

**SUSTAINABILITY AND FACTORS AFFECTING
THE SUCCESS OF COMMUNITY-BASED
REPRODUCTIVE HEALTH PROGRAMS
IN RURAL NORTH WEST ETHIOPIA**

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LIST OF ACRONYMS

AIDS.....	Acquired Immune Deficiency Syndrome
ANC.....	Antenatal care
CBD.....	Community Based Distribution
CBRH.....	Community Based Reproductive Health
CBRHA.....	Community Based Reproductive Health Agent
CBRHS.....	Community Based Reproductive Health Service
CP.....	Community Participation
CPR.....	Contraceptive Prevalence Rate
DHO.....	District Health Office
EPI.....	Expanded program on immunization
FFS.....	Fee-for-Service
FGD.....	Focus Group Discussion
FP.....	Family planning
GTZ.....	Gesellschaft für technische Zusammenarbeit
HIV.....	Human Immunodeficiency Syndrome
ICPD.....	International Conference on Population & Development
IE.....	Information & Education
IEC.....	Information, Education and Communication
MCM.....	Modern Contraceptive Methods
M & E.....	Monitoring & Evaluation
MOH.....	Ministry of Health
NGO.....	Non governmental Organization
RHB.....	Regional Health Bureau
RH.....	Reproductive Health
STD/I.....	Sexually Transmitted Disease/Infections
VHC.....	Village Health Committee
WHO.....	World Health Organization

ABSTRACT

A comparative cross sectional study was carried out in February 2002 among women of reproductive age group in rural South Gondar zone to assess the factors affecting the success and sustainability of a Community based reproductive health program. The study was conducted in eight peasant associations of the zone taking successful and weak/failed program areas for comparison of various characteristics. Both quantitative and qualitative methods were used for data collection. The qualitative method included key informants interview, and Focus Group Discussions with functional and non-functional (drop out) Community-based reproductive health agents (CBRHAs). A multistage sampling technique was employed to select 792 study subjects for the quantitative part.

The results indicated that about 92% of respondents know at least one Modern Contraceptive Methods (MCM) in successful as compared to 83% in weak program areas. The difference was statistically significant [OR(95% CI) = 2.35 (1.47, 3.8)]. The proportions of women who were using MCM (14.65% & 4.55%) & attended antenatal care service at least once (17.4% & 10.8%) were found to be significantly higher in Successful than weak program areas respectively [OR(95%CI) = 1.74(1.10,2.76) respectively]. Large proportions of the respondents (94%) are aware of HIV/AIDS but detail knowledge of transmission routes (mean score = 1.2/4) and prevention methods (1.9/4) were found to be low.

Awareness to the presence of the CBRHA in the locality (61.1% & 40.4%), Participation in selection of the agent (4.8% & 1.5%), Acceptance of the agent (90.4% & 59.4%), ever talk to CBRHA about Family Planning or reproductive health (29.8% & 7.8%), Knowledge of a functional village health committee (56.8% & 21.2%) in the locality were significantly higher in successful than in weak program areas respectively. [OR(95%CI) = 2.32(1.74,3.08), 3.28(1.22,9.27), 6.65(3.59,12.43), 5.05(3.22,7.96), and 5.66(3.97,8.09) respectively]

On multivariate analysis acceptance of the CBRHAs, level of willingness to work as CBRHA, and satisfaction by the CBRH service were significantly associated with CBRH service use [OR(95%CI) = 1.62 (1.75,3.48), 2.79(1.66,4.67), and 3.4(1.71,6.73) respectively]

In general, community involvement in selection of the volunteers, acceptance of the CBRHAs, interpersonal communication by the agents, satisfaction by the service and level of support to the agents are found to be the major factors affecting the CBRHP. Therefore, program managers and coordinators are advised to improve the level of community participation & the overall support provided to the program in order to enhance the success & sustained delivery of quality & integrated reproductive health services to the community.

INTRODUCTION

Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its function and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men & women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and child birth and provide couples with the best chance of having a healthy infant. This definition of reproductive health was adopted by the International conference on population and development in Cairo (1).

The dimension of reproductive ill-health encompasses problems such as female genital mutilation, malnutrition & anaemia, abortion, reproductive tract infections including sexually transmitted diseases and HIV/AIDS, Infertility, unregulated fertility, maternal morbidity & mortality, sexual & gender violence, and other related health problems (1, 2). Among women of reproductive age (15-49 years) in developing countries the burden of reproductive ill-health is far greater than the disease burden from tuberculosis, respiratory infections, motor vehicle injuries, homicide & violence or from war (1,2,3). The *World Development Report 1993* revealed that in women of reproductive age in developing countries reproductive ill-health accounts for 36% of the total disease burden compared with 12% for men. Three groups of conditions make up that 36%; pregnancy related deaths & disabilities, sexually transmitted diseases, and HIV/AIDS (4).

To a great extent the burden of reproductive ill-health is borne by women. This is partly due to women's position in the society. Women assume most of the responsibility of contraception; women face the risk of child bearing; Women are biologically & socially vulnerable to sexually transmitted diseases including HIV/AIDS(2,4). But men also have reproductive health needs particularly in relation to sexually transmitted diseases. Therefore, reproductive health is affected by the broader context of people lives, i.e., their economic status, education, family environment, social and gender relationships and the traditional & legal structures with in which they live.

Ethiopia is one of the world poorest country and as it is the case in many other developing countries, the health care in general and reproductive health in particular have suffered from inadequate staffing & allocation of resources(7). It is the third most populated country in Africa and has one of the highest population growth rate, 2.9%, and total fertility rate of 5.9 child per woman. Other health status indicators, such as Maternal Mortality ratio 871 deaths per 100,000 live births, Infant Mortality Rate 97 per 1000 live births, under-five child mortality rate 166.2 per 1000, Life expectancy at birth 50, Primary health service coverage 52%, and Family planning coverage only 8.1%, are the worst in the world (5, 6). The estimated prevalence of HIV infection among the sexually active population (15-49years) is 10.63 and for other STIs 4.6 for women & 8.8 for men(8).

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 among the social policies in regard to the emphasis they offer to reproductive health.(9,10,11)

Despite the explicit formulation of these and other development policies, both general health and reproductive health of the nation remained in a poor state. As the focus of the health policy and strategy is prevention of disease and promotion of health, the sector has undergone a remarkable reform both in its public health management structure and health care delivery

system. A vigorous effort has been exerted to increase service coverage by expansion & building of new health facilities, although, hitherto the primary health service coverage is by far less than 50% in most regions . This low health service coverage has affected effective implementation of, particularly, reproductive health programs including maternal & child health, family planning, HIV/AIDS, and other disease prevention & control programs. This can easily be seen from the low national coverage of these programs such as maternal & child health(MCH)- 25.5%, Institutional delivery service- 5%, Vaccination coverage- 60%, and Contraceptive Prevalence Rate(CPR)- 8.1%(5, 6,8).

The Amhara Regional State Health Bureau is the first public-sector to start implementation of a community-based reproductive health program in a relatively wider scale in collaboration with a German technical cooperation agency (GTZ). The program was commenced initially as a community-based distribution of family planning commodities in two adjacent Administrative Zones of the region namely, North and South Gondar Zones in 1995. The major aim of the project was to increase access to family planning services noting the fact that most health services in the region are beyond the reach of the vast rural people(19). Community-Based distribution of contraceptives have proved to be cost-effective and an alternative option to institution-based service delivery in many developing countries including some parts of Ethiopia (12,17,18,26). The program focused on distribution of family planning materials, mainly contraceptive pills, condoms, and related information through community volunteers so called community-based distribution agents (CBDs). The CBDs were selected from the community by the community using a preset criteria. They were trained for about ten days by the health workers working in the near by clinics who themselves have undergone a cascade of training by different level health offices. These community workers serve a certain catchment population without any regular pay(salary) except the service fee they retain from the sale of contraceptives. There was a significant boom in service utilization and as a result this increased the CPR manifolds in the project areas, especially in the early phases of

program implementation. This success story was not sustained in most districts in the subsequent years and also was not a uniform phenomenon in all the project areas. The program was a success in some places while a failure in others with high number of CBD dropouts and defaulting clients. In 1997 the project was reorganized & widened its scope to a community-based reproductive health program incorporating other reproductive health components and extending its area of intervention to two more zones. The same procedures were used to recruit, select, train and deploy the community-based reproductive health agents (CBRHAs). The CBRHAs get all the assistance needed & supportive supervision from health personnel in the nearby health facility. The Regional Health Bureau and its designated structures carry out basic & refreshment trainings, supplies, supervisions and overall management of the program in collaboration with the donor agency.

In general the regular reports of the Health Bureau and the project office depict a considerable improvement in CPR and reproductive health awareness level in the program implementing areas, however, other reproductive health components did not show any considerable change. The progress & achievements of the program targets have never been uniform or sustainable in the different parts of intervention areas. A considerable variation in the growth of CPR, functionality of the CBRHAs, integration of program components, and overall program viability, has been observed. The program faces a number of challenges such as high number of drop outs of CBRHAs, defaulting clients, inadequate & inconsistent supplies and lack of motivation or interest by health workers(17,20).

Therefore, there is a need to determine the factors affecting the success & sustainability of such a program in rural part of the region and come up with recommendations.

LITERATURE REVIEW

Community based Health Service: Issues of Community participation and Sustainability

Community based health services in Ethiopia currently have a political commitment and policy backing which are a starting and important points for the success of any Community based health care program. CBHC means when the community takes the responsibility to initiate & sustain service to respond to their health needs, using locally available resources in the community. This is achieved with full participation and involvement of the people in decision making on: planning, organizing, implementing, monitoring and evaluating these services. Literatures indicate that for any CBS program to be successful and sustainable, it must have the support of the community. As with other development efforts, the community must be involved in planning & administration of the program.(12,22,23,24)

Community Participation is important in many ways:

- Through Participation in the planning and implementation of its own health services, the community is empowered by the knowledge that it can improve living conditions through its actions, instead of waiting for services to be provided by external agencies.
- A community that is involved in a CBHC program is more likely to use and value its services, insist on high standards, ensure its continuance.
- A community that participates in the provision of its own health services will be more interested in preventive care, including RH/FP
- RH agents chosen with the community's help have the people's confidence and acquires community support. However, they must have a reliable source of supplies, as well as supervision and support. (22,23,24)

Oakley et al stressed that to promote community involvement it is essential to have an organization that provides ways and means of making participation possible. Accordingly such organization should be local, indigenous and based on existing community structures,

and be created if possible, as a result of local initiatives. This helps to ensure sustainability or long term continuity of the community service.(22,24)

Sustainability of a program could be defined as the capacity of the program to continue its activities over the long term despite changes in its environment.(25,37) Sustainability is affected by various factors such as(25,32,37);

- The degree of involvement of beneficiaries in initiating and executing(i.e., their identification with the ownership of program)
- The level of commitment of beneficiaries in terms of their own resources
- Community needs for the service or the program
- Support from others (sectors collaboration, households etc)
- The ability to adapt to changes in the socio economic and the political environment.

There are four levels of sustainability identified by different authors in the field, these are International, National, Organizational and Service/Community level. It is beyond the scope of this study to asses all levels. Therefore, this study tries to asses some important factors related to sustainability at Organizational and Service/Community level using a scoring method developed by East African Investment Securities for this purpose (25). (See annex -5) At organizational level, sustainability is concerned with the technical, managerial and financial capacity to provide RH/FP services. At service/Community level sustainability is concerned with the effectiveness of the delivery of individual services and their acceptance among the user community.(25,37)

CBRH Programs: Rationale and Evolution

It was after the Cairo's international conference on population & development that implementation of an integrated & comprehensive reproductive health services caught the attention of policy makers and program planners in Ethiopia & elsewhere. The integration of the 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 (12,34). 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 (12,13). This has necessitated prioritisation 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 & seriousness of the problem. Nevertheless, due to policy emphasis, the high level of population growth rate, poor maternal & 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 (7,13,14). This was the reason that the health & population policies emphasised on addressing unmet needs, expansion & diversification of services and enhanced program effectiveness (9,10). One of the service delivery strategies adopted by the Ministry 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-FP programs (12,16,18,26).

The rationale for CBRHP include the following: 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 & remote areas, high magnitude of RH problems that could be reduced by the use of low level health workers, cost-

effectiveness of CBHC programs, and presence of cultural traditional barriers that could be tackled using community health agent.(12,24)

In many countries CBRHP have evolved from CBD projects in the last few years after governments ratified the ICPD program of action which calls for a comprehensive, client-centred view of reproductive health for the promotion of reproductive health in addition to family planning (12,14,15,31). CBRHP make use of CBRH Agents to reach its objectives.

The main functions of the CBRHA are:

- A. Provide integrated community based reproductive health information, education(IE) and advocacy
- B. Provide integrated community based selected reproductive health services including basic counselling
- C. Manage integrated CBRH activities

The detailed tasks include IE, advocacy and service delivery, through home visits, group talks, and individual talks, of family planning, Reproductive tract infections, HIV/AIDS, maternal and child health and traditional reproductive health practices. The management function includes planning of activities, collecting supplies, recording & reporting and participating in monitoring & evaluation of project activities (12).

There are very few literatures which assesses 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 (12,16,31,38) .

In Zambia, for example, evaluation of a CBRHP that operated in one province with collaboration of government public sector (MoH) & NGO showed that CBRHAs worked with various peer groups (adolescents, mature women & men) of the community separately using a participatory approach were able to bring changes in gender relations & RH practices; there

were good child spacing & its associated benefits, fewer STDs and happier sexual relationships (16).

In Kenya the CBD program had proved successful, in some areas CPR has increased to 50%, but the transition to CBRH program is still staggering due to lack of clear guideline on the best way to utilize CBD agents in the broader RH context without overloading them (31). The Kenya CBD projects were largely run by NGOs and substantial donor funding, and most with monetary incentives (allowances) to CBD agents. In the 90s when reductions in donor funding ensue those projects which were paying allowances to the agents were affected severely due to High drop outs of the agents (31,41). In India, some NGOs implementing CBRHPs were able to withstand such problems by introducing revenue generation schemes such as charging fee for services, social marketing of products, diversifying funding sources, and fund raising at local & higher levels(37).

