provision of sexual and reproductive health services to unmarried young people.

4.7. Data Collection Procedures

4.7.1. Questionnaire Development

A structured questionnaire to collect data was designed first in English and then translated into Amharic. Back translation was done to check the consistency of meaning.

4.7.2. Data Collector Recruitment and Training

A total of seven grade 10 and 12 completed individuals were selected and recruited for data collection. Two health professionals from the heath institutions in the zone were selected and recruited to supervise the data collectors.

The interviewers and supervisors were given one day training on how to administer the questionnaire, including elementary skills of communication and operational definitions used in the study.

4.7.3. Pre-Testing of Questionnaire

Pre-testing of the questionnaire was conducted in one adjacent woreda of the zone which was not included in the study. After pre-testing, problems of the questionnaire were identified and discussed and finally some questions were modified.

4.8. Data Quality Assurance

The quality of data was assured through

- Careful designing, translating and re-translating, and pre-testing of the questionnaire
- Proper training of the interviewers and supervisors
- Close supervision of data collecting procedures
- Proper categorizing and coding of the data
- 5% of data were double entered to ensure consistency

The interviewers were supervised daily in the field. Supervisors were able to handle problems, and receive and check completed forms in order to clean up incorrect reporting. The field supervisors in turn met with the principal investigator each day to go through the completed forms and discuss problems. Therefore, there was a two-stage quality control process throughout the data collection.

4.9. Data Entry and Analysis

Data were coded and entered into EPI-Info version 6.0 statistical software program and finally analyzed using SPSS version 11.0 software by the principal investigator. After cleaning the data set, frequency distributions were made for each variable.

To determine the knowledge status of the respondents for each question on reproductive health aspects, one point was given for correct responses and zero for incorrect and "I don't know"

responses. The mean score of knowledge was computed from a total score of thirty-four and it was found to be 18.0. Based on this cut-off point, study participants who scored less than the mean score were considered as "Insufficiently Knowledgeable" and those who scored points equal to and more than the mean score were grouped as "Sufficiently Knowledgeable".

Practices of the respondents to reproductive health services were also dichotomized by calculating the mean score of practices after giving one point for correct practices and zero point for improper practices. From a total score of thirty-six the mean score was found to be 19.3 and those respondents who scored less than it were considered as "Poor Practicing" and those who scored equal to and more than the mean score were categorized as "Good Practicing".

Similarly, attitudes of CBRH agents towards SRH service provision to unmarried young people were dichotomized into good and poor attitude by computing mean score of attitude questions and hence, one point and zero point for each positive and negative response, respectively, were given.

The mean score was calculated to be 17.5 from a total score of twenty-eight points and based on this cut-off point, participants who scored less than the mean score were categorized as having "Poor Attitude" and those who scored equal to and above the mean score were considered as having "Good Attitude".

The scores of practice and attitude and other dependent variables of attitude were cross-tabulated using Chi-square test to look for an association between the variables. Odds ratio, P-value and

95% confidence interval were also used to look for presence and strength of association of selected variables. Logistic regression was applied to control confounding factors and to assess the effects of each explanatory variable on the outcome variables using SPSS 11.0 windows software.

4.10. Operational Definitions

Active (functional) CBRHAs-CBRH agents who are working and regularly (monthly) reporting their activities to the catchments or supervising health institution.

Content of sex education-education on pubertal changes (physical, emotional and psychological changes), risky behaviors and other reproductive health issues.

Supervision-purposeful and helpful or educative type of activity-monitoring and evaluation of the community-based reproductive health agents' activities by health extension workers, and/or health workers form health posts, health centers, and woreda health office.

Refresher training- it is in-service training aiming at upgrading the knowledge of community-based reproductive health agents on reproductive health issues.

Payment or Incentive- any thing in the form of money or commodity given to the community-based reproductive health agents governmental or non-governmental organizations.

Good attitude-those respondents who have positive outlook towards SRH service provision to unmarried young people and who scored points equal to and more than the mean score out of the prepared attitude questions.

Poor attitude- those respondents who have negative outlook towards SRH service provision to unmarried young people and who scored points less than the mean score out of the prepared attitude questions.

Sufficiently knowledgeable-those study participants who scored points equal to and more than the mean score out of prepared knowledge questions.

Insufficiently knowledgeable-those study participants who scored points less than the mean score out of prepared knowledge questions.

Good practice-those study participants who scored points equal to and more than the mean score out of prepared practice questions.

Poor practice-those study participants who scored points less than the mean score out of prepared practice questions

Young unmarried people-people in the age range of 10 to 24 years who are not married.

4.11. Ethical Consideration

Ethical clearance and approval was obtained from the Department of Community Health, Faculty of Medical, Addis Ababa University. The necessary written permission to under-take the study was also obtained from Amhara National Regional State Health Bureau, North Wollo Zonal Health Department and local administrative offices. All participants were informed about the

purpose of the study and the right to refuse, and assurance of confidentiality of the responses. Therefore, informed consent from each interviewee was obtained prior to each interview.

4.12. Dissemination of Result

The result of the study will be

- Submitted to the Department of Community Health, Faculty of Medical, Addis Ababa University.
- Disseminated to North Wollo Zonal Health Department, Amhara Regional Health Bureau Federal Ministry of Health, Pathfinder International, and Amhara Developmental Association through presentation.
- Presented to the public through workshops, seminars or scientific conferences.
- Attempts will be made to publish the findings in scientific journals.

V. RESULT

Socio-Demographic Characteristics of the Respondents

A total of 303 study subjects participated in the study, making a response rate of 100%. Majority of the study participants were males (78.5%). Regarding age distribution, about 59% of the respondents were aged 35 years and above. Mean age (standard deviation) of respondents was found to be 35.5 ± (7.0) years with minimum and maximum age of 18 and 55 years, respectively. With regard to their marital status, almost all were married (94.7%) and the rest 5.3% were unmarried ones.

Variables (n=303)	**Frequency**	**Percent**

All respondents were Amhara by ethnicity and about 87% and 13% were Orthodox Christian and Muslim religion followers, respectively. Regarding educational background of respondents, majorities (66%) were at primary, and the rest (34%) were at secondary level. About 91% of the study subjects were farmers by occupation and with respect to their residence, most of them were rural dwellers (91%) and the rest (9%) were urban residents [Table-1].

Table-1: Socio-demographic characteristics of CBRH agents, in North Wollo Zone, Northeaster Ethiopia, 2007

Sex		
Male	238	78.5
Female	65	21.5
Age (years)		
<35	124	40.9
≥35	179	59.1
Marital status		
Married	287	94.7
Unmarried	16	5.3
Religion		
Orthodox	264	87.1
Muslim	39	12.9
Education		
Primary	200	66.0
Secondary	103	34.0
Occupation		
Farmer	277	91.4
Others	26	8.6
Place of residence		
Rural	277	91.4
Urban	26	8.6

Knowledge of CBRH Agents on Reproductive Health Aspects

Questions were asked to assess knowledge of CBRHAs on RH issues related to the young. Pertaining to changes during pubertal period, physical changes, emotional changes and psychological changes were mentioned in 93.4%, 71%, and 63% of the study subjects.

Unsafe sex (84.8%), multiple sexual partners (43.2%), and substance abuse (26.1%) were identified by the respondents as risk behaviors for young people. Among STIs including HIV/AIDS, the most mentioned were gonorrhea (91.1%), HIV/AIDS (88.8%), syphilis (88.8%), and followed by lymphogranuloma venerium (LGV) (72.9%), and chancroid (66.3%).

Pills was the most frequently mentioned method (96.0%), followed by condoms (80.2%), injectables (74.6%), Intra-Uterine Contraceptive Devices (IUCDs) (58.7%), and each of the rest such as norplants (49.5%), natural methods (20.1%), and surgical methods (18.5%) were mentioned by less than half of the study subjects.

