Study on Selected Reproductive Health Morbidities among Women attending Reproductive Health Camps in Nepal

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United Nations Population Fund

Government of Nepal
Ministry of Health
Department of Health Services
Family Health Division

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FOREWORD

Nepal has made significant progress in expanding and improving sexual and reproductive health (SRH) and advancing reproductive rights of women and girls. SRH has a long-lasting and significant impact on the health and quality of life of women. When SRH needs are met, individuals have the ability to make crucial choices about their bodies, their health and their future, and this has a cascading impact on their families' welfare and of future generations. However, it is well recognized that more emphasis needs to be provided to reach the poor and marginalized who do not have access to quality SRH services, including life-saving emergency obstetric care and to address gender inequalities, which can lead to debilitating reproductive health morbidities.

The Government of Nepal's current focus on SRH includes the expansion and improvement of maternal health services including RH morbidities especially for the poor and marginalized women. The Government and partners have made significant progress in improving access to and utilization to SRH services including to prevent and treat RH morbidities such as Pelvic Organ Prolapse (POP), Cervical Cancer and Obstetric Fistula. While these remain priorities in the health sector and beyond, there was a need to collect additional evidence on the prevalence of RH morbidities in Nepal in order to adopt relevant strategies to reduce maternal mortality and morbidity. While some of the studies to date focused primarily on POP, with this study we wanted to also determine the prevalence of other RH morbidities in Nepal and how they affect the health and quality of life of women. The findings are helping us not only to understand the overall current situation on RH morbidities, but are also a step forward in terms of availability of data disaggregated by age and geographical region and to address inequities and gaps identified.

It is my hope that the additional evidence generated will be used by relevant partners to address the current needs of women- especially the poor and marginalized. I would like to congratulate the Family Health Division for taking the lead in this study, the United Nations Population Fund (UNFPA) for their financial and technical support and the Center for Molecular Dynamics Nepal (CMDN) for conducting this study.

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ACKNOWLEDGEMENT

This study on **Selected Reproductive Health Morbidities among Women Visiting Reproductive Health Camps in Nepal** is a result of earnest effort put forth by the Family Health Division (FHD) and its partners. This survey was conducted under the leadership of FHD with the technical and financial support by the United Nations Population Fund (UNFPA). The overall coordination and field work was carried out by the Center for Molecular Dynamics Nepal (CMDN), a local research organization.

The FHD team helped to ensure the study was carried out efficiently and I would like to thank my colleagues at FHD, particularly the efforts and commitment of Mr. Ghanashyam Pokhrel, Mr. Paban Ghimire and Dr. Shilu Aryal that led to the successful completion of this study.

I would like to acknowledge all individuals and institutions for their remarkable contribution to this important study without the support of whom this study would not have been possible

I greatly acknowledge the support provided by the district health officers, health facility staff and FCHVs of the study districts to ensure that the field work took place in a timely manner. I would also like to thank the entire study team for their efforts throughout the study despite various challenges. The study would not have been possible without the support provided by the study participants and I would like to appreciate and acknowledge them for their cooperation during the study.

I am confident that the findings of this study will provide evidence regarding the ground realities of RH morbidities in Nepal. Furthermore, I believe that the results will help in framing the strategy to prevent and address RH morbidities in Nepal.

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ABBREVIATIONS

BPKIHS	B.P. Koirala Institute of Health Sciences
CAED	Centre for Agriculture, Education and Development
CBS	Central Bureau of Statistics
CCSP	Cervical Cancer Screening and Prevention
CDR	Central Development Region
CMDN	Center for Molecular Dynamics
DoHS	Department of Health Services
DHO	District Health Office
DPHO	District Public Health Office
EDR	Eastern Development Region
FCHV	Female Community Health Volunteer
FHD	Family Health Division
FWDR	Far-Western Development Region
GAVI	Global Alliance for Vaccination Initiative
GoN	Government of Nepal
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
INGO	International Non-Governmental Organization
IEC	Information Education and Communication
INF	International Fellowship Nepal
INPL	Intrepid Nepal
IOM	Institute of Medicine
MIREST	Media Initiative for Rights, Equity and Social Transformation
MoHP	Ministry of Health and Population
MoH	Ministry of Health
MWDR	Mid-Western Development Region
NCRP	National Cancer Registry Program
NDHS	Nepal Demographic Health Survey
NGO	Non-Governmental Organization
NHRC	Nepal Health Research Council
NHTC	National Health Training Center
PHCC	Primary Health Care Center
POP	Pelvic Organ Prolapse
RH	Reproductive Health
SBA	Skilled Birth Attendant
SLC	School Leaving Certificate
SPSS	Statistical Package for Social Sciences
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
SVA	Single Visit Approach
TUTH	Tribhuvan University Teaching Hospital
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Fund
UP	Uterine Prolapse
VIA	Visual Inspection with Acetic Acid
WDR	Western Development Region
WHO	World Health Organization
WOREC	Women's Rehabilitation Center