This clearly indicates that the issue of success and sustainability of a CBRH program is complex and the result of a play of several factors.

Rationale of the Study

There are very few studies concerning community based reproductive health programs in different parts Asia and Africa as most programs are still in transition from CBD programs. There is no study to my knowledge, particularly, concerning factors related to success and sustainability of implementing integrated reproductive health services at grass root level as the approach is relatively new.

Therefore, this study provides important information for future studies, program planners and policy makers.

Conceptual framework of the study

The following figure summarizes what has been discussed above on the issues of Success and Sustainability of CBRHP in the literature review and indicates the conceptual framework used in the study.

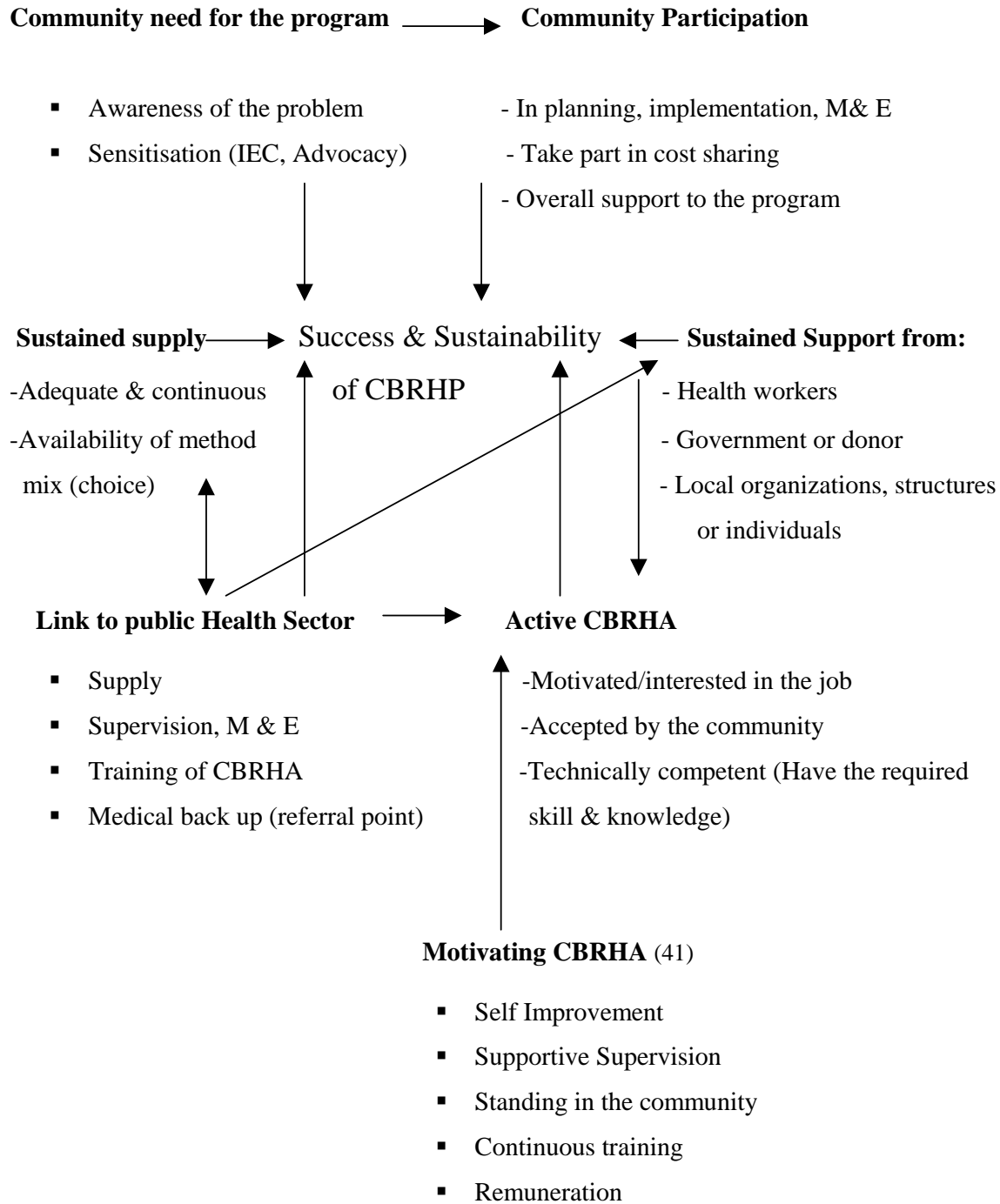


Fig. 1. Conceptual framework of the study

OBJECTIVES

GENERAL OBJECTIVE

To study factors affecting the success & sustainability of a community-based reproductive health program.

SPECIFIC OBJECTIVES

- To assess the delivery of integrated reproductive health services by the CBRHAs
- To assess the level of support provided by responsible health workers, working in government health facilities, in backing the program.
- To examine CBRHAs motivation/interest in carrying out program activities.
- To identify the factors positively contributing to or negatively affecting the success of CBRHP.
- To assess communities' attitude towards the program and extent of their participation in the program.

METHODS AND SUBJECTS

STUDY DESIGN

The design of the study was a comparative cross sectional study comparing weak/failed CBRHP areas versus successful CBRHP areas based on a preset criteria.

Quantitative Part

The study used both quantitative and qualitative methods. In the Quantitative study a structured questionnaire was employed to collect data from the community (Annex 1). The study areas (districts) were selected using information obtained from the RHB and GTZ project office based on preset criteria. The criteria used to identify the two areas were the contraceptive prevalence rate and the proportion of active CBRHAs.

Qualitative Part

The qualitative part employed “Key informants interview” of different program coordinators working at regional, zone, woreda(district), Project office and health facility level. Focus Group Discussions were conducted with currently active(functional) and non functional CBRHAs in both areas. Four FGDs were organized, two groups a functional (active) and non-functional CBRHAs in each woreda, and each group constituted 8-10 participants. The participants of the FGD were selected by the supervising health workers from different kebeles(peasant associations).

STUDY AREA

The study was conducted in South Gondar Administrative Zone of the Amhara National Regional state(ANRS)(Annex 7). South Gondar was selected among the Four CBRHP implementing zones due to availability of comparable areas which fulfil the selection criteria. Two districts, one from the successful implementing areas and the other from the weakly performing/failed areas, were selected based on the set criteria which is developed using the information obtained from the RHB and GTZ project office as mentioned earlier.

South Gondar Zone is one of the 11 zones in the region. The total population of the zone is estimated at 2 Million at the end of July 2001. The majority of the Zonal population, more than 90%, live in rural areas where there is minimal or no infrastructure, and service rendering institutions. The total surface area of the zone is 14,298.73 Sq.kms and it's divided administratively into 10 woredas(districts) which are further subdivided into 279 rural and 37 urban kebeles (smallest administrative units). Concerning Health infrastructures, there are 1 Hospital, 10 Health Centres, 60 Health Stations and 42 Health Posts and the health service coverage is 40.4% as measured by the lowest health units(Health stations and posts).

STUDY POPULATION

The study population are women in the reproductive age group (15-49 years) residing in the selected districts (woredas).

SAMPLING PROCEDURE

A multistage sampling technique was employed to select study subjects. Out of the 11 woredas in the zone five woredas have already started implementing CBRHP and the rest are in transition from CBD programs and hence they were left out from the selection process. Among the five woredas three were relatively successful and the most successful woreda was selected and one woreda was selected randomly from the two weakly performing woredas. In each woreda using the selection criteria 4 kebeles (peasant associations) were selected by simple random sampling method from 33 kebeles in successful & 25 kebeles in weak areas(See annex 6). The number of households to be included in the study in each kebele was determined using Proportional allocation method based on the population size of each kebele. In each kebele households were identified using the systematic sampling method. In each household, one woman in the reproductive age group was enrolled in the study & interviewed separately. If there is more than one eligible in the same household, one was selected by

lottery method. In case there is no eligible in the selected household the nearest/next household was taken for the study.

SAMPLE SIZE

The sample size is calculated based on the contraceptive prevalence rate of the successful and weakly performing areas obtained from previous project survey in the respective areas with 95% precision and 90% sample power using the following formula.

$$n_{(\text{each})} = \frac{[Z_{1-\alpha/2} \sqrt{(1+1/r)p(1-p)} + Z_{1-\beta} \sqrt{p_1(1-p_1) + p_2(1-p_2)}]^2}{(p_2 - p_1)^2}$$

Key: -

$$P \text{ (population proportion)} = \frac{p_1 + rp_2}{1+r}$$

Where as; n_1 = Study population of weak CBRHP areas

n_2 = Study population of Successful CBRHP areas, $r = n_2/n_1 = 1$

p_1 = The proportion of family planning users in weak CBRHP areas = 0.04

p_2 = The proportion of family planning method users in successful CBRHP areas = 0.15

$Z_{1-\alpha/2}$ = Value of the standard normal distribution corresponding to a significance level of alpha 0.05 which is 1.96

$Z_{1-\beta}$ = Value of the standard normal distribution corresponding to a power of 90% which is 1.282

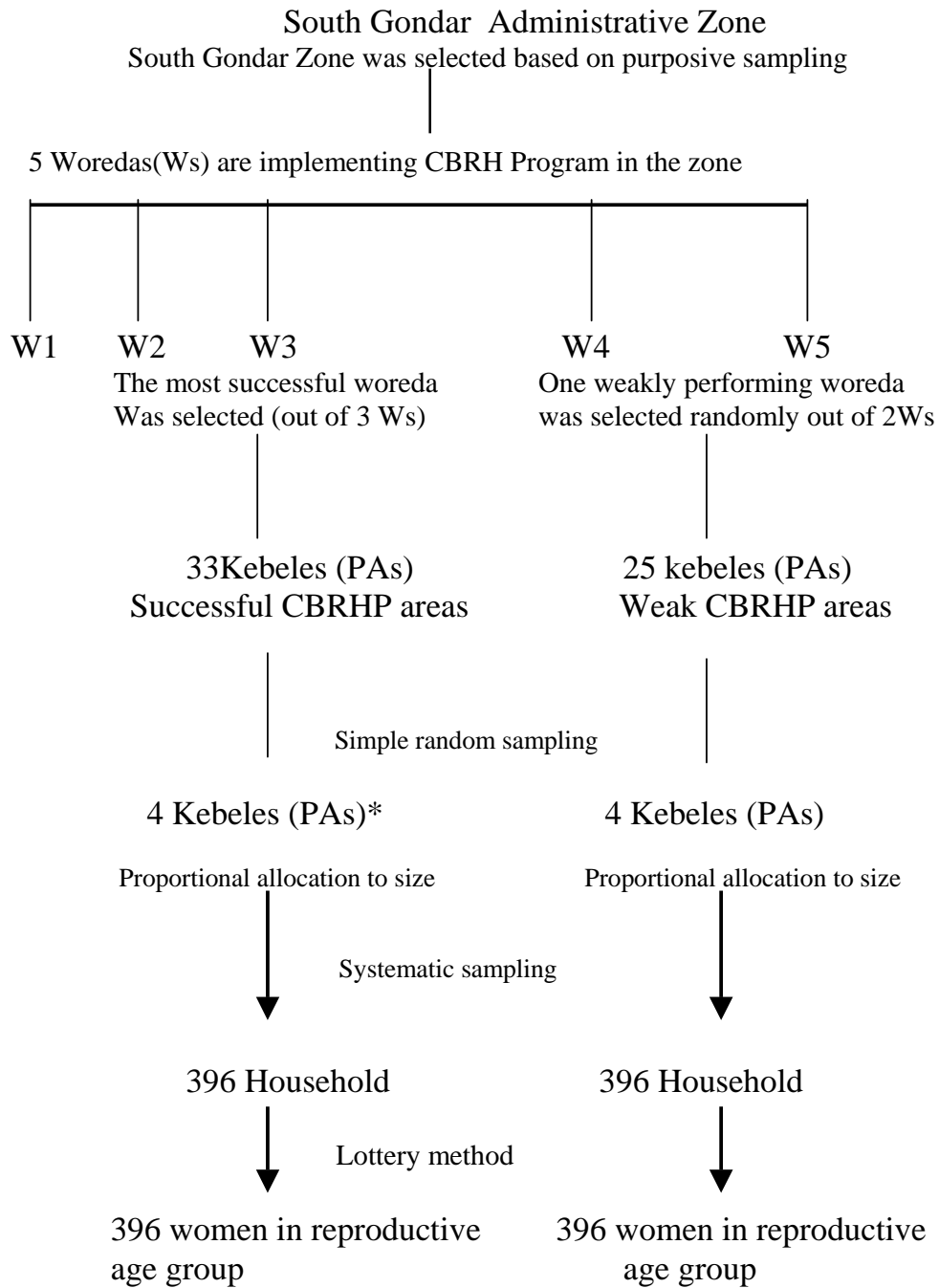
Taking design effect of two and adding 20% contingency, the total sample size was:

$$N = 330 \times 2 = 660 + 20\%(660) = 792 \text{ (} n_1=396, n_2=396 \text{)}$$

SELECTION CRITERIA

- Successful CBRHP areas- These are woredas or kebeles with a contraceptive prevalence rate of 15% or more and percent of active CBRHA \geq 60%.
- Weak CBRHP areas- These are woredas or kebeles with a contraceptive prevalence rate of less than 8% and percent of active(functional) CBRHA $<$ 30%.

The cut-off points for the criteria has taken into consideration the project office and the RHB definition of successful and weak implementation of the program activities in the project area.



Key:- *PAs- Peasant Associations
 W - Woredas (districts) of the study zone

Fig. 2. Study architecture

VARIABLES

The independent variables include socio-demographic characteristics of the study subjects such as sex, age, education, marital status, occupation, and reproductive characteristics such as number of pregnancies, number of children born alive, number of currently surviving children, history of unwanted pregnancies etc. The dependant variables are current use of modern contraceptive methods, and use of CBRHP services.