Among the total study population, less than half of them were able to mention natural methods of contraception such as rhythm method (42.9%), breast feeding (36.3%), abstinence (26.4%), and withdrawal method (14.9%). It is only 21.5% of the total population who could mention emergency contraceptives properly, and out of this proportion, only 7.9% correctly knew the timing of emergency contraceptive use.

When the knowledge of CBRH agents is dichotomized using mean knowledge score, about 58% of participants equal to and above the mean score (mean score of 18), and were categorized as sufficiently knowledgeable, and the rest (42%) who scored below the mean score were considered to be insufficiently knowledgeable [Table-2].

Practices of CBRH Agents on SRH Services to Unmarried Young People

Respondents were asked whether they provide reproductive health related services or not. Of the total study population, 285 (94.1%) responded that they do give sex education to the young on topics such as STIs including HIV/AIDS (85.3%), FP services (64.6%), pregnancy/abortion (41.4%), and risk behaviors (40.4%).

The most mentioned clients of CBRH agents for sex education were adult married (99.3%), and young married (98.9%), followed by adult unmarried (62.8%), and young unmarried (only 20.7%). With regard to places of sex education provision, they responded that they give it at any assembly such as church, mosque, meeting, or any social gatherings (89.1%), at client's home (49.5%), at school (24.9%), at provider's home (16.8%), and at work place (14.4%).

Similarly the study subjects were inquired if they provide family planning services and all of them were providing the service. Among the family planning services they provide, pills distribution (97.7%) was the most mentioned one, followed by condom distribution (82.5%), and counseling on family planning (31.4%).

The most served clients of family planning were adult married (99.7%) and young married (99.0%), followed by adult unmarried (52.1%), and young unmarried (only 14.9%). These family planning services were provided at client's home (83.2%), provider's home (78.9%), any assembly (29.4%), school (10.9%), and work place (6.9%).

When these practices are dichotomized into good and poor practices by calculating the mean score of the practices, it shows that about 46% of those who provide the services scored greater or equal to the mean score of practice, considered as good practicing and the remaining 54% scored below the mean score and hence poor practicing [Table-2].

Table-2: Attitude, practice and knowledge scores of CBRH agents in some reproductive health aspects in North Wollo Zone, Northeast Ethiopia, 2007

Variable	Number (%)
Knowledge score (n=303)	
Sufficient	177(58.4)
Insufficient	126(41.6)
Attitude score (n=266)	
Good	139(52.3)
Poor	127(47.7)
Practice score (n=285)	
Good	132(46.3)
Poor	153(53.7)
Opinion on SRH service provision to unmarried young people (n=303)	
Should be given	273(90.1)
Shouldn't be given	30(9.9)
Perception on adequacy of SRH service provision to unmarried young people (n=303)	
Adequate	223(73.6)
Inadequate	80(26.4)
Willingness to provide contraceptives (n=303)	
Willing	266(87.8)
Unwilling	37(12.2)

Statistical analysis was done to see crude associations of the mean score practices of CBRH agents on some reproductive health activities to unmarried young people. Knowledge was significantly associated with the mean score of reproductive health practice, indicating those who were insufficiently knowledgeable were less likely to practice SRH services than those who were sufficiently knowledgeable [COR=0.39(95%CI=0.24-0.64)], while the rest variables, such as socio-demographic factors, service duration, supervision, refresher training and basic training of the agents on SRH of the young were not associated.

Adjusted binary logistic regression analysis for socio-demographic factors, service duration, supervision, refresher training, knowledge, and basic training of the agents on SRH of the young showed that refresher training and knowledge were significantly associated with practices of reproductive health services. Those who were categorized as insufficiently knowledgeable were less likely to practice SRH services to unmarried young people [AOR=0.35(95% CI=0.20-0.62)].

Concerning the refresher training, those who have had one session of refresher training were less likely to practice sexual and reproductive health service provision to unmarried young people sufficiently than those who had more than one sessions of refresher training [AOR=0.52(95%CI=0.27-0.99)] [Table-3].

Table-3: CBRH agents' reproductive health service provision to young unmarried people by different variables in North Wollo Zone, Northeast Ethiopia 2007

Variable (n=285)	Practice: Good	Practice: poor	Crude OR(95%CI)	Adjusted OR(95%CI)
Sex				
Male	103(46.0)	121(54.0)	0.94(0.53-1.66)	1.39(0.62-3.08)
Female	29(47.5)	32(52.5)	1.00	
Age group				
<35	61(53.0)	54(47.0)	1.58(0.98-2.54)	1.73(0.95-3.12)
≥35	71(41.8)	99(58.2)	1.00	
Marital status				
Married	124(45.9)	146(54.1)	1.00	
Unmarried	8(53.3)	7(46.7)	1.35(0.48-3.82)	1.47(0.43-5.07)
Educational status				
Primary	83(43.7)	107(56.3)	0.73(0.44-1.19)	0.83(0.46-1.47)
Secondary	49(51.6)	46(48.4)	1.00	
Occupation				
Farmer	119(45.8)	141(54.2)	1.00	
Others	13(52.0)	12(48.0)	1.28(0.56-2.92)	1.20(0.36-4.06)
Residence				
Urban	11(50.0)	11(50.0)	1.00	
Rural	121(46.0)	142(54.0)	0.85(0.36-2.03)	1.36(0.44-4.21)
Service duration (years)				
≤3	93(44.7)	115(55.3)	0.79(0.47-1.33)	0.86(0.47-1.57)
>3	39(50.6)	38(49.4)	1.00	
Supervision per year				
≤4	32(44.4)	40(55.6)	0.86(0.50-1.47)	1.16(0.62-2.19)
>4	99(48.3)	106(51.7)	1.00	
Refresher training				
One	86(44.3)	108(55.7)	0.66(0.38-1.13)	**0.51(0.27-0.96)***
More than one	40(54.8)	33(45.2)	1.00	
Knowledge				
Sufficient knowledge	94(55.6)	75(44.4)	1.00	
Insufficient knowledge	38(32.8)	78(67.2)	**0.39(0.24-0.64)***	**0.35(0.20-0.62)***
Basic training on SRH of the young				
Yes	55(46.2)	64(53.8)	0.99(0.62-1.59)	0.76(0.43-1.36)
No	77(46.4)	89(53.6)	1.00	

*** Significant at P<0.05**

Attitudes of CBRH Agents on SRH Service Provision to the Unmarried Young

Respondents were asked questions to assess their attitude towards SRH service provision to young unmarried people. Three hundred and one (99.3%) of the total respondents were voluntary to be recruited and trained as CBRH agent to serve the community where they live.

It was found that 291 (96%) and 137 (45%) of respondents preferred to serve females and males, respectively. The most perceived eligible clients for FP service were married women in 99.7% of the cases followed by married men, unmarried women and unmarried men in 37.6%, 37.3%, and 3.6% of the cases, respectively.

Two hundred seventy three (90.1%) of the total respondents supported that SRH services should be given to unmarried young people. On top of that, 223 (73.6%) of the agents were willing to provide information on issues related to sexual health of the young. The agents' perception on topics that should be dealt with sexual heath were STIs including HIV/AIDS (96.2%), followed by FP method distribution (80.5%), counseling on FP services (76.6%), and sexual behaviors (65.7%). Only 80 (26.4%) of the study subjects supported that sexual heath services should be given to the young aged less than 18 years but more than 85% of them supported that it should be given to those aged 18 and above.

Specifically, 266 (88 %) of the total respondents were willing to give contraceptive services to unmarried young people, and out of these, only 60 (22.6%) agreed to give the service to those aged less than 18 years, but more than 75% of them agreed to age 18 and above.

