CHAPTER III

Proposal

Detection of high-risk pregnancies using Home-Based Prenatal Record through Traditional Birth Attendants: An intervention to increase antenatal coverage in Siraha district, Nepal.

3.1. Introduction

Every minute of the day, a woman dies as a result of complications during pregnancy and childbirth. And every minute, eight babies die because of poorly managed pregnancies and deliveries, of the global annual total of 500,000 maternal deaths, all but 6000 are in developing world. Most of the deaths of those women occurred in "at risk" conditions. Fortunately, 80 to 90 percents of the illness are preventable and their occurrence reflects poverty and inadequate health prevention and promotion measures (Lumbiganon, 1988)

High maternal mortality is a big public health problem in Nepal which is presently estimated to be 539 per 100,000 live births (DoHS, 1996). However, many small community-based studies, reveal Maternal Mortality Rate (MMR) of well over 1000 in particular areas of the countries. These maternal deaths were due to sepsis, hemorrhage, and toxemia and obstructed labor. Most of the causes for maternal deaths identified in the studies are preventable with the provision of adequate antenatal,

delivery and post natal care, timely referral, and accessible family planning services (SMPN, 1994).

The need to provide better maternal health services has been recognized both globally and at country levels. In Nepal, safe motherhood has been identified as a priority program in the National Health Policy, and program has been initiated in mid 1992 with the support of WHO setting a target to reduce maternal mortality rate to 400/100,000 live births by the year 2000.

Antenatal service is one of a major component within the MCH program for the reduction of maternal mortality. The aim of which is to identify and refer of high risk pregnancies as to manage the risk cases, such as prevention and control of anemia by distribution of iron and folate acid, providing two courses of tetanus toxoid immunization to prevent neonatal tetanus and to immunize the women themselves. In addition, there is also motivation of family planning to reduce risk pregnancies, other medical diseases like heart disease, TB, STD which can be treated in order to reduce an added risk to the pregnancy.

The Nepal Government policy emphasizes the delivery of preventive health care in an integrated manner. The integrated service includes family planning, maternal and child health, expand immunization, safe motherhood and so on. The Government with the assistance of International Agencies have already launched promotional activities such as family planning, TBA training program which can influence maternal

mortality by reducing at risk pregnancies and avoidance of traditional harmful pregnancy and birth practices and also increase access of antenatal service to pregnant women in the community (A Review SMP in Nepal, 1994).

Although the organization of the health care system is constantly changing, it is made up of hierarchy of institutions, which have been developed regionally, and locally to suit the concept decentralized planning. Each regional head quarters has a regional service as referral centers, responsible for problems that can not be handled at the lowest level, the health posts. Problems that the district hospital can not handled are referred to regional and central hospital. Health posts are at the lowest level of Government service delivery for primary health care, they combine both the health and family planning services. However, because of poor transport and inadequate service at local health posts, district hospitals also serve as the source of primary contact for many people. (Niraula, 1996).

Despite a steady penetration of health services, economic underdevelopment has lead to a relatively weak health infrastructure in Nepal. There are several other constraints in the present health infrastructure such as inadequate and under-utilization of antenatal services, inadequate deployment and availability of female MCH staff as ANM, PHN and their community level posts, inadequate co-ordination between Divisions and Ministries, United Nation's Organizations and NGO. non-integrated information system and scanty research data on maternal mortality and morbidity which hinders to the achievement of safe motherhood in Nepal. (SMP, Department of

health, 1993). So far, there are relatively little evaluative action that has been taken place to see how far the program attained their objectives. Hence, the incidence and severity of pregnancy and obstetric complications still remains high.

Safe motherhood, A National Plan of Action (1994-1997) has recommended some of the important strategies for strengthening community based antenatal care at community level by strengthening community/ village health volunteers (FCHV, TBAs, and VHWs) to disseminate basic safe motherhood messages and motivate the utilization of available antenatal services to ensure that all pregnant women should have access to trained maternal health care providers and trained birth attendants.

Provision of antenatal care through primary health care approach mobilizing the community health volunteers seemed appropriate and desirable at present country context to increase antenatal service coverage in Nepal. For that, community based health volunteers including traditional health practitioners are the valuable and sustainable resource that already exist in most communities. The training and utilization of these practitioners in primary health care, working in close collaboration with conventional health care staff, can be expected to contribute in many countries substantially and to obtain more practical, effective and culturally acceptable health systems for communities (WHO/ SHS/ DHS/ TRM, 1995).

3.2. Rationale

Training is a planned communication process which results in changes of attitudes, skills and or knowledge in accordance with specified objectives relating to desired pattern of behavior. Training is required when people are not able to perform their job tasks properly. To be more specific, it is required when people lacks the knowledge, attitude and practice which are necessary to perform their job, task according to established objectives and standards (Khemmari, 1983).

The study provide additional support for existing TBA training program in the national level as to enhance and endeavor better future programming, implementing and evaluating as an ongoing process. It also approaches the policy maker at all level of health institution about the magnitude of the problems relating maternal mortality by assessing the risk factor for the bad outcome and intervenes to reduce it.

3.3. Problem statement

One of the main problems regarding maternal health in Nepal is the under-utilization of antenatal services by pregnant women. The underlying causes for under-utilization of antenatal services are related with socio-economic, cultural, attitudes, and practices of women together with inadequate and inappropriate health infrastructure of the country.

His Majesty's Government of Nepal, Department of health service shows in an annual report of fiscal year 1995/1996 that national coverage of antenatal first visit as a

percentage of expected pregnancies was 19% which was very low in comparison to Thailand, Indonesia, India, and Pakistan which were 80%; 76%; 27% and 24%. Respectively (DHS 1987- 1993, CBS, NPC, Kathmandu, Nepal 1994).

The projected population of Nepal was 1,126,636 according to Demographic Health Survey Annual report 195/1996. Reproductive women of age group 15-49 years found 4,961,836, 20 % of women from the group, number of expected pregnancies are 927224. 40% pregnancies found to be in at risk condition (Malla and Pradhan, 1994). The incidence of severity of pregnancy complications are very high and deaths resulted from most of those reasons due to lack of antenatal service, shown in some of the studies done in Nepal. According to DHS annual report, 1995/1996 visits of complicated pregnancies are not reported on routine service statistics. However, realizing the importance of this information, a tally sheet which lists the complications has been designed and introduced to 10 safe motherhood program districts only. Depending on the first year results of monitoring pregnancy complication, the tally sheet will be introduced Nationwide.

As can be seen in Table 3.1, the national coverage of antenatal first visit as a percentage of expected pregnancies are 19%. In terms of coverage, it is the highest in Western Development Region (WDR) (26%), second highest coverage found in Eastern Development Region (EDR) and Mid Western Development Region (MWDR) (both 18%) and lowest coverage was in FWDR (12%). The central region records the same coverage as the national level. However, there may be significant

Table 3.1. Antenatal First Visits expressed as a percentage of expected pregnancies by Region and continuity of ANC Service expressed as number of total ANC Visits Divided by 1st ANC Visit, FY 1995/1996.

Region	Antenatal first visit	Continuity of ANC service
EDR	18%	1.7
CDR	19%	1.8
WDR	26%	1.9
MWDR	18%	2.0
FWDR	12%	1.4
NATIONAL	19%	1.8

Source: Annual Report, 1996, Department of Health Services, Nepal.

Keys: EDR - (Eastern Development Region)
WDR - (Western Development Region)
MWDR - (Mid-Western Development Region)
FWDR - (Far-Eastern Development Region)

under-reporting of the number of ante-natal clients seen by private sector and hospital facilities in central region. Mid-western and far-western region have the lowest coverage of antenatal services, this may be partly due to shortage of trained female health personnel in remote region.

In the same table, continuity of ANC service can be seen as an indicator of client satisfaction with antenatal service in the degree to which they choose to return for repeat visits after their initial encounter with the health system. National ANC continuity is 1.8 which is equal to CDR. Table 3.1 shows MWDR ANC continuity is 2.0. ratio in WDR is in the second rank whereas, EDR stands 4th like in ANC first visit in FWDR, ANC continuity in FWDR is within the lowest coverage. It is

interesting to note that the MWDR. has low ANC 1st visit but has the highest continuity of care. Rather than a particularly high satisfaction with a quality of service, this may be due to the fact that ante-natal service are not available in much of the remote area of Mid-west, while ANC services are more attended in the terai part of the region where services are readily accessible.

The yearly trends of national coverage of ANC first visits from 1995-1996 increased from 15.5 % to 19 % due to increased monitoring and support provided by the Family Health Division for the safe motherhood program. Also ANC service coverage appears to vary from region to region. Although we would suspect the highest coverage in the more accessible terai belts, this did not prove to be the case from data available through the HMIS. Further analysis will be necessary to identify the reason for the variation in ANC coverage between the region (Department of Health Services, 1996).

Tetanus toxoid immunization is also an important activity under the ANC service. Increased tetanus toxoid immunization coverage influences in prevention of neo-natal tetanus and immunization for the pregnant women themselves. The available service statistics showed that 9.5% of the women of childbearing age are immunized of TT2 in the fiscal year alone.