EXECUTIVE SUMMARY

Introduction

This study to determine the prevalence of selected Reproductive Health (RH) morbidities, namely, Pelvic Organ Prolapse (POP), Obstetric Fistula, Cervical Cancer and Human Papillomavirus (HPV-types 16 and 18) among women of reproductive age groups (15-49 years) attending RH camps in Nepal was carried out under the Family Health Division (FHD) of the Government of Nepal (GoN)/Ministry of Health (MoH) with technical and financial support from the United Nations Population Fund (UNFPA). The study was conducted by the Center for Molecular Dynamics Nepal (CMDN).

Methodology

This cross-sectional study was conducted among women of reproductive age group (15-49 years) attending RH camps in 15 districts, namely Taplejung, Okhaldhunga, Kavre, Morang, Siraha, Makwanpur, Parsa, Sarlahi, Myagdi, Rupandehi, Dolpa, Pyuthan, Dailekh, Baitadi and Kailali. The study covered all three ecological and five developmental regions for national representation.

A total of 15 RH camps were set up in each of these 15 districts in coordination with District (Public) Health Office (D(P)HO), engaging local stakeholders. Among the women visiting the camp, a total of 4, 277 women of reproductive age group (15-49 years) were enrolled in the study and interviewed. However, all the interviewed women did not participate for the clinical examination. Only those women providing consent for clinical examination were screened for RH morbidities. Those diagnosed with any reproductive morbidity were provided with onsite treatment by Gynaecologists and those requiring a higher level of services were referred for further treatment as needed. The data was collected using quantitative questionnaires, clinical examination and screening including swab collection, key informants interviews and through secondary sources. The data collection and HPV sample processing were carried out from December 31, 2014 to December 15, 2015.

Key Findings

General Information

Among 4,277 women of reproductive age enrolled in the study and interviewed, the representation of women from Hill and Terai region were 44 percent and 43.2 percent respectively; 27.4 percent of the women were from Eastern Development Region and 27.1 percent were from Central Development Region and 60.4 percent women were from urban area. The majority of the women were Hindu by religion (90.3%), from upper caste group (46.6%), young within the age group of 20 to 39 years (62.6%), farmers (47.5%), married (95.5%) and were married young around

the median age of 17 years; and were from both illiterate and literate backgrounds. Pregnancies at a young age (below 20 years) were common(53.7%) with the median age of first pregnancy being 19 years and many had become pregnant up to four times (40.6%), with the median number of children being three and majority (66.7%) having their last child delivered at home.

Regarding knowledge of POP, Obstetric Fistula and Cervical Cancer, large majority of the women (79.1%) had heard of POP, while only 5.4 percent of women had heard about Obstetric Fistula and about 42.9 percent about Cervical Cancer.

Pelvic Organ Prolapse

Among the 4,277 women interviewed, 4,031 of them were clinically examined for POP. Of them, POP was found among 6.4 percent of the women: 1st degree- 3.7 percent, 2nd degree- 1.4 percent, 3rd degree- 0.8 percent and 4th degree- 0.3 percent. Among the women diagnosed with POP, 11.3 percent were from Far-western Development Region, 6.6 percent were from Terai and 7.1 percent were from urban areas. The majority of women were from upper caste groups (49.2%), within the age group of 40 to 49 years (67.2%), illiterate (61.7%) and married (91.8%). About 86 percent were married before the age of twenty years, 58 percent had their first pregnancy before the age of twenty years and 54 percent had 1 to 3 children. The majority of women (82.8%) had their last delivery at home and only about 31 percent received assistance from health workers during their last childbirth. Only 35.5 percent of women took complete rest for 16 to 30 days following delivery and Patuka was reported to be used by most of the women (80.6%). About 71 percent of women reported experiencing POP at the age of 20 to 39 years. Among the women reported having signs and symptoms of POP, only about 35 percent had sought health service for POP before and most of them consulted doctors (82.6%).

