

Campaign to End Fistula in Nepal

Report On Need Assessment for Obstetric Fistula in Nepal



Ministry of Health & Population



WOREC Nepal



United Nations Population Fund

Campaign to End Fistula in Nepal

Report On

Need Assessment for Obstetric Fistula in Nepal



MoHP



WOREC



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Mr. Babu Ram Gautam
Executive Director
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Abbreviations

ANC	: Antenatal Care
BPKIHS	: BP Koirala Institute of Health Sciences
CEmOC	: Comprehensive Emergency Obstetric care
CS	: Cesarean section
DHS	: Demographic Health Survey
EmOC	: Emergency Obstetric Care
GDP	: Gross Domestic Product
HIS	: Health Information system
HIV	: Human Immuno-deficiency Virus
INF	: International Nepal Fellowship
ISOFS	: International society for Obstetric Fistula Surgeon
MDG	: Millennium Development Goals
MMR	: Maternal Mortality Ratio
MoH	: Ministry of Health
OF	: Obstetric Fistula
PHC	: Primary Health Care
SWOT	: Strength Weakness Opportunities and Threats
UN	: United Nations
UNDP	: United Nation Development Program
UNFPA	: United Nations Population Fund
US	: United States
VVF	: Vesico-vaginal Fistula
WHO	: World Health Organization
WOREC	: Women's Rehabilitation Center

Executive Summary

Introduction: Obstetric fistula is the presence of an opening between a woman's genital tract and urinary tract or between the genital tract and the rectum due to untreated obstructed labor or iatrogenic causes. This disease is characterized by the leakage of the urine and/or stools through the vagina.

Objective: The general objective of this need assessment is to contribute in decreasing the obstetric fistula related morbidity Nepal by providing strong information that could help in struggle against Obstetric Fistula related morbidity.

Methods: This is a cross-sectional study of 4 health sites in the Republic of Nepal between, November 1st 2011 and December 16th 2011. Data were collected on the prevention, the management, the social reintegration, the training and the research related obstetric fistula. Standard assessment tool, structured questionnaire for health workers and patient's interview were used. We have also performed a literature review on obstetric fistula in Nepal.

Results: With the MMR of 281/100,000 live birth, it is estimated that there is 200 to 400 new cases of OF in Nepal each year leading to the overall 4300 prevalent cases. Our assessment shows that, obstetric fistula surgery is practiced in three sites with information verifiable on the registers and files. One fourth site is willing to be really involved in struggle against OF. None of the site is dealing with the five pillar of obstetric fistula. Two of three sites have OF surgery in permanent base while one site actually proceeds by camps. Even where surgery is practiced, there is still a need for training, nursing and surgical technical protocol related to obstetric fistula. Struggle against obstetric fistula is not really coordinated at the country and regional level.

Conclusion and recommendations: We recommend elaborating a national strategy of struggle against the obstetric fistulas, to elaborate protocols for care, training tools; organize the struggle against obstetric fistula while founding on the five pillars that are the prevention, management, reintegration, training and operational research. While dealing with the national strategy, it is urgent to empower the facilities really involved in OF surgery and the one committed to start the program.

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1 Introduction

1.1 Definition

Obstetric fistula is the presence of an opening between a woman's genital tract and urinary tract (i.e. vesicovaginal fistula) or between the genital tract and the intestines (i.e. rectovaginal fistula). The vesicovaginal fistula is characterised by the leakage of the urine through the vagina, and rectovaginal fistula is characterised by the leakage of flatus and stool through the vagina. (Figure1). Both vesicovaginal and rectovaginal fistula, are associated with a persistent offensive odour leading to the social stigma and out casting of these affected women (1;2).

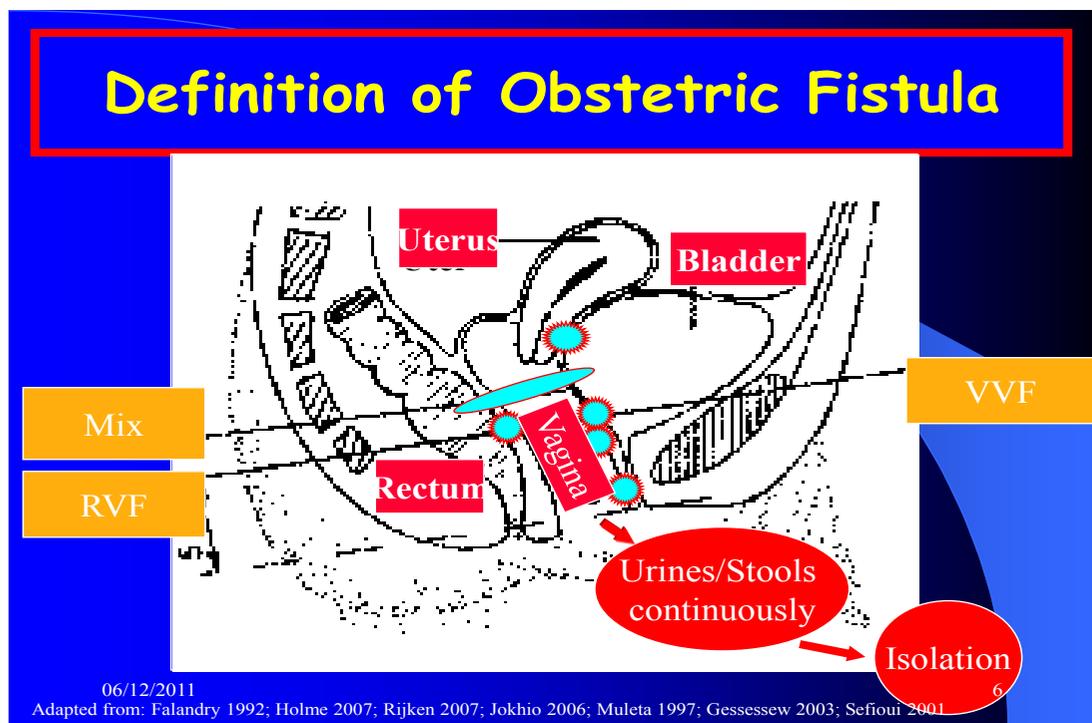


Figure 1: Definition of Obstetric Fistula

1.2 Causes and pathophysiology

There are three prominent causes of obstetric fistula. The cause of obstetric fistula is ischemia of the soft tissue between the vagina and urinary tract or between vagina and rectum by compression of the fetal head (Figure 2). The second most common cause of obstetric fistula is the direct tearing of the same soft tissue during precipitated delivery or obstetric manoeuvres. The last and least common cause is elective abortion (3);(4). These causes are not mutually

exclusive and may have additive effects. Each of these causes occurs as a complication of delivery or uterine evacuation usually in the absence of skilled medical staff assistance.

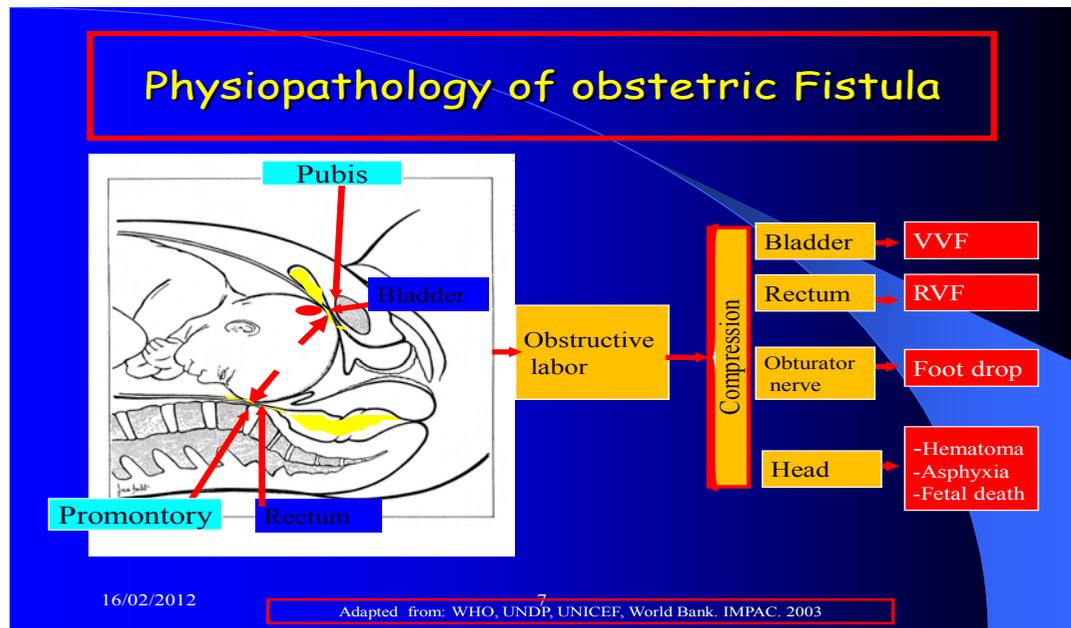


Figure 2: Most common Pathophysiology of the occurrence of Obstetric Fistula

1.3 Risk factors

Seven primary risk factors for obstetrical fistula commonly reported include the place of birth and presence of a skilled birth attendant; the duration of labor and the use of a partograph; the lack of prenatal care; early marriage and young age at delivery; older age and multiparity; lack of family planning; and a number of other poorly-defined additional factors (5), (3), (4).

Obstetrical fistula is most often the result of prolonged and obstructed labor. Up to 95.5 % of 259 cases of obstetrical fistulae reported in Zambia occurred following labor for more than 24 hours before the completion of delivery (6). Ninety-two percent of 201 fistula cases reported in northern Ethiopian women did not have any antenatal care (7). Eighty-five percent of the 52 fistula patients in a Niger series were delivered at home(8).