The figure varies from region to region. The highest coverage of TT2 is reported from WDR followed by EDR and CDR, which have 9.7% in both and the

lowest coverage are in MWDR and FWDR which have 7.8 and 7.6% respectively. Expanded Program for Immunization Report claimed in 1991 that immunization coverage of women of reproductive age was 16 %. and UNICEF reported that in 1997, 11% of pregnant women immunized with TT2. ANC coverage influences the TT coverage as well. Pregnant women receive its full dose depending on their initial visits and continuity of ante-natal visit. So far, studies lack on this regards, but it is significant that mass campaign for TT immunization also plays an important role to increase the TT coverage.

Much has been said about contribution of antenatal service in reducing the incidence and severity of obstetrical complications. To provide antenatal care through TBA is equally crucial and it is an effective intervention to increase antenatal service coverage. In addition to that, use of a simple tool is also recommended by WHO, 1994 to identify high risk pregnancy for timely referral so that earlier management is possible to prevent deaths resulted from the complications.

Study in Indonesia found that women who received no pre-natal care were More than five times as likely to die than those attended in antenatal prenatal clinic (WHO, 1994; Walash, 1993). About 70% pregnancy risk factors can be identified with the use of an antenatal card. In-depth study on TBAs conducted by John Snow Inc. (Levitt, 1988) to investigate the effectiveness and impact of TBA. Training have found that training made a difference in comparison to untrained TBA on the basis a of record kept for 1990-1991 by village health workers. Twenty seven percent of the women

who attended antenatal clinic reported having been referred to hospital by TBA. This represents a six-fold increase in referral since 1983- 1984. Tetanus toxoid 2 coverage also was almost double the reported figure (Sharma, 1970; Maharjan, 1990, cited in Hale, 1991; HMG/ UNICEF, 1992). The evidence here supports the training intervention for TBA on HBPR. to increase ANC coverage.

3.4. Purpose of the study

The purpose of the study is to demonstrate the potential to increase antenatal service coverage of women of expected pregnancies. This is also aim to reduce the incidence and severity of obstetrical complications among high risk pregnant women by identification of at risk pregnancy through the TBA and by providing them with training on Home-Based Pre-natal Records. The main focus of the study is to train the TBA on Home-Based Prenatal Record (HBPR), by which they will obtain adequate knowledge, attitudes, practices, and behavior in building up a capacity to identify at risk pregnancy among the pregnant women and will be able to refer them to the health center with the increased ante-natal coverage. Incidence and severity of obstetrical complication will also be reduced. After 12 months of providing the service using HBPR, an impact evaluation will be made. The official statistics will be used for evaluating implemented program.

3.5. Goal

To reduce the incidence of obstetrical complications by increasing antenatal coverage through the Traditional Birth Attendants.

3.5.1 Objectives of the study

A. General objectives

To introduction of Home-Based Prenatal Record (HBPR) as a tool to detect the high-risk pregnancies in order to reduce obstetrical complications in Siraha district, Nepal.

B. Specific objectives

The specific objectives are

1. To develop Home-Based Prenatal Record.
2. To develop the training curriculum for TBAs on HBPR.
3. To train TBAs in providing antenatal care and detection of high-risk pregnancies by using HBPR.
4. To evaluate the outcome of training by measuring the knowledge, attitudes, and practices of Traditional Birth Attendants in providing antenatal care and high-risk detection using HBPR.
5. To evaluate the impact of the TBAs services by measuring;
   i. The knowledge, attitudes, and practices of the women regarding antenatal service utilization.
   ii. The percentage of ANC on the 1st visit and, percentage of continuity of the service.
6. To make recommendation for policy makers and decision-makers for using HBPR by TBAs as a tool for detection of high-risk pregnancies.

3.6. Intervention area: Siraha district, Nepal

Siraha District has been selected for the study. It is situated in Eastern Development Region, one of a district of Sagarmatha zone on the eastern plains of terai of Nepal. Siraha district is surrounded by Sunsari district in the East, Dhanusha district in the West, Udayapur in the North and Darbhanga district (Bihar province) of India in the South. It is located in between the Eastern terai district and East-West high way which is called the Mahendra Rajmarg, and Kathmandu. The total population of this district was 539,923 and the target population for MCH/ FP service is the married women of reproductive age 15-49 It is estimated to be 107, 578. Number of expected pregnancies from 20% of married women are 23,454. The antenatal care coverage for this district is 19.69%, which is almost similar to national coverage i.e. 19.4% (Department of health, 1996).

Department of Health, 1996 reported that the National coverage records is the same coverage as the national level and might be significant under-reporting of the number of antenatal clients seen by private sector and hospital. If we see ANC 1st visit as percentage of expected pregnancy, 1995/ 1996, 13 districts had 30-50%, 15 districts had 20-30% and another 24 districts including Siraha district had 10-20% coverage, and the others 23 districts had 0-10% ANC coverage in the development region-wise. ANC 1st visit was low which was 18% in the study region as compared to the national and WDR i.e. 19%, 26% respectively. Similarly, when we analyze ANC

continuity of the study area i.e. WDR, was 1.7 which was lower than national, WDR, and MWDR i.e. 1.8, 1.9, and 2.0 respectively except FWDR which had only 1.4.

According to Central Bureau of Statistics, 1993, 86.3 % of women were found illiterate, and delivery by trained personnel including TBA was only 2% in Siraha District. The cause of pregnancy complications found to be included socio-economic, educational status of the women cousing the lack of knowledge about risk factors, poor access and utilization of ante-natal services, inadequate health care delivery system due to female health man power shortage, lack of supervisory support, insufficient linkage between the community and health services and inadequate referral sources. Poor utilization of existing services is further exasperated by low level of community participation and awareness regarding MCH services. Even when knowledge is high behavior is slow to change due to a number of cultural and social factors (Department of health service, 1993).

By looking at the magnitude of the problem, outreach services for antenatal service must be extended to a maximum level extend though the effective mobilization of grass root level health workers as well as the mobilization of a pool of community volunteers such as FCHV's, TBAs, village leaders and social workers, so ANC coverage will be increased.

Table 3.2. illustrates the health facilities available in Siraha district, which include the numbers of Hospital, Primary Health Center, Health Post, Sub-health post as well as the types health workers available in the district.

Table. 3.2. The health facilities available in Siraha district are as follows:

Health Facilities	Types and numbers of health personnel in each HF							Supporting staffs	
	Med. Officer	Staff Nurse	HA/ SAHW	AHW	ANM	VHW	MCH W	Lab Tec.	Peon
Hospital – 2	-	-	-	-	-	-	-	-	-
PHC or HC -2	1	1	1	2	3	1	-	1	1
HP – 12	-	1	2	2	2	*	*	-	2
Sub HP – 97	-	-	-	1	-	1	1	-	1

Source: Department of health service, 1995 and 1996.

Keys:

HF - Health Facility
PHC - Primary Health Center
HC - Health Center
HP - Health Post
Med. - Medical
Lab. Tec. - Laboratory technician
HA - Health Assistant
SAHW - Senior Auxiliary Health Worker
AHW - Auxiliary Health Worker
ANM - Auxiliary Nurse Midwife
VHW - Village Health Worker
MCHW - Maternal Child Health Worker

These two category staff in HP is allocated according to ward coverage.
Number of TBA in this district is 195, and FCHV are 106.

3.7. Proposed intervention programs

By analyzing the situation for low coverage of antenatal services which is at present is only 19% (Department of Health, 1996), proposed intervention program will be based on the following planned strategies to increase the service coverage such as:

1. Development of Home-Based Prenatal Record (HBPR)
2. Training of TBAs on antenatal care and high-risk detection using HBPR
3. Implementation of HBPR
4. Supervision of the TBA's activities providing antenatal care and use of HBPR.
5. Monitoring the antenatal services

Based upon the above strategies, proposed intervention activities will include:

1. Increasing access of antenatal services through outreach antenatal program.
2. Providing health services through female to female approach, i.e. Traditional Birth Attendants.
3. Improving existing knowledge, attitudes, and practices of TBAs on specific areas of service.
4. Use of simple technology in detection of high-risk pregnancies.
5. Emphasize on IEC activities to educate women on "at risk" pregnancies.
6. Establishment of coordination among health workers to promote referral.

Table 3.3 illustrates the summary of the proposed intervention programs. After developing the HBPR, It will be presented to the National Health Training Center on November, 1996 to review and finalized. Pre-test will be taken among the TBAs before including this in the training curriculum. Training will be provided to 24 TBAs of Siraha District, Nepal in January, 1999. They will be divided into two groups i.e. twelve in each training. From February, or one month after the training has been provided, program will be implemented for one year on those working areas of trained

TBAs. The numbers of pregnant women receiving antenatal services from TBAs will be based on the service coverage according to National policies.

Table 3.3. Summary of the Proposed intervention programs:

S.N	Programs	Commence date
1.	Planning the program with NHTC/ Research committee	Nov. 1998
2.	Conducting the training on HBPR for two groups: One week for each training	Jan 1999
3.	Implementation of service through TBAs	Feb. 1999
4.	Monitoring and supervision of program	July 1999
5.	Evaluation of the program	Jan. 2000

Monitoring and supervision activities will be carried out for three months from July to December, 1999. These two activities will be applied alternately. Impact evaluation of the program will be done from January to April 2000 after 12 months of program implementation. Table 3.4. in page number 75, illustrates each activities with timetable in detail.