DATA COLLECTION

Quantitative Part

The quantitative data were collected by interviewing study subjects using a structured questionnaire (Annex-1). The questionnaire was first prepared in English and then translated to Amharic and back translated to English by different individuals to check consistency and conceptual equivalence. The Amharic version questionnaire was pretested before the actual data collection in an area not included in the study and the necessary corrections were made based on the result.

Ten data collectors, 7 women and 3 men, who were 12th grade complete with previous experience of data collection, were selected from the study area. They were trained for 4 days on data collection techniques and the questionnaire by the principal investigator. Two Nurses were employed as field supervisors and they also received the same training. The tasks of the supervisors included deploying, supervising & assisting data collectors by going to each PAs with them, introduce the purpose of the study for village chiefs and checking if data collectors are performing according to the given instruction. Additionally, they collect and check the filled questionnaires individually and together with the investigator for consistency, completeness and accuracy at the closing of each day.

Qualitative part

The qualitative study included a “Key informants interview” with the responsible program coordinators & health workers at regional, zonal, district health office, project office and health institution level, and a Focus Group Discussion with four groups of currently active and non functional CBRHA in both woredas. A semi-structured guide on different aspects of the program was employed for the in-depth interview(See annex-2).

Four FGD, two in each district, using semi-structured guide (Annex-3) were carried out with currently active (functional) and non-functional (dropout) CBRHAs by the investigator & an assistant. Each of the group consisted of 8-10 participants of same functional status. The participants of the FGD were selected from different peasant associations of the project area by their supervising health workers. The main investigator moderated the group discussion and the assistant moderator took detailed notes, tape recorded the discussion and handled any interruption to the focus group. The FGD in each group took about one and half to two hours. The discussion was conducted in an appropriate environment where participants were able to hear & see each other, and there is minimum distractions and interruptions.

DATA ENTRY AND ANALYSIS

Data were entered into a computer using SPSS, version 10 statistical program. The data was also converted to dBase IV and imported to EPI info as a REC file to analyse the data using both EPI info version 6 and SPSS version 10 statistical soft wares. After cleaning the data set frequency distribution was made for each variables. Descriptive analysis to detect associations using cross tabulations was performed. Odds ratio was used to assess the strength of association, where as chi square, 95% confidence interval and p-value for statistical significance. Scores were computed for knowledge variables. Logistic regression analysis was done to see the relative effects of selected independent variables on the dependant variables.

OPERATIONAL DEFINITIONS

Active (Functional) CBRHA – CBRH agents who are regularly (monthly) reporting to the catchment or supervising Health Institution on their activities.

Non-Functional (Drop out) CBRHA- CBRH agents who have stopped working or ceased reporting & collecting their supplies from their supervising Health Institution for three or more months.

Sustainability of a CBRHP- Continuity of the Services over the long term despite changes in the environment, e.g. cessation of external or donor funding/support.

Successful CBRHP- A program area which has achieved a CPR of 15% or more and has reasonable (low) attrition rate of CBRHAs, i.e., below 40%.

Weak CBRHP- A program area with CPR below 8% two to three years after the introduction of a CBRH Service in the area and have high attrition rate of the CBRHA, i.e., above 70%.

CBRH Service Use- Getting or receiving any one of the services from a CBRHA among the range of services to be provided by CBRHAs.

ETHICAL CONSIDERATION

Ethical clearance and approval was obtained from the Community Health Department and the Medical Faculty of Addis Ababa University. The necessary permission to undertake the study was also obtained from ANRS Health Bureau, S. Gondar Zone Health Department and local administration.

All participants were informed about the purpose of the study and the right to refuse, and assured confidentiality of the responses and informed consent was obtained prior to each interview.

RESULTS

Quantitative Study

A total of 792 study subjects were interviewed, 396 women in reproductive age group in each district, in both the successful and weakly performing areas.

The socio-demographic characteristic of the sample population is summarized in Table-1. The majority of the study subjects 166(42%) in successful area and 167(42.1) in the weak areas were between 20-29 years of age. The mean ages are 28.4(SD 8) and 27.1(SD7.7) in the successful and weak areas respectively. Majority of the study subjects 393 (99.2%) in the successful and 394(99.5) in the weak areas were Orthodox Christians.

The majority of the study women are currently married; of which 358(90.4%) were in the successful and 336(84.8%) in the weak areas. Regarding Occupational status, most of the study subjects are housewives 319(80.6%) in successful and 322(81.3%) in weak areas.

Among the Socio-demographic characteristics, only education was found to indicate statistically significant difference in its distribution between the two study areas ($\chi^2= 13.67$, $P= 0.01$). Nevertheless, majority of the respondents were illiterate in both areas; 308(77.8%) in the successful and 316(79.8%) in the weak program areas (Table 1).

Table-1. Socio-demographic characteristic of successful and weak/failed CBRHP areas, South Gondar, Ethiopia, February 2002.

Variable	Successful CBRHP Areas N(%)	Weak CBRHP Areas N(%)	χ^2	p-value
	N=396(100)	N=396(100)		
1. Age				
15-19 years	51(12.9)	76(19.2)	10.72	0.057
20-24 "	81(20.5)	73(18.4)		
25-29	85(21.5)	94(23.7)		
30-34	63(15.9)	66(16.7)		
35-39	61(15.4)	51(12.9)		
40+	55(13.9)	36(9.1)		
Mean \pm SD	28.43 \pm 8	27.13 \pm 7.73		
2. Marital Status				
Married	358(90.4)	336(84.8)	7.4	0.06
Divorced	20(5.1)	30(7.6)		
Widowed	6(1.5)	16(4)		
Single	12(3)	14(3.5)		
3. Religion				
Orthodox	393(99.2)	394(99.5)	0.2	0.65
Muslim	3(0.8)	2(0.5)		
4. Education				
Illiterate	308(77.8)	316(79.8)	13.67	0.01
Read & write	47(11.9)	64(16.2)		
Formal Education (Grade 2 – 8)	41(10.4)	16(4)		
5. Occupation				
Farmers	60(15.2)	49(12.4)	3.83	0.43
Housewives	319(80.6)	322(81.3)		
Local drink sellers	6(1.5)	11(2.8)		
Students	6(1.5)	5(1.3)		
Other	5(1.3)	9(2.3)		

Table-2 Reproductive characteristic of successful and weakly performing CBRHP areas, South Gondar Zone, February 2002

Variable	Successful CBRHP areas N(%)	Weak CBRHP areas N(%)	χ^2	P-value
Total No of pregnancies	N=396	N=396		
0	38(9.6)	54(13.6)	4.462	0.347
1-3	168(42.4)	174(43.9)		
4-6	126(31.8)	111(28)		
7-9	58(14.6)	53(13.4)		
10+	6(1.5)	4(1.0)		
Mean \pm SD	3.64 \pm 2.48	3.39 \pm 2.53		
Total No of currently surviving children	N= 356*	N=342*		
0	4(1.1)	5(1.5)	5.46	0.141
1-3	181(50.8)	202(59.1)		
4-6	143(40.2)	110(32.2)		
7-10	28(7.9)	25(7.3)		
Mean \pm SD	3.54 \pm 1.96	3.26 \pm 1.93		
History of unwanted pregnancy	N=356*	N=342*		
Yes	22(6.2)	19(5.6)	0.11	0.74
No	334(93.8)	323(94.4)		
History of Abortion	N=356*	N=342*		
Yes	56(15.7)	44(12.9)	1.17	0.28
No	300(84.3)	298(87.1)		
History of induced Abortion (at least one)	N= 56**	N= 44**		
Yes	2(3.5)	2(4.7)	0.06	0.805
No	54(96.5)	42(95.3)		

Note: * Those women who were pregnant

** Women who had history of abortion

The average number of pregnancies a woman had was found to be 3.64 (SD \pm 2.48), and 3.39(SD \pm 2.53) in Successful and weak program areas respectively. This difference was not statistically significant (Table 2). The average number of currently surviving children a woman has was found to be 3.54 \pm 1.96 in successful and 3.26 \pm 1.93 in weak program areas which was not statistically significant difference. Among those women who had history of pregnancy, 22(6.1%) in successful 19(5.6%) in weak areas had history of unwanted pregnancy. History of induced abortion among those women who had at least one abortion, was found to be 3.5% in successful and 4.7% in weak program areas which was also not statistically significant difference (Table 2).

Knowledge, attitude and practice of family planning service

Knowledge of MCM was 92.2% in successful and 83.3% in weak program areas which was statistically significant difference [OR(95% CI)=2.35(1.47,3.80)]. Concerning knowledge of specific MCM there was statistically significant difference between the two areas ($\chi^2 = 20.58$ P=0.000).(Table 3)

The difference in ever use of MCM, 25.1% of study subjects in the successful and 14.8% in the weak areas, was statistically significant [OR (95%CI)=2.14(1.44,3.19)]. The current use of MCM, 14.65% of the women in successful and 4.55% in weak program areas, was statistically significant difference [OR (95%CI)=3.60(2.02,6.48)]. The majority of women who are currently using MCM are taking pills 72.41% and 77.78, followed by injectable hormones, 27.59% and 22.22%, in successful and weak program areas respectively. The difference was not statistically significant. Among these current MCM users, 62.07% in successful and 50% in the weak program areas are not using their choice of contraceptives. The difference was not statistically significant. All of them responded that their choice of contraceptives is injectables. The major reason for not using one's choice of MCM was inability to get one's choice from CBRHAs, 68.2% and 55.6%, and from public health facilities, 31.8% and 33.3%, in successful and weak areas respectively which was a similar response (Table 3). The odds of encountering contraceptive supply problems among ever users of contraceptives, 28.26% in successful and 69.39% in weak program areas, is almost six times higher in the weak program area as compared to the successful program area(OR= 5.75 95%CI 2.53,13.25). The most commonly mentioned (92.3%) unavailable contraceptive(method was injectables in both areas.

Husband knowledge and approval of contraceptive use among current users of contraceptives, 89.7% in successful and 77.8% in weak program areas, was found to be high & have no significant difference ($\chi^2 = 1.70$ P= 0.193).

Table-3 Comparison of knowledge, attitude, and practice of family planning between successful and weak CBRHP areas, South Gondar, 2002.

Variable	Successful CBRHP area N(%)	Weak CBRHP area N(%)	OR (95% CI)	χ^2	P-value
Knowledge of MCM	N=396	N=396			
Yes	365(92.2)	330(83.3)	2.35 (1.47, 3.80)		
No	31(7.8)	66(16.7)	1*		
Knowledge of specific MCM	N=365 ¹	N=330 ¹			
Pills	359(98.1)	324(98.2)		20.58	0.000
Injectables	303(83)	262(79.4)			
IUCD	26(7.1)	5(1.5)			
Condoms	39(10.7)	18(5.5)			
Others (Norplant, Tubal ligation, Vasectomy)	23(6.3)	9(2.7)			
Future intention to use CBRHS	N=304 ²	N=347 ²			
Yes	168(55.4)	179(51.3)	1.16 (0.82,1.63)		
No	110(36.3)	136(39.3)	1*		
Do not know	26(8.3)	32(9.2)			
Ever use of MCM	N=396	N=396			
Ever used	92(23.23)	49(12.37)	2.14 (1.44, 3.19)		
Never used	304(76.77)	347(87.63)	1*		
Current use of MCM	N=396	N=396			
Users	58(14.65)	18(4.55)	3.60 (2.02, 6.48)		
Non users	338(85.35)	378(95.45)	1*		
Use of ones' choice of contraceptives	N=58 ³	N=18 ³			
Using Choice	36(62.07)	9(50)	1.64 (0.50,5.40)		
Not using choice	22(37.93)	9(50)	1*		
Reasons for not using ones' choice of contraceptives	N=22	N=9			
Couldn't get choice from CBRHA	13(59.1)	5(55.6)		2.61	0.272
Couldn't get choice from Health centre, station or Health post	7(31.8)	3(33.3)			
Other (private pharmacies or drug vendors)	2(9.1)	1(11.1)			
Contraceptive supply problems	N=92 ⁴	N=49 ⁴			
Ever encountered	26(28.26)	34(69.39)	5.75 (2.53, 13.25)		
Never encountered	66(71.74)	15(30.61)	1*		

Note: *referent values, ¹ Those who are aware of contraceptives, ² Never users of MCMs, ³ Current users of MCMs, ⁴ Ever Users of MCMs

Reason for use discontinuation and never use of contraceptives

The proportion of women who discontinue use of contraceptives is higher in Weak areas (63.26%) compared to the successful areas (36.9%) which was a significant difference [OR(95% CI)=2.94(1.35,6.44)].

The major reasons for discontinuing use of contraceptives for 3 consecutive months or more were, Wanted to be pregnant 47.1% in successful and 41.9% in weak, Fear of (due to) side effects of contraceptives 20.6% in successful and 35.5% in weak, rumour about contraceptives 20.6% in successful and 19.4% in weak program areas, were found to have no statistical significance difference ($\chi^2 = 6.15$ P = 0.407).

The main reasons for never use of contraceptives were need for more children, rumour about contraceptives, lack of information about contraceptives and no husband or sexual partner in both areas. Lack of information about contraceptives was the second most commonly mentioned reason in the weak program areas [OR (95%CI)=0.24(0.12,0.47)]. Need for more children 70.9% in successful and 68.2% in weak, rumour about contraceptives 10.5% in successful and 6% in weak, Lack of information about contraceptives 3.9% in successful and 15.7% in weak, and No husband or sexual partner, 6.5% in successful and 9.7% in weak program areas . The following charts compare the responses of respondents for discontinuation and never use of any modern contraceptive methods (Fig. 3).