Cervical Cancer, Cervical Pre-cancerous Lesions and HPV 16 and 18

Among the 4,277 women interviewed, 3,831 of them were screened for Cervical Cancer. Of them, 1.6% women had a positive result on Visual Inspection with Acetic Acid (VIA). Among women with VIA positive result, 2.2 percent were from Terai and Eastern Development Region and 1.8 percent were from rural areas. The majority of women with VIA positive result were between 30 to 39 years of age (50.0%), had secondary level education (41.7%), from upper caste groups (33.3%), homemakers (35.0%), married (96.7%), married before the age of 20 years (75.0%) and had 1 to 3 children(67.7%). Only 1.5 percent of women enrolled in the study had been screened for Cervical Cancer and among those who had been screened, half (50.3%) had Pap Smear test as a method of screening.

Among the 4,277 interviewed women, 3,464 of them were clinically screened for HPV 16 and 18. Of them, HPV 16 was found among 3.6 percent women whereas HPV 18 was among 2 percent. In addition, co-infection of both HPV 16 and 18 was found among 0.2 percent of the women. Similarly, either HPV 16 or HPV 18 was found among 5.4 percent. Among women with HPV positive result, 6.2 percent were from Terai, 6.8 percent were from Western Development

Region and 5.6 percent were from urban area. The majority of women with HPV positive result were within 30 to 39 years of age (37.8%), illiterate (36.7%), from upper caste groups (45.7%), homemakers (41.5 %), married (94.1%), married before the age of 20 years (84.0%) and having 1 to 3 children (71.8%).

Obstetric Fistula

Among the 4,277 surveyed women, 4,031 of them were clinically examined for Obstetric Fistula. Of them, three cases of Obstetric Fistula were identified in the course of the study.

Association between Key Indicators of Pelvic Organ Prolapse, Cervical Cancer and HPV

In this study, from bivariate analysis, POP was seen to be associated with age, education status, place of delivery, health worker assisted delivery, rest after delivery, number of children, age at first pregnancy and age when first experienced signs and symptoms of POP(p-value<0.05). However, multivariate analysis shows POP to be associated with age of women. POP was found among 20-29 years.

The study showed that there was a significant association between age, education and caste/ethnicity with VIA positive result (p-value <0.05). VIA positive result was found to be associated with younger age groups; women with higher education and disadvantaged group including religious minorities.

The study showed that there is a significant association between age at first marriage and HPV positive result. HPV positive result was found to be associated with early marriage (below 20 years).

Way Forward

- Considering more women are in need of conservative management for POP, conservative management of POP needs equal attention as to surgical management, with the provision for screening and trained human resources at all levels of health facilities.
- Due to the limitations of the study, hidden Obstetric Fistula cases could not be reached. A focused strategy with a massive awareness program is required to reach women suffering from Obstetric Fistula.
- Support for sexual and reproductive health and rights of women, including most illiterate, marginalized group in rural and deprived communities; with focus on prevention and awareness raising programmes on delaying early marriage and pregnancy, increasing access to skilled birth attendants at each delivery and contraceptive choices to avoid unintended pregnancies, and promote gender equality across the sectors.
- As the awareness levels of Obstetric Fistula and Cervical Cancer are very low, awareness raising programmes focusing on the prevention, condition, treatment, and availability of

service should be prioritized. Information from the Government and non-government health facilities that provide related services needs to be disseminated and promoted.

- In order to detect Cervical Pre-Cancerous lesion at the early stage Cervical Cancer screening service should be made available upto the Health post level across the country with the provision of trained human resources and infrastructure. Similarly, information dissemination and education to the women regarding the need for Cervical Cancer screening should be prioritized.
- Since not having any baseline data of high risk HPV screening (for at least 15 known types), it is recommended to have study to get baseline information about those typing. In addition, high risk HPV screening (for at least 15 known types) should be made available at key health institutions around the country, and referral mechanisms to support the screening process should also be facilitated by the government.
- The referral linkage mechanism should be strengthened, particularly for Cervical Cancer. There should be an established system of referrals and continuum of care from the community level to the treatment sites.

CHAPTER 1:

INTRODUCTION

1.1 Background

RH morbidity is a broad concept that encompasses a wide range of health issues and problems related to reproductive organs and functions. This includes, but is not limited to, childbearing. RH morbidities include obstetric morbidities sustained during pregnancy, delivery and the postpartum period as well as gynecological morbidities related to conditions of ill health not associated with pregnancy such as reproductive tract infections, cervical cell changes, malignancies and subfertility. RH morbidity, in general, is an outcome of not only biological factors but is also associated with socio-economic factors such as poverty, control over material resources, and social disparities such as a lack of women's ability to exercise control over decision making regarding her own body. This affects the health and social wellbeing of those women who are in their reproductive and economically productive ages, as well as their offspring.