Table 3.4. PROPOSED ACTIVITIES WITH TIMETABLE: I

S No.	Activities/ Timetable	1998		1999												2000			
		N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
1.	Meeting with NHTC regarding program	◄►																	
2.	Present, review, finalize HBPR draft	◄►																	
3.	Formation of project implementation team		◄►																
4.	Orientation and discussion with team		◄►																
5.	Pre-test of HBPR		◄►																
6.	Conducting TBA training on HBPR			◄►															
7.	Distribution of HBPR/ IEC materials			◄►															
8.	Implementation of ANC using HBPR				◄	—	—	—	—	—	—	—	—	—	—	—	►		

Table 3.4. PROPOSED ACTIVITIES WITH TIMETABLE: II

S No	Activities/ timetable	1998		1999												2000			
		N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
9.	Monitoring ANC service/ use of HBPR										◄►		◄►		◄►				
10.	Supervision of TBA's activities Providing ANC service using HBPR									◄►		◄►		◄►					
11.	Impact evaluation of service on community															◄►			
12.	Formation of core working group															◄►			
13.	Training of interviewers																◄►		
14.	Focus group discussion																◄►		

3.7.1. Development of Home-Based Prenatal Record

The purpose of introducing HBPR in current TBA training curriculum is to provide easily available comprehensive information on health of a women during pregnancy especially the high-risk so that appropriate action can be taken after careful consideration has been taken in reference to its design and production. It could make made an attractive one with the picture of a healthy mother and baby educating about nutrition, make to be simple, clear, informative and in Nepali language. Content will be systematically arranged and can easily be recorded according to the level of the TBA's understanding, and the capability to use. The record will interpret the information correctly. The size of the paper will be adequate and durable.

A. Determining the content and pre-test of HBPR.

The following important component will be recommended to include in HBPR, as shown in the table 3.4, and 3.5, such as;

1. **Past history:** This will include general information of women, history of previous pregnancy, delivery and post partum.
2. **Current pregnancy:** This part will contain the information on present pregnancy including physical, medical, and obstetrical condition related to mother and baby, findings, prenatal advice and action taken by TBA and delivery notes.

3. Remarks to and from referral center: This part will represent a brief comment about the problem, treatment and advice given. This section will serve as a link

between the TBA and referral facility. The following important component will be recommended to include in HBPR, as shown in the Figure 3.4, and 3.5. (page number 77 and 78) such as; pregnancy, delivery and post partum.

Contents of this training program for TBA will be centered upon teaching competence and skills within the framework of primary health care and be based upon teaching competence and skills of community needs to improve their health that TBA wants to learn as well as the national health policies, priorities and objectives.

The major basis of the curriculum is to train TBA in identifying high-risk pregnancies by using HBPR. WHO produced prototype Home-Based Maternal Record and it is used in most of the developing countries like India, Botswana, Kenya, Popua New Guinue, Tanzania and many other countries with the purpose to detect selected risk factors from referral and served as a reminder to health workers to undertake certain important preventive and promotional aspect of health care. After modification on the basis of comments by a numbers of experts, the record was field tested in a WHO collaborative study in 20 centers in 14 countries and record served as a model for other countries to develop.

In Nepal, health institution based antenatal card is now used with the purpose to keep records of pregnant women who attend the antenatal clinic. Some hospitals uses these records during the admission of those women who come for delivery. Women who go to other hospital or having home delivery, cards can not be used with

these purpose because it remains in the health institution. In contrast, HBPR will remain with the pregnant women wherever she goes for check up and she can carry it with her pregnancy records.

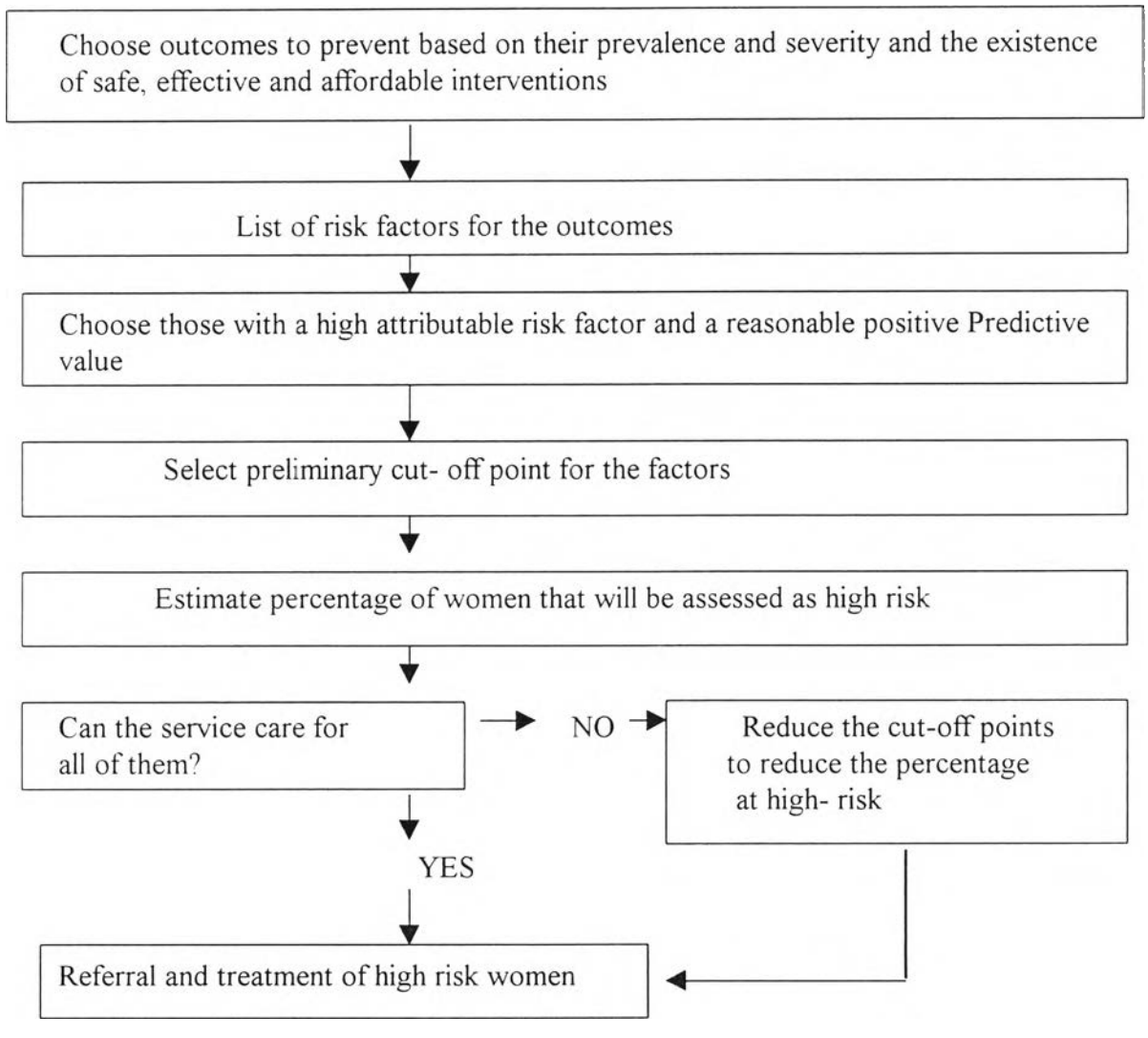
Besides potential benefit to pregnant woman and TBA, policy-making bodies and decision-makers in health care system will have significant value of using HBPR in formulating health strategies as to strengthening referral system, improving the coverage of vulnerable group as pregnant women, contributing to the achievement of health targets in antenatal coverage, family planning, and helping to involve community and their resources in health care (WHO, 1994). Pre- test of HBPR will be done prior the training to determine capability to use it by TBAs. Format with visual representation of "at risk" factor will be presented as illustrated in appendix – II, side I and side II. After an approval has been made, HBPR will be included in the training curriculum.

B. Suggested content and design of HBPR:

The contents used in the suggested format are for the guidelines only. When designing an actual HBPR format, contents can be modified into more commonly used terms. HBPR format will contain visual representation of the risk factors with the suitable picture on it. Since, most of the TBAs in Nepal are illiterate; this kind of format will be simple and appropriate for TBA as well as the community. One sample design of HBPR has been shown in appendix-II. Figure 3.2. and 3.3. In addition, one registration form as shown in the Figure 3.6, for consolidating information from HBPR

should be kept in the Primary Health Center (PHC). The health workers of PHC. will register the information from HBPR. In the impact evaluation, these information will be used to collect the Demographic characteristics, descriptions of antenatal examination which include the risk factors, action taken and birth outcome.

Figure 3.1. A flow chart recommended by WHO has been followed showing decision-making process for choosing factors for risk assessment to be included in HBPR.



Source: Home-Based Maternal Record, WHO. 1994.