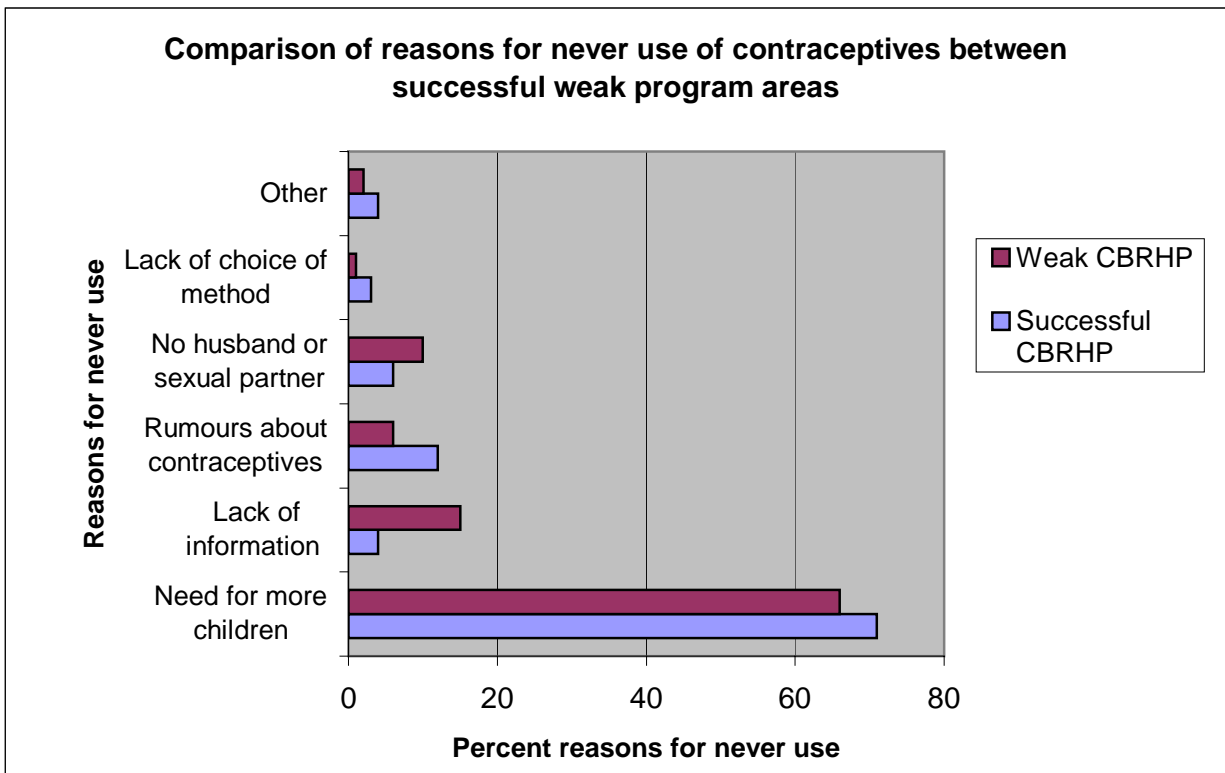
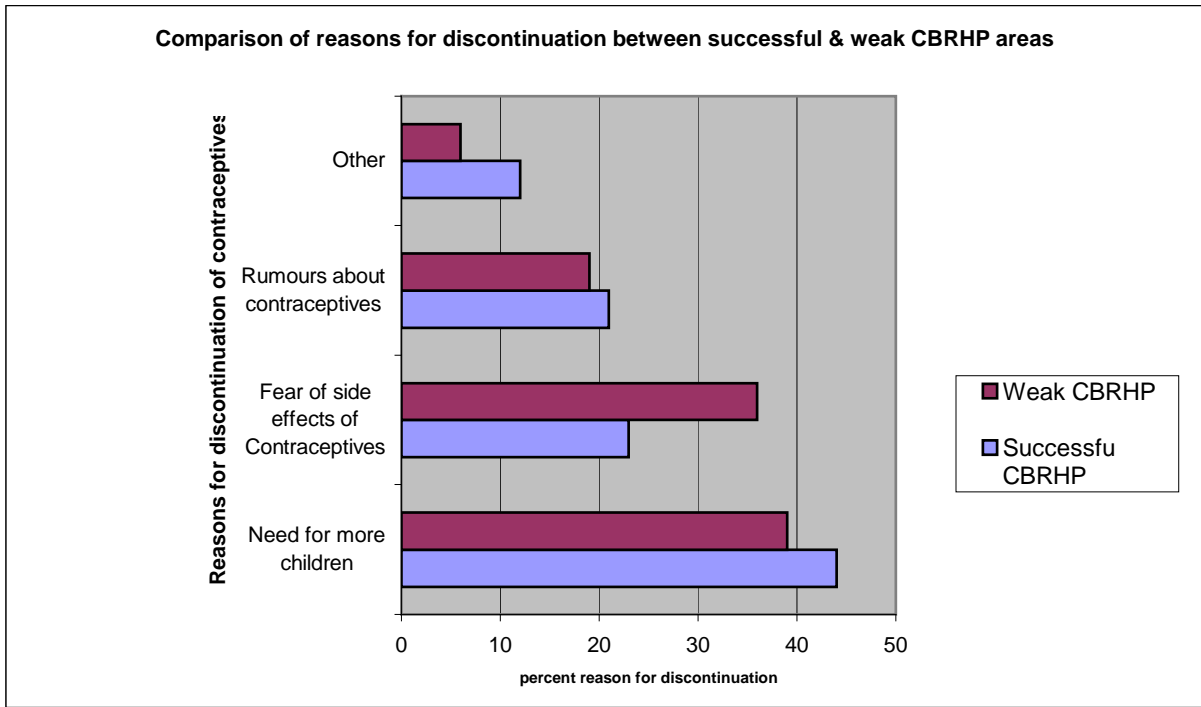


Fig. 3. Comparison of reasons for discontinuation and never use of contraceptives between successful and weak program areas, South Gondar, February 2002.

Maternal Health Care Service Utilization as Measured by ANC attendance

Sixty two (17.4%) of the study women in successful program areas have attended ANC during the last pregnancy at least once as compared to 10.8% in weak program areas which was a significant difference [OR(95% CI)=1.74(1.10, 2.76)](Table 4).

The main reasons for not attending ANC, lack of awareness of the benefit 45.8% in successful and 51.8% in weak, did not want the service 40.7% and 30.5, Being healthy 4.1% and 7.9%, unavailability of service or health facility in the near by 4.7% and 6.9%, not knowing that such service was given in vicinity 4.7% and 3%, in successful and weak program areas respectively. The difference was found to be statistically significant ($\chi^2 = 11.55$ P=0.021)

Table 4. Comparison of Maternal Health care service utilization & reasons for non-use between successful & weak CBRHP areas, South Gondar Zone, 2002.

Variable	Successful CBRHP areas N(%)	Weak CBRHP areas N(%)	OR	95% CI	χ^2	p-value
ANC attendance (At least once)	N=366 ¹	N=342 ¹				
Attended	62(17.4)	37(10.8)	1.74	(1.10, 2.76)		
Not Attended	294(82.6)	305(89.2)	1*			
Reason for not attending ANC	N=294 ²	N=305 ²				
Unaware of such service provision in vicinity	14(4.7)	9(3)			11.55	0.021
Unaware of the benefit	135(45.8)	158(51.8)				
Service or health facility not available nearby	14(4.7)	21(6.9)				
Did not want the service	120(40.7)	93(30.5)				
Being Healthy	12(4.1)	24(7.9)				

¹ Those who have history of pregnancy

² Those who have never attended ANC during their last pregnancy

Knowledge of HIV/AIDS and STI

The majority of the study women 94.9% in successful and 94.4 % in weak program areas have heard about HIV/AIDS. The major sources of information about HIV/AIDS are friends & neighbours, followed by health workers, public meeting places (church, burial, market), and mass media (radio & newspaper) in both places. There was no statistically significant difference between the distribution of sources of HIV/AIDS information.

The mean scores for HIV/AIDS knowledge of transmission routes out of 4 were 1.24 (SD 0.84) and 1.14 (SD 0.86), and for prevention methods 2.01(SD 1.03) and 1.90 (SD 1.12) for successful and weak program areas respectively were found to be not a statistically significant difference (t-test = 1.098 p= 0.273 and t-test = 1.330 p= 0.184 respectively).

Concerning STDs, 78.3% in successful and 61.6% in weak program areas knows at least one sexually transmitted disease other than HIV. The difference was statistically significant ($X^2 = 2.25$ P= 0.000) (Table 5).

The most commonly mentioned STDs were Syphilis, 68.18% and 56.06%, Gonorrhoea, 9.09% and 7.38%, and Lympho granuloma venerum (LGV) 2.53% and 3.5%, of respondents in successful and weak program areas respectively.

Concerning knowledge of prevention methods of STDs, most of the respondents, 42.68 % in successful area and 34.34% in weak program area, mentioned being faithful or limit to one partner primarily. The other preventive methods mentioned were abstinence by 14.65% respondents in successful and 7.07% of respondents in weak program areas. Only few study women, 4.3% in successful and 2.5% in weak program areas stated use of condom as a way of preventing the disease. There is a considerable level of misconception in both areas concerning the ways to prevent STDs such as avoid urinating facing new & full moon, avoid seating on hot rock etc. This was expressed by 6.57% of study women in successful and 4.04% of respondents in weak program areas.

Table 5. Comparison of knowledge of HIV/AIDS and STD by status of CBRHP areas, South Gondar Zone, February 2002.

Variable	Successful CBRHP area	Weak CBRHP area	χ^2	P
Awareness to HIV/AIDS				
Aware	376(94.9)	374(94.4)	0.10	0.751
Not aware	20(5.1)	22(5.6)		
HIV could be transmitted through:				
Sexual intercourse	329(87.5)	279(74.6)	23.01	0.000
Mother to child	19(5.1)	6(1.6)		
Blood, or blood products	25(6.6)	16(4.3)		
Unsterilized instruments and sharp objects	92(24.5)	136(36.4)		
Sharing Household utensils	20(5.3)	30(8)		
HIV/AIDS could be prevented by:				
Abstinence	312(83)	264(70.6)	27.09	0.000
Be faithful (limit) to one partner	327(87%)	308(82.4)		
Using condom	37(9.8)	13(3.5)		
Use sterile sharp instruments	79(21)	127(34)		
Avoid sharing of house hold utensils	14(3.70)	19(5.1)		
Knowledge of diseases transmitted sexually				
Knows(at least one)	310(78.3)	244(61.6)	26.17	0.000
Do not know	86(21.7)	152(38.4)		
Knowledge of specific STD				
Syphilis	270(68.18)	222(56.1)	5.10	0.165
Gonorrhoea	36(9.09)	18(7.38)		
LGV	10(2.53)	14(3.50)		
Others(chancroid..)	3(0.76)	4(1.01)		
Knowledge of prevention methods of STD				
Abstinence	58(14.65)	28(7.07)	5.90	0.207
Be faithful or limit to one partner	169(42.68)	136(34.34)		
Use condom	17(4.29)	10(2.50)		
Misconceptions (Avoid urinating in full moon, avoid seating on hot stone..)	26(6.57)	16(4.04)		
Other	3(0.76)	5(1.26)		

Note: *referent values

Knowledge, Attitude and practice of Community Based Reproductive Health Services

Most respondents, 61.1%, in the successful program area know the presence of a CBRHA in their village as compared to 40.4% in the weak program areas. This difference was statistically significant [OR = 2.32 95% CI (1.74, 3.08)] (Table 6).

The participation of the communities in the selection process of the CBRHA was found to be low in both areas, 4.8% and 1.52 % in successful and weak program areas respectively.

However, the difference was significant [OR(95% CI)=3.28(1.22,9.27)].

Acceptance of the CBRHA, 79.1% and 51.6%, and ever talk with the CBRHA about family planning or reproductive health, 48.9% and 18.9%, in successful and weak program areas respectively, were found to have statistically significant difference [OR = 6.65 95%CI (3.59,12.43), OR = 5.05 95%CI (3.22, 7.96) respectively].

It was also found out that significantly higher proportion of women have received at least one type of service from the CBRHA in the successful program area 31.57% as compared to 8.59% in the weak program area[OR(95% CI) = 4.91(3.20, 7.57)].

Information and Education about family planning was the dominant topic of education among the list of services to be provided by the CBRHA in both areas. Among respondents who received service from the CBRHA, 28.79% in successful & 8.59% of study subjects in weak program areas received IE about family planning which was not a significant difference.

Provision of contraceptive materials 15.91% and 5.05%, advice on what to do during pregnancy, 15.4% and 3.53%, Information ,Education or Counselling on STI, & HIV/AIDS, 10.35% and 2.02%, referral to a nearby health facility for RH problems or choice of contraceptives,9.6% and 3.03% of study women in successful and weak program areas respectively, did not show statistically significant difference between the two areas.

Concerning payment to the CBRHAs for the service they are providing , 36.6% of study subjects in successful and 28.5% in weak program areas agreed that the community should pay for the services offered by the agents[OR(95% CI)= 1.44(1.05, 1.96)].

A little more than half of study women in successful and 46% in weak areas said that the fee-for-service(0.75 cents per cycle of pill or 12 condoms price) is affordable and the difference was not significant.

The likely of being willing to work as a CBRHA if selected by the community is twice higher in successful area, 31.1%, compared to,19.7%, in weak program area [OR(95%CI)=1.82(1.29, 2.57)]. The knowledge of a CBRHA dropout by the respondents in their locality was lower in successful, 5.3%, than in the weak program areas,16.4% and this difference was significant [OR(95%CI)=0.29 (0.17,0.48)]. The major reasons for CBRHAs' dropping out from rendering the service as mentioned by the study women are private work load, lack of beneficiary of the service, and lack of payment or other benefit from the service/program.

Satisfaction of the study women by the CBRHS was much higher in successful 53.8% than in weak program areas19.2% which was a significant difference [OR(95%CI) = 6.98 (4.86,10.03)]. The major reasons mentioned for dissatisfaction are lack of choice of contraceptive methods, inadequate or total absence of information, education and counselling or other RH/FP services, and lack of confidence on the CBRHA.

Regarding knowledge of the existence of a village health committee that M&E CBRHA activities in their kebele(P.A), 56.8% of respondents know in successful area where as only 21.2% of respondents know in weak areas and this difference was statistically significant [OR (95% CI) = 5.66(3.97,8.09)].

Table 6. Comparison of knowledge, attitude and practice of Community based reproductive health services in successful and weak CBRHP areas, South Gondar, February 2002.