Global estimates indicate that for every woman who dies, 20 or more suffer from reproductive tract injuries or experience serious complications (Grimes et al., 2006). Nepal has made significant gains in improving sexual and reproductive health (SRH) and advancing reproductive rights of women and girls. But many people, especially the poor and vulnerable, still lack access to quality SRH services, including life-saving emergency obstetric care, leading to debilitating morbidities. The major RH morbidities in Nepal are POP, Obstetric Fistula and Cervical Cancer, mostly affecting women residing in remote areas, due to their limited access to quality maternal health care. Other common reproductive health problems in Nepali women include sexually transmitted infections (STIs) and infertility. The burden of these debilitating conditions are further exacerbated by limited access to quality maternal health care, poor health care seeking practices among women, and are correlated also to deep-rooted cultural norms and social taboos that prevent open discussions on RH issues.

HPV infection is now a well-established cause of Cervical Cancer. HPV types 16 and 18 are responsible for about 70 percent of all Cervical Cancer cases worldwide. HPV vaccines that protect against HPV 16 and 18 infections are now available and have the potential to reduce the incidence of cervical and other genital cancers.

Generally, it is well-known that in rural Nepal, women with self-reported symptoms of reproductive health problems tend not to seek treatment due to existing taboos, inhibitions and familial norms regarding sexual and reproductive health. Hesitation to discuss reproductive health problems especially, due to shame and embarrassment is often the norm. Moreover, superstition often prevails and even when treatment is sought, it is usually from non-medical traditional healers or persons unqualified as health professionals.

Only limited studies were found to be focused on RH morbidities in Nepal, with the few studies that have been conducted being limited mostly to POP. In 2006, the UNFPA through Institute of Medicine (IOM) conducted a clinic-based survey to determine the magnitude of reproductive morbidities among married women respondents in the 15 to 49 age group. This showed the prevalence of POP at 10 percent (UNFPA, 2006). However, different studies have shown varying prevalence of POP in the country. Studies on Obstetric Fistula, Cervical Cancer and other morbidities are largely lacking. This has been a limiting factor for planning, resource allocation, integration and mainstreaming into other national health sector policies and programmes.

1.1.1 Pelvic Organ Prolapse

POP (also called uterine prolapse or fallen womb), a bodily condition in which pelvic muscles can no longer adequately support organs in the pelvic area, is a significant and serious reproductive morbidity among women in Nepal. Different studies have shown varying prevalence of POP in Nepal. As per the survey conducted by IOM and UNFPA in 2006, there has been an estimation of around 600,000 women with POP in Nepal and 200,000 in need of immediate care (UNFPA, 2006). Similarly, another survey claimed that over one fourth of women respondents of reproductive age in Nepal suffer from POP (MIREST, 2007). Another survey report has shown that POP is one of the most widespread RH problem in Nepal and over one million Nepalese women are suffering from this condition (Alder et al., 2007). The Nepal Demographic Health Survey (NDHS) 2011 showed that 6 percent women of reproductive age group (15-49 years) suffer from POP (MoHP and New ERA, 2012).

1.1.2 Obstetric Fistula

Obstetric Fistula is one of the most serious injuries of childbearing: it is a hole between the vagina and the rectum or bladder caused by prolonged and obstructed labor due to lack of timely and adequate medical care or early or closely spaced pregnancies, causing continuous leakage of either urine or stool or both. In the developing world, it is estimated that 2 to 3 million women and girls are living with this devastating condition. At least 50,000 new fistula cases develop each year while less than 20,000 receive treatment annually. The victims of Obstetric Fistula are women and girls, usually poor, often illiterate, who have limited access to quality maternal health services. Obstetric Fistula has been virtually eliminated in developed nations, but in Nepal, it remains one of the serious complications of childbirth and a hidden RH problem.

A survey on the Status of Reproductive Morbidities in Nepal showed that three out of 2,070 women respondents evaluated had Obstetric Fistula (UNFPA, 2006). Furthermore, according to a Need Assessment Report on Obstetric Fistula in Nepal, 2011 by MoHP and UNFPA, it is estimated that every year 200 to 400 women suffer from Obstetric Fistula in Nepal with a prevalence of 4,300 cases.

1.1.3 Cervical Cancer

Cervical cancer is the second most common cancer in women worldwide (WHO, 2013) and the most common cancer among women in developing countries. It is estimated that only about 5 percent of women have been screened for the disease with a Pap Smear, as compared to 40-50 percent in developed countries (Jacqueline et al., 2001).