Figure 3.1. describes a flow-chart which has been followed to include essential contents when developing HBPR. This flow chart has been recommended by WHO, which has to be followed when developing a tool in decision making process for choosing factors for risk assessment in most of the developing countries. Assuming that introduction of HBPR will serve as a tool for providing effective antenatal care in the community. It has been proposed to introduce as a pilot project since, this type of technology has not been implemented yet in risk detection of pregnancy. After impact evaluation has been made, it can be implemented in the other of districts if it achieved the program objective.

Figure 3.2. Suggested content to be included in HBPR side 1:

HOME-BASED PRENATAL RECORD

Name: **Husband's name:**

Caste: **Address:** **Date of first visit:**

Age: * Below 18 ☐ 18 –35 ☐ * Above 35 ☐

LMP: **EDD:** **Height:** * <145 cm ☐ >145cm ☐

Medical condition: * TB ☐ *Diabetes ☐ * Malaria ☐ * STD ☐

* Essential Hypertension ☐ * Heart disease ☐

Number of babies:	0	1	2	3	* 4	*5	*6	*7
	☐	☐	☐	☐	☐	☐	☐	☐

Previous pregnancy:

*Edema ☐ * Still birth or abortion ☐

*Fits & unconscious ☐ * Abnormal deliveries ☐

*Bleeding ☐ * Baby born less than 2.5 kg ☐

* Labor more than 24 hours ☐ * Baby died within 7 days ☐

NOTE: REFER TO HEALTH CENTRE IF ANY TICK WITH ONE *

REFER TO HEALTH CENTER OR HOSPITAL IMMEDIATELY IF ANY TICK WITH TWO **

Figure 3.3. HBPR side 2:

Present pregnancy: Month:	0	00	000	0000	00000	0 00000	00 00000	000 00000	0000
00000 **Bleeding									
**Fits & unconscious									
**Less or absent of fetal heart									
**Less or absent of fetal movement									
Fetal position: *Transverse									
*Head in upper abdomen									
*Lack of blood									
*Edema									
*Big abdomen									

Prenatal advice by TBA:	
Nutrition	
Iron/ foliate	
Tetanus toxoid	
Place of delivery	
Refer to PHC	

Action/ advice from referral center:		
Date	Problem relating to risk	Action/ advice

Delivery notes:

Date/ time of delivery:

By whom:TBA ☐ **Health worker** ☐ **Sex: Male** ☐ **Female** ☐

Condition of baby: Alive ☐ **Dead** ☐

Birth weight: More than 2.5 kg ☐ **Less than 2.5 kg** ☐

Figure 3.4. Suggested register for consolidating information from HBPR which should be kept in the PHC:

S.N.	Name of woman	Name of husband	Address	Age	Date of 1st visit	BP	Urine	Hb	Weight

Maternal Risk	Action taken	Date of delivery	By whom/where	Sex	Condition of baby	Birth weight

C. Financial implication to introduce HBPR:

Financial resources are required to implement after it is being field-tested so that it can be used countrywide as an effective tool. Logistic support is needed to make it printing and be supplied regularly. Health care staffs of PHC, HP and hospital if possible will be given a one-day orientation about this. However, possibility of workload in the health post and health center will be increased due to the increase in the referral. Recommendation will be made to fulfill the vacant post of female health workers including the other health care staffs. In addition to this, supplies of additional drugs, vaccines, equipment will also be increased. Discussion will be made with NHTC, donor agencies to support in these regards.

3.7.2. Training program for TBAs on Home-Based Prenatal Record

A. Introduction

TBA is an individual who is available in most of the community in Nepal in order to help women from pregnancy to postpartum period. She can perform the function of a trained midwife but often without having any formal training and education in midwifery and learns her skills from an older TBAs or through experiences. Since it is not possible to provide trained midwife and well equipped ante-natal clinic or hospital due to financial and manpower constraints, it is essential to train TBAs to strengthen their attitudes, knowledge, and practice and aslo to improve antenatal service in the community. TBA program is now viewed as an integral component of the safe motherhood program at the community level.

In the training on HBPR, TBAs will be taught to use HBPR by following the 5 main steps, which are as follows:

1. Step I – History taking
2. Step II – Physical examination
3. Step III – Identification of high-risk pregnancy and refer
4. Step IV – Prenatal teaching
5. Step V – Correct use of HBPR

B. Training objectives:

The foundation of this training program is a set of clear objectives that describe the behavior to be learned by TBAs and these objectives can be described in terms of

specific attitudes, knowledge, and skills to be developed regarding antenatal care. At the end of the training, TBAs will be able to;

1. Demonstrate ability to talk with pregnant women in a friendly manner and show warmth and concern.
2. State the major complications that can occur during pregnancy
3. Identify high-risk pregnancies and refer to PHC.
4. Provide basic care to women throughout the pregnancy to promote TT immunization, good nutrition, personal hygiene and family planning.
5. Demonstrate skill to explain women the importance of antenatal care.
6. Encourage women to attend antenatal clinic once in every trimester.
7. Demonstrate ability to use HBPR correctly the steps identifying at risk cases and record accurately as instructed in the training.
8. Provide health care awareness in the community regarding "at risk" pregnancy for early referral by educating the women and her family using Information Education and Communication (IEC) materials and Home-Based Maternal Record.

C. Planning the training:

Careful planning is crucial for conducting TBA training successfully. For this purpose, planning activities will be based on the existing policies and regulation of Government, NGO, and INGO which has established the guidelines with respect to the scope, limitations, and activities of TBAs. During the planning process, representation from different field such as from community members, women's group and TBA

representative, school teachers, village development committee to be involved in the planning committee to get their views and participation regarding program to achieve the goal.

D. Duration of training:

The appropriate length of time for training will depend upon several factors that specify time allocation, numbers of hours required to teach the desired knowledge and skill in the curriculum, availability of the trainees to attend, and resources of the agency doing the training i.e. budget, staff and time. Taking these factors into consideration and looking at the duration of official training time for TBA according to WHO, 1995, the existing official training time which includes initial 10 days, mainly focusing on clean delivery. Training duration for this study will be 7 days which will be centered mainly in pregnancy, and it will be fixed after discussing with Director of NHTC, and Medical Officer of Kalyanpur health center, District health Officer, Siraha, and Regional Director, Dhankuta. Subsequently, practical arrangement will be made to conduct the training and discussing with the planning committee for their availability at the time of program initiation.

E. Trainees:

Two TBAs will be selected from each nearby health post. As there are 12 health posts in the Siraha district, altogether 24 TBAs will be the trainees. Selection of 12 TBAs in each training seems to be an ideal number of participants, which is appropriate for theory and adequate practical sessions.

TBAs will be selected for the training by identifying their special characteristics on the following basis such as;

- Female
- Married
- Age above 30 years
- Child bearing experience as women who have at least one child.
- Experiences of taking care of pregnant women, birthing experiences with Care- taker of postnatal women and newborn in her community.
- Nepali-speaking women with local language will be preferred.
- Recommendation by village health development committee will be taken as to ensure that she is currently working as TBA in her community.

F. Coverage of antenatal services by trained TBAs

The total population in Siraha district are 539 923. Total target population for MCH/ FP is the reproductive age of 15-49 years which are 107,578. The numbers of expected pregnant women from 20% of married women found to be 23,454. Presently, ANC coverage in this district is 19.69%, and total TBAs in this district are 195.

For this proposed intervention program, total of 24 TBAs will be selected for the training on HBPR out of the total of 195 TBAs. Two TBAs will be chosen from each health post, which are 12 in total in this district. The reason to chose limited numbers of TBAs from the nearby health post was to make available Auxiliary Nurse Midwives (ANMs) for the supervision and it is difficult to find the adequate numbers of ANMs as

in most of the health post, female health care staffs are lacking. Therefore, 100% coverage of ANC service from TBAs is not possible, which will be within the limitation of my study.

According to national target, each TBA has to provide service to 1000-1500 population in terrain region of 3 wards. Hence, 24 TBAs will cover with her service to total 72 wards out of 1,008 in this district. As there are 150-200 expected pregnant women in one village development committee (VDC), (9 wards in 1 VDC), The mean of the population of expected pregnancies are 175. Therefore, out of 23,454 expected pregnant population, 1,400 (175 mean x 8 VDC) will be included in my study. In this way, 1 TBA will provide ANC service using HBPR to 58 expected pregnant women (14,00 divided by 24). Thus, In my study, 14,00 expected pregnant women of the reproductive age 15–49 years, will receive ANC service from TBAs from February 1999 – January 2000.

G. Trainers:

There will be three different categories of trainers such as;

1. Primary training staff:

This group is the one who is involved in designing and teaching the major portion of curriculum for TBAs, i.e. the trainers from National Health Training Center (NHTC).

2. Members of Medical and Public health staff:

Medical Officer, nurses and those who may conduct specific session according to their special areas as nutrition, antenatal care and health education can be the trainers.

3. Members from trainees group:

Experienced and capable member of trainees group who can be interested to assist with the specific parts of the session or in the practical session can work as trainer.

H. Responsible organization:

The National Health Training Center is the one that takes all responsibilities for training activities in the MCH training including those at central and district level Therefore, TBA training on HBPR will also be conducted under the auspicious of NHTC assisted with fund by Redd Barna and UNICEF, UK. These organization are continuously supporting and will support for few more years aiming to produce required number of TBAs nationwide as 1 TBA for 3 wards and 1: 100 population coverage in the country.