Variable	Successful CBRHP areas N(%) N=396	Weak CBRHP areas N(%) N=396	OR	(95% CI)
Awareness to the presence of CBRHA in the village				
Yes	242(61.1)	160(40.4)	2.32	(1.74,3.08)
No	154(38.9)	236(59.6)	1*	
Participation in selection of CBRHA				
Yes	19(4.80)	6(1.52)	3.28	(1.22,9.27)
No	377(95.20)	390(98.48)	1*	
Acceptance of the CBRHA				
Accepted	N=208 ¹ 188(90.38)	N=138 ¹ 82(59.42)	6.65	(3.59,12.43)
Not accepted	20(9.62)	56(40.58)	1*	
Ever talked with the CBRHA				
Yes	118(29.80)	31(7.83)	5.05	(3.22,7.96)
No	278(70.20)	365(92.17)	1*	
Ever received any service from the CBRHA				
Yes	125(31.57)	34(8.59)	4.91	(3.20,7.57)
No	271(68.43)	362(91.41)	1*	
Should the community Pay to CBRHA for the service they provide				
Yes	145(36.6)	113(28.5)	1.44	(1.05,1.96)
No	243(61.4)	272(68.7)	1*	
I don't know	8(2%)	11(2.8)	0.84	(0.30,2.29)
Willingness to work as CBRHA if selected by the Community				
Willing	123(31.1)	78(19.7)	1.82	(1.29,2.57)
Not willing	256(64.6)	296(74.7)	1*	
Uncertain	17(4.3)	22(5.6)	0.89	(0.44,1.80)
Knowledge of a dropout CBRHA				
Know	21(5.3)	65(16.4)	0.29	(0.17,0.48)
Do not know	375(94.7)	331(83.6)	1*	
Satisfaction with CBRHS				
Satisfied	213(53.8)	76(19.2)	6.98	(4.86,10.03)
Not satisfied	104(26.3)	259(65.4)	1*	
Can't comment	79(19.9)	61(15.4)	3.23	(2.11,4.93)
Affordability of service fee requested by CBRHA				
Affordable/fair	204(51.52)	184(46.47)	1.25	(0.93,1.67)
Not affordable/expensive	178(44.95)	200(50.50)	1*	
I don't know	14(3.53)	12(3.03)	1.31	(0.55,3.12)
Knowledge of a VHC that M&E CBRHA activities in the village				
Yes	225(56.8)	84(21.2)	5.66	(3.97,8.09)
No	105(26.5)	222(56.1)	1*	
I don't know	66(16.7)	90(22.7)	1.55	(1.03,2.34)

Note: *referent values ¹Excluding those who are not aware of CBRHAs' existence in their village and those who responded I do not know.

Socio-demographic & Other characteristics in relation to current use of MCM

Taking the median age as a cut of point for grouping the respondents into two age groups, i.e. under twenty seven (≤ 27) and above 27 years of age, the odds of currently using MCM was significantly higher among those above the age of 27 years [OR (95%CI)= 2.34(1.39,3.96)].

It was also found out that those women who are currently married and those who have more than 4 children are more likely to use MCM when compared to the single ones (never married, widowed and divorced) and those who have less than or equal to 4 children [OR(95%CI)=3.72(1.15,12.05), 2.39(1.43,4.00) respectively]. Having schooling (formal education) is significantly associated with current use of MCM compared to illiterates [OR(95%CI)=2.69(1.23,5.77)] (Table 7).

Awareness to the presence of the CBRHA in the locality (97.4%), ever talking to a CBRHA about FP/RH (89.2%), and Willingness to work as CBRHA if selected by the community (57.9%) are significantly associated with current use of MCM [OR(95%CI)= 43.77(10.66,179.66), 24.15(11.13, 52.42), and 4.55(2.72,7.64) respectively]. (Table 7)

Concerning belief in paying for the CBRHA for the service provided, significantly higher proportion of women (73.7%) who approved the presence of fee are currently using MCM. It was also found that those women who are satisfied by the CBRH services are more likely to practice MCM currently than those who are not satisfied by CBRH services [OR(95%CI)=11.41(5.37,25.08)].

Table 7. Socio-demographic & other characteristics of the study population in relation to current use of MCM, February 2002.

Variable	Current MCM use		OR (95% CI)
	Yes	No	
Age			
>27	50(65.8)	323(45.1)	2.34 (1.39,3.96)
≤27	26(34.2)	393(54.9)	1*
Marital Status			
Married	73(96.1)	621(86.7)	3.72 (1.15,12.05)
Others (single, widowed, separated)	3(3.9)	95(13.3)	1*
Occupation			
House wives	70(92.1)	571(79.7)	2.96 (1.26,6.96)
Others (farmers, local drink sellers, students, etc)	6(7.9)	145(20.3)	1*
Educational status			
Formal education (Gr.2-8)	11(14.5)	46(6.4)	2.69 (1.23,5.77)
Read & write	14(18.4)	97(13.5)	1.62 (0.82,3.16)
Illiterate	51(67.1)	573(80)	1*
Current No of children			
> 4	35(46.7)	167(26.8)	2.39 (1.43,4.00)
≤ 4	40(53.3)	456(73.2)	1*
Awareness to the presence of CBRHA in the village			
Aware	74(97.4)	328(45.8)	43.77 (10.66, 179.66)
Not aware	2(2.6)	388(54.2)	1*
Acceptance of the CBRHA			
Accepted	63(86.3)	207(76.1)	1.98 (0.96,4.08)
Not accepted	10(13.7)	65(23.9)	
Ever talk to CBRHA about FP/RH			
Ever talked	66(89.2)	83(25.5)	24.15 (11.13,52.42)
Never talked	8(10.8)	243(74.5)	1*
Willingness to work as CBRHA if selected by community			
Willing	44(57.9)	157(21.9)	4.55 (2.72,7.64)
Not willing	32(42.1)	520(72.6)	1*
Uncertain	0(0)	39(5.4)	-
Should payment be made to CBRHA by the community			
Yes	56(73.7)	202(28.2)	6.86 (3.90,12.16)
No	20(26.3)	495(69.1)	1*
I don't know	0(0)	19(2.4)	-
Satisfaction by the CBRHS			
Satisfied	65(85.5)	224(31.3)	11.41 (5.37,25.08)
Not satisfied	9(11.8)	354(49.4)	1*
I don't know	2(2.6)	138(19.3)	0.58 (0.13,2.63)

Note* referent values

Socio-demographic & Other characteristics in relation to CBRH Service Use

It was found out that those women who are married, & those above the age of 27 years are more likely to use CBRH Service [OR (95%CI)=1.93(1.03,3.62), and 2.31(1.59,3.36) respectively] (Table 8). Where as the type of occupation has no significant association with use of CBRH Service.

Those women who have schooling (formal education), and more than 4 children are more likely to use CBRH Service than the illiterate & those who have less children [OR(95%CI= 2.76(1.49,5.08), and 2.43(1.64,3.60) respectively].

Acceptance of the CBRH agent (89.9%), ever talk to the agent about FP/RH (93.7%) and willingness to work as CBRHA if selected by the community (56.6%) are found to be significantly associated with CBRH Service use [OR(95%CI=4.09(2.24,7.47), 25.1 (13.68,46.07), and 5.97(4.02,8.88) respectively] (Table 8).

In this study respondents' belief of the service charge is found to be significantly associated with use of the CBRH Service [OR (95%CI=7.07(4.73,10.58)].

As expected, CBRH Service use was strongly associated with satisfaction by the service [OR(95%CI=17.28(9.94,30.37)].(Table 8)

Table 8. Some Socio-demographic and other characteristics in relation to CBRH service use

Variable	CBRH Service use		OR	(95% CI)
	Yes	No		
Age				
>27	101(63.5)	272(43)	2.31	(1.59,3.36)
≤ 27	58(36.5)	361(57)	1*	
Marital Status				
Married	147(92.5)	547(86.4)	1.93	(1.03,3.62)
Others (single, widowed, separated)	12(7.5)	86(13.6)	1*	
Occupation				
House wives	131(82.4)	510(80.6)	1.13	(0.72,1.73)
Others (farmers, local drink sellers, students, etc)	28(17.6)	123(19.4)	1*	
Educational status				
Formal education (Gr.2-8)	21(13.2)	36(5.7)	2.76	(1.49,5.08)
Read & write	29(18.2)	82(13)	1.67	(1.01,2.74)
Illiterate	109(68.6)	515(81.4)	1*	
Current No of children				
> 4	67(44.4)	135(24.7)	2.43	(1.64,3.60)
≤ 4	84(55.6)	412(75.3)	1*	
Acceptance of the CBRHA				
Accept	142(89.9)	128(68.4)	4.09	(2.24,7.47)
Not accept	16(10.1)	59(31.6)	1*	
Ever talk to CBRHA about FP/RH				
Ever talked	149(93.7)	0(0)	--	--
Never talked	10(6.3)	241(100)		
Willingness to work as CBRHA if selected by community				
Willing	90(56.6)	111(17.5)	5.97	(4.02,8.88)
Not willing	66(41.5)	486(76.8)	1*	
Uncertain	3(1.9)	36(5.7)	0.64	(0.21,1.95)
Should payment be made to CBRHA by the community				
Yes	110(69.2)	148(23.4)	7.07	(4.73,10.58)
No	20(26.3)	466(73.6)	1*	
I don't know		19(3)	-	
Satisfaction by the CBRHS				
Satisfied	137(86.2)	152(24)	17.28	(9.94,30.37)
Not satisfied	18(11.3)	345(54.5)	1*	
I don't know	4(2.5)	136(21.5)	0.06	(0.02,0.16)

Note * *referent values*

Results of Logistic Regression Analysis

As indicated in Table 9, Logistic regression analysis was done for selected Socio-demographic, reproductive and CBRH service characteristics to control for possible confounders and detect the relative effects of the selected variables on the dependant variables. The result showed that there was no significant association between the various Socio-demographic characteristics such as Age, marital status, and Occupation and current use of MCM and CBRH Service use. Educational Status was found to have significant association with current use of MCM, those who are literate (read & write & have schooling) are more likely to be users of MCM [OR(95%CI)= 5.74 (1.29, 25.38)]. Nevertheless, Educational status was found to have no statistically significant association with CBRH service use in the regression analysis.

Currently surviving number of children was not found to have significant association with both current use of MCM and CBRH service use.

Ever talk to the CBRHA about FP or RH & Satisfaction by the CBRH service have significant association with current use of MCM [OR(95%CI)= 15.69(6.74,36.52), & 3.19(1.10,9.20) respectively].

Acceptance of the CBRHA, Satisfaction by the CBRH service, and willingness to work as a CBRHA were found to be associated with CBRH service use [OR(95%CI)= 1.62(1.75,3.48), 3.40(1.71,6.73), & 2.79(1.66,4.67) respectively].

Table 9. Logistic regression analysis result of possible explanatory variables for current Use of MCM and CBRH Service use, S.Gondar Zone, February 2002.

Variable	Current use of MCM		CBRH Service use	
	Adjusted OR	(95% CI)	Adjusted OR	(95% CI)
Age				
≤ 27	0.95	(0.41,2.19)	1.76	(0.94,3.28)
>27	1*	--	1*	--
Marital Status				
Married	0.19	(0.20,1.78)	0.35	(0.11,1.08)
Others (single, widowed, separated)	1*	--	1*	--
Occupation				
House wives	0.31	(0.11,1.86)	0.84	(0.41,1.69)
Others (farmers, local drink sellers, students, etc)	1*	--	1*	--
Educational status				
Literate	2.03	(1.08,3.83)	1.77	(0.96,3.24)
Illiterate	1*	--	1*	--
Current No of children				
≤ 4	1.60	(0.71,3.64)	1.81	(0.95,3.46)
>4	1*	--	1*	--
Acceptance of the CBRHA				
Accept	0.88	(0.34,2.29)	1.62	(1.75,3.48)
Not accept	1*	--	1*	--
Ever talk to CBRHA about FP/RH				
Ever talked	15.69	(6.74,36.52)	--	
Never talked	1*	--		
Willingness to work as CBRHA if selected by community				
Willing	0.86	(0.43,1.71)	2.79	(1.66,4.67)
Not willing	1*	--	1*	--
Satisfaction by the CBRHS				
Satisfied	3.19	(1.10,9.20)	3.40	(1.71,6.73)
Not satisfied	1*	--	1*	--

Note * referent values

Qualitative Part

Interview with program coordinators at regional, zone and woreda level

An in depth interview was held with concerned program coordinators at regional, zone and woreda level & GTZ project office before commencing the actual data collection using a semi-structured guide by the principal investigator. The purpose of which is to address issues that could be assessed by the qualitative method and also to supplement the finding of the quantitative study.

Contribution of the CBRHP in the region

Interviewees expressed unanimously that the CBRH Service has contributed significantly in the following areas;

- Increased access of basic RH services to the community
- Increased awareness of the community to RH concepts particularly family planning
- Has increased the CPR (family planning) coverage in the region
- Helped to establish a link between the conventional health care system and the community through the CBRHA & the referral system
- Enabled the sector to learn about the process of community participation. The lesson from this program could be transferred to other community preventive and promotive health programs in the sector.

Major problems/challenges concerning the program and the approach

CBRHP requires an intensive and close follow up as it employs less skilled community volunteers. In the face of limited health staff conducting supportive supervision, monitoring and Evaluation (M & E) activities proved to be a challenge.

In many CBRHP areas, local administrators do not stick to recruitment and selection criteria. This has resulted in instituting their relatives or other inefficient candidates who at the end turns out to be drop outs sooner than later as reiterated by most program coordinators.

The other problem is the presence of high level of attrition of CBRHAs for lack of incentives and motivating measures, the very threat for the life of the program. Remuneration is not existent at all. The Fee-for-Service system is not working as the majority of clients prefer to take contraceptives freely from clinics than to pay to the CBRHAs.

There is also supply related problems particularly shortage of injectable hormones (Depoprovera) and other drugs for RH problems in the health facilities.

The problem of shortage of health personnel was pointed out by all the program coordinators as a stumbling block for active supervision of the CBRHA in their area of work. Most of the health stations have one or two health assistants or junior nurses who are responsible for the whole range of health care delivery in their catchment.