These underlying characteristics were not in other low prevalence series (6;9). Only 20.0 % of 52 cases of fistula reported in Saudia Arabia had a duration of labor lasting for more than 24 hours (9). In Zambia, only 2.5% of 259 patients reported no antenatal care before delivery (6). Delivery at home was reported

by only 9.6% of the 259 patients in the same report (6).

1.4 Incidence and prevalence in the World

Obstetric fistula is found in all developing countries including South Africa. However the majority of obstetric fistulae are confined to the “fistula belt “ across the northern half of sub-Saharan Africa from Mauritania to Eritrea; and in the developing countries of the Middle East and Asia.

Several population-based estimates of obstetric fistula have been presented in the obstetrical literature. The most frequently cited estimate is the one introduced by Waaldijk in 1993 when he cited an incidence rate of 1 to 2 per 1000 deliveries. This incidence rate suggested a worldwide incidence of 50,000 to 100,000 new cases annually; and a worldwide prevalence of 2 million cases of obstetric fistulae (10). A recent study highlighted the lack of a scientific basis for this incidence and prevalence of fistulae (11). These authors reported an estimated prevalence of 188 per 100,000 women aged 15 to 49 years in South Sahara Africa and emphasize the need for population-based studies.

1.5 Early evidence on the availability of obstetric fistula in Nepal

A report from Patan Hospital revealed that 339 cases were operated between 1985 and 2004; another report revealed that 72 cases were operated in Surkhet between 2009 and 2011, and the last one revealed that 28 cases were managed in Patan Hospital between 2010 and 2011. Additionally one publication from Patan hospital was identified concerning 23 cases managed between 2005 and 2007(12). These findings confirmed that obstetric fistula is not a rare event in Nepal.

1.6 Incidence and Prevalence of Obstetric Fistula in Nepal

1.6.1 Incidence

The population of Nepal is estimated in 2011 at 29,391,883 inhabitants. The worldwide incidence cases of OF is estimated at 50,000 to 100,000 new cases annually(10). The Worldwide Maternal Mortality Ratio is estimated at 5000,000 maternal death (13). The Maternal Mortality Ratio of 281 /100,000 live births was recently reported as a result from the survey from 1993 to 2003 (14). With the crude birth rate of 24.3 / 1000 inhabitants, we estimate at 714, 222 new live births in 2011(15). Subsequently, with, we estimate 2006 maternal death in 2011. With

the Fistula /maternal Mortality Ratio of 1/5-10, s, we estimate at 200-400 new cases of obstetric fistula each year. Considering the overall 714,222 live births, we deduce the OF incidence of 0.3 to 0.6 OF per 1000 deliveries.

1.6.2 Prevalence

The population of Nepal is estimated in 2011 at 29,391,883 inhabitants. The sex Ratio (Male/Female is of 0.9). The feminine population is estimated at 15469412 women. The proportion of the women in reproductive age is not specified, but in references to countries with similar population's pyramidal structure, we estimate that the women of 15 to 49 years represent 50% of the feminine population representing 7,734706 women in the reproductive age. In the countries with a high incidence of the obstetric fistulas as 2/1000 childbirths, one estimates to 188 fistulas for 100,000 women in age 15-49. In a country intermediate incidence as Nepal (until 0.6/1000), we estimate at 56.4 fistulas for 100,000 women aged 15 49. We arrive thus at the deduction of 4362 OF prevalent cases

1.7 Implication of UNFPA and other partners for nation action against OF

The relative high incident cases of OF (200-400 new cases per year) and the relative high prevalent case (4362 in Nepal) set up OF as a real public health problem. Better knowledge of state of struggle against obstetric fistula is needed to raise awareness and mobilize the community, the health providers, policy makers and program managers on the appropriate preventive and management measures.

In 2010, UNFPA Nepal in partnership with WOREC Nepal initiated the Campaign to End Fistula. Since Obstetric Fistula is not yet fully integrated in the MoH agenda of reproductive morbidities, UNFPA/WOREC has agreed to continue the campaign for 2011. As little is known about Obstetric fistula in Nepal, UNFPA/WOREC supports the Nepal Ministry of Health in assessing the current situation in struggle against Obstetric Fistula; therefore, facilitate access to information which MoH can use as a guide in determining priority areas for intervention, tracking progress, planning program, assessing program effectiveness, co-ordinating donors and raising funds for reducing/eliminating obstetric fistula related morbidities.

2 Objectives of the Needs assessment

The general objective of this needs Assessment is to contribute in decreasing the obstetric

fistula related morbidity in Nepal by providing strong information that could help in struggle against Obstetric Fistula related morbidity.

The specific objectives are:

- To do a situational analysis of the fight against obstetric fistulas based on the five pillars which are: Prevention, complete management of cases (identification, surgery, nursing and counseling), social reintegration, training, and research on obstetric fistulas.
- To identify strengths and weaknesses in the fight against of obstetric fistulas and propose solutions
- To propose mechanisms of implementation of our proposed solutions
- To propose monitoring and evaluation mechanisms.

3 Background

Nepal is situated in South of Asia and is suffering from poverty as several other countries of this part of the world, with surface area of 140,800 sq Km and located in the Far North of India and in the South of China (Annex1). In 2011 the population is estimated at 29,391,883 inhabitants for the whole country, with a crude birth rate of 24.3‰, a male/female sex ratio at 0.9 with women of reproductive representing about the half of the population (15),(16).

3.1 Public Health in Nepal

The Nepal's health policy named "Reorientation of Primary health care" was adopted in 1992 and its system is organized in three levels.

3.1.1 Health Policy

"After the world nations agreed to attain the goal of 'Health For All' (HFA) by the year 2000 through primary health care approach, Nepal also stepped ahead to extend and strengthen the integrated approach to meet the national goals.

The ninth five-year plan (1997) had set a target to improve public health status by strengthening of the existing infrastructure for preventive, promotive, curative and rehabilitation services (37).

The second long-term health plan (1997-2017) aims at improving health status of the people, particularly those whose health needs are often not met; the most vulnerable groups, women and children, the rural population, the poor,

the under-privileged and the marginalized. It emphasises on assuring equitable access by extending quality essential health care services with full community participation and gender sensitivity by technically competent and socially responsible health personnel throughout the country (37).

The national health policy was adopted in 1991 (FY 2048 BS) to bring about improvement in the health conditions of the people of Nepal with emphasis on (i) preventive health services (ii) promotive health services (iii) curative health services (iv) basic primary health services with one health post each in the entire 205 electoral constituencies to be converted into primary health care centre (v) ayurvedic and other traditional health services (vi) community participation (vii) human resources for health development (viii) resource mobilisation (ix) decentralisation and regionalisation (x) drug supply, and (xi) health research. Nepal has 5 Regional hospitals, 14 health zone, 75 health district, 205 electoral health constituencies where are located health centre, health post and sub-health posts. (Annex 2).

3.1.2 Health system organization

The health system of Nepal is organized in three levels; the central, the intermediate and the peripheral level, each with administrative structures, health units (17).

3.1.3 Human resources

In 2006, with a population estimated at 25,800,000 inhabitants, there were weak physician coverage (0.2 per 1000 inhabitants), and weak nurses coverage (0.2 per 1,000 inhabitants)(18). In 2004, WHO estimated that, human resource (i.e.: restricted to: nurses, midwives or doctors) coverage to achieve the 80% coverage of skill birth attendance and measles immunization, ranged from 2.02 to 2.54 per 1,000 inhabitants (19). Nepal was therefore classified among the 57 worldwide countries in acute human resource crisis, (18), (19). The worse situation is observed in the more remote area located at the mountain. Geographic distribution of physicians is very heterogeneous and more heterogeneous for specialists. This is particularly worst in some regions the Mid-West, where there is no gynecologist at the Regional hospital.

3.1.4 Health sector financing

In 2010, the health expenditure represented 1.57% of country Gross Domestic

Product (GDP). In 2010, the total budget allocated to health was NRs 23,813 billions, representing 7.05% of the total budget (337,900 billions), and was therefore very far from the Abuja target of 15%. Indeed, in April 2001, heads of state of African Union countries met and pledged to set a target of allocating at least 15% of their annual budget to improve the health sector as the mean for progress towards the 3 health related MDG's Goals (20).

The external and internal funding of the total health expenditure were respectively, 48.50% and 51.50%. The payment of health services is 46.84 % by "out-of-pocket" as reported in 2010.

In 2000 government funding for health matters was approximately US\$ 2.30 per person, and approximately 70 percent of health expenditures came from out-of-pocket contributions. Government allocations for health were around 5.1 percent of the budget for fiscal year 2004, and foreign donors provided around 30 percent of the total budget for health expenditures

3.2 Reproductive health in Nepal

The reproductive health in Nepal follows the national health system within its three levels.

3.2.1 Reproductive health organization

Nepal took part in the promulgation of the Millennium Declaration initiative in 2000, and committed among other countries to achieve the several goals by 2015. Improvement of maternal health by reducing pregnancy-related deaths by three-quarter (75%) was one of those practicable goals(21). The operational structures for maternal health in Nepal are integrated in the national health system following the 3 levels of health services; however, its administration is centralized at the ministry level. Maternal mortality has shown a decrease from 539 per 100,000 live births in 1993 to 281 in 2003 (14). The second long-term health plan (1997-2017) aims at improving health status of the people, particularly those whose health needs are often not met; the most vulnerable groups, women and children, the rural population, the poor, the under-privileged and the marginalized.

3.2.2 Availability and utilization of emergency obstetric care

The number of facilities that aimed to provide EmOC in relation to the size of the population is estimated at five comprehensive emergency obstetric care

(CEmOC) facilities per 500,000 inhabitants in Nepal (i.e. 75 district hospitals for 29 millions inhabitants). This means 1,3 CEmOC per 500,000 inhabitants, this in agreement with the minimum acceptable number of 1 CEmOC per 500,000 inhabitants recommended by the UN organizations(22). The basic EmOC is estimated at 205 primary health centers (excluding the health posts and sub health post) leading to 3.5 basic EmOC per 500,000 inhabitants, this figures is almost the minimum acceptable number of four basic EmOC per 500,000 inhabitants stated as the threshold according to UN organizations. This shows that Nepal has enough network of health facilities, but still important to know which ones are able to provide the CEmOC permanently, as some of the patients have been in obstructed labor , but were transferred because of the lack of cesarean care.