Participants were also asked to assess their agreement on contraceptive service provision sites to unmarried young people. Two hundred sixty seven (88.1%), 189 (62.4%), 105 (34.7%), 84 (27.7%), and 68 (22.4%) of the cases agreed that the service sites should be governmental health institutions, work places, colleges/universities, secondary schools, and primary and junior schools, respectively.

When the attitude of agents to these questions is dichotomized using the mean score of attitude, about half of them (52%) scored equal and above the mean score, considering them as with good attitude and the rest (48%) scored below the mean score, considering them as with poor attitude [Table-2].

Analysis for crude associations showed that occupation was strongly associated with attitude of agents, while variables such as sex, age, marital status, educational status, residence, service duration, supervision, refresher training, knowledge and basic training of the agents on SRH of the young were not associated. Occupationally, those who were not farmers (house wife, student, petty trader and government employee) were found to have poor attitude towards sexual and reproductive health service provision to unmarried young [COR=0.34(95%CI=0.14-0.86)].

When sex, age, marital status, educational status, occupation, residence, service duration, supervision, refresher training, knowledge and basic training of the agents on SRH of the young were adjusted, binary logistic regression analysis showed that those who were not farmers were less likely to have good attitude towards sexual and reproductive health service provision to the unmarried young people than farmers [AOR=0.23(95%CI=0.06-0.83)] [Table-4].

Table-4: Attitudes of CBRH agents towards SRH service provision to young unmarried people by different variables in North Wollo Zone, Northeast Ethiopia, 2007

*** Significant at P<0.05**

Variable	Attitude		Crude OR(95%CI)	Adjusted OR(95%CI)
	Good	poor		
Sex				
Male	112(53.8)	96(46.2)	1.34(0.75-2.40)	0.68(0.20-1.54)
Female	27(46.6)	31(53.4)	1.00	
Age group				
<35	54(50.0)	54(50.0)	0.86(0.53-1.40)	1.01(0.56-1.82)
≥35	85(53.8)	73(46.2)	1.00	
Marital status				
Married	132(52.8)	118(47.2)	1.00	
Unmarried	7(43.8)	9(56.2)	0.70(0.25-1.93)	0.54(0.16-1.87)
Educational status				
Primary	90(53.3)	82(47.7)	1.01(0.61-1.67)	1.09(0.61-1.97)
Secondary	49(52.1)	45(47.9)	1.00	
Occupation				
Farmer	132(54.5)	110(45.5)	1.00	
Others	7(29.2)	17(70.8)	**0.34(0.14-0.86)***	**0.23(0.06-0.83)***
Residence				
Urban	13(54.2)	11(45.8)	1.00	
Rural	126(52.1)	116(47.9)	0.92(0.40-2.13)	0.53(0.18-1.59)
Service duration (years)				
≤3	104(52.0)	96(48.3)	0.96(0.55-1.68)	0.87(0.46-1.66)
>3	35(53.0)	31(47.0)	1.00	
Supervision per year				
≤4	33(56.9)	25(43.1)	1.29(0.72-2.33)	1.19(0.61-2.33)
>4	101(50.5)	99(49.5)	1.00	
Refresher training				
One	90(50.0)	90(50.0)	0.87(0.50-1.51)	0.95(0.50-1.80)
More than one	37(53.6)	32(46.4)	1.00	
Knowledge				
Sufficient knowledge	91(54.5)	76(45.5)	1.00	
Insufficient knowledge	48(48.5)	51(51.5)	0.79(0.48-1.29)	0.81(0.46-1.42)
Basic training on SRH of the young				
Yes	61(52.6)	55(47.4)	1.02(0.63-1.66)	0.99(0.56-1.74)
No	78(52.0)	72(48.0)	1.00	

With regard to willingness of agents towards provision of contraceptive services to unmarried young people, service duration, supervisions, knowledge and basic training of the agents on SRH

of the young were found to have significant crude associations with willingness of contraceptive service provision, while the rest variables such as sex, age, educational status, residence, and refresher training were not significantly associated with it.

Agents who received four or less supervisions per year, and with insufficient knowledge were found less likely to be willing to provide contraceptives to unmarried young, [COR=0.20(95%CI=0.10-0.41)], and [COR=0.22(95%CI=0.10-0.47)], respectively, than agents with above four episodes of supervisions per year, and with sufficient knowledge. The CBRH agents who have got basic training on SRH issues of young people were more likely to be willing to provide contraceptive services to the unmarried young [COR=4.95(95%=1.87-13.10)]. But service duration of the agents was negatively associated with willingness to contraceptive service provision to the young. The agents whose service duration was three or below years were found more likely to be willing to provide the service than those whose service duration was above three years [COR=2.58(95%CI=1.27-5.21)].

To remove the effect of confounding factors, sex, age educational status, residence, service duration, supervision, refresher training, knowledge and basic training of the agents on SRH of the young were adjusted using adjusted binary logistic regression analysis and still service duration, supervision, knowledge, and basic training of the agents on SRH of the young showed significant associations.

Concerning service duration, those agents whose service duration was three or below years were more likely to be willing to provide contraceptive services to the unmarried young as compared to those with above three years of service duration [AOR=4.92(95%CI=1.91-12.67)].

Pertaining to supervision, agents who had been supervised at most four times a year were found less likely to be willing to provide contraceptive services to the unmarried young as compared to agents who had been supervised more than four times a year [AOR=0.22(95%CI=0.09-0.52)]. Knowledge status of agents who have been categorized as insufficiently knowledgeable were less likely willing to provide contraceptive services to unmarried young persons as compared to those who were sufficiently knowledgeable [AOR=0.17(95%=0.07-0.46)]. Moreover, agents who have got basic training on SRH of the young were about four times more likely to be willing to provide contraceptive services to the unmarried young [AOR=3.72(95%=1.17-11.81)] than those who have not had the training [Table-5].

Table-5: Willingness of CBRH agents to provide contraceptive services to young unmarried people by different variables in North Wollo Zone, Northeast Ethiopia, 2007

*** Significant at P<0.05**

Variable	Willingness		Crude OR(95%CI)	Adjusted OR(95%CI)
	Willing	Unwilling		
Sex				
Male	208(87.4)	30(12.6)	0.84(0.35-2.00)	0.62(0.19-2.01)
Female	58(89.2)	7(10.8)	1.00	
Age group				
<35	108(87.1)	16(12.9)	0.90(0.45-1.80)	0.62(0.23-1.67)
≥35	158(88.3)	21(11.7)	1.00	
Educational status				
Primary	172(86.0)	28(14.0)	0.59(0.27-1.30)	0.55(0.21-1.45)
Secondary	94(91.3)	9(8.7)	1.00	
Residence				
Urban	24(92.3)	2(7.7)	1.00	
Rural	242(87.4)	35(12.6)	0.58(0.13-2.55)	0.29(0.03-2.56)
Service duration (years)				
≤3	200(90.9)	20(9.1)	**2.58(1.27-5.21)***	**4.92(1.91-12.67)***
>3	66(79.5)	17(20.5)	1.00	
Supervision per year				
≤4	58(72.5)	22(27.5)	**0.20(0.10-0.41)***	**0.22(0.09-0.52)***
>4	200(93.0)	15(7.0)	1.00	
Refresher training				
One	180(86.5)	28(13.5)	0.65(0.27-1.56)	2.29(0.74-7.11)
More than one	69(90.8)	7(9.2)	1.00	
Knowledge				
Sufficient knowledge	167(94.4)	10(5.6)	1.00	
Insufficient knowledge	99(78.6)	27(21.4)	**0.22(0.10-0.47)***	**0.17(0.07-0.46)***
Basic training on SRH of the young				
Yes	116(95.9)	5(4.1)	**4.95(1.87-13.10)***	**3.72(1.17-11.81)***
No	150(82.4)	32(17.6)	1.00	

Issues of Training, Supervision and Payment of the CBRH Agents

Coming to their payments and/or incentives, only 82 (27.1%) said that they are paid on an irregular manner, and out of these, 28 (34.1%) were satisfied with the payment. Interestingly, in the presence of this poor payment, almost all (99.3%) agents were willing to continue in providing community based reproductive health services in their community.