Cervical cancer is a major public health problem in developing countries like Nepal. The National Cancer Registry Program (NCRP) of B.P. Koirala Memorial Cancer Hospital has shown that Cervical Cancer is among the top ten cancers and is the number one cancer among women in Nepal (FHD and MoHP, 2010). According to the DoHS, annually some 2,500 new cases of Cervical cancer have been observed in Nepal in recent years. With an incidence rate of 32.4 cases per 100,000 population per annum, Cervical cancer remains most common cancer and the leading cause of cancer related deaths among women in Nepal, accounting for 21 percent of all cancer cases among women (Gyenwali et al., 2013).

In a retrospective cohort study conducted in the Department of Obstetrics/Gynecology and Pathology in Western Regional Hospital, Pokhara, all females diagnosed with genital tract malignancies from July 2013 to July 2015 were assessed. For the majority of women, 50-59 years was the common age group for each type of tumor diagnosed. Among 62 cases diagnosed, Cervical cancer was the most common (71.0%) followed by Ovarian cancer (14.0%), Endometrial cancer (8.0%) and Choriocarcinoma (3.0%). Four-fifths of endometrial, half of the cervical and one-third of ovarian cancers were among grand-multipara. Only 69 percent of women received treatment.

1.1.4 Human Papillomavirus

The Human papillomavirus is a pathogen that mainly affects epithelial cells in sensitive areas and can lead to the development of genital warts, abnormal cervical cells or in the long term, Cervical Cancer in females. The HPV test is available as a predictive screening that tests for the potential to develop Cervical Cancer; however, the test does not provide a confirmatory diagnosis of Cervical Cancer. There are at least 15 high-risk HPV types, including types 16 and 18, which are known to increase the risk of Cervical Cancer. HPV is known to spread through sexual contact and is common among young women. HPV infections often clear on their own within a year or two and cervical changes that may lead to cancer take years (often 10 years or more) to develop.

Cervical cancer is the first cancer recognized by the WHO to be 100 percent attributable to an infection (WHO, 2015). High risk HPV is the main cause for Cervical Cancer (Bosch et al., 2002; Clifford et al., 2005). A population based HPV study to determine the causal relationship between HPV and Cervical Cancer in Nepal showed that HPV prevalence was 8.6 percent and that HPV 16 was the most common type that causes Cervical Cancer (Sherpa et al., 2015). The study also showed that extramarital affairs were significantly associated with HPV positive

along with age at marriage (analogous to age at first sex in most instances) and participants reporting that their spouse had another wife or cohabitant signified that these cofactors were causative of Cervical Cancer (Sherpa et al., 2015).

1.2 National Policy and Response to Reproductive Health Morbidities

GoN has recognized RH Morbidities as an important public health concern and has adapted several strategies to reduce maternal mortality and morbidity among poor and marginalized women.

Following the study conducted by UNFPA and IOM in 2006, the GoN has recognized POP as a high priority condition. Since 2008, GoN has been providing free of cost POP services to women requiring surgical and conservative management services. From the fiscal year 2008/09 to 2014/15 about 47,000 women have benefited from POP surgery through this government supported program. Earlier, the POP program was largely focused on curative services, particularly surgical treatment in camp settings. However, the concern about the quality of surgery and follow-up care of the women undergoing POP surgery has been raised consistently. In order to address the quality of care issues around POP a clinical protocol on management of POP was developed in 2012 and disseminated across the country. This clinical protocol contains guidelines for the management of POP at different levels of health facilities by different cadre of health workers. Additionally, it also provides direction on the prevention of POP. Similarly, in order to ensure uniformity in the surgical procedure and post-operative care throughout the country, in 2015 a competency-based training manual on surgical management of POP was developed by the National Health Training Center (NHTC) and training is being conducted using this manual.

In order to provide Cervical Cancer screening services to the target population throughout the country, the FHD developed the National Cervical Cancer Screening and Prevention (CCSP) Guideline in 2010. To accelerate implementation of the program, a National CCSP implementation plan was developed in the fiscal year 2012/13 by FHD to expand services to hospitals and up to Primary Health Care Centers (PHCC) in some districts. Based on the CCSP guideline and implementation plan, the CCSP service is being rolled out across the country, however progress has been slow. The 2010 national guideline for Cervical Cancer screening in Nepal has prioritized prevention of Cervical Cancer through screening and has emphasized using the VIA approach for Cervical Cancer screening and immediate treatment of precancerous lesions in one visit, referred to as single visit approach (SVA).