In Nepal, 71,9 % of the deliveries, as reported in the demographic health survey (DHS) in 2011, occurred at home (15). Nevertheless, there is a great geographical disparity in facility use for delivery as only 17% of deliveries occurred at health facilities in the Mountain compared to 31 % in Terai(15).

3.2.3 Cesarean section delivery

The Nepal national CS rate in 2006 was 2.7%; there is a great heterogeneity of CS rate in Nepal which varies from 8.4 % observed in the urban setting to 1.9% in the rural setting. The recommended target range is between 5% and 15% of all live births (22).

3.2.4 Referral system

There is no effective referral system to ensure that referred patient really reach the center where they were referred. The referral and counter referral forms are not always filled.

3.3 Obstetric fistula management in Nepal

In 2011, based on the prevalence and incidence rate of obstetric fistula cited above, we estimated that between 200 to 400 new cases of obstetric fistula occur each year in Nepal leading to a prevalence of about 4602 cases.

Report from BPKIHS, Patan Hospital and Surkhet revealed that surgical campaigns have been organized in those three institutions by the UNFPA, GSF, INF and WOREC and about 600 women have been operated since 1987.

4 Methodology of the Needs assessment

The methodology in this Needs assessment consists of the “Case study” of each site, identifies the problem, propose the solution with discussions based on the literature review.

4.1 Needs assessment tools

Need assessment tool were standard structured questionnaire for interview with OF patients, and Health workers. Standard questionnaire for assessment of the site struggle against OF.

4.2 Design and site of the study

This is the case study of four health centres recognized as Fistula Unit of potential fistula unit in Nepal. The Study sites included:

- BP Koirala Institute of Health Sciences Dharan, in East Region of Nepal located at 550 sqKm from Kathmandu.
- Regional Hospital Surkhet, Nepal, in Centre West of Nepal, located at 550 sqKm from Kathmandu.
- Prasutigriha Maternity Hospital Thapathali Kathmandou, Nepal
- Patan Academy of Health sciences, Patan, Nepal in Kathmandu

4.3 Persons as study population

In this assessment OF patients, and nurses involved in reproductive were interviewed with a structured semi-qualitative questionnaire, doctors were interviewed with un structural questionnaire.

4.4 Site as a study population

With an assessment tool, we collected the information on reproductive health with emphasize on obstetric fistula. Data were collected through a questionnaire for site assessment (Annex 3), for health workers interview (Annex 4) and for patients interview (Annex 5).

4.5 Variables of interest

Data were collected on different topics related to the struggle against OF. Target points been prevention, management, reintegration, research and training.

Concerning the patients, we collected the information on the socio-economic status (age, marital status, educational level, occupation, residence); how the patient got information on the the management of obstetric fistula; reproductive history; circumstance of the occurrence of obstetric fistula; prior knowledge on obstetric fistula and its treatment; perception and attitude toward obstetric fistula and their lifestyle. Concerning the nurses we collected the information on knowledge, attitude and practice related to obstetric fistula. Information from Doctors concern their willingness and their perception regarding the struggle against OF.

4.6 Data management and data analysis

The data were collected in the standard files prepared for the purpose of this need assessment (Annex 6). The information from the file was directly analyzed without entry on any database.

4.7 Literature review

We conducted a search of the literature to identify all relevant articles published in the Nepal and in the World since 1987 in the following bibliographic databases: Medline (Pubmed, Ovid), Cochrane Trials Register, Cumulative Index to Nursing and Allied Health. We conducted a variety of searches using a combination of the following medical terms and MeSH headings: "obstetric fistula", "urinary fistula", "vesicovaginal fistula ""; vesico-vaginal fistula ""; vesico-vaginal fistula ""; recto-vaginal fistula ""; rectovaginal fistula "" and "" recto vaginal fistula, with Nepal always present as key word.

5 Results of the study

During the study period ranging from November 1, 2011 to December 16 2011, 3 sites were assessed. Findings from each site are presented below.

5.1 Case study of BPKIHS Dharan

5.1.1 SWOT analysis BPKIHS

In the table below, we present the elements of the analysis for BPKIHS

Table 1: Findings and recommendations from SWOT analysis for BPKIHS

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
1	Human resources -Overall 13 Gynecologists -2 OB/G operate Fistula -2 nurses got training on OF -1 WOREC social worker involved in counseling -All the 15 MD anesthetists involved -About 100 nurses in O/G unit -No physiotherapist involved	-Training of the 2 OF surgeons at mid level -Other Ob / Gyn not involved in OF -Nurses not train for counseling -No training in research methodology	- Partnership with the UNFPA	- Lack of coordination at Ministry level	-Train all Gynecologist at level 1 -Train 6 nurses of OBG -Train 5 nurses for counseling -Train 2 physiotherapists
2.	Logistic -1 examination room -3 operative theatres -34 overall beds in O/G Unit -Post op care with 3 beds -Sterilization room onsite -Central kitchen -Waiting house with 30 beds -2 tables of vaginal surgery -1 mobile lamp	-Ceiling lamp with old glasses -No wheel chair for operating surgeon -Examination table non gynecological -No mobile lamp for examination room -No specific room/ bed for fistula	-The complete logistic autonomy of O/G Unit - Partnership with UNFPA	-	-Provide a table in examination room -Need of one mobile lamp for examination room -Dedicate and equip a room for OF

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
3.	Instruments -1 set for OF surgery	-no Scott retractor -no Thorek scissors -no right angle valve -Hegar dilatator in set -jaylor valve not in set		-	-Provide : -2 Thorek scissors -3 Scott Retractor -1 vaginal Jayle valve -2 right angle valves -2 Hegar dilators size 10
4.	Drug and consumable supply Availability of a central pharmacy for the hospital	-Monocry or Biosyn 2/0; 3/0(needle 5/8; RU-46). -Tranexamic acid -Ephedrin -No consumables KIT	-The Central pharmacy can order the request of the service	-	Provision of -Monocry or Biosyn 2/0;3/0 (5/8) (needle 5/8(RU-46) -Tranexamic acid -Ephedrine -Consumables KITS
5.	Service offer-1 EmOC care delivery 14.4.10-14-4-11 -Deliveries:8748 -Cesarean delivery (28.8%) -Vacuum delivery (2.9%) -Forceps delivery (0.27%)	-Normal deliveries 7 USD -Cesarean delivery 90 USD		-Only 10 % of deliveries subsidized	-Negotiate subsidy from the government for free of charge delivery
6.	Service offer-2 (Baseline tests) -Blood bank available -Baseline lab tests provided (HIV, creatinine, BG, etc...)	-	Central laboratory with specialists	-	-
7.	Service offer-3 OF Sensitization -Integrated activity in WOREC package	-Radio/TV use only for surgical camp -No registers	-Presence of mother's association	-Absence of father's associations	-Draft a communication plan for OF. -Prepare register system

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
8.	Service offer-4 Cases identification (2010-2011)	-Integrated activity in WOREC package	-Talk on fistula only when they go for post op follow up. -No collaboration with the baseline health services	-Presence of mother's association	-Draft a "suspicion-confirmation- orientation" plan
9.	Service offer-4 Fistula surgery (2010-2011)	-2010 : 14 fistula operated -2011 :13 fistulas operated 14/14 in 2010 by spinal anesthesia	-7 failures with difficult repeated cases on waiting -6/13 in 2011 by general anesthesia	-	-Special session for failed cases -Dedicate a complete OF team -Plan with WOREC for identification load
10.	Service offer-5 Socio- economic reintegration	-Provided By WOREC	-Limited to counseling and home visit	-Absence of Fistula coordination group	-Elaborate a plan for reintegration including eligibilities, protocols, training, grant for rehabilitation etc...
11.	Availability of protocols	-	-None is available	-Teaching status	Elaborate Protocols for each activity
12.	Research and Health Information System	-Presence of a recruitment book -Presence of patients form file -One publication in 2008 on 23 cases in Nepal Medical Journal.	-Recruitment book to be improved -no register book for fistula surgery -no reintegration register -No Social register	-The Teaching status of the Unit	-Develop HIS for all activities -Improve recruitment register and Patients' form file -Basical training for research methodology

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
13.	Referral and Counter referral system	Not organized	-Organization of referral system – -Presence of WOREC network	-	-Develop referral-Counter referral system for OF management -Develop the protocol for implication at each health level
14.	Local partner in the fight against OF	-No appropriation by local administration	-Presence of WOREC network	Lack of OF on the MDG Road Map in Nepal	-Identify potential stakeholders -Plan the advocacy -Identify other NGO's that can help. -Make collaboration plan with each partner
15.	Monitoring and evaluation	-No working group on OF -No monthly meeting on OF	-The Teaching status of the Unit	-	-Elaborate a Monitoring system involving all partners
16.	Treatment cost	-Nobody pay for identification, transport for follow up visit -Patient receive transport fee only if operated	-Presence of UNFPA and WOREC	-Non included in road map of government priorities	-Make a plan for identification -Make a plan for follow up -Make a plan for transportation
17.	Structural organisation	-No real task distribution	-multidisciplinary character of OF management	-The least awareness and training on OF	-Make an organigram for fight against fistula
18.	Sanitation	-	-	-	-

5.1.2 Interview with patients

Information from the patients interviewed reveals that:

1. None of them had more than 20 years at first delivery
2. Only $\frac{1}{4}$ had any ANC
3. $\frac{1}{3/4}$ delivered at home
4. Only $\frac{1}{4}$ is completely accepted and she is the one operated within the 3 months
5. $\frac{3}{4}$ have being staying OF for 20 to 21 years
6. Reasons of delay are lack of information, poverty and belief that the surgery may be very dangerous
7. One of the 3 is leaking after 3rd attempt

5.1.3 Interview with the workers

1. Information from the nurses revealed: lack of training on facility based prevention of OF, Lack of information on clinical base counseling, lack of training in nursing care, be they are willing to learn.
2. Informations from the socioeconomic counseling revealed the will for but their protocols and monitoring system are not clear.
3. Information from the Gynecologist revealed their will to improve the competency on fistula surgery and the will for implementation of a training program.