With respect to supervision of their activities, 295 (97.4%) of the agents were supervised and out of these, 280 (94.9%) were satisfied with the supervision. Majority of them had been supervised by staffs from woreda health office 260 (85.8%), followed by health post 96 (31.7%), and health centre 33 (10.9%). Two hundred eighty four (93.7%) of the agents have got refresher training, and out of these, 221 (72.9%) were satisfied with the training.

Concerning basic training of CBRH agents, 300 (99%) of the total respondents were trained on sexually transmitted infections including HIV/AIDS, of which, 238 (79.3%) of respondents said the training was adequate. Majority of the cases were trained on gonorrhea 282 (94%), syphilis 267 (89%), chancroid 223 (74.3%), and LGV 214 (71.3%).

Moreover, 25 (8.3%), 299 (98.7), 298 (98.3%), and 10 (3.3%) of respondents were trained on harmful traditional practices, family planning methods, health education, counseling on family planning services, and others, respectively. It is only 121 (39.9%) of the study participants who were trained specifically on sexual and reproductive health of young people during their basic training [Table-6].

Table-6: CBRH agents' Service duration, Supervision, Training and Payment, in North Wollo Zone, Northeast Ethiopia, 2007

Variables	Number (%)
Duration of service years (n=303)	
≤3	220(72.6)
>3	83(27.4)
Supervision (n=303)	
Yes	295(97.5)
No	8(2.6)
No of supervisions per year (n=295)	
≤4	80(27.1)
>4	215(72.9)
Refresher training (n=303)	
Yes	284(93.7)
No	19(6.3)
No of refresher trainings(n=284)	
One	208(73.2)
More than one	76(26.8)
Basic training on SRH of young people (n=303)	
Yes	121(39.9)
No	182(60.1)
Payment/Incentives (n=303)	
Yes	82(27.1)
No	221(72.9)
To continue as a CBRH agent (n=303)	
Yes	301(99.3)
No	2(0.7)

VI. DISCUSSION

Sexual and reproductive health needs of young people remain poorly understood and met, with little access to appropriate and acceptable sexual and reproductive health services unlike that of married people. The major objective of the present study is to identify CBRH agents' attitudes and practices towards sexual and reproductive health service provision to young unmarried people.

An assessment of CBRH services conducted in Ethiopia from 2002 to 2003 had shown that only 27% of CBRH clients were young people, and generally clients of CBRH agents were married and never married in about 89% and 2% of the cases, respectively (22, 28). This finding is also supported by the current study which had shown that only about 21% and 15% of the CBRH clients for sex education and FP services, respectively, were young unmarried people.

Knowledge status and number of refresher training of CBRH agents were found to have significant associations with practices of sexual and reproductive health services to unmarried young people. Agents who were with insufficient knowledge were less likely to practice SRH service provision to young unmarried people as compared to those with sufficient knowledge.

Furthermore, those agents who have got one episode of refresher training were found less likely to provide these services than who had more than one refresher training. This finding is also

supported by a study done in Ethiopia at national level which had shown that agents who have had refresher training were with better performance (22).

These associations could be explained by the fact that sufficient knowledge and frequent refresher training, which in turn builds up knowledge, would have brought positive outlook towards practicing SRH services to unmarried young people.

Three hundred and one (99.3%) of the total respondents were voluntary to be recruited and trained as community-based reproductive health agents. The finding shows that this voluntary-based and self-motivated selection and recruitment of agents in this area is in line with the criteria set in the curriculum of CBRH agents (18).

Gender norms can create barriers to SRH service use, especially when the clients are young people. In this study, majority of the agents preferred female clients to serve in about 96% of the cases, and only about 45% of the cases preferred male clients to serve. This finding could be explained by the fact that SRH services are usually meant for females.

Coming to the perceived eligibility of clients for FP services, majority of the respondents (99.7%) said that married women should be eligible for family planning services, followed by married men (37.6%), unmarried women (37.3%) and unmarried men (3.6%). This finding is also consistent with a study done in Kenya which had shown that only 26% of the agents were willing to provide FP services to unmarried women (35).

A study done in China had shown that agents agreed with the fact that young people in China were poorly informed on issues related to sex, contraception, STIs, and more than 90% of them agreed that educational activities on sexuality were inadequate and limited (28).

But in the current study, it is only about 26% of the agents who said that SRH services are inadequately provided to unmarried young people. The difference could be attributed to the educational status of respondents in which case majority of the respondents in this study were with primary and below educational level.

Two hundred seventy three (90.1%) of the total respondents supported that SRH services should be given to unmarried young people. This finding is in line with a study done in China which had shown that about 92% of the agents agreed with more in-depth and explicit information provision on sexuality and contraception to unmarried young people (28).

On top of this, in the current study it was found that about 74% of the agents were willing to provide information on issues related to sexual health of unmarried young people. This is a similar finding to a study done in China which had shown that about 80% of agents were willing to provide information and counseling about sex and contraception to unmarried young people.

The need of incorporating FP services, counseling services, and issues on sexual behaviors as content of sex education was acknowledged by 81%, 77%, and 66% of the CBRH agents, respectively. But a study in China had shown that nearly 53%, 29%, and 81% of the respondents

agreed that contents of sex education should be FP services, counseling facilities, and issue on sexual behaviors, respectively.

Concerning timing of sex education, the present study had shown only 26.4% of the total respondents supported that sex education should be given to the young aged less than 18 years. This finding is similar to a study done in China which had shown that about 30% of the agents approved sex education provision to young people less than 18 years of age (28).

In the present study, it was found that about 88% of the agents were willing to provide contraceptive services to young unmarried people, but only about 22.6% of these agreed to give contraceptive services to those aged less than 18 years. These findings were also consistent with a study done in China which had shown that about 68% of agents were willing to provide the service but with a qualification of such willingness with the condition that clients should be aged 18 and above years. This finding pin points for the need of pre-service and refresher training to the agents so as to improve their attitude towards SRH service provision to adolescents.

In relation to contraceptive service provision, respondents were also asked about regulating the provision of services to unmarried young people. About 88%, 62%, 35%, 28% and 22% of the cases approved that the service should be given at governmental health institution, work place, colleges or universities, secondary schools, primary to junior schools, respectively. This finding

is also supported by a study done in China which had shown that in 60%, 51%, 55%, and 27% of the cases approved in governmental health institution, work place, colleges or universities, and secondary schools, respectively (28).

Agents' willingness to provide contraceptive services to young unmarried people was found to be affected by service duration, supervision, knowledge, and basic training of the agents on SRH of the young. Those who had been supervised above four episodes per year, considered as sufficiently knowledgeable, and with basic training on SRH of the young were more likely to have willingness towards the service provision. As it has been discussed earlier, these frequent supervisions, sufficient knowledge, and basic training of the agents on SRH of the young could be the reasons for this positive outlook towards the contraceptive service provision.

Duration of service had been found negatively associated with willingness of agents towards contraceptive provision to the young. Agents with three and below years of service duration were found to have good outlook towards the service provision than those with above three years of service duration. This is supported by a study done in Ethiopia which had shown that agents who have served for longer periods seemed to provide poorer information to their clients than those with less years of experience (22). The possible reason for this might be explained by the fact that recently trained agents could have better information and positive outlook to reproductive health service provision than earlier ones, indicating the need of upgrading knowledge and building up positive attitude of agents towards SRH service provision to unmarried young people.

Although payment was not found to be associated with the dependent variables, only 82 (27.1%) of the agents said that they are paid on an irregular basis for the service they render, of which only 28 (34.1%) were satisfied with the payment.