Obstetric Fistula received recognition as major health problem following the launch of UNFPA's campaign to end Obstetric Fistula in 2010. Since the fiscal year 2013/14, the GoN provides screening for Obstetric Fistula cases through their regular RH camps carried out across the country, which were earlier focused on screening for POP cases only. In the Basic Health Care Package, as updated and revised for national health sector strategy (2015-2020) screening

for Obstetric Fistula has been provisioned at the Health Post and above level. Considering the complexity of fistula surgery and the need for developing competent fistula surgeons, a competency based training manual on Obstetric Fistula was developed by NHTC, in 2014.

According to the WHO, girls between the ages of 9-13 years could be prevented from developing Cervical Cancer through immunization with the HPV vaccine twice a year with an interval of at least six months. In line with this and as a part of the HPV demo project, the HPV vaccination programme is being piloted in Chitwan and Kaski districts from 2015-2016 through the support of GAVI Alliance. Through this pilot, around 15,000 girls will be vaccinated with HPV vaccine in these two districts with plans to later extend the immunization programme into other districts.

1.3 Rationale of the Study

In developing countries like Nepal, RH morbidity is a major problem that affects the health and quality of women's lives. However, there is relatively little information on the situation of RH morbidities in Nepal, with the few studies that have been conducted being limited mostly to POP. Even the data on POP is inconclusive as different studies have shown varying rates of prevalence in the country. This lack of data has been a limiting factor for planning, resource allocation and programming on the various maternal morbidities in Nepal, and for its integration with other national health sector policies and programs.

To address this important public health need, CMDN under the leadership and guidance of the FHD and with technical and financial support from UNFPA conducted a national camp-based study to determine the prevalence of selected RH morbidities among women of reproductive age group in 15 districts of Nepal in 2015. It is anticipated that policy makers, program planners and implementers will utilize the findings of this study for the development of national strategies to prevent and address selected RH morbidities.

1.4 Objectives of the Study

The primary objective of this study was to determine the prevalence of RH morbidities, namely POP, Obstetric Fistula, Cervical Cancer and HPV types 16 and 18 among women of reproductive age group (15-49 years) in Nepal.

The specific objectives of the study were to:

- Map the selected RH morbidities by urban or rural residence, developmental regions and ecological zones.
- Determine disaggregated prevalence data based on age, caste and ethnicity.
- Examine factors associated with RH morbidities.

1.5 Organization of the Report

This report comprises seven chapters. The first two chapters present an overview of the study and methodology respectively. Chapter 3 analyses the background characteristics of the study population, primarily focused on geographical characteristics, socio-economic background characteristics, pregnancy related information and knowledge on RH morbidities. Chapters 4, 5 and 6 present the findings on POP; Cervical Cancer, Pre-Cancerous lesions and HPV 16 and 18; and Obstetric Fistula respectively. Chapter 7 presents the summary of the findings and the way forward drawn from the study.

CHAPTER 2: METHODOLOGY

2.1 Study Design

Prevalence as a statistical notion refers to the number of incident cases of a disease or events that have occurred or are present in a particular population at a specific point in time. In line with this concept, this study scientifically determined the prevalence of selected reproductive morbidities among women of reproductive age visiting RH camps, within a reasonable and statistically acceptable margin of error.

The study design is thus cross-sectional and community camp based. Community-based studies are considered the 'gold standard' for research. It has inherent advantages such as higher level of feasibility, lower respondent refusal rates, especially for medical procedures with lower costs and potentially a more direct link between research and utilization. However, it had some limitations, such as possible selection bias in the study population and the extent to which the findings can be generalized as applicable to the broader population.

2.2 Study Population

Women of reproductive age, i.e., between the ages of 15 to 49 years visiting the RH camps during the stipulated period was the study population.

2.3 Study Sites

The study was conducted in 15 districts of Nepal (Table 2.1). Study districts were selected considering the representation of residential locations (rural and urban), ecological belts and development regions.

Table 2.1 Overview of Study Districts

Development Region	Ecological Zone			No of District
	Mountain	Hill	Terai	
Eastern	Taplejung	Okhaldhunga, Kavre	Morang, Siraha	5
Central		Makwanpur	Parsa, Sarlahi	3
Western		Myagdi	Rupandehi	2
Mid-western	Dolpa	Pyuthan, Dailekh		3
Far-western		Baitadi	Kailali	2
Total				**15**

2.4 Sample Design

Cluster sampling method was used for sample selection. A total of 15 RH camps were set up in 15 districts of five development regions representing three ecological belts. Proportionate distribution of both rural and urban strata was considered while conducting the RH camps. In

the clusters that met the eligibility criteria, at least 240 women respondents were recruited from each RH camp.