5.2 Case study of Surkhet Regional Hospital:

5.2.1. SWOT analysis INF-Surkhet

In the table below, presents the elements of the analysis for INF-Surkhet OF Camp in Mid-western Regional Hospital

Table 2: Findings and recommendations from SWOT analysis for INF- Surkhet site:

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
1	<p>Human resources</p> <ul style="list-style-type: none"> -Overall 1 non surgical OB/G in Hospital -1 OB/G and 1 OBGYN to operate Fistula in camp -11 nurses available including 2 from hospital during camp -4 nurses one trained counsellar involved in counselling and post op care - 2 MDGP are involved in anesthesia 	<ul style="list-style-type: none"> -Non of the Hospital team has been trained in OF surgery - Hospital Nurses not involved directly in camp -No physiotherapist involved 	<ul style="list-style-type: none"> - INF taking the lead role in OF management in this region 	<ul style="list-style-type: none"> - Hospital unable to take active part in management of OF care 	<ul style="list-style-type: none"> -Train all Gynecologist and MDGP at level 1 -Train 6 nurses of OBG -Train 5 nurses for counseling -Train 2 physiotherapists
2.	<p>Logistic</p> <ul style="list-style-type: none"> -1 examination room - 2 operative theatres -Sperate ward for O/G -Sterilization room onsite -Central kitchen -1 table for vaginal surgery 	<ul style="list-style-type: none"> -Ceiling lamp with old glasses -No wheel chair for operating surgeon -No mobile lamp for examination room -No specific bed for fistula 	<ul style="list-style-type: none"> Logistics are managed by INF during Camp 	-	<ul style="list-style-type: none"> -Provide a table in examination room -Need of one mobile lamp for examination room -Dedicate and equip a room for OF
3.	<p>Instruments</p> <ul style="list-style-type: none"> -1 set for OF surgery (INF) 	<ul style="list-style-type: none"> -no Scott retractor -no Thorek scissors -no Hegar dilator in the set 	<ul style="list-style-type: none"> INF uses separate instruments for camp 	-	<ul style="list-style-type: none"> -Provide : - 2 Thorek scissors -3 Scott Retractor -1 vaginal Jayle valve -2 Hegar dilators size 10
4.	<p>Drug and consumable supply</p> <ul style="list-style-type: none"> Supplied by INF 		<ul style="list-style-type: none"> If required pharmacy can buy on demand 	-	

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
5.	Service offer-1 Emergency Obstetric care delivery 14.4.2010-14-4- 2011	-Deliveries:2410 -Cesarean delivery (8.1%) -Vacuum delivery (3.7%) -Forceps delivery (0.24%) All maternity services are free of charge	SBA training site		
6.	Service offer-2 (Baseline tests)	-Blood bank available -All baseline lab tests provided (Hb, HIV, Creat, Blood group, etc...)	Presence I laboratory	-	-Blood bank needs to be strengthened
7.	Service offer-3 Sensitization on OF	-INF responsible for this part	Dr Sherly from INF has won the faith of the community	-Absence of father's associations	-Draft a communication plan for OF. -Prepare register system
8.	Service offer-4 Cases identification (2010-2011)	-Integrated activity of INF Nepal	Have developed two days of orientation for health workers at the district level		-Draft a "suspicion- confirmation-orientation" plan
9.	Service offer-4 Fistula surgery (2010-2011)	- 2009 :10 fistula operated 2010 : 11 fistula operated -2011 :51 fistulas operated -Urinary diversion is also performed in 3 cases -Most of the surgery done in Spinal.	-Camp is done with the help of urosurgeon and team	No established center is present	Hospital should take the ownership in OF surgery -HIV test should be part of preoperative care

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
10.	Service offer-5 Socio-economic reintegration	Tried during their post operative stay	-Limited to counseling and phone call follow up	-Absence or Fistula coordination group	-Elaborate a plan for reintegration including eligibilities, protocols, training, grant for rehabilitation etc...
11.	Availability of protocols	None	-None for counseling -None for Surgery -None for nursing -None for reintegration	-	Elaborate Protocols for each activity
12.	Research and Health Information System	-Presence of patients form file -presence of forms for telephonic follow up	-Recruitment book to be improved -no register book for fistula surgery -no reintegration register -No Social register	-	-Develop Health information system at each level -Improve the recruitment register and Patients' form file -Basic training for research methodology for the staff
13.	Referral and Counter referral system	-	Not organized	-	-Develop a system of referral-Counter referral system for OF management -Develop the protocol for implication at each health level
14.	Local partner in the fight against OF	-No appropriation by local administration		Lack of OF on the Road Map for acceleration of Reduction of Maternal Mortality	-Identify potential stakeholders -Plan the advocacy -Identify other NGO's that can help. -Elaborate a collaboration plan with each partner

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
15. Monitoring and evaluation	Presence of patient form files	-No working group on OF -No monthly meeting on OF		-	-Elaborate a Monitoring system involving all partners
16. Treatment cost	INF Nepal pay for case management	-Nobody pay for identification, transport for follow up visit -Patient receive transport fee		-Non included in road map of government priorities	-Make a plan for identification -Make a plan for follow up -Make a plan for transportation
17. Structural organisation		-No real task distribution		-The least awareness and training on OF	-Make an organigram for fight against fistula
18. Sanitation	Good	-	-	-	-

5.2.2. Interview with patients

Information from the patients interviewed reveals that:

1. The first delivery was between 17-21 years of age.
2. Staying with OF for 4yrs to 34 years
3. Only ¼ had any ANC
4. All tried to deliver at home but 75% were brought to the hospital. One underwent LSCS
5. All of them were looked after by their husbands mostly. But they were never felt confident as before OF occurred in the community and started withdrawing from social responsibilities.
6. Two of them went to India for the treatment of OF within 1 month to 2 years duration.
7. Two of them used family planning methods.
8. Two of them conceived even with VVF but had abortions.
9. Reasons of delay are lack of information, poverty and did not know where surgery is done.
10. Two of them knew from some health workers about the fistula camp in Surkhet
11. Two of them had successful repair, one had failure and one had diversion done successfully.

5.2.3. Interview with the workers

1. Information from the nurses revealed: lack of training on facility based prevention of OF, Lack of information (among nurses working in Surkhet Hospital) on clinical counseling, lack of training in nursing care in hospital nurses, be they are willing to learn.

2. Informations from the socioeconomic counseling revealed the will for but their protocols and monitoring system are not clear.

3. Information from the MDGPs revealed their interest in establishing Fistula Care center in Surkhet Regional Hospital and incorporating the plan of fistula unit in new coming hospital building. They are willing to train nurses and young doctors even during the fistula camp.

4. INF Nepal has been doing fistula camp since three years and has established two days of Obstetric fistula identification and sensitization program in nearby districts. This has helped to lonk the cases with the fistula surgery team. Financial, logistic and other required resources are provided by INF.

5.3 Case study of Patan Hospital:

5.3.1. SWOT analysis of Patan Hospital

In the table below, presents the elements of the analysis for Patan Academy of Health Sciences.

Table 3: Findings and recommendations from SWOT analysis for Patan site:

	Strength	Weakness	Opportunity	Threats	Recommendations
1	<ul style="list-style-type: none"> -Overall 13 Gynecologists -5 OB/G operate Fistula -2 nurses got training on OF -1 WOREC social worker involved in counselling -All the 3 MD anesthetists involved -About 26 nurses in O/G unit 	<ul style="list-style-type: none"> -Training of the 2 OF surgeons at mid level -Other Ob / Gyn not involved in OF -Nurses not train for counseling -No training in research methodology No physiotherapist involved 	<ul style="list-style-type: none"> - Partnership with the UNFPA 	<ul style="list-style-type: none"> - Lack of coordination at Ministry level 	<ul style="list-style-type: none"> -Train all Gynecologist at level 1 -Train 6 nurses of OBG -Train 5 nurses for counseling -Train 2 physiotherapists -Train 2 persons in research initiation
2.	<ul style="list-style-type: none"> - 4 operative theatres -Separate OT for CS - Dedicated room for OF :5 beds -Post op care with 7 beds -Sterilization room central -Central kitchen -4 tables of vaginal surgery -1 mobile lamp 	<ul style="list-style-type: none"> No provision of proper examination for VVF in ward -No wheel chair for operating surgeon 	<ul style="list-style-type: none"> Institute has been doing OF surgery from more than 20 yrs - Partnership with UNFPA 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> -prepare a separate examination room for OF
3.	<ul style="list-style-type: none"> -They have most of the instruments for OF surgery 	<ul style="list-style-type: none"> -no Thorek scissors -no Hegar dilatator in the set -no right angle valve -no scott's dilator -no head lamp -no Cuscoe speculum 		<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> -Provide : - 2 Thorek scissors -3 Scott Retractor -2 right angle valves -2 Hegar dilators size 9-10