I. Training curriculum:

Trainers need to follow standard format when designing a training curriculum for TBA. In other word, the training manual will be used which will contain information that covers the following specific areas as, which has been shown detail in the Appendix–I.

1. Introduction and rationale of training proposal

2. Objective in which general outcome will be stating that training hopes to

accomplish.

3. Lesion plan will be used based upon the guidelines. Specific lesson plan will contain following components for the session such as;

    - Main points of information to be presented.
    - Teaching method to be used.
    - Estimated time for each session.
    - Audio-visual materials to be used
    - HBPR, booklets or manual guideline, records, iron folate tablets and supplementary contraceptive pills to distribute of the pregnant women.

The purpose of using lesson plan is to help create a learning environment which is significant to the participant. Following guidelines will be followed up for this purpose;

1. Group knowledge and skill will be taught in a logical pattern according to the content and subject matter.
2. Integrate the teaching of new ideas about health and illness.
3. To present the content to the trainees on a gradual scale.
4. To present the information in brief time periods.
5. Theory will be followed with practice.

A well developed training plan / schedule will be used which will demonstrate systematic flow to allocate and divide each session i.e. total numbers of class each day,

description of sessions, allocated time, and resource person to facilitate the session including the warm up and refreshment in between the session.

The antenatal care portion in the curriculum will be based on the "Instructional Guidebook for TBA Trainers" of National Health Training Center, National TBA program, 1996, and high-risk pregnancy detection using HBPR will be using a guide from "A guide for TBA Trainers, WHO, Geneva, 1992" as a source to develop the training package with some necessary modification and changes in order to design the curriculum according to the objective of the program.

The first part of this curriculum consists of different lessons which explain about the objectives of antenatal care, preparation to conduct the whole session, revise details on each objectives as recognition of pregnancy, examination of a pregnant women, advising a pregnant women regarding her care, managing minor discomforts of pregnancy and advising women about preparation for delivery. The second part of this curriculum deals with "at risk" conditions during pregnancy which presents in detail about the objectives that TBA will be able to recognize common danger signs during pregnancy, assess "at risk" pregnancy conditions, learn the place and people who can render referral support and learn the use of Home-Based Prenatal Record.

The main objectives of this curriculum is to improve TBA's knowledge, attitudes, and practices which is required to provide effective antenatal care including capacity to recognize at risk pregnancies using HBPR in the present National TBA

program to strengthen existing antenatal services. The curriculum will also provide a significant concept of proper record keeping with the help through a simplified tool. Since they have been using TBAs record book to fill up the activities that they carried out in the community after the initial training, request will be made with NHTC to add up additional page to record using HBPR.

J. Training approach / method:

Appropriate training method will be selected by using competency-based, non-formal adult education, which have been found to be very effective. The purpose of selecting this training approach is to develop specific knowledge, and skills required to recognize and detect high-risk pregnancies by using Home-Based Prenatal Record. As most of the TBAs in Nepal are illiterated, they have their own views, knowledge, and practices using traditionally in providing antenatal care to the women in her community. Their existing knowledge and practices can be assessed by using this training approach through which discussion will be made sharing their ideas and experiences. Additional knowledge and skills will be provided to learn the new skills in detection of high-risk pregnancies.

Various activities will be carried out in between the sessions for an active participation of trainees for the learning, such as problem solving, case study for communication and behavior with pregnant women, question answer, group work, role-play and short lecture. Demonstration and re-demonstration of the procedure will be done to help them in developing a new skill.

K. Selection of training materials:

Appropriate and suitable materials will be chosen to effectively communicate the ideas and information to trainees like pregnant women, audio-visual materials, materials for training, practical and health education session. Emphasis will be made on local resources. With this checklist, guidelines will also be used.

L. Venue of the training:

Training will be conducted in Kalyanpur primary health center. The reason to chouse this place for training is because of the availability of physical facilities, appropriate field for practical session, availability of "at risk" pregnant cases to demonstrate the trainees, and this is the center where "at risk" management can be done. The center is closest to the District health office so that necessary help during the training can be obtained.

3.7.3. Implementation of HBPR:

A core working group to implement the HBPR will be formulated with the recommendation of the project implementation team to provide effective antenatal service through the TBAs. However, potential member of the project will be a representative from different responsible authority, which has been described in Appendix-III

Use of HBPR will immediately be implemented in Siraha district after the training has been provided. Since TBA has to visit pregnant women for at least 4 times

during their pregnancy period in her locality and responsible to look after the pregnant women, i.e., 1 TBA is giving the service for 3 wards covering 1000-1500 population in terai district, she can introduce HBPR for those who are previously receiving the care from her. Two TBA from each nearby health post that have received this training will provide antenatal service using HBPR. HBPR is like a passport for the pregnant woman to enter any health center or the hospital with her pregnancy record when needed. The record will remain with the woman and she will be instructed by TBA to keep it safely.

It is necessary to examine the woman in the place where privacy can be maintained. Therefore, TBA will provide service during the daytime i.e. 12–4 o'clock so those women will be free from their household work and children will go to the school. After the completion of the procedure, TBA will record HBPR. In case, if she is not be able to record, mother or other family member, teacher, school children or neighbor will help to record it in the right time or afterwards.

TBA has been trained to perform her job as effectively as possible in order to promote antenatal service in her community. She will visit the women with the following purpose;

- To ensure whether the women is pregnant or not.
- To detect at risk pregnancy.
- To recognize need of obstetric emergency service and refer them to the health facility.

- To give the prenatal teaching.
- Home visit by TBA will be made at least 4 times as stated below :-

  1. Immediately after pregnancy has been confirmed i.e. at 1st trimester
  2. 5–6 month of pregnancy
  3. 7–8 month of pregnancy
  4. 2–4 weeks prior to delivery.

In total, TBAs will visit a pregnant woman at least once in every trimester i.e. three times plus additional frequent visits will be made if any problem exist with pregnant woman. TBAs will use HBPR by using the following steps;

Step I. History taking:

In this process she will take information about followings to determine the risk factors, such as;

- Pregnant women had an operation on her abdomen to deliver.
- Pregnant women have had more than 3 or 4 children.
- Previous baby was born dead.
- 2 previous abortions one after other.
- Very young pregnant women less than 18 years or above 35 years of age.
- Death of baby within a month.

Step II. Examination:

She will examine women from head down to toe in each visit and will refer them to health center as soon as possible if any of the following symptoms has been detected;

- Persistent vomiting and high fever after 3 month of pregnancy
- Swollen eyes, face, hand, and feet.
- Blurred vision, giddiness, and severe headache
- Fetal head not found at lowest of the mother's abdomen
- Abdomen too big for dates.
- Very pale.
- Severe abdominal pain.

Women should be referred to hospital immediately if these conditions exist:

- Woman who is short.
- Woman with deformity of pelvis or legs.
- Spotting or bleeding per vagina at any time of pregnancy.
- Absent or weak fetal heart sound or movement.
- Convulsion and unconscious.
- Premature rupture of membrane or leakage of amniotic fluid.

Step III. Prenatal advice using IEC materials and HBPR

TBA will give prenatal teaching to pregnant woman involving her mother-in-law, and her husband regarding her care during pregnancy. In most of the rural communities in Nepal, mother-in-law and husband decide to seek antenatal care for the pregnant women. TBAs will explain them the importance of proper and adequate nutrition for woman and baby and pay attention to food, which will make more blood to prevent anaemia and give her strength for delivery. With this, she will distribute iron and folate tablet and explain that these help prevent anaemia by helping to make blood. She will explain to the pregnant woman to have tetanus toxoid injection to prevent tetanus in the newborn and mother. In addition to this, she will also emphasize to take adequate rest, hygiene, care of breasts, avoid harmful practices and child spacing. TBA will also manage minor discomfort of pregnancy and will advise the mother about preparation for safe delivery.

Step IV. Identification of "at risk" pregnancy and referral:

TBA will recognize at risk pregnancy using HBPR and refer to health center.

Step V. Correct use of HBPR:

TBA will record the findings of step I to IV and record the action to be taken.

3.7. 4. Provision of IEC in prenatal teaching:

TBA will use Information Education Communication (IEC) materials in educating the woman, which content the visual presentation of "at risk" pregnancy in a

form of flip chart. TBA will use it to make the women aware about the risk pregnancy, and need of prompt refer when they have any of these factors. IEC material on nutrition is also an effective teaching aid in explaining them to eat more nutritious food to have a healthy baby. HBPR itself will be a tool of teaching aid to recognize the risk factor by mothers themselves. IEC materials are available in a form of flip chart. Request will be made with National Health Education Information and Communication Center (NHICC) to supply in Kalyanpur PHC so that TBA can obtain one set of this to use whenever she needs to educate the pregnant woman.

3.8. Supervision of TBAs providing ANC services using HBPR:

After providing the training, TBAs will be supervised on how they have been using their knowledge, attitudes and practices in their job performance by equally guiding with adequate support, corrective measures, and encouragement in order to carry out their performance in more better way so that maximum achievement will be obtained through antenatal service which will be determined by monitoring the program. Impact evaluation will be made using indicators after a year of service provided to pregnant women.