Despite the poor payment, almost all (99.3%) agents were willing to continue and work as a CBRH agent. Studies done in Ethiopia and Kenya had shown that paid agents perform better than volunteers (22, 36).

Even though willingness of the agents to continue and work is high, there should be a mechanism by programmers to improve the remuneration or motivating factors to the agents for better performance.

With respect to supervision, 295 (97.4%) of the agents said that they had supervisors and out of these, 280 (94.9%) were satisfied with it. In contrast to a national study done in Ethiopia which had shown that almost all agents had supervisors, only about 58% of the CBRH agents were of the view that the supervision they received was adequate. Another study done in Kenya concludes that agents who are supervised more frequently tend to meet with more clients for service provision (22, 36).

Two hundred eighty four (93.7%) of the agents have got refresher training and out of these, 221 (72.9%) were satisfied with the training. This finding is also consistent with studies done in

Ethiopia and Kenya which had stated that refresher training plays a motivating role in the performance of CBRH agents (22, 35).

Concerning basic training of the agents on STIs including HIV/AIDS, almost all were trained (99%), and out of which, 238 (79.3%) respondents said the training was adequate. Majority of the cases were trained on HIV/AIDS, gonorhea, syphilis, chancroid and LGV but were not trained on chlamydial infections, candidiasis and trichomoniasis. These findings were also in line with a study done in Kenya which had shown that about 85% of the agents were trained on STIs including HIV/AIDS, and about 60% of them felt that it was adequate (35).

It is only about 40% of the agents who reported that they had got training on sexual and reproductive health aspects of young people, which supports the fact that the curriculum of community-based reproductive health agents does not address sexual and reproductive health of young people. Review of the existing curriculum shows that only family planning, sexually transmitted infections, HIV/AIDS, maternal and child health, and harmful traditional practices are dealt with in detail without addressing special emphasis to the young (18). This implies that further pre-service and in-service trainings of the agents need to incorporate courses on young people sexual and reproductive health issues.

VII. STRENGTHS AND LIMITATIONS OF THE STUDY

7.1. Strengths

- The study tried to assess attitudes and practices of CBRH agents towards SRH service provision to unmarried young people, which is very limited in our case.
- The response rate was 100%.

7.2. Limitations

- The study was not supported by qualitative type of study.
- A cross-sectional type of study was used, making difficulty of associating cause and effect relationships.
- There was inadequate literature to compare findings of this study.
- The view of unmarried young people on the SRH service provision by the CBRH agents was not evaluated.

VIII. CONCLUSION

Efforts to increase coverage and quality of CBRH programs are crucial to improve the lives of the majority of Ethiopians who reside in rural areas where access to basic health services is poor and where CBRH agents have been found to be the frontline or primary Reproductive Health Service providers. From the results and discussion of this study it can be concluded that:-

1. The proportions of CBRH agents who were providing sex education and family planning services to unmarried young people were very low as compared to those married people.
2. Sufficient knowledge of the agents was found to affect positively SRH service provision to unmarried young people.
3. Significant proportion of the CBRH agents preferred female clients to serve as compared to male clients.
4. Being female and/or married client was highly perceived by agents as preconditions of eligibility for family planning service utilization.

5. Agents' willingness to provide contraceptive services to unmarried young people was found to be affected positively by the agents' supervision of above four times per year, sufficient knowledge and basic training on SRH of the young, but negatively affected by above three years of service duration.
6. Significant proportion of the agents did not get basic training on SRH aspects of young people. Moreover, their existing curriculum does not address aspects of sexual and reproductive health of young people.

IX. RECOMMENDATION

From the result, discussion and conclusion parts of this study, the following points are recommended:-

1. Continuously maintain high level of knowledge among CBRH agents by enrolling them in regular refresher training courses especially in the areas of sexual and reproductive health of young people.
2. The basic training or curriculum of CBRH agents should incorporate SRH aspects of young people specifically so as to improve knowledge and attitudes of agents towards provision of these services to the young.
3. Improvement on the frequency of supervision provision to the agents should be encouraged.

4. Programmers should develop both monetary and non-monetary incentive mechanisms to ensure increased coverage with good quality services.
5. Further studies shall be undertaken to find further associations of attitudes and practices of CBRH agents towards SRH service provision to unmarried young people.
6. Study among the unmarried young people to explore their perception and demand towards the existing CBRH services shall be undertaken.

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XI. ANNEXES

Department of Community Health, Faculty of Medicine, Addis Ababa University

Survey questionnaire to assess attitudes and practices of CBRHAs towards provision of SRH services to unmarried young people in North Wollo Zone, Amhara Region.

Annex-I: ***Consent Form:-***

My name is ----------. I am working with Tuoumay Halefom doing a research as partial fulfillment for the requirement of Master in Public Health at Addis Ababa University, Department of Community Health. We are interviewing CBRHAs to assess attitudes & practices of CBRHAs towards provision of SRH services to unmarried young people. I am going to ask

you some questions that are very important for the programmers in CBRH services to plan improved intervention. Your name will not be written in this form and the information you give is kept confidential. If you do not want to answer all or some of the questions, you do have the right to do so. However, your willingness to answer all of the questions would be appreciated.

Would you participate in responding to the questions in this questionnaire?

_____Yes _____No (Thank him/her and pass to next interviewee)

Name and signature of the interviewer who sought the consent_____

Visiting table:-

	Visit 1	Visit 2	Visit 3
Date			
Result			

Result code: -
1. Complete
2. Incomplete
3. Respondent not available
4. Other, specify_____

Woreda_____ **Kebele**_____

Annex-II: Structured Questionnaire-English Version

Part-I: Socio-demographic characteristics of CBRH agents

SN	Questions	Possible answers	Code	Skip
101	Age	_____Years		
102	Sex	1. Male 2. Female		
103	What is your religion?	1. Orthodox 2. Protestant 3. Moslem 4. Catholic 5. Other (specify) _____		
104	What is your current marital status?	1. Married 2. Unmarried		

105	What is your level of education?	1. Illiterate 2. Reading and writing 3. Primary (1-6) 4. Junior & Secondary (7-12)		
106	What is your ethnicity?	1. Amhara 2. Tigre 3. Agew 4. Other (specify)_____		
107	What is your current work (job) other than CBRH services?	1. Farmer 2. Housewife 3. Student 4. Petty trader 5. Government employee 6. Other (specify)_____		
108	What is your place of residence?	1. Urban 2. Rural		

Part-II: Knowledge of CBRH agents on RH aspects

SN	Questions	Possible answers	Code	Skip
201	What changes do you know during pubertal period? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Physical changes 2. Psychological changes 3. Emotional changes		
202	What risk behaviors do you know to young people? ***More than one answer is Possible***	1. Substance abuse 2. Multiple sexual partner 3. Unsafe Sex 4. Other (specify) _____		

203	What sexually transmitted disease do you know? ***More than one answer is possible***	1. Syphilis 2. Gonerrhea 3. Chancroid 4. LGV 5. HIV/AIDS		
204	What FP methods do you know? ***More than one answer is possible***	1. Pills (Tablets) 2. Condoms 3. IUCDs 4. Injectables 5. Norplants 6. Natural methods 7. Voluntary surgical methods 8. Others (specify)_____		
205	What natural methods of contraception do know? ***More than one answer is possible***	1. Rhythm method 2. Withdrawal method 3. Breast feeding 4. Abstinence 5. Other (specify) _____		
206	What importance of condoms do you know? ***More than one answer is possible***	1. Prevent pregnancy 2. Prevent HIV/ AIDS 3. Prevent STIs 4. Other (specify) _____		
207	What emergency contraceptive methods do you know? ***More than one answer is possible***	1. Oral contraceptive pills 2. IUCDs or Loop		
208	What is the appropriate time of emergency contraceptive use?	1. Within three days 2. Above three days 3. I do not know		