	Strength	Weakness	Opportunity	Threats	Recommendations
4.	Drug and consumables supply Provision of hospital supply exists	-No ready set for consumables (KIT)	-	-	Demanded indigo caramine for some difficult cases
5.	Service offer-1 EmOC 14.4.10-14-4-11 -Deliveries:8490 -Cesarean delivery 25.1% -Vacuum delivery (8.3%) -Forceps delivery (0.4%)	-Normal deliveries 7 USD -Cesarean delivery 90USD	-	-Only some 10% of deliveries subsidized after social verification	-Negotiate subsidy from the government for free of charge delivery
6.	Service offer-2 (Baseline tests) -Blood bank available -All baseline lab tests provided (Hb, HIV, creatinine, Blood group, etc...)	-	Presence of a central laboratory with specialists	-	-
7.	Service offer-3 Sensitization on OF	-	-Presence of wored in same district	-Absence of father's associations	-Draft a communication plan for OF. -Prepare register system
8.	Service offer-4 Cases identification (2010-2011) -Integrated activity in WOREC package	-Talk on OF only when post op follow up visit. -No collaboration with the baseline health services	-	-	-Draft a "suspicion-confirmation-orientation" plan
9.	Service offer-4 Fistula surgery (2010-2011) -1985-2004 : 443 OF surgery -2011 :42 OF surgery -1985 to date:485 OF surgery -Almost all by spinal anesthesia, -some cases in team with cryosurgeons	-	-	-Organization of the 2010 camp with wored and had training for few other health workers	-Collaboration with WOREC for identification load

	Strength	Weakness	Opportunity	Threats	Recommendations
10.	Service offer-5 Socio-economic reintegration	-Provided By WOREC	-Limited to counseling and home visit	Presence of saperate fistula ward	-Elaborate a plan for reintegration including eligibilities, protocols, training, grant for etc...
11.	Availablity of protocols	-	-No available protocol	-The Teaching status of the Unit	Elaborate Protocols for each activity
12.	Research and Health Information System	-Presence of a recruitment book -Presence of patients form file	-Recruitment book to be improved -no reintegration register -No Social register	-The Teaching status of the Unit	-Develop HIS at each level -Improve the register and Patients' form file -Encourage to publish the articles on OF
13.	Referral and Counter referral system	-getting referrals from most of the part of country	Not organized	-Organization of heath system in several levels -Presence of WOREC network	-Develop a system of referral-Counter referral system for OF management -Develop the protocol for implication at each health level
14.	Local partner in the fight against OF	WOREC	-No appropriation by local administration	Presence of WOREC network	-Identify potential partners -Plan the advocacy -Identify other NGO's that can help. -Clarify collaboration with each partner
15.	Monitoring and evaluation	Presence of patient form files	-No working group on OF -No monthly/trimestrial meeting on OF progress	-The Teaching status of the Unit	-Elaborate a Monitoring system involving all partners

	Strength	Weakness	Opportunity	Threats	Recommendations
16.	Treatment cost WOREC/UNFPA pay for case management	-Nobody pay for identification, transport for follow up visit -Patient receive transport fee only if operated	-Presence of UNFPA and WOREC	-Non included in MDG road map of government as priorities	-plan for identification -plan for follow up -plan for transportation
17.	Structural organisation -One doctors is in charge	-No real task distribution	.multidisciplinary character of fistula care	-The least awareness and training on OF	-Make an organigram for fight against fistula
18.	Sanitation Good	-	-	-	-

5.3.2. Interview with patients

Information from the patients interviewed reveals that:

1. Both had first delivery at and more than 20 years their age.
2. No one had ANC check up.
3. Delivered at hospital after it was prolonged at home.
4. One had been operated within one year of occurrence in India
5. Both cases had continuous catheterization done for 10-11 days after delivery.
6. The clients are looked after by their husbands and well accepted by family. But had some social problem among friends.
7. One of them had already under gone two operations from India and had both Vaginal and Abdominal surgeries.
8. Lady from far west needed language reintegration too.

5.3.3. Interview with the workers

1. Information from the nurses revealed, lack of training on facility based prevention of OF, Lack of information on clinical base counseling, only few nurses had formal training in management of OF.
2. Informed consent was found to be one of the pre-requisites but formal counseling protocol for pre-operative, post operative and on discharge was not developed from the counseling revealed the will for but their protocols and monitoring system are not clear.
3. There is good use of partograph for each patients in labor but it has not been found in use as a preventive measure for OF.

5.4 Case study of the Maternity Hospital:

5.4.1. SWOT analysis Maternity

In the table below, presents the elements of the analysis for Maternity Hospital (Prasutigriha).

Table 4: Findings and recommendations from SWOT analysis for Maternity Kathmandu site:

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
1	Human resources -2 Gynecologists in training -2 Nurses trains ?-MD anesthetists ?-Physiotherapist	No OF management practice	- Partnership with the UNFPA		-Train all Gynecologist at level 1 -Train 6 nurses of OBG -Train 5 nurses for counseling -Train 2 physiotherapists
2.	Logistic - 3 operative theatres (1 for Gynecology) -415 overall beds -Post op care with 3 beds -Sterilization room onsite -Central kitchen -1 table of vaginal surgery	-No wheel chair for operating surgeon -Examination table in OPD non gynecological	- Partnership with UNFPA	-workload of the hospital	-Allocate an equipped examination room -Need of one mobile lamp for examination room -Dedicate and equip admission room for O
3.	Instruments 6 sets for VH	.Lack of Right angle / malleable .Jayle vaginal retractor, .Thorek scissors , .long scalpel holder .Long needle holder	Practice vaginal Hysterectomy	-	Provide instruments for OF surgery

	Strengths	Weaknesses	Opportunities	Threats	Recommendations
4.	Drug and consumable supplies Availability of a central pharmacy for the hospital with non specific consumables	-No 60 cc syringe, needle 5/8; ureteral catheter	-The Central pharmacy can order the request of the service	-	-Provision of consumables sets for OF
5.	Service offer-1 Emergency Obstetric care delivery 14.4.2010-14-4-2011	-Deliveries:23570 -Cesarean delivery:4848 -Vacuum delivery :656 -Forceps delivery :7 -Stillbirth:455 -Uterine rupture:9	Free of Charge except for those who are in private cabins	-	-
6.	Service offer-2 (Baseline tests)	- Blood bank available -All baseline lab tests provided (Hb, HIV, creatinine, Blood group, etc...)	Presence of a central laboratory with specialists	-	-
7.	Service offer-3 OF	-	Potential partnership with Worec/UNFPA	-	-To be implemented

5.4.2. Interview with health workers

Table 5: Findings and recommendations from Health workers interview in Maternity Kathmandu

	Findings	Comment	Recommendations
1	-Each nurse have stay at least 4 years in her unit - 5/5 agree to know OF. -3/5 non-Obstetrical genital fistula -3/5 ignore RVF(gaz / stool leakage) -4/5 declare to have seen at least 1 case of OF	-Lack of knowledge on type of Fistulas	-Training on Types of genital fistuas
2	-5/5 know that OF occurs during delivery or PP -5/5 think that vacuum delivery could cause OF -5/5 declare that labor prolong for more than 12 h favors OF	Lack of knowledge on complication of delivery	Training
3	-None of them know that OF could be cured without operation -Only 2/5 declare to have ever seen obstructive labor(3 weeks and3 years) -The Foley catheter was not used)	These observation in a referral maternity hospital suggest little knowledge on Obstrutive labor	-Training on diagnosis of OF -Training on secondary prevention

5.5 Problems identified in struggle against OF in Nepal

What we call problems identified represents the synthesis of the different insufficiencies observed in the different site assessment, and interviews. To properly understand this section, the reader or the program manager must regularly refers in the SWOT analyzes, and to the different interviews with the staff and with the patients.

Nepal is a country with strong progress regarding maternal health in general. However; Struggle against Obstetric Fistula health does not seem to be in progress as illustrated by the findings in the present “Needs Assessment”.

- The expected incidence of OF in Nepal is 200-400 new cases each year.
- The estimated OF prevalence suggest that there might be about 4300 prevalent cases in Nepal
- There is no national or regional staff responsible for OF program as the

major challenges.

- There is no guidelines OF services in Nepal;
- There is very few human resources dealing with OF in Nepal;
- There is no monitoring and supervision regarding OF activities
- There is no organized training on OF ;
- None of the facilities assessed in dealing all the five pillars of struggle against OF. qua
- There are no sustainable available financial resources regarding OF.
- Quantitative are qualitative studies are missing to understand the health seeking behavior of the population and factors which influence the use of health facilities;

5.6 Proposed solutions for improvement and their implementation

This Needs Assessment” gives a strong insight on the several aspects on which health workers, partners and policy makers must act if we want to fight against obstetric fistula related morbidity in Nepal and make progress toward the achievement of the MDGs. Based on the result of the case sites analysis on obstetric fistulas and in the context of the whole Nepal, we suggest a revision of the actual maternal and newborn health system through the strategies stated below.

5.6.1. Re-organization of the maternal health program with a focus on OF morbidity

The difficulties to achieve the 5th MDG regarding maternal morbidity and particularly in struggle about obstetric fistula appear as an emergency in Nepal. Based on the urgency to move through the MDGs, we suggest a re-organization of the maternal and newborn health program. It is crucial to appoint a national and Regional staff responsible for Obstetric Fistula challenge. Their functions on struggle against OF should be to:

- Monitor the development of the national strategy against OF
- Monitor the development/adaptation and disseminate guidelines for OF services in Nepal;
- Improve the development and the management of human resources in OF program;
- Organize the support of health workers in OF by continuous supervision

and training;

- Plan, monitor, evaluate activities and produce updated reporting on progress ;
- Manage available financial resources.
- Use updated data and reports on progress to search for potential funding, and technical support for OF;
- Disseminate the results of the program activities through conferences, publications and meetings;
- Conduct qualitative studies to understand the health seeking behavior of the population and factors which influence the use of health facilities;
- Develop culturally acceptable and feasible approaches to improve the use of health facilities for obstetric fistula care.

Once the system is well organized, it has to provide a high quality of health care.