To ensure more representative sampling, the camp visits were encouraged through different communication mediums. All women respondents visiting the health camps during the study duration were recruited into the sample set, so the actual total sample size for the study exceeded the required sample size.

2.5 Sample Size

The sample size was determined by using a statistical formula, which estimated a sample size of 3,600 women of reproductive age. The formula for the sample size calculation is presented in Annex-I.

The sample size for the study was based on indicators such as prevalence of selected RH morbidities, i.e. POP, Obstetric Fistula, Cervical Cancer, and HPV 16 and 18 among women respondents of reproductive age. The previous clinic based RH survey conducted by UNFPA and IOM in 2006 was also referred to as a baseline during sample size calculation (UNFPA, 2006). The calculated sample size was based on (95.0%) confidence interval, (5.0%) margin of error and design effect (2.0%) including (10.0%) non-response and comes to 300. Since statistical precision increases as prevalence estimates approach 50 percent, rather than using prevalence rates of proxy indicators within each health topic, prevalence rates utilized in this survey were assumed approximately 50 percent. Thus, the WHO sampling methods were used to calculate the required sample size. It is recommended to use the p-value of 0.5 if no previous data exists on prevalence within the population. Thus, sample size calculated was 844. The rounded sample size was 900 for POP. Using a similar method for the four other categories, altogether a 3,600 (900 each for the four morbidities being studied) sample size was calculated as the size of the study population.

2.6 Data Collection Tools and Techniques

The data for the study was collected using the techniques listed below:

2.6.1 Quantitative Questionnaire

This study used an electronic tab based structured questionnaire in Nepali to collect information on socio-demographic characteristics, pregnancy/RH-related information, knowledge, health seeking behavior and related information on POP, Obstetric Fistula, and Cervical Cancer from women of 15 to 49 years visiting RH camps organized for this study. The tools were administered by the female enumerators to collect information from the study participants.

2.6.2 Clinical Examination and Screening

Women of reproductive age group (15-49) visiting the RH camp and those providing consent were enrolled for clinical examination. The diagnosed RH Morbid cases were provided with treatment, free medicines, counseling and referral as required. Similarly, the women diagnosed with other health problems were also provided with treatment, free medicines and referral as required.

In accordance with the National protocol, Cervical Cancer screening was done through VIA method and the women with VIA positive results were administered cryotherapy at the site with informed consent.

For HPV- DNA genotyping (types 16 and 18), cervical swab was collected from women visiting the RH camps. Collected swab samples were transferred to CMDN/Intrepid Nepal (INPL) laboratories in vials containing sterile transport medium for investigations using cold chain. Upon receipt of samples at the CMDN Laboratory in Kathmandu, the samples were stored at 4 degree celsius in a refrigerator for further analysis.

Women diagnosed with POP but not requiring surgery were managed through the insertion of a silicon ring pessary and by teaching Kegel exercises. Those requiring higher level of services were referred to higher centers for further treatment and investigation as needed with the referral slip.

For all other women who visited the camp but not enrolled in the study were also provided with free clinical examination, syndromic treatment, free medicines and referral as required.

The information from clinical examinations were recorded in OPD form and a register developed for this study purpose.

2.6.3 Key Informant Interview

Key informant interviews (KII) were conducted with District (Public) Health Officers (DHO/DPHO) or representatives from DHO to gather information on the status of RH morbidity in the study districts.

2.6.4 Secondary Data Collection

Archived information from four sites providing Obstetric Fistula treatment and from the GoN run RH screening camps were collected and analyzed.

2.7 Tools, Training and Pre-testing

The study tools were developed in English using as reference similar to national and international surveys. The developed questionnaires were further refined in consultation with UNFPA, FHD and national technical experts working in the area of RH morbidity. The developed tools were pre-tested at Paropakar Maternity and Women's Hospital, Kathmandu. Findings from the pre-test were incorporated into the overall research for rectifications, corrections and finalization of

study instruments.

All the tools were translated into Nepali. A two-days training was conducted for the study team facilitated by technical experts from FHD, UNFPA and CMDN. The training consisted of overview on the four RH morbidities covered by the study, the objectives of the study, standard sampling processes, clinical observation, sample collection and the field coordination plan. During the training, mock practice sessions for field data entry via mobile phone technology was also held for the field researchers.