Part-III: Practices of CBRH agents to sex education and FP services

SN	Questions	Possible answers	Code	Skip
301	For how long have you been serving as a CBRH agent?	_____Years		
302	What are your responsibilities? ***More than one answer is possible***	1. Social mobilization 2. Health education 3. Counseling on FP services		

		4. FP commodity distribution 5. Other (specify)_____		
303	Do you give sex education?	1. Yes 2. No		If No, skip to Q-307
304	If yes to Q-303, what topic is it about? ***More than one answer is possible***	1. Risk behaviors 2. STIs including HIV/AIDS 3. FP services 4. Pregnancies/Abortions 5. Other (specify)_____		
305	If yes to Q-303, to whom do you give the education? ***(Rea all possible answers)!*** **More than one answer is possible**	1. Adult married 2. Young married 3. Adult unmarried 4. Young unmarried		
306	If yes to Q-303, where do you give the education? ***More than one answer is possible***	1. At client's home 2. At school 3. At provider's home 4. At work place 5. At any assembly 6. Other (specify)_____		
307	Do you give FP service?	1. Yes 2. No		If No, skip to Q-401
308	If yes to Q-307, what is the FP service you provide? ***More than one answer is possible***	1. Pills distribution 2. Condoms distribution 3. Counseling on FP use 4. Other (specify)_____		
309	If yes to Q-307, who are the clients for your FP service? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Young married 2. Adult married 3. Young unmarried 4. Adult unmarried		
310	If yes to Q-307, where do you give the FP service? ***More than one answer is possible***	1. At provider's home 2. At client's home 3. At school 4. At work place 5. At any assembly 6. Other (specify)_____		

Part-IV: Attitudes of CBRH agents towards provision of SRH services

SN	Questions	Possible answers	Code	Skip
401	Were you voluntary to be trained or selected as CBRH agent?	1. Yes 2. No		
402	Whom do you prefer to serve? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Male clients 2. Female clients		
403	Who do you think is eligible for FP use? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Married women 2. Married men 3. Unmarried women 4. Unmarried men		
404	Do you think that sexual and reproductive health services should be given to unmarried young people?	1. Yes 2. No		
405	Do you think that young unmarried people are getting adequate information on issues related to sex, contraception and sexually transmitted infections?	1. Yes 2. No		
406	Are you willing to provide young unmarried people with information on issues related to sexual health?	1. Yes 2. No		
407	Which do you think is appropriate that sex education should contain when dealing with unmarried young people? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Sexual behaviors 2. STIs including HIV/AIDS 3. Contraceptive methods 4. Counseling on FP services 5. Other (specify) _____		
408	Which do you think is appropriate age for sex education? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Less than 18 years 2. 18 - 24 years 3. Above 24 years		
409	Are you willing to provide contraceptive methods to unmarried young people?	1. Yes 2. No		If No, skip to Q-41
410	If yes, to Q- 409, at what age are you willing to provide contraceptive	1. Less than 18 years 2. 18- 24 years		

	methods to unmarried young people? ***(Read all possible answers)!*** ***More than one answer is possible***	3. Above 24 years		
411	Where do you agree that contraceptive services should be provided for unmarried young people? ***(Read all possible answers)!*** ***More than one answer is possible***	1. At their work place 2. At government health institutions 3. At colleges or universities 4. At senior high schools 5. At elementary & junior schools 6. Other (specify)_____		

Part-V: Aspects of training, supervision and payment to CBRH agents

SN	Questions	Possible answers	Code	Skip
501	Is there any supervision to your activity?	1. Yes 2. No		If No, skip to Q-505
502	If yes, to Q-501, how many times of supervisions in one year?	1. No of supervisions_____ 2. I do not know		
503	Are you satisfied with the supervision?	1. Yes 2. No		
504	If yes, to Q-501, who supervises your activities?	1. Staff from health post 2. Staff from woreda health office 3. Staff from health center 4. Others (specify)_____		
505	Have you got any refresher raining while working as CBRH agent?	1. Yes 2. No		If No, skip to Q-508
506	If yes to Q-505, how many times of training did you get?	1. No of trainings_____ 2. I do not know		
507	If yes to Q-505, are you satisfied with the refresher training?	1. Yes 2. No		
508	Have you been trained formally on the following topics while you have been trained as CBRH agent? ***(Read all possible answers)!*** ***More than one answer is possible***	1. Family planning services 2. Health education 3. Counseling on FP services 4. STIs including HIV/AIDS 5. Harmful traditional practices 6. Others (specify)_____		
509	If yes to Q -508 part-4, was the training on STIs including HIV/AIDS adequate?	1. Yes 2. No		

510	If yes to Q-508 part-4, what did the basic training on STIs include? ***More than one answer is possible***	1. Syphilis 2. Gonorrhea 3. Chancroid 4. LGV 5. Other (specify) _____		
511	Have you been trained about sexual & reproductive health of young people, in particular, while you have been trained as CBRH agent?	1. Yes 2. No		
512	Are you paid for the services you provide?	1. Yes 2. No		If No, skip to Q-514
513	If Yes to Q-512, are you satisfied with the payment?	1. Yes 2. No		
514	Are you voluntary to continue and work as a CBRHA?	1. Yes 2. No		

Thank you very much for giving this valuable information & your precious time!

Name of Interviewer_____ Name of Supervisor_____

Date_____ Date_____

Signature_____ Signature_____

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4. K?L (ÃÑKî) ----------

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Annex-III: Structured Questionnaire-Amharic Version

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}.I	*ØÁo-‹*	*›T^ß SMf‹*	*¢É*	*ÃKñ*
101	°ÉT@- e"ƒ '¨<;	----------¯Sƒ (ÃS´Óu<ƒ)		
102	¾}ÖÁm¨< ï	1. ¨"É 2. c?ƒ		

103	¾U" HÃT•ƒ }Ÿ Ã '-ƒ;	1. *`„Ê¡e 2. ýa}e "ƒ 3. S<eK=U 4. Ÿ„K=¡ 5. K?L (ÃÑKî)----------		
104	¾p`w ¾Òw‰ G<'@ - U"É" '¨<;	1. ÁÑv 2. ÁLÑv		
105	¾ƒUI`ƒ Å[Í- U"É" '¨<;	1. ÁM}T[2. T"uw" Sçõ ¾T>‹M 3. ¾SËS]Á Å[Í (1-6) 4. ¾SKe}—" G<K}— Å[Í (7-12)		
106	¾U" wH@` ›vM '-ƒ;	1. ›T^ 2. ƒÓ_ 3. ›Ñ¨< 4. K?L (ÃÑKî)----------		
107	Ÿlw[}cw e'-}ªMÊ Ö?" ›ÑMÓKAƒ ¨<Ü up`u< ÁK-ƒ S}ÇÅ]Á U"É" '¨<;	1. Ñu_ 2. ¾u?ƒ Su?ƒ 3. }T] 4. 'ÒÈ 5. ¾S"Óeƒ c^}— 6. K?L (ÃÑKî)----------		
108	¾S•]Á- x ¾ƒ '¨<;	1. Ÿ}T 2. ÑÖ`		

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201	uÑ<`Ue" ¨pƒ eKT>Ÿc~ K¨<Ù‹ U" Á¨<nK<; *(›T^ß SMf‡" Á"u<u<L†¨<)* *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ¾›ŸL© K¨<Ø 2. ¾e'-Mx"© K¨<Ø 3. ¾eT@ © K¨<Ø		