5.6.2. Improve the quality of health care

Concerning prevention and medical treatment of OF, interviewed health workers did not know much about the secondary prevent of OF using Foley catheter or the early treatment with Foley catheter. Surprisingly, all the health units assed are the referral institution and therefore are supposing to receive cases of prolonged and obstructive labor from the periphery. Moreover, many of those health workers are practicing in the birthing center or in the post natal unit; the lack of their knowledge on the secondary prevention suggest than some of the patients who need this care those not benefited from it.

Patients stay mostly less than 24 hours in the hospital after delivery in Nepal. The obstetric fistula is observed only from the second week among about 60% of patients. These observations suggest that use of preventive urinary catheter for secondary prevention might be on great help. Unfortunately, only 17.9% of fistula patients underwent the urinary Foley catheter. It appears that, health workers in Nepal need skill training in the secondary prevention of obstetric fistula and early treatment with Foley Catheter.

Concerning the surgery, we found that, health information system in place in different facilities did not allow analyzing properly the outcome according to the WHO recommendations. However, the overall analysis revealed about 70 to 75% success after undetermined number of operations. WHO proposes the

successful closure rate for first repair at 85% in each facility with the continence achievement among the closed cases at 90 % (23). Strong actions are needed to increase the number of health staff, improve their competence and stimulate them to have good interpersonal relationship. Health workers have to be trained to provide OF services. Several equipments that are missing in the institutions as revealed by SWOT analysis need to be provided.

The OF care should be available and permanent 24 hours per day and during the 7 days of the week in each and every selected health Units. Routine supervision of staff on OF activities in regions and districts should be performed by regional supervisors in collaboration with executive team in the health facilities. This could be done by giving part time responsibility to the health workers already involved in other reproductive health activities. The staffs involving in maternal health that are working at the regional and district hospital are not always competent in OF prevention as we identified from the interview. Therefore it is important to train the staff in regional and district hospitals on OF facility based prevention.

5.6.3. Improve the accessibility to OF care

The interview from the patients revealed that, lack of financial support, and lack of the information on the OF surgery were the main barriers to the care. Many of them have stay for more than 20 years with OF. Improved access to obstetric fistula care also means that there should be no financial barrier, no geographical barrier, and that the referral system is organized.

The cost of obstetric fistula treatment including surgery, follow-up, medical and surgical supplies is estimated at up to US\$ 400, with additional cost for transport and lodging (24) .

In Dharan and in Patan Hospital, interventions for obstetric fistulas have been financially supported by UNFPA since 2010 and in Surkhet since 2001 by support from INF. Patan Hospital has been managing cases since 20 years with their own fund raised for the purpose. Many patients were still in the community contrarily to the report from Africa where up to 87% of obstetric fistula patients are divorced (25). However, none of the patient interviewed had occupation other than housewife, similar to reports from Africa where up to 54% of OF patients have no form of income; yet even those who have an income are still very poor as

the occupations are always farming(25). Finally, obstetric fistula patients are mostly poor and this underlying condition lead to their inability to pay for their operation.

The lack of fistula treatment services, cited by some of the patient as consistent to the lack of the awareness also as a reason for not having been previously operated, suggests that there is a need for at least one permanent surgeon trained on obstetric fistula in each Regional hospital, but this a gradual process and should start initially by some selected institutions. Moreover, the medical staff all over the country should be informed on the availability of the services in order to refer the patients to the hospital.

All these conditions should be monitored through the pre-establish tool well known by the whole team involved in the OF program. Financial barriers can be improved by partially or completely free service as this is actually ongoing for uterine prolapsed care. Community based mechanisms to share the risk and the costs could also be implemented. Kits for Management of should be made available in each region. Projects such as INF, WOREC and UNFPA, presently ongoing in Nepal should be invited to pay more attention to this issue. The geographical barrier may be solved by making facilities available, in each region with proper equipments and care providers also available.

Regarding the referral system, it is important that the country has one or two referral Unit where very complicated cases should be referred.

The running cost for this process should be ensured through the operational budget or through an organized health insurance system. The referral and counter referral form must be standardized and the health information system organized so that, both levels being able follow the continuity of the care. In spite of the availability and accessible to good quality of care provided by a well organized OF program, there is still a need to meet the target population. This can only be possible with a well functioning OF health promotion.

5.6.4. Improve the OF health promotion and primary prevention

Several risk factors known in the literature was found in the interviewed patients. Those factors include, the place of birth and presence of a skilled birth attendant; the duration of labor and the use of a partograph; the lack of prenatal care; early marriage and young age at delivery; older age and multiparity; lack of family

planning; and a number of other poorly-defined additional factors(3);(4).

Teenager's status at the occurrence of obstetric fistula among the interviewed patients suggests that efforts for safe motherhood, including measures to prevent obstetric fistula should target teenagers. Strong measures should be taken to prevent early marriages. This implies that, beside the health education, more strong familial legislation might be of great importance in the obstetric fistula health policy. Also, very few of them had an ANC at indexed pregnancy; ANC care should be encouraged as the familiarity with the medical staff could be a way of trusting them and make women more proud to seek health care at the beginning of labor. The women's and men's associations, radio and television informative programs could be used for this purpose. Partnership with the men's associations could be an opportunity to involve men in reproductive health of women. Definitely, it is clear that primary prevention is a cornerstone of fight against OF, yet, treatment should be provided for women who are already suffering from this morbidity.

The relative low prevalence of contraceptive use in Nepal (43.2%) as reported by DHS 2011 with the lower rate of 14.4% in teenagers, the high teenage status at first delivery and the high grand multiparity rate among obstetric fistula patients interviewed suggest that promoting Family planning might be of great importance to target OF in Nepal.

5.6.5. Organize the management of prevalent cases of obstetric fistula

- Cases investigation

There is a great need of a team of health workers capable of managing cases of obstetrics fistula. This is important as we reported more than 4000 prevalent cases, and that each year there may be 200 to 400 new cases of OF in Nepal, while the cured cases managed in 2011 does not exceed one third of new cases as 126 cases was managed with variable proportions of failure cases whose surgery must be taken [Surkhet (59 cases), Darhan (14 cases) and Patan (43 cases)]. It is important to organize the awareness on OF identification and orientation prior to the surgery. This activity should implicate community investigation for case suspicion, but also the health workers at peripheral level as the suspected cases need confirmation before orientation the surgical centre. We propose below an

algorithm that could be used for this purpose.

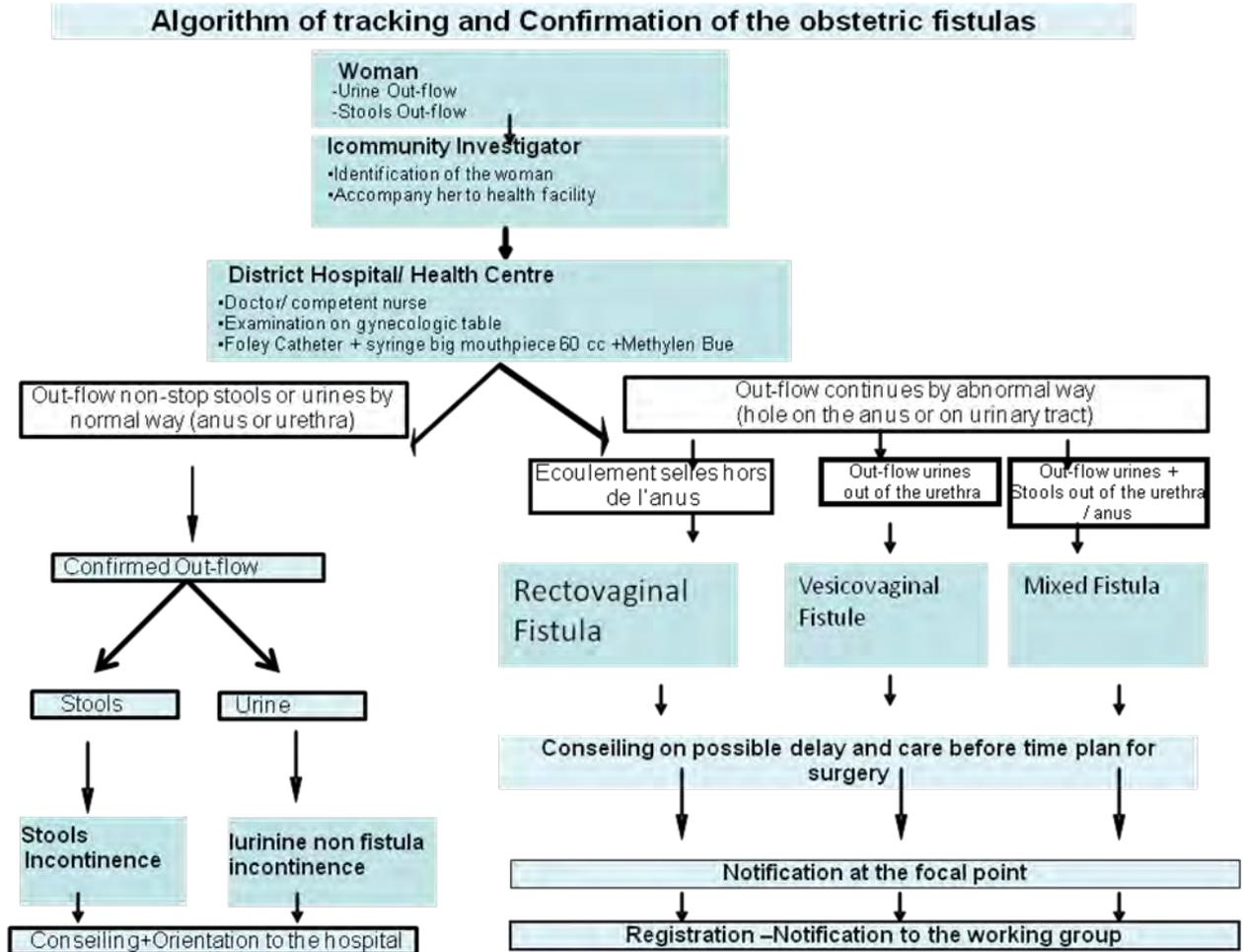


Figure 3: Algorithm of tracking and confirmation of Obstetric Fistulas

Surgery and peri-operative care:

The training of surgeons and gynecologists for obstetric fistula management should be initiated. However, this needs a well defined curriculum including theoretically and practical sessions in collaboration with the faculty of medicine in Nepal and the MoH. Two training sessions of 2 weeks each could be enough for a qualified surgeon or gynecologist for being able to make a good prognostic classification and manage the case considered as simple (class 1 or 2 out of 4).