Supervision is an important process of any implemented program which help to carry out activities more effectively and efficiently. It helps to see TBA if they are doing their work using the knowledge, attitude, and practice they gained from the training. In fact, supervision is the supportive way of action to intensify their potential capability to develop decision-making power to improve referral process if they face

with risk pregnancy in the community. During the supervision, supervisor will supervise TBA in providing ANC service using HBPR by following 5 basic steps i.e. history taking, examination, prenatal teaching, and use of HBPR to assess, identify at risk pregnancy and action taking by referral to health center.

Providing training alone is not enough to improve the service. To improve the effectiveness of the program, regular supervision is essential. District health supervisor is the responsible person to supervise the district level health services. But, Auxiliary Nurse Midwife (ANM) is the direct supervisor for the TBAs working in the community A AND B. 6 Auxiliary Nurse Midwives (ANMs) will be selected as supervisors from the nearby health posts, and if they are not available, request will be made with National Health Training Center to recruit staff nurses to supervise TBAs. They will be trained on supervision activities for two days to supervise the TBA's activities on ANC service and use of HBPR. After being trained, they will visit TBAs. Each ANM will supervise 4 TBAs. Altogether, supervision will be done for 3 weeks, first week in every month in regular intervals and supervisory activities will be commencing from July 1999 and 5 months after the program implementation. It will continue until December which will include monitoring activities of the service. Supervision will be done by direct observation method at the working spot at home using checklist as given in appendix–V to assess and measure TBA's performance and help them to carry the procedure systematically and accurately so that risk factor will not be missed. TBA will be encouraged with the words of praise if they did in the

better way and correction will be made with suggestion if any mistake is found so that improvement will take place in the future.

3.9. Monitoring ANC services and use of HBPR:

The purpose of monitoring ANC service is to see the trend of ANC service coverage for the high as well as low- risk pregnant women. Department of health, 1995 stated National ANC coverage was 15% which was increased to 19% in 1996 due to increased in monitoring support provided by the Family Health Division for the safe motherhood program. The report also presented that remote region coverage was low i.e. 18% of first visit with 1.4 continuity of ANC coverage due to lack of trained female health staff, whereas the coverage in WDR was 26% ANC first visit with 1.9 of continuity of ANC visit done by pregnant women. The records of the visits can be obtained from different kind of source available in the PHC i.e. the master register, monthly keeping records, which will show the trends of ANC coverage in a month and numerical facts on records of numbers visited by high and low risk pregnant women. It will also give information of demographic characteristics as age, geographical representation, number of children, proportion of women getting tetanus toxoid immunization and iron folate tablet.

Similarly, register of consolidating information from HBPR will provide information as monthly and master register. In addition to that, other significant information can also be obtained which are related to risk factors of pregnancies such as age, parity, past obstetrical and present pregnancy history, proportion of women

referred by TBA and referred to district hospital, outcome of pregnancy as type of delivery, service provider and condition of the baby. These information contribute to analyze the characteristics of pregnant women regarding utilization of ANC service which will be beneficial in monitoring the program to know the reason of success and failure of an intervention.

The overall responsible person for monitoring ANC service is the medical officer of PHC to see proper recording done by the assigned person either staff nurse or ANM. At the same time, researcher also has to visit PHC in regular basis, once in every 3 months as to support and insist the staff to keep accurate records regarding the service. It will also provide an opportunity to see how service is being provided to the women of "at risk" pregnancy referred by TBAs.

3.10. Evaluation of TBA's activities in ANC services:

Evaluation is an important process to measure the quality of service. This has been provided to find ways to promote it's success in achieving the goal. "Evaluation is a continuous process based upon the criteria, co-operatively developed, and concerned with learners behavior" (J. J. Guilbert, 1977). Use of evaluation process is to determine how effective the training efforts have been made. The overall evaluation of the program will be successful if well-planned participatory evaluation has been conducted. Suggestion will be made with NHTC to form a four-member team to lead the evaluation involving Public Health consultant, a consultant on women development, the project coordinator, and evaluation officer of the funding agency.

After the training has been provided, evaluation process will be initiated which is necessary to see how they are doing their job and to find ways to increase their success in reaching their goals, then evaluation can be a very positive process which will benefit all who participate in it. An important quality of being a professional in the health field is having the desire to provide the best service we can and the willingness to periodically look at ourselves to see how we can improve (WHO 1995).

Periodic follow up will be made for upgrading the skills of TBAs and solving their problem. In order to work referral process effectively, collaboration between TBA and PHC is necessary. In the evaluation report, detailed description of its findings, recommendation and conclusion will be included. Recommendation will strongly emphasized mainly on action to improve the monitoring system and support through increased fedback in the field, as it will explore commitment to work by TBA and community itself to participate facilitating program to be sustained. Evaluation of program will made on the following aspects as progress and learning outcome of a training program, regarding knowledge, attitude, and practice learnt by TBA, behavior change and service impact from the training program on women in the community (WHO, 1995).

3.10.1. Training progress and learning outcome evaluation:

In this evaluation, progress of trainees will be evaluated by using different evaluation activities such as pre-test, post test regarding their knowledge, attitude and practice of ANC care during the course of training to see how effectively the training

effort are progressing and lesson to be learn in future training for better improvement. The evaluation will be done based upon the objectives, teaching methods and material resources, training length, and performance of trainees. There are several methods of assessment, since most of the TBA are illiterate, therefore practical and non-threatening method of evaluation will be used and written examination will be avoided.

Individually, pre and post- test will be taken by using a newsprint with the help of a pictorial representation of "at risk" pregnancy. Questions will be asked each of them whether they can recognize or not. Same format will be used and compared to see how many of them have improved their knowledge regarding the subject. Post-test will be taken by oral and practical examination to measure the KAP learned by TBA from the training. Practical examination will be performed to see whether the trainees demonstrate their ability to do certain practical task relevant to the learning objectives. Question will be asked to assess their ability to decision making when faced with the risk factors. Pre and post-test questionnaire are described in appendix-IV. During the assessment, explanation will be made clear and procedure will be demonstrated followed by re-demonstration from the trainees, enough time will be provided to practice each procedure guided by the facilitators.

Informal test will be taken at any time regarding the objective. Simple, clear, short, and concise question will be asked with the trainees.

3.10.2. Impact evaluation of training on TBAs:

Impact evaluation will be carried out with the implementation of program in the community to see any changes in knowledge, attitudes and practices of TBAs after the training have been provided. Since, TBA is working in her community, doing house to house visit in many times during the pregnancy period of the women; she might have a good term and relationship with the pregnant women in her locality. Direct observation at the spot will be made to see that actual change has been taken place. A checklist as described in appendix-V will be used to measure their practical skill and attitudes towards the women and her family. Similar checklist will be used before and after the training also. The major activities cover the following specific task of TBA to see the changes in their knowledge, attitudes, behavior, such as;

- Respect pregnant women and explain the purpose of her visit.
- Asks questions with women about all the necessary information regarding risk factors during pregnancy related to age, height, family size, pregnancy spacing, deformity, previous pregnancy and delivery, baby born dead or very small, recurrent abortion, first pregnancy, bleeding per vagina after delivery in last pregnancy, and previous delivery by instrument or by operation.
- She will use HBPR correctly in detection various danger signs of pregnancy and refers i.e. women with very pale and weak woman, vaginal bleeding, headache, blurred vision, swollen eyes, hands and feet, absent or decreased fetal heart sound, abdomen too big for dates, severe pain abdomen.

- Refers at least two places near her village where medical help is available.
- Gives prenatal teaching regarding ANC using IEC materials
- Explains mother about "at risk" pregnancy using HBPR, and suggest to consult her to be registered in HBPR if any of these signs are present.
- Encourages women to take nutritious diet, iron and folic acid tablets regularly and take rest.
- Explains women and family about the dangers of "at risk" condition if not referred to health center in time.
- She will maintain the privacy when doing the procedure.
- Shows interest to visit the women whenever needed follow up
- Fills up HBPR correctly with findings from step I to V and action to be taken.

Community people will start accepting TBAs not only during the pregnancy time but through out the delivery and after the delivery also if her behavior is positive towards the community, provides good service to women, thus she will get more respect and incentives.

3.10.3. Impact evaluation of antenatal services on women

1. Introduction:

The primary aim is to increase ANC coverage by providing training to TBAs to improve their knowledge, attitudes and practices of in detection of at risk pregnancy as to give effective ANC in the community. Therefore, impact evaluation will be done to

see the impact on knowledge, attitudes and practices of ANC among women from the service provided by TBAs in the community. Plan has been made to carry out the impact evaluation one year after the program implementation i.e. in February 2000. During this process, representatives of program planning committee such as

Table 3.5. Component of impact evaluation on women

Knowledge of ANC	Attitudes towards ANC	Practices (Utilization) of ANC
- Information about ANC - Needs of ANC service - ANC attendance - Risk factors and effect on health - Purpose of using HBPR	- Preference of service provider - Preference of place to get service - Reason to attend ANC clinic. - Action to be taken in "at risk" conditions - Attitudes towards TBAs service - Attitudes towards use of HBPR	- ANC utilization in previous and present pregnancy - Decision to use ANC - Dissemination of ANC use to others - Month at first visit and Follow up visits - Experiences of risk pregnancy/ action taken - Tetanus immunization - Iron, folic acid tablet use - Followed advice to take nutritional diet and rest - Maintenance of HBPR and use of it when needed

community leader, school teacher, women's leader and TBA representative will be participating throughout the planning to evaluation phase. Without this kind of co-operation, program will not succeed in achieving it's stated goal and objectives. Therefore, their involvement is much essential to develop a sense of ownership, and concern to their own health benefit, so that they will understand that if the health of a mother is good, then future generation also will be healthy. In that way, the whole community will have a productive life.