202	K¨×ƒ c-‹ ›ÒLß ¾J'< vl`Áƒ U" Á¨<nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ›Å"¹» °î SökU 2. w²< ¾¨c=w Ñ<ªÅ— SÁ´ 3. Mp ¾Ów[-eÒ Ó"–<'ƒ SðìU 4. K?L (ÃÑKî)----------		
203	uÓw[-eÒ Ó"–<'ƒ ŸT>}LKñ ui -‹ ¾ƒ™‡" Á¨<nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. mØ˜ 2. ÚwØ 3. Ÿ`¡` 4. vUu<K? 5. ›?‹ ›Ã y= ›?Ée 6. K?L (ÃÑKî)----------		
204	U" ¾u?}cw U×'@ ²È Á¨<nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. u "¡wM ¾T>cØ 2. ¢"ÊU 3. uTlì" ¾T>ku` 4. uS`ô ¾T>cØ 5. u¡"É ¾T>ku` 6. ¾}ðØa ¾ `Ó´" SŸLŸÁ 7. ukÊ Q¡U" ²È 8. K?L (ÃÑKî)----------		
205	U" ¾}ðØa ¾ `Ó´" SŸLŸÁ ²È Á¨nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. uk" ›q×Ö` ²È 2. ¾¨"È¨< ² ðdi Ÿc?ƒ wMƒ ¨<ß uTõce 3. Ö<ƒ uTØvƒ 4. mhgnmmm¬qB 5. K?L (ÃÑKî)----------		
206	cK¢"ÊU ØpU U" Á¨<nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. `Ó´"" ÃŸLŸLM 2. ›?‹ ›Ã y= ›?Ée" ÃŸLŸLM 3. uÓw[-eÒ Ó"–<'ƒ ¾T>}LKñ ui -‹" ÃŸLŸLM 4. K?L (ÃÑKî)----------		
207	U" ›Ã'ƒ É"Ñ}—/›×Çò ¾ `Ó´" SŸLŸÁ ²È-‹" Á¨<nK<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. u "¡wM ¾T>cØ 2. uTlì" ¾T>ku`		
208	¾É"Ñ}—/›×Çò `Ó´" SŸLŸÁ ²È ›ÖnkU" u}SKŸ} ƒ¡¡K—¨< Ñ>²? U"É" ¨'< ;	1. uZeƒ k"ƒ ¨<eØ SÖkU 2. ŸZeƒ k"ƒ uLÃ SÖkU 3. ›L¨<pU		

¡õM Zeƒ: ulw[}cw e'-}ªMÊ Ö?" }Ö]-‹ ¾e'-ï ƒUl`ƒ" ¾u?}cw U×'@ ›ÑMÓKA„‹ SeÖƒ" u}SKŸ}

}.I	*ØÁo-‹*	*›T^ß SMf‹*	*¢É*	*ÃKñ*
301	"Å ¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< KU" ÁIM Ñ>²? ›ÑMÓKªM;	----------¯Sƒ (ÃS´Óuƒ)		

302	"Å ¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< c=c\ ¾e^ É`h- U"É" '¨<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. lw[}cu<" Te}vu` 2. ¾Ö?" ƒUl`ƒ SeÖƒ 3. ¾u?}ew U×'@ U¡` ›ÑMÓKAƒ SeÖƒ 4. ¾ `Ó´" SŸLŸÁ ²È Te^Úƒ 5. K?L (ÃÑKî)----------		
303	¾e'-ï ƒU`ƒ Ãc×K<;	1. ›- 2. ¾KU		¾KU ŸJ' ¨Å Ø-307
304	KØÁo-303 ›- ŸJ' `°c< U"" u}SKŸ} '¨<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ›ÒLß vl]Áƒ" 2. uÓw[-eÒ Ó"–<'ƒ ¾T>}LKñ ui -<" (›?‹ ›Ã y= ›?Ée ßU`) 3. ¾ `Ó´" SŸLŸÁ ›ÑMÓKAƒ" 4. `Ó´"/'¨<`Í" u}SKŸ} 5. K?L (ÃÑKî)----------		
305	KØÁo-303 ›- ŸJ' ƒUl`~ KT"" '¨ ¾T>cÖ<ƒ; *(›T^ß SMf‡" Á"u<u<L†¨<)* *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ÁÑu< ›ªm-‹ 2. ÁÑu< ¨x„‹ 3. ÁLÑu< ›ªm-‹ 4. ÁLÑu< ¨x„‹		
306	KØÁo-303 ›- ŸJ' ƒUl`~" ¾ƒ x '¨ ¾T>cÖ<ƒ; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ŸÅ"u—¨< u?ƒ 2. ŸƒUl`ƒ u?ƒ 3. Ÿu?} (Ÿ›ÑMÓKAƒ cÜ¨< u?ƒ) 4. Ÿe^ x 5. b¥NÂwM SBsÆ ï¬ 6. K?L (ÃÑKî)----------		
307	¾u?}ew U×'@ ›ÑMÓKAƒ Ãc×K<;	1. ›- 2. ¾KU		¾KU ŸJ' ¨Å Ø-401
308	KØÁo-307 ›- ŸJ' ¾T>cÖ<ƒ ¾u?}cw U×'@ ›ÑMÓKAƒ U"É" '¨<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ¾ "¡wM e`ßƒ 2. ¾¢"ÊU e`ßƒ 3. ¾u?}cw U×'@ U¡` 4. K?L (ÃÑKî)----------		
309	KØÁo-307 ›- ŸJ' Å"u™‡ ' T" —†¨<; *(›T^ß SMf‡" Á"u<u<L†¨<)* *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ÁÑu< ¨x„‹ 2. ÁÑu< ›ªm-‹ 3. ÁLÑu< ¨x„‹ 4. ÁLÑu< ›ªm-‹		
310	KØÁo-307 ›- ŸJ' ¾u?}cw U×'@ ›ÑMÓKAƒ ¾T>cÖ<ƒ ¾ƒ x '¨<;	1. Ÿu?t (Ÿ›ÑMÓKAƒ cÜ¨< u?ƒ) 2. Ÿ}ÖnT>¨< u?ƒ 3. ŸƒUl`ƒ u?ƒ 4. Ÿe^ x 5. b¥NÂwM SBsÆ ï¬ 6. K?L (ÃÑKî)----------		

¡õM ›^ƒ: ¾lw[}cw e'-}ªMÊ Ö?" }Ö]-‹ Ke'-}ªMÊ Ö?" ›ÑMÓKAƒ ›c×Ø eLL†¨< ´"vK?