Attention should also be made for the management of complicated cases as recurrent failure was reported in different center leading to the great embarrassment of the surgical

team.

The fistula can be irreparable for some patients as this is reported for about 5% of cases. Then, urinary diversion surgery initialing indicated for low urinary tract cancer is the only option available (26), (27). Palliative surgery as ureteral diversion was also reported in three patients in Surkhet with real difficulties for early post operative management of one of them. As this is a major and palliative surgery for which it is still difficult to predict long early and long term outcome. Complications for this type of surgery are quite common and up to 61% of patients will develop complications, and surgical re-intervention will be needed for up to 39% of them (27). The decision for this type of operation should be dedicated to an ethical committee and their operation per se should be dedicated to a multidisciplinary involving psychiatrist, gynecologist, urologist, digestive surgeon and reanimation consultant (28).

However, one should be aware that many classifications were suggested by several authors and some of them are included in the manual recently published by FIGO and partners (29). The FIGO's manual on obstetric fistula surgery proposed two classifications, that from Waaldijk, that from Goh and browning (30), (31), (32). All those classifications really consider all the three prognostic factors. However none of these three classifications made the combination of the three prognostic variables to be able to define the classes clearly for the fistula of which one has in the face or of the surgeon of which one must evaluate or help in improving level of expertise. The classification proposed in 1992 by Falandry and modified in 1998 by Camey seems defining enough, indeed it proposes three prognostic classes that are, the simple fistula; the complex fistula and severe fistulas (33), (34). Based on several classifications by other and on our experience, we propose the classification presented below (Table 6-7)

Table 6: Criteria for prognostic classification proposed

Criteria for pronostic classification	Localisation	Size	Fibrosis
Criteria of good prognosis	-Retro-trigonale	< 2 cm	-Absence/discrete
Minor criteria of bad prongnosis	-bladder neck -Non retrotrigonal vesicovaginal wall	2-4 cm	-Presence of fibrosis without vaginal stenosis

Mijor criteria of bad prongnosis	-Urethra -Supra vaginale -ureteral -Complete circumferential defect -Multiple fistulas	>4 cm	-Vagina stenosis -Intra urethral fibrosis
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Table 7: Prognostic Classification of genito-urinary fistula proposed

Classes	Designation of the fistula	Characteristics	Status variables alteration
Class1	simple	-No alteration -1 minor pronostic variable	<ul style="list-style-type: none"> • Size <2cm and • Retrotrigonal and • Soft Vagina
Class 2	complex	-2 minors pronostic variables	<ul style="list-style-type: none"> • Size ≥ 2cm or • Involvement of trigon/cervix or • Vaginal moderate fibrosis
Class 3	complicated	-3 minors minors pronostic variables	<ul style="list-style-type: none"> • 3 minor pronostic variables
Class 4	Severe	-A least 1 major pronostic variable	<ul style="list-style-type: none"> • Size >4cm • Vaginal stenosis • Urethral defect ureteral/uterin involvement • Intraurethral Fibrosis • Circonfereential defect • Multiple fistulas

5.6.6. Organize socio economic reintegration for obstetric fistula patients

It is important to ensure the quality of life of those neglected women after their treatment. This is important as almost all the interviewed patients said that they use to hide themselves and even thinking about committing a suicide. This attitude of OF patient is not rare; indeed, it was demonstrated that up to 30% of fistula patients tend to hide themselves, while up to 15-38 % tend to commit a suicide (35),(36). In Africa, up to 87% of obstetric fistula patients are divorced and up to 54% of them have no form of income; yet even those who have an income are still very poor as the occupations are always farming (25). Our findings are similar to those from the literature as none of the interviewed patient had any

occupation other than housewife. The promotion of psychological support, economic and social reintegration should be an integral part of the program. This can be possible through the collaboration of the MoH with the ministry of social affairs, the ministry of labor and the ministry of finance. The promotion of occupations like farming, sewing, and trading could be encouraged depending on the desire of the woman.

5.7. Time Frame for implementation of proposed solutions

Table 8: Recommendation's implementation: activities and Time-Frame plan

Recommendations	Activities	Delay for implementation			
		Immediate	Intermediate	Late	Comment
Develop a coordinating structure for OF	1-Create a multidisciplinary Group work on OF 2-Create a focal point for OF at MoH 3-Develop a National strategy for struggle against OF 4-develop a National protocol for OF management	1x	3X 4X	2X	
Draft a "suspicion-confirmation-orientation" plan	1- Elaborate recruiting plan chart while specifying the circuit of identification-confirmation-notification. 2-Identify and empower community workers (local NGOs, associations) able to deal with OF. 3- Plan motorcycles to help investigators to come with the women identified in the villages toward the Center of confirmation and the return home while waiting for the moment of the surgical country. 4-Make the cars available for transportation of patients from the village to the centers of management during the camps under the care of community workers. 5-Organization of training sessions on identification confirmation-orientation for OF. 6-Elaborate the process indicators 7- Organize trailers of information and recruiting	1x 6x	2x 3x 5x 7x	4x	

Elaborate a plan for reintegration including eligibilities, protocols, training, grant for rehabilitation etc...	1-Identify counselors. 2-Devop a clear socio-economic counseling protocol 3-Train the counselors based on clear manual 4-Introduce the financial rehabilitating activities 5-Introduce training for rehabilitation 6-Elaborate the agenda for facility home socio- economic visit/counseling 7-Elaborate the indicators for socio economic reintegration	1x 2x	3x 6x 7x	4x 5x	
Improved the ongoing community based prevention	1-Identify the community workers 2-Prepare clear protocols-messages. 3-Prepare the training tool 4-Organize training 5-elaborate clear indicator	1x	2x 3x	4x 5x	
Develop the facility base prevention	1-Develop the training tool for clinical prevention and medical treatment 2-Training of birth unit workers on OF prevention and medical treatment	1x	2x		
-Reorganise the peri operative care	1- Identify the 6 nurses needed for peri-operative car each centre 2-Develop protocol for nursing in surgery 3-Develop protocol for clinical counseling 4-Prepare the tool for training. 5-Organize the training session. 6-Elaborate the process indicators	1x	2x 3x	4x 5x 6x	
-Reorganizing the surgical care provision	1-Develop the surgical protocols 2-Provision of the instruments in lack 3-Provision of the consumables in lack. 4-Dedicate a specific room for OF 5-Develop+Medicalise the waiting house	1x 2x 3x	4x	5x	
Elaborate the plan for different strategic approaches for management	1-Continue the permanent base activities 2-Planning of the Onsite camps 3-Reorganization of the staff when camps 4-Elaborate circuit cycle of OF activities 5-Perform monthly monitoring system. 6-Elaborate the process indicators 7-Plan for outreach approach	1x 6x	2x 3x 4x 5x	7x	

Codification of training	1-prepare National protocol 2- Prepare National training manuals 3-Organise training session		1x 2x	3x	
Implement an operational research activity	1-Improve the HIS 2-Deveolop research protocols 3-Training the staff on the baseline research methodology and basic Epidemiol-statistics	1x	2x	3x	

6.Lessons learned

Table 9: Table of synthesis of some lessons leaned from different sites

	Site	Practice to be encouraged	Practice to be avoided
1	Dharan	<ul style="list-style-type: none"> -Presence of socioeconomic counselors -Good collaboration of Gynecologists and anesthetic team -Permanent use of patograph in the hospital -Availability of the waiting home -The strong collaboration BKIHS-WOREC-UNFPA 	<ul style="list-style-type: none"> Patients got their fistula almost all at home delivery -Sisters know little on risk factors and secondary prevention on OF(-No clear knowledge of obstructive labor) -Little implication of surgeons -Induction of labor out of the birth unit -Few cases seen at the hospital -Lack of clinical counselor
2	Patan	<ul style="list-style-type: none"> -Presence of socioeconomic counselors -Permanent use of patograph in the hospital. -The strong collaboration with WOREC-UNFPA -Presence of the OF room 	<ul style="list-style-type: none"> -No Primary promotion on health -Sisters know little on risk factors and secondary prevention on OF(-No clear knowledge of obstructive labor) -Lack of registers -Lack of clinical counselor

3	Surkhet	<ul style="list-style-type: none"> -Presence of INF socioeconomic counselors - Two days of OF awareness and Orientation in health posts with workers and community. - Provision of small card with date of operation and phone no of referral surgeon at discharge. -Arrival of Anesthetic with surgeon for camp -Good collaboration between the hospital team and INF camp team. -Permanent use of partograph in birthing center. -Patients file well maintained and most of them under follow up 	<ul style="list-style-type: none"> -No clear knowledge on importance of catheterization in case of obstructive labor and duration catheterization -Practice only by camps -Lack of protocols, -lacks of proper structural organization and guidelines for practice of palliative surgery(diversion) -No HIV screening before OF surgery -Lack of clinical counselor
4	Maternity Hospital	<ul style="list-style-type: none"> -Practice of uterine prolapsed surgery which facilitates the training on OF surgery. -Permanent use of the partograph -Potential collaboration with WOREC- UNFPA 	<ul style="list-style-type: none"> -No clear knowledge of obstructive labor by sisters -Lack of inclusion of OF on Road Map of the MoH - Nurses do not use any preventive methods to avoid Of eg using continuous catheterization for 14 days in all prolonged or obstructed labor' -No practice of OF surgery