Table 3.4. shows the component of impact evaluation on women and it will be included in the impact evaluation on women in the community. These components will be the main basis for developing the survey questionnaires. Impact evaluation will help to determine the effect of the service provided by TBAs after the training. Changes can be made in the future of ANC programming according to the findings of survey.

2. Methods of evaluation:

The existing health information database in the country continues to be unsatisfactory because of weak primary health care infrastructure, incorporates and inaccurate health reporting. Data from health centers often obtained extrapolated. Therefore, household survey will be selected as a method for impact evaluation of the program, which is necessary to make an accurate assessment of maternal and child health intervention in these area. The required information is collected from a sample of households in the locality where intervention has been applied i.e. the Siraha district.

The measurement indicators of impact evaluation are the knowledge, attitudes, behavior, and practices of the women regarding the ANC service. The closed questionnaires, indicators for focus group discussion as illustrated in appendix-VII and VIII, and official statistics will be the data collection instruments to use in the study. The closed questionnaires are structured in two main parts. Part I covers the respondent's or women's background, part II covers the knowledge, attitudes, behaviors, and practice of antenatal service in previous and present pregnancy, knowledge of risk factors and action taken, their preference of person and place for service utilization, attitudes towards the service provided by TBAs and towards the use of HBPR. The official statistics will include number of antenatal first visit which is expressed as a percentage of expected pregnancies and continuity of ANC service expressed as number of total ANC visit divided by 1st ANC visit which are the important indicators to measure the ANC coverage.

2. Data collection:

A. Introduction

After a year of program implementation, planning for data collection will be made by forming a core working group to carry out the evaluation activities such as training of Auxiliary Nurse Midwives for conducting the survey, conducting household survey, focus group discussion, review of official statistics, data analysis report writing and dissemination of findings. When collecting the data, following steps will be followed up.

B. Selection of data collection methods and instruments

Data will be collected by using three different methods as focus group discussion, household survey and review of official statistics as well as consolidation record from Home-Based Prenatal Record. The focus group discussion indicators, survey questionnaires, and information from official statistics and consolidation record from Home-Based Prenatal Record will be used as tools in data collection techniques.

C. Schedule for data collection

Duration and time for data collection, data analysis, report writing and dissemination of findings will be carried out according to the schedule as stated in 3.11. proposed activities with timetable. Data collection process will be started from February 1999 and will complete by April 2000

The proposed program is a pilot study, therefore, lesson learnt from the data exercise will be incorporated in the techniques used for data collection to know how appropriate the techniques have been used for the impact evaluation. The effectiveness of the program can be determined by evaluation result. The main objective of the study is to increase antenatal coverage in the Siraha district, Nepal. If there is positive impact of the program having increased in the antenatal coverage after the program implementation, approaches will be made to the Family Health Division and National Health Training Center to implement this program district wise and even countrywide. With this, request will be made with the responsible authority to support by providing resources.

D. Methods of data collection:

1. Focus group discussion (FGD):

A focus group discussion is defined as a discussion consisting of a small number of individuals (6–12) are drawn together to express their views on a specific set of questions in a group environment with the help of a moderator. The purpose of FGD is to get the background information on a topic, which can stimulate new ideas, and concepts reveal potential problem in a research design and help interpret evidence generated from a quantitative study. The main advantage of focus group discussion is to provide quick and inexpensive sources of information that can be set up in a wide array of settings with a great range of respondents.

i. The Objective of focus group discussion

It has been felt that focus group discussion is one of a qualitative method of data collection providing in-depth information on knowledge, attitudes, behavior, and practices of pregnant women regarding ANC service. It will also help to develop survey instrument and a method to collect data for impact evaluation and to discuss the major component of ANC service.

Two focus group discussion session will be conducted separately with those of age 15–49 years who has receive of service from TBA and with service provider themselves i.e. the TBAs of age 30-50 years. The numbers of the women participating in the first discussion group and second group will be 6–12. The venue of the focus

group discussion will be organized in nearby health post as the place will be quite and privacy can be maintained to discuss the topic.

ii. Focus group discussion with the women

The focus group discussion for the women will be started by a Public Health Nurse from the District Health Office, and become a moderator for the session. As she is skilled in dealing with pregnant women and have an ability to take pertinent information from the group. Guidelines will be followed as mentioned in appendix-VIII, by the moderator. The main component that included in the focus group discussion are the knowledge about antenatal service, use of the service i.e. when and how often, decision to seek service, source of information, knowledge of risk symptoms during pregnancy, preference of place, and person for antenatal checkup.

An orientation program will already be organized for the focus group conducting by members to ensure their role and responsibility as a moderator, note taker, observer, assistant to play the tape recorder and one helper to serve the snack and drinks in the session. Discussion will continue for an hour, as participant's convenient. All the members participating in the discussion will be female, so that discussion will be more easy and run comfortably.

In the initial phase of discussion, all of the participants will be introduced with each other to help them, discuss more freely and friendly. Permission will be taken to play tape recorder. Purpose of discussion will be explained to them. All of the participants will be encouraged to explore their thoughts, views, ideas, perception,

practices regarding ANC. Moderator will lead them into a topic with less structured, open-ended questions to elicit the broadest and most original responses then moves to more structured questions to draw out more specific information. In the mean time, moderator will be observing facial expression, gestures of the body, and reaction, which will be included in the result part of the discussion.

Main task of the note taker will be prompt taking notes on entire contents discussed in the group. In addition, she will remind moderator time to time to include all the content to be discussed without missing the component. Assistant will operate tape recorder to collect all the information emerges from discussion and to make ready to play afterwards. Researcher will play of an observer's role and will sit quietly behind the group and watching all the activities going through a discussion. At the end of the discussion, moderator will express the gratitude to participant for successfully participating the session and ask assistant to play the recorded conversation. Session will be closed with the service of tea and snacks complimented by small gift to each of them.

iii. Focus group discussion with the Traditional Birth Attendants

The main purpose of conducting focus group discussion with the Traditional Birth Attendants is to know about their perception regarding potential benefits from the use of Home-Based Prenatal Record in detection of high-risk pregnancy. In addition to that, ideas and views can be drawn out about the difficulties they faced in using the records and their ideas about the solutions to solve the problems.

The place, moderator to conduct the focus group discussion, and process will be similar to discussion with the women. Focus group discussion guidelines will be used as an indicators to discuss, which has been shown in appendix-VII. The main components of focus group discussion indicators are the use of Home-Based Prenatal Record, benefits from using this, response of the women and family about the use of record, response of health post staffs to her referral, help of Maternal and Child Health Volunteer and Auxiliary Nurse Midwife in her work, management of high-risk pregnancies after the training, record keeping of pregnant women till delivery, difficulties in use of HBPR, and suggestion to promote antenatal ANC utilization among women.

2. Household survey

The main purpose of doing household survey is to see the impact of the training given to TBAs and ANC service provided by TBAs to pregnant women after the training is provided. The main expected outcome of the survey is to collect the specific information regarding knowledge, attitudes, and practices of antenatal services from the women who received antenatal service from the TBAs. Information on demographic characteristics such as age, parity, socio-economic status and economic level related to antenatal service utilization can also be obtained. The component of impact evaluation as described in table 3.7. will be included in the survey questionnaires.

The interview will consist of a set of closed and structured questionnaires as illustrated in appendix-IX. The major component of impact evaluation will be included in the survey questionnaires are the knowledge of ANC, attitudes towards the service and practices or utilization of ANC. There will be total of 1,4000 expected pregnant women receiving antenatal service from the trained TBAs and be selected purposively for an interview. For the survey, 6 ANM staffs from nearby health post or health center will be recruited as an interviewer. They will be given training on the interview technique in both theory and practice to collect data in the Siraha district for one month.

3. Official statistics:

Data will be collected from the official statistics. There are 3 major sources to be used to measure the impact of the service such as, Master register, monthly report form and consolidating record from HBPR from Kalyanpur health center. Master register and monthly report form will provide a record of ANC coverage. This will also provide records of proportion of women receiving tetanus toxoid immunization, anemia prophylaxis and treatment for disease associated with pregnancy. The information also consists of demographic characteristics as age, parity, numbers of children, and occupation. Consolidating records from HBPR provide concise record of above information together with numbers and types of at risk pregnant women referred by trained TBAs. From the record kept by TBAs, the following information can be obtained, such as numbers of antenatal women receiving care from them, numbers of referred women to health center, birth outcome i.e. type of delivery and

birth weight of the baby. Most of the TBAs are illiterate. Therefore, they will be helped by the Female Community Health Volunteers or family members to make record. Information from the various sources will be cross- checked to see the accuracy of findings.