View on sustainability of the program

In the opinion of the program coordinators, the sustainability of the program largely depends on the continuity of the government or donor support to the program., adequate supply of contraceptives and other materials, motivation or commitment of the health workers, strong community support and involvement, support of local leaders and commitment and active participation of the agents.

Particularly in weakly performing woreda, the higher attrition rate of the CBRHA has left a vacuum in the CBRH Service in their locality, which resulted in low CPR. Therefore, it was

agreed in both areas specifically to address the issue of CBRHA drop out as it turned out to be the major factor threatening the sustainability of the program.

The program coordinators in the government health offices and the GTZ PRHE office were asked to score separately the factors of sustainability after they were briefed on the scoring methods by the investigator. The average of the scores were taken to get the overall score on a 1 to 5 sliding scale (See annex-5 for details of scoring procedures). Discussions were also held on the relative weights to get common ideas and to make some adjustments on the initial weight according to the importance/relevance of the factors to this project. Accordingly, the result indicated that a low degree of sustainability is achieved which calls for urgent action (Table 10).

Table 10. Scoring for factors of sustainability by Program coordinators at regional, zonal, woreda, and GTZ PRHE office level.

Factors of Sustainability (1)	Ave. Score (1 to 5) (2)	Weight (3)	Total Score (4)=(2)*(3)
Organizational level		60	
➤ Relationship with government	4	12	48
➤ Organizational system	3	8	24
➤ Management systems & procedures	3	6	18
➤ Human resources	3	12	36
➤ Financial management	3	6	18
➤ Income sources	3	6	18
➤ Strategic planning	3	6	18
➤ Operations Research capability	3	4	12
Service/Community level		40	
➤ IEC: Demand generation & maintenance	2	5	10
➤ Community participation	3	5	15
➤ Contraceptive logistics	2	5	15
➤ Existing services-Quality	2	4	8
➤ Existing services-Accessibility	3	4	12
➤ Existing services-Acceptability	3	4	12
➤ Existing services-Range/mix	2	4	8
➤ Existing services-counselling	2	4	8
➤ Scope for Diversification	3	5	15
Total			295
<i>Divide by 100 to obtain score on a scale of 1 to 5</i>			2.95

Reasons for success of program in one area & failure in another

The major attributes for success were the presence of good support by health workers such as supportive supervision & close follow up, the presence of active and motivated agents, good community and community leaders sensitisation & active participation in the whole process of the program activities.

The following is a summary of the interview conducted with health workers in the study area responsible for supervising the agents and receiving clients referred from the CBRHAs.

Supervision and follow up of CBRHAs

In both areas supervision and follow up is made in two ways; by going to the CBRHA working site and by conducting monthly meeting at the health facility where the CBRHA come for reporting and collecting supplies. It was learnt from the interview that supervision of the agents at their working site is carried out rarely due to several factors but mainly due to the absence of budget for this activity, workload and the distance of the villages. Some health workers in the successful program areas said that they undertook this activity integrating with other health program activities such as immunization, when going to the out reaches in addition to the monthly meeting. Nevertheless, Supervision of the agents at their working site was confessed by the health workers in both areas as weak point in the process and the monthly meeting also was not exploited as a good opportunity for exchange of experiences among the CBRHAs and a forum for continuing education albeit there is a relative difference in the performance of this activity in the two study areas. Lack of budget for the purpose & shortage of health manpower which resulted in assuming too many tasks by the front line health workers, are the major reasons pointed out by all interviewed people for inadequate performance of this activity. There is a positive attitude by health workers to the program and they consider the CBRHA as partners who share their workload.

The major problems of the program mentioned by the health workers were similar to those expressed by the program coordinators although stress was made on the following points:

- Insufficient refresher training for both the health workers and CBRHA
- Lack of incentives for the CBRHAs, or rewards for better performing agents
- The provision of contraceptives free of charge at health institutions and the request of service fee for the community services (especially for the FP commodities) has caused a lot of misunderstandings between potential clients and the agents. This was seen as a major factor for the failure to institute or realize the Fee-for-Service system.
- The frequent lack/shortage of choice of method particularly Injectable hormone (Depo-Provera) and drugs for STI treatment is a hindrance in the referral link from agents. This often results in loss of confidence and interest on the CBRHA who referred the client and also on the CBRH service.

Focus Group Discussion with active CBRHAs

The FGD with active CBRHAs were conducted in both the successful and weakly performing woredas under the following themes:

The selection process and interest to work as a volunteer

Most of the FGD participants in both areas stated that they were willing to work as a CBRHA at the time of selection and remained so afterwards. It came out during the discussion that the interest in the job stemmed from attraction/desire to gain new knowledge and skills by training which was a rare opportunity in their remote villages. The recruitment of most of the agents in the successful areas was undertaken by the kebele development committee in collaboration with the health worker in the village where there is one. In their view some of the discussants believed that they were nominated because of their ability to read & write, and their participation in other development activities in their village.

In the weakly performing areas recruitment was mainly done by the kebele (peasant association) administrator and the reason for their selection, they believed, is primarily their participation in local development activities. Other community members' involvement was minimal or non-existent in this process.

The Training of the CBRHAs

The training of the agents in both areas was given by the health workers in the catchment health facilities for seven consecutive days. The topics covered included FP, maternal & child health, HIV/AIDS, STI and Harmful traditional practices. Most agreed that the training on the subjects other than FP was insufficient and need more to educate on those topics.

Lectures, role-plays and demonstrations were the methods used during the training. In both areas the discussion emphasised on the need for continuous trainings & refresher courses.

“How could one give health education to the community with a one time training the whole year”, said one elder CBRHA.

“Most women share to us a number of their RH problems but we could not give satisfactory answers to most of their concerns for we have deficient knowledge on most of them”

Services provided by the CBRHAs

The CBRHAs provide FP (mainly distribution of pills, condoms, & IEC materials), Education on HIV/STI, and other RH components, Advice/Counselling, and involved in social mobilization activities for immunization campaigns. Most participants agreed that there is emphasis on FP due to the fact that they have a relatively better knowledge on the subject compared to other RH components. It was learnt from the discussion that the health education on FP focuses on birth spacing, limiting the number of children and on available options of contraceptive methods such as pills, condoms and injectables. The other alternative options of

contraceptive methods were rarely mentioned in both areas. RH education on HIV/AIDS, STI, maternal and child health, and harmful traditional practices were low as confessed/reiterated by the agents due to inadequate knowledge & lack of confidence on the subject matter. Active CBRHA provide FP services in two ways; by going to houses of clients, or providing the service in their own house. In addition to these places churches, public gathering places and other individual contacts are used for education and communication purposes.

“I give health education to my friends when we go to fetch water “ says one young CBRHA

“I discuss about child spacing and limiting the number of children when we go to the market” said another CBRHA.

“I discuss with men about HIV/AIDS and to stop going to the women down town or use condoms otherwise.” Said one elderly CBRHA

Support from supervising health workers

In the successful program areas CBRHA come to the health institution every month to report, discuss problems and collect supplies. Most of the FGD participants agreed that they often discuss problems encountered & receive advices from the health workers. Whereas in the weak areas most stated that they rarely use this chance for discussion rather they handover the reports, collect supplies and leave even sometimes they send the reports by a third person. Nevertheless, it was agreed by the majority of the participants that in both places coordinating health workers were seen as supportive and encouraging.

“Unless we are not in a hurry and could wait until the health worker completes his/her work, they are more than willing to discuss with us.” A priest CBRHA.

Fee-for-Service

Most of the discussants in both groups unanimously agreed that the fee-for-service (FFS) is not working as stipulated in the beginning. They said most clients or service users are not willing to pay for the services they are providing. The main reason, in their opinion, is the availability of contraceptive methods free of charge in the health institutions. Clients prefer to go to the health institutions than to pay. They said that initially there were few clients who started to pay but they were not willing to pay the second time or afterwards.

Clients would say; “ Why should I pay you when I could get the service for free from the clinic” A woman CBRHA in the successful worda

“Why do you ask us to pay? You brought it freely from government health facilities” Some would say, a male CBRHA from the weak program area.

“The community (service users) won’t be willing to pay as long as contraceptives are offered freely in public health institutions.” A woman CBRHA from weak program area

“Now we have stopped asking payment from users for fear of losing our clients” another CBRHA from the successful program area

Main Problems/challenges encountered by the active CBRHA

Hereunder are the summarized problems mentioned repeatedly and discussed in detail:

- Clients’ complaints on side effects of some contraceptives especially pills (burning sensation in the stomach, disturbance of menstrual flow and facial darkening)
- Preference and quest for injectables, which is often not available in the clinics, so referred clients return in disappointment without getting their choice.
- Some men’s mocking attitude especially towards condom and their reproaching approach as if we are dishing out condoms and spread promiscuity in the village. Almost all agreed that no one in their village is taking condoms for FP purpose. Despite these most of them

agreed that communication with opposite sex is not as such a big problem. Such type of problems was not experienced by the men CBRHAs.

- The absence of incentives even rewards or recognitions for those who are performing best and lack of refresher trainings and continuing education.

Some men would say laughing, “Please show us how to use the plastic (condom)” said one woman from weak woreda

Some men who are suspicious of their wives using the service in secret would say to us “I know that if I see your registration book (the diary), I will find my wife’s name there.”

Interest to Continue as a Volunteer

In both areas the currently functional CBRHAs expressed their keen interest to continue working as CBRHA as long as possible. The motivating factor was the desire to get more knowledge and skill through training. They agreed that if they are given proper or continuous training they are willing to serve the community as long as they are needed for the job.

“I want to work as a CBRHA as long as my age allows if I am provided with training” one young CBRHA from the successful program area

“I want to know more about RH and upgrade my skill through training so that I could impart what I know to my folks”

Support from other organizations (Sectors, Kebele administration etc.)

Most of them stated that they get good support & encouragement from the kebele administration, extension workers of agriculture, and teachers. The Kebele (peasant) administration usually introduces them to the community and request the community to cooperate in most places. Extension workers and teachers also provide education to the community and sends interested individuals to the CBRHAs.

FGD with Non-functional CBRHAs

Selection and Voluntarism

In both areas selection was made exclusively by the Kebele administrators and the discussants said that they accepted the decision without asking or considering how much the new work would require with respect to their time and dedication. Concerning the reason for selection they assumed they were selected because of their involvement in local development activities.

Major problems faced when working as CBRHA

The problems which were discussed here were also similar to those mentioned by the FGD of active CBRHA with emphasis on the following points;

- Complaints on side effects of pills, strong rumours on pills such as it causes infertility, it should not be taken by poor women who works a lot and have little to eat etc. Such rumours have declined through time when satisfied users were witnessing the benefits.
- Encountering some opposition by men, and unwillingness by most clients to pay the FFS
- Additional workload, the task is too demanding & requires much of their time

Reasons for dropping out by CBRHAs

A number of personal (private) reasons were mentioned such as getting sick, loss of a relative, husband refusal, husband travelled away, lack of community support, etc.

The major reasons when summarized in both areas were private workload, lost interest in the work, lack of retraining and any gain, benefit or incentives. Additionally wrong expectation from the program such as getting employment opportunities or salaries in the future were mentioned by some dropouts. Regarding interest to work as CBRHA if recruited again, most showed interest to restart working but some declined on the bases of private workload and household responsibility.

DISCUSSION

This study provided important information regarding Community based reproductive health services, family planning knowledge, attitude and practice, HIV/AIDS & STI knowledge in women of reproductive age group residing in remote rural areas.

The study mainly assessed factors related to CBRHS utilization such as quality of services, community participation, level of service use & satisfaction, and support from health workers, other structures and bodies.

The study showed that there was a significant difference between the successful and weak program areas in the current use of MCM, maternal health care service and CBRH service.

The distribution of socio-demographic characteristics of the two study areas did not show significant difference except on educational status. Nevertheless, the majority of the study population are illiterate, 77.8% in successful and 79.8% in weak program areas. The proportion of women who had formal education was significantly higher in successful areas which has contributed to better use of service [OR(95%CI)=2.63(1.40, 5.00)]

The reproductive characteristics of the study women did not show significant difference. In this study history of unwanted pregnancy was 6.1% in successful and 5.6% in weak program areas which was not a significant difference. This finding was lower when compared to other similar studies, e.g., in rural CBD of East Shewa areas it was 15.1%(21)

The history of at least one induced abortion, 3.5% in successful & 4.7% in weak areas, is also found to be lower than other similar studies in other parts of the country, 9.3% in CBD areas of East Shewa. It is still much lower when compared to findings of similar studies in other parts of Africa; 29% in a study done in Mali (21,39). This may be due to the religious background as the majority (99.5%) of the study population are Orthodox Christians, which

condemns induced abortion as a serious trespassing of God's commands & as such a sinful act. This could result either in less practicing of the act or low reporting of the act for fear of stigmatisation.

The knowledge of at least one MCM was 92.2% & 83.3% in successful and weak program areas respectively. The difference in the two study areas was significant and comparable to the findings of studies in east shewa (89.1%) and Tigray(89%) CBD areas and higher than that of Jimma(63.3%) CBD areas.(21,27,30)It is an established fact that awareness to MCM is an important factor that affects use of MCM or FP services.(26,32)

Like most of the study results in Ethiopia, the pill was the most widely known MCM followed by Injectables in both study areas (18,21,27,30). Surprisingly, very few women (4.5%) mentioned other options of MCM such as norplant, tubal ligation, vasectomy, foam tabs or jelly, etc. The median knowledge score for specific MCM was 2.0 in both places which is lower when compared to other CBD project area study results (21,27). This, for obvious reasons, limits one's choice of methods thereby affecting negatively service utilization.(17,36)

More than half of the non-users of CBRHS have the intention to use the service in the future. The intention of using the service has no significant difference between the two areas. This shows that the CBRHS is needed by the community which is a potentially good sign both for the success and sustainability of such a community based program.(22, 24,26)

The likely of ever use of MCM was twice higher in successful area when compared to the weak areas. The discontinuation rate is higher in weak areas which could be one reason for the low achievement of the program in these areas. High defaulter rate affects success of a program and is a threat for the sustainability of the program (17, 40). The main reasons for

discontinuation of contraceptive use are need for more children, fear of actual or perceived side effects of contraceptives, rumours about contraceptives & lack of services in the locality. This finding is similar to various studies done in the country and else where in other developing countries (21,,27,40)

Current use of MCM, 14.65% and 4.5%, in successful and weak program areas is a significant difference. The CPR of the successful area is higher when compared to the national figure of 8% according to the 2000 DHS and similar to the Jimma and Tigray but lower when compared with CPR of East Shewa CBD areas (6,21,28,30). Similar to various studies of FP, current use of MCM was significantly associated with educational status of the study women.