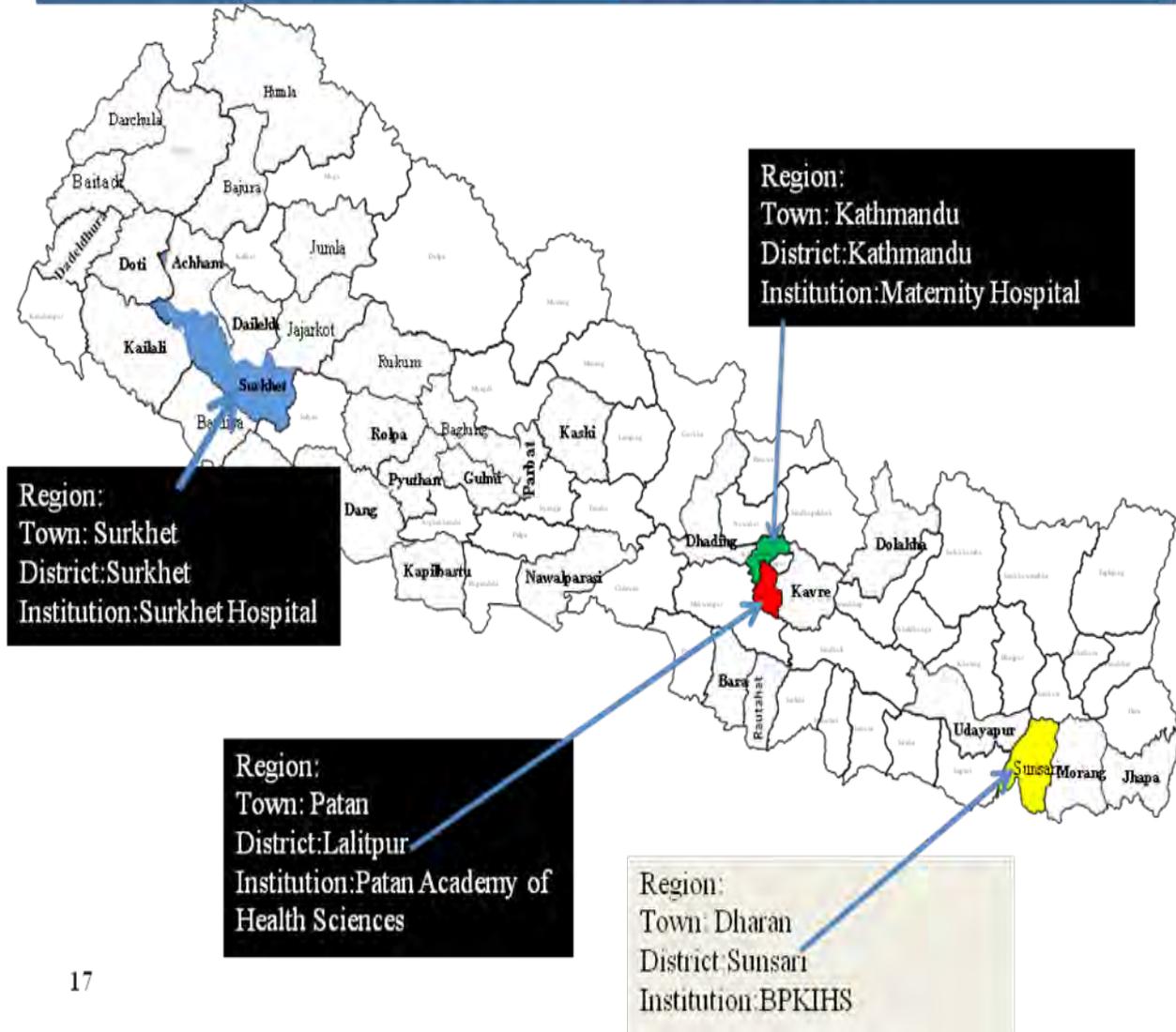
7. Conclusion and recommendations

Obstetric fistula in Nepal is a reality in Nepal. This disease occurs as a result of multiple unfavorable socio cultural and obstetrical events. Illiteracy, teenage status at delivery, lack of skilled birth attendance, and prolonged labor are main determinants. Beside the fistula per se, other socio demographic obstetrical consequences are critical as fetal death occur in almost all cases and some patients socially out of favor, risking committing a suicide. Obstetric fistula as observed in Nepal, should not be seen as a task only for the MoH, it is a real problem of the whole development and need a national approach in collaboration with other ministries.

We strongly recommend for the revision of the maternal health program with special focus on OF; improving the quality and the accessibility to OF services, promoting OF care; organizing the management of prevalent cases of obstetric fistula and their socio-economic reintegration.

Annex 1: Localization of the assessed sites

Sites of Assessment



Annex 2: Organization of health system in Nepal

Organizational Structure of the Department of Health Services

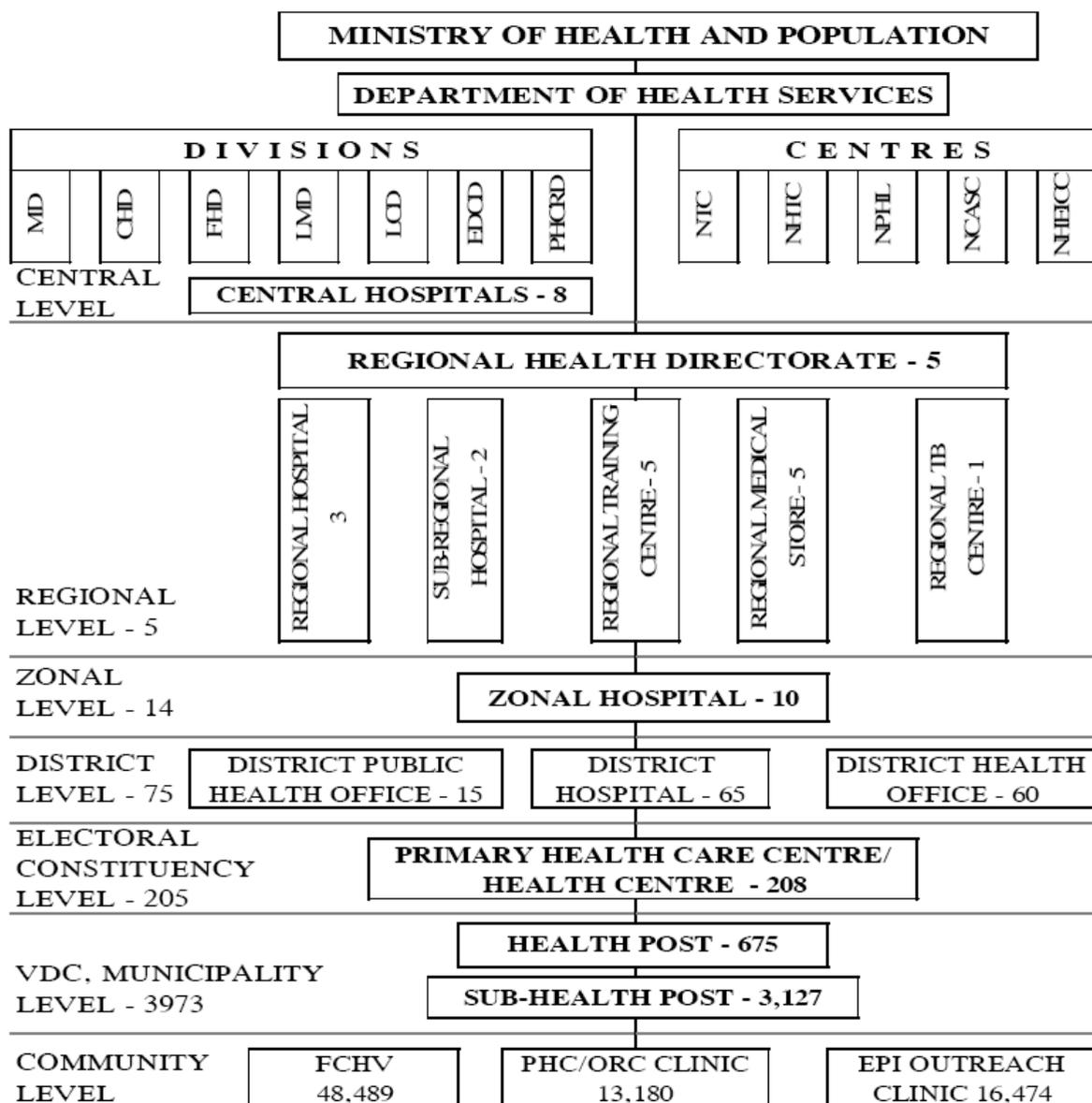


Figure 1b.1

Source: Administration Section, HMIS/MD, DoHS

Acronyms

MD	Management Division	NHTC	National Health Training Centre
FHD	Family Health Division	NTC	National Tuberculosis Centre
CHD	Child Health Division	NCASC	National Centre for AIDS and STD Control
EDCC	Epidemiology and Disease Control Division	NPHL	National Public Health Laboratory
LMD	Logistics Management Division	FCHV	Female Community Health Volunteer
LCD	Leprosy Control Division	PHC/ORC	Primary Health Care Outreach Clinic
PHCRD	Primary Health Care Revitalization Division	EPI	Expanded Programme on Immunisation
NHEICC	National Health Education, Information and Communication Centre		

Annex 3: Questionnaire used to collect the data for site assessment

Annex 4: Questionnaire used to collect the data for health workers interview

Annex 5: Questionnaire used to collect the data for patient's interview

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