3.11. Budget for the pilot study:

Budget is required to conduct the training as well as to carry out monitoring, supervision and evaluation of the program which has been described below:

Table 3.6. Budget for the study.

Descriptions	Amount (In US$)
Training program:	
A. Training allowance 3 persons x 16 days x $ 9	432
B. Researcher allowance 1 person x 16 days x $9	144
C. Assistance allowance 2 person x 7 days x $ 3	42
D. Tea and snakes for participants , trainers and others	100
E. Meeting allowance 10 person x 2 days x $ 4	80
Sub-total	**798**
Materials and supplies:	
A. Stationary	200
B. Printing HBPR 1000 copies	300
C. Questionnaires printing	30
D. Report writing and printing	300
Sub-total	**830**
Field program:	
A. Researcher 1 person x 17 days x $ 9	153
B. Interviewer 6 person x 15 days x $3	270
C. Transportation/ travel allowance	200
Sub-total	**776**
Monitoring and supervision:	
A. Perdiem 6 supervisor x 18 days x $ 9	972
B. Meeting allowance 10 person x 1 day x 3 times x $ 4	120
C. Researcher 1 person x 3 days x 3 times x $ 9	81
D. Miscellaneous	500
Sub-total	**1,661**
Grand Total	**4,077**

3.12. Potential problems:

Basically, TBA training aims to improve the existing knowledge, attitudes, and practices of TBAs in identifying the "at risk" pregnancies providing effective ANC using HBPR which sought to increase the enrollment of pregnant women in utilization of the service. Training intervention is only a partial effort in this regard. There are several exogenous factors as culture, local health condition and practices, health workers commitment, public policies, economic support, all influencing the success and failure of any health programs in developing countries have not addressed the broader women's health concern.

TBA alone with other health workers have significant role to contribute program effectiveness and those people are the key element in the community-based program in prevention, promotion including at risk pregnancy identification, referral to health facility, encouraging women for tetanus injection, education of nutrition and so on. Hence, they will be helping health institution to understand community health needs and opportunities and link between NGO, INGO personnel.

Illiteracy is also a potential problem felt in the evaluation of the National TBA training program (DON, 1992). Because of this recording, TBA record card and HBPR will not be an accurate and reliable source of information on the activities in which TBAs are involved. Therefore, literacy program should recruit TBAs and TBA literacy should be specific objective of the National TBA program.

The problem may arise in supervision and monitoring process of the program due to the shortage of ANM staffs. This is the problem countrywide and serious concern for the policy-making bodies and decision-makers. Adequate support and facilities should be provided to ANM to retain them in post such as seat allocation for further study, security for living and other family allowance with regular supervisory support from upper authority.

Other potential problem seemed that there is an absence of collaboration and co-ordination between the TBA program and CHV training program. Therefore, emphasis should be made for CHV referral of pregnant women to trained TBAs for using HBPR, mass media, campaign through radio, posters, CHVs and health post staff are required.

3.13. Ethical issues in the study:

HBPR is new to the community. History taking and examination are the essential task to be carried out by TBA in the home situation, sometimes in front of the family member. For this reason, not only the pregnant women but family member will also be assured and well explained about the benefits of registering for HBPR. Representatives from the community are also responsible to advocate about HBPR within the community.

TBAs will be explained to maintain women's privacy during the procedure. Women and family will also be assured, well explained, and permission will be taken prior to data collection. They will not be forced to explore the issue that they do not

want to, in the public. Information will be kept confidential during the study. Clearance will be made the program for their own benefit. Information will be kept confidential within the two areas of the study.

3.14. Limitations of the study:

There will be only 24 TBA that trained out of in Siraha District, and ANC service will be provided to those women who are within the coverage of trained TBAs. But the rest of the pregnant women can utilize the service directly from health post and health center, even from those TBA who are in the study. But the main thing is that if the program succeed in achieving the goal, it can be further expanded Nationwide

In some developing countries, Home-Based maternal record has been made combined for mother and baby up to 5 years of age, as this is a trial to introduce HBPR and the study will be focused mainly on pregnancy. Hence, HBPR can be used till delivery. The institution 's yellow card will be used for the baby. If purpose of HBPR is successful. Combined card can be developed afterwards as long as woman can keep safely and maintain it properly at home. The program will be launched under the umbrella on NHTC which itself is within the National program.

Another limitation of my study will be on the supervision activities which needs to be carried out regularly to make the program more effective and sustainable. But, in most of the health posts, Auxiliary Nurse Midwives are absent. Therefore, regular

supervision of TBAs are questionable. For that, recommendation will be made with National Health Training Center in this regards.

3.15. Program sustainability:

After the completion of the training TBAs will return to their community and continue to disseminate the information they have learned to other TBAs within their own group. Thus training effort a domino effect and are multiplied many fold carrying out the principle of "each one teach one". The program will be helpful to enhance their role and promoting closer collaboration between them and health institution offers new hope for improving the health of women through sustainable primary health care program. Thus, expanding the knowledge, attitudes, and practice of TBAs, so they can assume more responsible roles in primary health care program and can be a productive and rewarding experience for the trainees, for the health practitioners, for other health professional, and community members.

Since TBAs receives no payment nor are provided incentives by the government. They are given the training and a delivery kit box, with a minor equipment like fetuscope. Any reward they receive from the community which depends on quality of service she provided to them and affordability of the family to pay and according to custom and rules existing in the community. To have a good impact of the service given by TBAs, they could be encouraged by providing rewards, not necessarily in cash, at least one academic scholarship to her child depending on the intellectuality, free treatment for her in the district hospital recommended by village development

committee. These efforts can make a significant impact of the service in the community.

At present, constraints to successful antenatal services found to be several such as; inadequate deployment and availability of female maternal and child health care staffs, inaccessible and inadequate health and family planning services, non-existence of technical guidelines and training for the provision of maternity care, inadequate referral linked service system, under-utilization of existing MCH/FP services, neglect of health education related to safe motherhood and inadequate and uncoordinated management and supervision mechanism (Safe motherhood program in Nepal, 1993).

The proposed program will serve as solutions to some of the problems or to overcome the constraint in some extend in some areas by accessing antenatal service in the rural community, simple and inexpensive tool in using high risk detection, making the woman and family aware of "at risk" pregnancy and to utilize available services so that in one hand, possible complications can be prevented and in the other hand, antenatal coverage will be increased. The program will work if adequate supervisory support from Auxiliary Nurse Midwife, availability of proper referral linkage, quality service in the first referral center are available.

During and after the training, TBAs will be explained well about the purpose of introducing Home-Based Prenatal Record as a new technology, and tool to detect high-risk pregnancies so that they will know this for their own benefits in a sense that if

they provide effective antenatal care they can get women to conduct safe deliveries. With this she can have more incentives, and credits from the community where they work.

Regarding sustainability of program in terms of financial support from the donor agencies, Family Health Division will take responsible in this regards. As this is the part of national healthcare system, each health post has the responsibility to train the TBAs by mobilizing existing health care staffs specially the Auxiliary Nurse Midwife, Public Health Nurse and other trainers from specific areas relating to Maternal and Child Health services.

References

Cabral, M., Kamal, I. V., & Mehra, L. (1992). *A Guide for TBA Trainers*. Program of Maternal and Child health and Family Planning. Division of Family health, WHO. Geneva. pp. 3-56.

Department of Health Services (1996). *Annual report*. His Majesty's Government of Nepal, Ministry of Health, Department of Health Services, Planning & Foreign Aid Division. pp. 74-77.

Department of Health Services (1993). *National Traditional Birth Attendant Training and Strengthening Program Plan of Action, Budget and Target, FY 1993/1994*. Ministry of Health, His Majesty's Government (HMG) of Nepal. pp 1-15

Department of Health Services (DoHS) (1996). Annual report of Department of Health Services. Ministry of Health, Nepal

Family Health Division (1994). *Review of Safe motherhood Program in Nepal*. Department of Health Services, Ministry of Health, HMG of Nepal. pp. 1-4.

Family Health Division *(1993). Safe motherhood Program in Nepal. A National Plan of Action. (1993)*. Department of Health Services, Ministry of Health, HMG of Nepal. pp. 32-46.

Khemmari, M., Utairat, W. & Siripitak, P. (1990). *Training Workshop for RTC Trainers on Participatory Training Approach for Nepalese Health Trainers*. UNDP office for project services. Asia & Pacific Program for Development Training & Communication Planning (DTCP). pp 1-3.

Knaufff, L., Gersonnin, J., Bhattacharya, S., Chaulagai, C.N., Giri, K., & El-Maletaway. A. (1992). *Report of the Evaluation of the National TBA Training Program*. Division of Nursing, Ministry of Health, Redd Barna, UNICEF, UNFPA.

National Health Training Center (1996). *Instructional Guidelines for TBA Trainers*. Ministry of Health, Health Service Department, HMG of Nepal, Kathmandu.

Niraula, B.B. (1994). Use of health services in Hill villages in central Nepal. *Health Transition Review*. pp. 151-152

World Health Organization (1995). *Guidelines for Training Traditional Health Practitioners in Primary Health Care*. WHO/SHS/DHS/TRM, Geneva.

World Health Organization (1994). *Home-based maternal records. Guidelines for development, adaptation and evaluation*. WHO, Geneva.