The majority of study women who are currently accepting contraceptives are using pills followed by injectables. This could be explained by the fact that pills are relatively readily available and accessible from the community agents and health facilities. This pattern was similar to other CBD project areas (18,21,27,28,30).

It was observed both from the community survey and the qualitative study that there exists high demand for injectables. All of the study women who claimed not using their choice of contraceptives at present affirmed that their choice is injectable hormone. This may be explained by the relative advantages of the injectables over the pills such as, doesn't require daily intake & remembering, can be taken secretly and offers three months contraception and no gastrointestinal upset (side effects) which are appreciated much by the community. Despite such a high demand for injectables, there is a serious shortage in the public health facilities in the study areas as confirmed both in the qualitative study and the survey. This limited supply of range & method mix of contraceptives has a negative effect on the perceived quality and success of a CBS (24,32,36).

Similar to other studies, the major reason for never use of contraceptives is the need for more children and this was followed by lack of information about contraceptives in the weakly performing areas (21,28). This may be attributed to the high attrition of CBRHA in the weak areas which leaves a vacuum in the service delivery (information dissemination) in these areas. Negative rumours about contraceptives are also another important reasons for never use of contraceptives in both places. This calls for active community sensitisation and dissemination of counteracting information.

There was a significant difference in maternal health care service utilization, i.e., ANC attendance, between the successful 17%, and weak areas 10.8%. This finding is comparable to the 2000 DHS for Amhara region. Referring women in need of MCH services to the appropriate service delivery point is one important function of the CBRHA (6,12).

The awareness level of the respondents on HIV/AIDS is high and similar in both areas, 94.9% & 94.4% in successful and weak areas respectively, but the detailed knowledge about transmission is low. The mean score of knowledge of the transmission routes is 1.2/4 & prevention methods is 1.9/4, which is low. This finding was consistent with the result of the FGD with active CBRHA who agreed that they give more focus on FP in their service due to their poor knowledge level on the other RH components. This was also confirmed from the survey which indicated that the CBRHA were not mentioned among the main sources of information for HIV/AIDS. Among CBRH service users significantly higher women received (more than 90%) IE on FP compared to those 30% who received IE & counselling on HIV/AIDS & STI.

The study showed that the majority of the study women in the successful program area 61.1% were aware of the presence of the presence of the CBRHA when compared to the weak areas(40.4%). This significant difference may be attributed to the sensitisation of the

communities during the recruitment process of the agents which enabled them to be aware of their existent. This was evident by the fact that significantly higher proportion of respondents in successful area have participated in the selection process. The results of the FGD with active CBRHAs on their selection process also ascertains this finding in the successful areas. The selection of most of the CBRHAs in the weakly performing areas was undertaken by the kebele administrator. This undoubtedly confines the spread of the information in the community.

Awareness to the presence of a CBRHA was found to be associated with both current use of MCM and CBRH service use. Therefore, this indicates that community involvement is vital for the success of a community-based program from the inception of the project/program (22,23,24).

One of the criteria for the recruitment of a CBRHA is the agent should be accepted and respected member of the community. The study showed that there was a significant difference in the acceptance of the community agent between the two areas; Higher proportion of study subjects (79.1%) have accepted the agents in successful areas when compared to 51.6% in weak program areas. Acceptance of the CBRHA is associated with CBRH service use & similar findings were reported by Seid on Community health service utilization (43). The low acceptance of the CBRHA in the weak program areas may be due to failure of the community leaders to involve the communities adequately in the selection process or in general, declining from sticking to the selection criteria and procedure. This was also ascertained in the interview with program coordinators and health workers of both areas. Various studies indicate that acceptance of the community health worker is of paramount importance for the success of a community based health service (22,23,24).

The study also revealed that ever talk to the CBRHA about FP/RH has a significant association with current use of MCM. There were significantly higher proportion of respondents in successful area who have ever talked to the CBRHA about FP/RH. This may show that the agents in the successful area may have relatively better interpersonal relations which contributed to better use of the service. Bruce has identified interpersonal relations as one important quality indicator for FP programs and this is applied also as quality indicator for community based programs by different studies.(23,29,33,)

Satisfaction by CBRH Service in their village was significantly higher in successful areas and was also associated with current use of MCM & CBRH Service use. Client satisfaction by the service is a quality indicator of the service and is important determinant for success & sustainability (21,25,29,33).

The communities are the sources of the volunteers and this is a direct indicator of community involvement in the implementation process of a community based program. In this study it was found that willingness to work as a CBRHA if selected by the community is significantly higher in successful program areas. Willingness was associated with use of CBRH service. Therefore, it is possible to say a better program has a positive influence on willingness of a community to take part in local development activities. Several studies also indicate that community involvement in planning, implementation, monitoring & evaluation of a community-based program is a key element for functionality of community agents, success and sustainability of a community-based service (22,23,24,33). It was observed in this study also that more people were aware of the existence of a village health committee(VHC) that monitors and evaluates the work of the community agents. This was ascertained also in the qualitative study where interviewed coordinators stated that the functionality of VHC was relatively better in the successful areas although it was confessed that they are weak and

irregularly working in both study areas. The presence of a VHC is also shown in many studies to be associated with functionality of Community Health Agents (24,42).

Concerning payment to the CBRHA for the service they provide, significantly higher proportion of women in successful areas (36.6%) believe that they should be paid by the community. This finding is lower when compared to a study done four years back in N. and S. Gondar Zones CBD areas by Mike G. where 92% of rural respondents said presence of the service fee is appropriate. This may indicate that the desire to pay has declined through time when more people started to use the service. This relatively low level of interest to pay for CBRHA service was also ascertained through the FGD of the agents in all the 4 groups where majority of the discussants claimed that very few or almost no one is paying them for the service they are offering. This failure of FFS has left the CBRHAs without monetary or non-monetary incentives which is not the case in many CBD or CBRHP in Ethiopia or other parts of the world. In Kenya, Ferguson observed that charging FFS is unpopular among CBRHA for reasons of keeping social status which may be also a case here (31). The absence of remuneration or incentives, in particular refresher trainings, is also the major reason for the dropout as discussed in the interview and FGD with the ex-CBRHAs. The discussion also revealed that there is high number of dropouts in the weak woreda compared to the successful woreda. This may be due to several factors including lack of incentives, poor support and supervision by the health workers in the area and relatively poor staffing pattern of the woreda (district) health office and bad selection procedure.

STRENGTHS AND LIMITATIONS OF THE STUDY

Strengths of the Study

The use of both qualitative and quantitative methods and comparison of two program areas and the conduct of the study in a remote rural set up where the large proportion of the population resides, are the major strengths of this Study. In addition the large sample size & the sampling procedures followed help to improve the validity of the study, and the use of appropriate Statistical Methods to reduce bias and control Confounding.

The incorporation of the views of all the program coordinators in the study area, and the inclusion of both active and non-functional CBRHAs in the study have enabled to capture important ideas from their experience which helped to provide supplementary explanation for the results of the survey.

Limitations of the Study

The disadvantage of a cross-sectional study, i.e., inability to clearly establish antecedent-consequence relationships, could be well reflected also in this study. The comparison of Successful and Weak Program areas, though vital to compare various characteristics influencing the outcome, could have potential bias/confounders due to the complex and interlinked nature of some factors. However, this may not affect the result of the study that much as appropriate sampling and analytic procedures are followed to reduce biases and confounders and also as the findings of the study were well compared with various literatures in the field. The other limitation is the lack of similar studies for comparison of some important findings of this study.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- Generally, there is a better use of MCM, Maternal health care service(ANC) and CBRH service in the successful program areas
- Illiteracy rate is very high among the women in the study areas which could be an obstacle for use of RH/FP services as education is strongly associated with any health service use.
- Awareness to MCM is high, however, knowledge of specific MCM is quite low. The majority of study women know only Pills & Injectables among the range of FP methods. This undoubtedly limits their choice there by restricting from using or seeking the service.
- The knowledge level of condoms whether as FP method or as a means of preventing HIV/AIDS is low. This is in contradiction with the current prevalence and speed of transmission of the disease in the country.
- The knowledge of other components of RH such as HIV/AIDS & STI is low and the same is true for use of MCH services(eg, ANC) especially in the weakly performing CBRHP areas. This indicates that the delivery of integrated RH services even at this level is still a rhetoric.
- Community involvement in selection of CBRHA is quite low & this resulted in low awareness of their presence and subsequently, in low acceptance of the agents there by affecting the interest to use CBRH service, particularly, as observed in the weak areas.
- The presence of large number of drop outs of CBRHA have caused a collapse of the service in some areas. Lack of incentives or motivating measures, poor selection procedures and poor support & supervision of the CBRHA were the major factors for dropping out among many others.

- The CBRHP did not make use of existing community organizations which are found to be a key element to ensure community participation and success of a community based program in many countries with similar socio-cultural & economic set up.
- High client satisfaction by the CBRH service, better interpersonal communication & acceptance of the agents are indicators for the relatively better quality of service in successful areas which certainly have contributed to the relative success of the program in this area.

RECOMMENDATIONS

- Community sensitisation should precede the introduction of any community-based program to ensure optimal community participation and ownership of the program.
- Replacement of dropout agents is necessary and selection of new agents should be made by involving the community.
- Consider making use of existing community organizations such as Mahbers in addition to strengthening the use of local development structures such as VHCs.
- Devise a better incentive & motivating mechanisms preferably non-monetary to sustain it afterwards such as continuous (refresher) trainings for all CBRHAs and small awards for better or exceeding performances.
- Motivate/Encourage health workers to conduct field supervision integrating with other health programs activities in the out reaches, or allocate budget for this purpose and for Monitoring & Evaluation and to hold regular review meetings with the District Health Office.
- Secure and diversify contraceptive method mix in the public health facilities. Particularly, avail injectable hormones in the peripheral clinics.
- Harmonize policy at health facility and Community level regarding Fee-for-Service (Consider free delivery of contraceptives in health facilities).
- Retrain agents based on the National CBRHA curriculum emphasizing on the other components of RH and Communication skill to make them a real RH agents in the community.

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ANNEXES

ANNEX 1. Structured Questionnaire for the Quantitative Study

Verbal consent form

Greetings; How are you?

We are collecting data on Community Based Reproductive Health services in your area. I would like to ask you some questions in this regard which will help us to improve the service. The interview may take about 40 minutes. All your answers will be used for the study purposes and kept confidential. Are you willing to participate in the study?

QUESTIONNAIRE to assess the sustainability and factors affecting the success of community-based reproductive health program in women of reproductive age (15-49years) group.

IDENTIFICATION

Zone_____ Woreda_____ Kebele_____

Basic Information

1. Age_____
2. What is your religion?
 1. Orthodox 2. protestant 3. catholic 4. Islam 5. other
3. What is your current marital status?
 1. Married 2. Divorced/Separated 3. Widowed 4. Single
4. What is your level of education (the highest grade completed)?
 1. Illiterate 2. Reading & writing 3. Highest grade attained_____
5. What is your work (job) currently?
 1. Farmer 2. Housewife 3. Local alcohol seller 4. Student 88. Other(specify)_____

REPRODUCTIVE HISTORY

6. How many times have you ever been pregnant?
 1. Never —————▶ 17
 2. _____times
7. Were all pregnancies wanted? 1. yes 2. No

8. If no, how many pregnancies were not wanted? _____
9. Have you attended antenatal care clinic during your last pregnancy?
 1. Yes 2. No
10. If not attended, what was the reason?
 1. I did not know the service was available in my vicinity
 2. I did not know the benefit
 3. No health Institution or the service around
 4. I do not want the service
11. Now I want to ask you about your children, Have you ever given birth to a child?
 1. Yes
 2. No —————▶ 15
12. What is the total number of children born alive to you? _____
13. How many children do you have now? _____
14. How many more children do you like to have?
 61. _____ children
 62. As God allows/ As many as possible
 63. My husband decides/as he wishes
 64. I don't want any more
 98. I don't know
 88. Other (specify) _____
15. Have you ever had abortion?
 1. Yes 2. No
16. Was it an induced or spontaneous abortion?
 1. Induced 2. Spontaneous

Now I want to talk about family planning and the various ways or methods in which you can prevent yourself from becoming pregnant.

17. Do you know about contraceptives? 1. Yes 2. No —————▶ 32
18. Which methods or ways have you heard about?
 (Do not suggest any contraceptives to the respondent, let her answer spontaneously)
- | | | |
|----------------------|--------|-------|
| 1. Pills (Tablettes) | 1. Yes | 2. No |
| 2. Injections | 1. Yes | 2. No |
| 3. Iucd/loop | 1. Yes | 2. No |
| 4. Condoms | 1. Yes | 2. No |

5. Surgery/tubal ligation 1. Yes 2. No
6. Norplant 1. Yes 2. No
7. Vasectomy 1. Yes 2. No
88. Other(Specify)_____
19. Have you ever used any of these methods? 1. Yes 2. No
20. Are you or your husband/partner currently using any methods of contraception?
1. Yes
2. No → 28
21. Which methods are you using?
1. Pills (Tablettes) 5. Surgery/tubal ligation
2. Injections 6. Norplant
3. Iucd/loop 88. other (specify)_____
4. Condoms
22. Where do you get/collect contraceptives?
1. Health institutions
2. CBRHA
3. Private pharmacy, Drug vendor
88. Other (specify)_____
23. Are you using method of your choice? 1. yes → 25
2. No
24. If No, what is your method of choice_____
25. What is the main reason for not using your method of choice?
1. I couldn't get my choice from the CBRHA
2. I couldn't get my choice from the near by health institution.
3. Fear of side effect of choice of methods
88. Others (specify)_____
26. Have you encounter difficulties in obtaining contraceptive supplies? 1. Yes 2. No
27. Does your husband know you are using contraceptives? 1. Yes 2. No
28. Does he approve/agree? 1. Yes 2. No 3. I do not know
29. For discontinuers who discontinued for 3 or more months, what is your main reason to discontinue use of contraceptives?
1. Wanted to become pregnant
2. Fear of infertility
3. Fear of side effects (specify)_____

4. Husband objected
5. Did not get choice of methods
6. No service in the nearby
7. Rumours about contraceptive methods
8. No husband or sexual partner

88. Other(specify)_____

30. For never users, why don't you use any methods?

1. Wanted to become pregnant
2. Fear of infertility
3. Fear of side effects (specify)_____
4. Husband objects
5. Did not get choice of methods
6. No service in the nearby
7. Rumours about untoward effects of contraceptive methods
8. Lack of information about contraceptives
9. No husband or sexual partner
88. Other (specify)_____

31. If there is no service in the vicinity & if you get contraceptives/RH services here in your village would you use them?