}.I	*ØÁo-‹*	*›T^ß SMf‹*	*¢É*	*ÃKñ*

401	¾lw[}cw e'-}ªMÊ Ö?“ }Ö] KSJ” c=S[Ö< ¨ÃU c=cKØ'< ðnÅ— 'u\;	1. ›- 2. ¾KU		
402	¾e'-}ªMÊ Ö?“ ›ÑMÓKA*ƒ* KSeÖ*ƒ* T”” ÃS`×K<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. ¨”É }ÖnT>-‹ 2. c?*ƒ* }ÖnT>-‹		
403	¾u?}cw U×'@ ›ÑMÓKA*ƒ* uÃuMØ KT” ÃÑvªM wK¨< ÁevK<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. ÁÑu< c?„‹ 2. ÁÑu< ¨”Ê‹ 3. ÁLÑu< c?„‹ 4. ÁLÑu< ¨”Ê‹		
404	LLÑu< ¨×*ƒ* c-‹ ¾e'-ï “ e'-}ªMÊ Ö?“ ›ÑMÓKA*ƒ* ScÖ*ƒ* ›Ku*ƒ* wK¨< ÁevK<;	1. ›- 2. ¾KU		
405	¨×*ƒ* ÁLÑu< c-‹ eK e'-ï ' `Ó´“ SŸLŸÁ“ uÓw[-eÒ Ó”–<'*ƒ* eKT>}LKñ ui -‹ um S[Í ÁÑ—K< wK¨< ÁevK<;	1. ›- 2. ¾KU		
406	LLÑu< ¨×*ƒ* c-‹ ¾e'-ï © Ö?“” u}SKŸ} S[Í KSeÖ*ƒ* ðnÅ— '-*ƒ*;	1. ›- 2. ¾KU		
407	LLÑu< ¨×*ƒ* c-‹ ¾T>cÖ¨< ¾e'-ï *ƒ*UI`*ƒ* SŸ}*ƒ* ¾T>Ñv¨< ¾*ƒ*—¨< *ƒ*¡¡M '¨< wK¨< ÁevK<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. ¾e'-ï vI]Á*ƒ* 2. uÓu[-eÒ Ó”–<'*ƒ* ¾T>}LKñ ui -‹ (›?‹ ›Ã y= ›?Ée ßU`) 3. ¾ `Ó´“ SŸLŸÁ ²È-‹ 4. ¾u?}cw U×'@ U¡` ›ÑMÓKA*ƒ* 5. K?L (ÃÑKî)----------		
408	Ke'-ï *ƒ*UI`*ƒ* *ƒ*¡¡K—¨< ¾°ÉT@ ¡MM wK¨< ¾T>Áeu<*ƒ* ¾*ƒ*—¨< '¨<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. Ÿ18 ¯S*ƒ* u ‹ 2. Ÿ18-24 ¯S*ƒ* 3. Ÿ24 ¯S*ƒ* uLÃ		
409	LLÑu< ¨×*ƒ* c-‹ ¾ `Ó´“ SŸLŸÁ ›ÑMÓKA*ƒ* KSeÖ*ƒ* ðnÅ— '-*ƒ*;	1. ›- 2. ¾KU		¾KU ŸJ' ¨Å Ø-411
410	KØÁo-409 ›- ŸJ' LLÑu< ¨×*ƒ* c-‹ ¾ `Ó´“ SŸLŸÁ ›ÑMÓKA*ƒ* KSeÖ*ƒ* ðnÅ— ¾T>J'<*ƒ* u¾*ƒ*—¨< °ÉT@ ¡MM '¨<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. Ÿ18 ¯S*ƒ* u ‹ 2. Ÿ18-24 ¯S*ƒ* 3. Ÿ24 ¯S*ƒ* uLÃ		
411	LLÑu< ¨×*ƒ* c-‹ ¾ `Ó´“ SŸLŸÁ ›ÑMÓKA*ƒ* u¾*ƒ*—¨< x u=cØ ÃeTTK<; *(›T^ß SMf‡” Á”u<u<L†¨<)* *Ÿ›”É uLÃ SMe Ã‰LM!*	1. ue^ x †¨< 2. uS”Óe*ƒ* Ö?“ É`Ï*ƒ* 3. u¢K?Ð‹/¿'>y`c=+-‹ 4. uG<K}— Å[Í *ƒ*/u?*ƒ* 5. u›”Å—“ SeK}— Å[Í *ƒ*/u?*ƒ* 6. K?L (ÃÑKî)----------		

¡õM ›Ue*ƒ*: ¾lw`}cw e'-}ªMÊ Ö?“ }Ö]-‹” eMÖ“'lØØ`“ ¡õÁ u}SKŸ}

}.I	*ØÁo-‹*	*›T^ß SMf‹*	*¢É*	*ÃKñ*
501	KT>cÖ<*ƒ* Ö?“ ›ÑMÓKA*ƒ* ¾T>q×Ö`- ›K;	1. ›-		¾KU ŸJ' ¨Å Ø-505

		2. ¾KU		
502	KØÁo-501 ›- ŸJ' u›S*ƒ* ¨<eØ e"*ƒ* Ñ>²? lØØ` ÃÅ[ÓM- M;	1. lØØ\ ulØ`---------- 2. ›L¨<pU		
503	KØÁo-501 ›- ŸJ' uT>Å[ÓK- lØØ` [¡}ªM;	1. ›- 2. ¾KU		
504	KØÁo-501 ›- ŸJ' lØØ` ¾T>ÁÅ`ÓM-*ƒ* T" '¨<; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. ¾Ö?" Ÿ?L c^}— 2. ¾¨[Ç¨< Ö?" Øun c^}— 3. ¾Ö?" ×u=Á c^}— 4. K?L (ÃÑKî)----------		
505	¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< uT>c\u*ƒ* ¨p*ƒ* ¾TÖ"Ÿ]Á eMÖ" ›Ó˜}ªM";	1. ›- 2. ¾KU		¾KU ŸJ ¨Å Ø-508
506	KØÁo-505 ›- ŸJ' e"*ƒ* Ñ>²? cMØ'ªM;	1. eMÖ"¨< ulØ`---------- 2. ›L¨<pU		
507	KØÁo-505 ›- ŸJ' u}cÖ¨< eMÖ" [¡}ªM";	1. ›- 2. ¾KU		
508	¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< c=cKØ'< uT>Ÿ}K<*ƒ* `°f‹ LÃ cMØ'ªM"; *(›T^ß SMf‡" Á"u<u<L†¨<)* *Ÿ›"É uLÃ SMe Ã‰LM!*	1. eK u?}cw U×'@ 2. eK Ö?" *ƒ*Ul`*ƒ* 3. eKu?}cw U×'@ U¡` ›ÑMÓKA*ƒ* 4. uÓu[-eÒ Ó"–<'*ƒ* eKT>}LKñ ui -‹ (›?‹›Ã y= ›?Ée ßU`) 5. ¯J L¥ÄêE DRgT 6. K?L (ÃÑKî)----------		**lKFL·4 ylM khn** ¨Å Ø-511
509	KØÁo-508 ¡õM-4 ›- ŸJ' uÓu[-eÒ Ó"–<'*ƒ* ¾T>}LKñ ui -‹ (›?‹ ›Ã y= ›?Ée ßU`) ¾}cÖ¨< eMÖ" um 'u`;	1. ›- 2. ¾KU		
510	KØÁo-508 ¡õK-4 ›- ŸJ' uÓu[-eÒ Ó"–<'*ƒ* KT>}LKñ ui -‹ ¾}cÖ¨< eMÖ" ¾*ƒ*™‡" ÁŸ}} 'u`; *Ÿ›"É uLÃ SMe Ã‰LM!*	1. mØ˜ 2. ÚwØ 3. Ÿ`¡` 4. vUu<K? 5. K?L (ÃÑKî)----------		
511	"Å ¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< c=cKØ'< eK ¨×*ƒ* c-‹ ¾e'-ï " ¾e'-}ªMÊ Ö?" u}SKŸ} cMØ'ªM";	1. ›- 2. ¾KU		
512	"Å ¾lw[}cw e'-}ªMÊ Ö?" }Ö] J"¨< KT>cÖ<*ƒ* ›ÑMÓKA*ƒ* ÃŸðK- M;	1. ›- 2. ¾KU		¾KU ŸJ' ¨Å Ø-514
513	KØÁo-512 ›- ŸJ' u¡õÁ¨< Ã[ŸK<;	1. ›- 2. ¾KU		
514	K¨Åò~ "Å ¾lw[}cw e'-}ªMÊ Ö?" }Ö] J• KTÑMÑM ðnÅ— '-*ƒ*;	1. ›- 2. ¾KU		

Ãl"" S[Í" ¡u<` Ñ>²?-*ƒ*" eKcÖ<" u×U "ScÓ"K" !
¾ÖÁm¨< eU---------- ¾}q××]¨< eU----------
k"---------- k"----------
ò`T---------- ò`T----------

Annex-IV: Declaration

I the undersigned, declare that this is my original work, has never been presented in this or any other university and that all the source materials used for the thesis have been duly acknowledged.

Name: *Tuoumay Halefom (BSc)*

Signature _____

Place: *DCH, FOM, AAU*

Date of submission _____

This thesis has been submitted for examination with my approval as a university advisor.

Name: *Mesfin Addissie (MD, MPH)*

Signature _____

Date _____