1. Yes
2. No

32. Who decides on the use of contraceptive methods?

1. I myself
2. My Husband or partner
3. Joint decision
4. Other (specify)_____

KNOWLEDGE of HIV/AIDS, and STDs

33. Have you heard about HIV/AIDS? 1. Yes 2. No —▶ 37

34. From where did you hear about AIDS?

1. Health worker/ Health facility
2. Mass media (Radio, Newspaper...)
3. CBRHA
4. Friends
5. Neighbours
88. Other (specify)_____

35. How does one acquire HIV/AIDS? (How is HIV/AIDS transmitted?)
1. Sexual intercourse
 2. Mother to child transmission
 3. Transfusion of infected blood
 4. By sharing sharp materials, blades, needles
 88. Other (specify)_____
 98. I don't know
36. How can people prevent themselves from getting HIV/AIDS?
1. Avoid sex/abstinence
 2. Avoiding multiple sexual partnership (be faithful to one partner)
 3. Using condoms
 4. Using sterilized needles, avoiding sharing blades....
 88. Other (specify)_____
 98. I don't know
37. Can HIV infected person look healthy?
1. Yes 2. No 98. I don't know
38. Do you know diseases that are transmitted sexually other than HIV?
1. Yes 2. No
39. If yes, Which STDs do you know?
1. Syphilis
 2. Gonorrhoea
 3. LGV
 4. Other (specify)_____
40. How do you prevent STDs?
1. Avoid sex/abstinence
 2. Avoiding multiple sexual partnership (be faithful to one partner)
 3. Using condoms
 88. Other (specify)_____
 98. I do not know

COMMUNITY- BASED REPRODUCTIVE HEALTH SERVICES

41. Have you heard of village people who are trained to give reproductive health information and contraceptives including condoms to people who need them?
1. Yes 2. No ———▶ 46
42. Were you involved in the selection of these village workers (CBRHA)?
1. Yes 2. No
43. Have you accepted the CBRHA?
1. Yes 2. No 98. I don't know
44. If No to q 41, reason for not accepting
1. He/she is not the appropriate person for the work
2. He/she is not giving good service/information
88. Other(specify)_____
45. Have you ever talked with CBRHA about family planning or reproductive health matters?
1. Yes 2. No
46. Have you received any RH/FP service including education or advice from the CBRHA?
1. Yes 2. No
47. If yes, which type of service did you receive from the community agent?
1. Advice on what to do during pregnancy 1. Yes 2. No
2. Information/counselling about STI/HIV/AIDS 1. Yes 2. No
3. Information about how to prevent unwanted pregnancy or contraceptive use
1. Yes 2. No
4. Collection of Contraceptives, Condoms, or IEC materials 1. Yes 2. No
5. Referral for reproductive health problems including choice of methods or contraceptives 1. Yes 2. No
88. Other(specify)_____
48. Do you agree that the community should pay the CBRHA some money for the service they provide?
1. Yes 2. No 3. I don't know
49. Is the current fee-for-service or the 75 cents per cycle of pill or 12 condoms price?
1. Fair/affordable 2. Expensive/unaffordable 98. I don't know
50. If you are not using the service due to high price, will you use the service if the fee is reduced? 1. Yes 2. No 98. I don't know

51. Are you willing to serve as a CBRHA if the community selects you?

1. Yes 2. No 98. I am not sure

52. Do you know a CBRHA who stopped working in your village?

1. yes 2.No

53. If yes, do you know the reason?

1. Private work load of his own
2. lack of beneficiary of his service

88. Other(specify)_____

98. I do not know

54. Are you satisfied with CBRH service in your village?

1. Yes 2. No

55. If you are not satisfied what are the reasons for dissatisfaction?

1. Unavailability of choice of methods
2. Poor/Inadequate information, education or counselling service
3. Not confident on the CBRHA

88. Other specify

56. Do you know if there is a Village Health Committee that Monitors & Evaluates CBRHA activity in your Kebele/village?

1. Yes 2. No 98. I don't know

Thank you for giving me this valuable information and your precious time.

ANNEX-2. Questions/Guide for the ‘Key Informants Interview’, health workers and Program Coordinators

1. How do you see the contribution of CBRHP? (Major achievements/contributions to the RH service in the region)
2. What are the major problems concerning the program and the approach?
3. What is the rate of CBRHA drop out? And what are the reasons for dropping out from the program you know?
4. Which services /components of RH are provided by the trained CBRHA currently? If there is emphasis only on one component(e.g., Family planning), discuss reasons & feasibility problems for not addressing other RH issues equally...)
5. What is your opinion about the sustainability of the program and your recommendation to make it more sustainable?(Score factors of sustainability)
6. What are the main reasons for the success of the program in one area and failure in another?

The following questions are for health workers working in the health institutions and are responsible for supporting and supervising CBRHAs

7. How do you supervise & follow CBRHA and what are the constraints in regard to supervision & follow up of CBRHA?
8. What is your opinion of CBRHP & CBRHA regarding sharing of your workload ?
9. What are the major problems of the program?
10. What do you suggest as a solution for the problems you specified?

ANNEX-3. Interviewer Guide for FGD with CBRHAs

A. Questions/Guides for FGD with Active(Functional) CBRHAs

1. Why are you interested to work as a volunteer for RH program?
2. How were you selected? Were you willing during the selection?
3. What do you say about the training you received? is it adequate for the service you are currently providing?
4. What are the services you are providing to the community? How do you provide your service?(from fixed site, by going to clients home...)
5. Do you get adequate support from your supervising health worker? Discuss types & frequency of support provided.
6. Are you satisfied with the amount of service fee you are receiving? Discuss amount retained, payment related problems...
7. How frequently do you report and collect your supplies from health institutions?
8. What are your major problems working as a volunteer in the community?
9. How long do you want to continue working as CBRHA? If not interested to continue, what are the reasons? If interested to continue working, what keep you motivated?
10. What kind of support do you get from other organizations(e.g. Kebele administration), communities or individuals?
11. Do you have difficulties to communicate with opposite sex?
12. Do you use modern family planning methods yourself?

B. Questions/Guide for FGD with Non-functional(Drop out) CBRHAs

1. How were you selected to work as CBRHA?
2. Why did you volunteer to work as CBRHA?
3. What were your major problems when working as a volunteer? Problems in the community, with health workers, local chiefs or others...
4. Why did you stop working as a volunteer/CBRHA?
5. Will you work if these problems are solved?
6. What do you suggest about the CBRHP?
7. Do you use modern family planning yourself?

ANNEX-4. Summary Table of FGD With CBRHAs

Characteristics of FGD participants(CBRHAs) of both study areas
<p>Most of the participants were in the age group 22 to 45 years and women. There were some male agents in both areas.</p> <p>Some participants were illiterate, most able to read and write, where as the highest grade attained is grade eight only by two participants.</p>

FGD with Active CBRHAs

Theme 1. The Selection Process and Voluntarism

	CBRHAs of Successful Program Areas	CBRHAs of Weak Program Areas
Selection	Mostly done by Kebele development committee in consultation with HWs	Mainly done by kebele chair person/administrator
Reason for selection	Mostly, ability to read & write, and active participation in local development activities	Mainly participation in local development activities
Status of Voluntarism at the time of selection	All said that they were volunteers and had shown interest for the work	Most said they were volunteers and had shown interest for the work
Community members involvement in selection	Most agreed that there was minimal involvement in most cases	Majority agreed that there was minimal or almost no involvement

Theme 2. Training

	CBRHAs of Successful and Weak Program Areas
Trainers	Health Workers in the catchment Health facilities for 7 days
Topics	FP, MCH, HIV/AIDS, STI, Harmful traditional practices
Methodology used	Lectures, role plays, and demonstration
Problems discussed on the training	Infrequent (once per year), and insufficient knowledge on HIV, &STI

Theme 3. Types of Services provided by the agents to the Community

CBRHAs of Successful and Weak Program Areas
Distribution of pills, condoms & seldom IEC materials, and Health Education on F.P
Health Education on HIV/AIDS, STI but no counselling service for HIV/AIDS
Health Education on MCH & traditional harmful practices
Referral to clinics for RH problems and choices of contraceptives

Theme 4. Support from supervising Health workers

CBRHAs of Successful Program Areas	CBRHA of Weak Program Areas
Health Workers are considered as supportive and encouraging	Health Workers are considered as supportive and encouraging
Mostly hold monthly meeting when coming for reporting & collecting supplies	Usually return back home after delivering reports and collecting supplies

Themes 5. Fee-for-Service

CBRHAs of Successful and Weak Program Areas
Most agreed that they are not collecting the FFS currently
Most agents said that the majority of the clients are not willing to pay for their services due to the availability of service & contraceptives free of charge in the public Health Facilities.
Therefore, clients prefer to go to clinics than to pay as most discussants agreed.

Theme 6. Major problems/Challenges encountered

CBRHA of Successful Program Areas	CBRHA of Weak Program Areas
Mostly face clients' complaints on side effects of some pills	Mostly face clients' complaints on side effects of some pills & wide spread rumours
Unavailability of Injectables in the Clinics	Unavailability of Injectables in the Clinics
Some Men's opposition & mocking approach	Some Men's opposition & mocking approach
Absence of incentives or rewards	Absence of incentives or rewards

Theme 7. Interest to continue as a volunteer

All Participants of the FGD agreed unanimously to continue as a volunteer as long as possible as long as they are given refresher trainings

Theme 8. Support from other local Organizations or Individuals

CBRHA of Successful Program Areas	CBRHA of Weak Program Areas
Most agreed that there is a good support from Kebele Chair persons, agriculture extension workers & teachers	Most agreed that there is a good support from Kebele Chair persons, agriculture extension workers & teachers
Most expressed good Community Support morally	Few claimed they are not getting adequate community support in their work

FGD with Non-functional CBRHAs

Theme 1. Selection & Voluntarism

<ul style="list-style-type: none"> • Most were selected directly by kebele Chairpersons in both places • Most said that they accepted the decision just to obey. Some said that they assumed they would be employed in the future • Most did not know how much of their time the work would require • Reason for selection, they assumed, could be participation in local development activities as some expressed it.
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Theme 2. Major problems faced when working as CBRHAs

<ul style="list-style-type: none"> • Most mentioned complaints on side effects & strong rumours on contraceptives • Majority faced opposition by their husbands & other men • Almost all experienced unwillingness to pay FFS • The Task being too demanding requiring a great deal of their time

Theme 3. Reasons for dropping out

<ul style="list-style-type: none"> • Personal (Social problems) and private workload were stated by most • Absence of any gain/benefit from the work • No refresher training • Loss of interest in the work • No employment opportunities as some anticipated it

ANNEX-5. Scoring for Factors of Sustainability (21)

The factors shown in Table 11 were used to assess the sustainability of RH/FP programs as an indicator as to the current status of the program. The Model developed by East African Investment Securities commissioned by Pathfinder International with a view to tackling the issue in a systematic manner to assess the current situation and to take measures for enhancing the sustainability of RH/FP programs. Most of the factors are complex and inherently subjective. Nevertheless, they can be applied also more objectively and quantitatively by conducting studies/surveys for each factors. In this study we used subjective assessments plus some quantitative indicators when possible & easily available to assess the situation after discussing thoroughly on the factors and their relative importance for the project in question. The scoring for the factors were done as follows: 5= Very Highly favourable (VHF)

4= Highly favourable (HF)

3=Favourable (F)

2=Unfavourable (UF)

1=Highly Unfavourable (HUF)

After computing the results using Table 11, the following benchmarks were used to assess the overall Sustainability of the program.

4.5 - 5.0 A very High degree of sustainability already achieved

4.0 - 4.4 A High degree of Sustainability already achieved but some areas need attention

3.0 - 3.9 A reasonable degree of Sustainability already achieved but the Organization should systematically explore and implement ways and means of enhancing further the sustainability of its program.

Below 3.0 A low degree of Sustainability. The Organization should develop & implement a comprehensive sustainability program phased over the short, medium and long term.

ANNEX-6. Peasant Associations (kebeles) & Health Institutions included in the Study.

Study Areas	Population	Catchment Clinic	No of active CBRHA	% of active CBRHA per catchment	No of Health workers per H.F¹
<u>Este Woreda</u>		Este Health Center			
Goshberet	13,100	Ziguara Clinic	16	93	2 H.A ²
Kechin Meda	10,030	> >			
Licha	20,835	Licha Clinic	15	70	2 H.A
Jibasra	20,900	Jib Asra Clinic	16	95	2 H.A
<u>Dera Woreda</u>		Anbesame Health Center			
Wondiye	5091	Wanzaye Clinic	9	30	2 H.A
Geregera	6700	Wanzaye > >			
Korata	14,643	Korata > >	11	30	2 H.A
Shime Mariam	12,350	Shime Mariam >	10	25	2 H.A

Source : The respective District Health Offices and Health facilities

Note: ¹ H.F-Health Facility

² H.A- Health Assistants

ANNEX-7. Map of Amhara National Regional State showing Study districts
in South Gondar Zone.