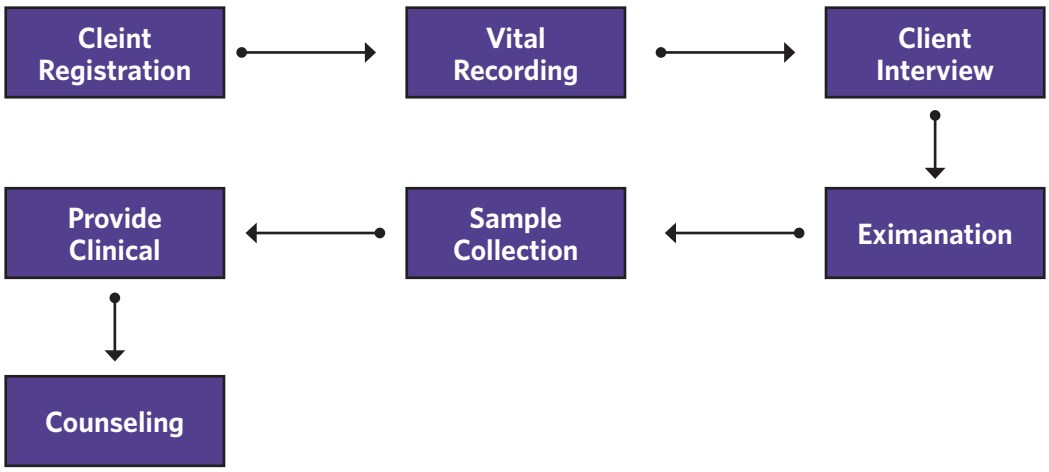
2.8 Field Work

RH camps were organized from December 31, 2014 to June 4, 2015 for this study. The project team leader was responsible for the oversight of the entire study process. The study work received technical support from two RH experts for the entire study period from the inception phase to the dissemination phase (study methodology development to reporting finalizations). The team leader was supported by research experts, who coordinated the study activities in the field. The field coordinator was responsible for all field level activities, while a lab coordinator was responsible for all laboratory activities and supervised the laboratory technicians. A data analyst ensured that all data was entered into the database appropriately.

Each camp was comprised of one gynecologist, one staff nurse, one health assistant, three enumerators, one lab technician and a camp supervisor along with local motivators. The camp teams were responsible for managing all aspects of the camps from the recruitment of the participants to screening, diagnosis, referral and administrating of the structural questionnaires. The camp supervisor role was to coordinate and supervise the overall camp activities.

In close coordination with D(P)HO and other stakeholders, a total of fifteen RH camps were set up in 15 selected districts. At each site, Female Community Health Volunteers (FCHVs), local people and health workers were mobilized to disseminate the information about the RH camp and its services. Similarly, information regarding the camps was disseminated through use of local mass media and distribution of Information, Education and Communication (IEC) materials.

Figure 2.1 Field Work Process for RH Morbidity Study



Confidentiality of the study participants was given a top priority and strict confidentiality was maintained throughout the study process. In order to maintain privacy each of the RH camp sites were comprised of at least four separate rooms: one room for counseling; one for interview; one for history taking; and one room for clinical examination and sample collection. (Figure 2.1). Each room contained relevant IEC materials to provide information on RH to the women. Female Enumerators were mobilized to conduct interviews in a private setting. In order to ensure the quality of service provided in the camp, a monitoring matrix was developed based on which monitoring of the study was conducted.

Additionally, the core study members among the FHD, CMDN staff, UNFPA and other stakeholders were involved in the camp's supervision to help ensure data quality.

2.9 Data Processing and Management

The completed electronic questionnaires were re-checked by enumerators and the field supervisor to ensure that the questionnaires were properly entered into a tablet computer.

The electronic data was extracted into MS Excel for verification and transferred into Statistical Package for the Social Sciences (SPSS). A number of quality check mechanisms such as range checks, logical checks and skip instructions were developed which helped to detect the errors during the data entry stage.

Data backups were created in rewritable media and compact discs to make sure that all data and information thus generated was highly secured and not made available to anyone other than the authorities relevant to this study.

2.10 Data Analysis

Exploratory data analysis was carried out after the data was imported into SPSS. Descriptions of categorical variables using frequencies, percentages, and measures of central tendency (mean, median, standard deviation) for numerical variables were done thereafter. Extreme care was exercised during the analysis process. In view of this being a camp based study, post stratification techniques were utilized to rectify the challenges of normalizing high visits in some health camps and low visits in others.

The data was analyzed using SPSS. Bivariate analyses of the key indicators with reproductive morbidities were performed. The Chi-square test was calculated to measure the statistical association between cross-tabulated categorical variables. A p-value less than 0.05 ($p<0.5$) was considered as statistically significant. For multivariate analysis, logistic regression was performed for the variables significant to the Chi-square test.

2.11 Ethical Consideration

Ethical approval of the study protocols was obtained from the Nepal Health Research Council (NHRC). All the participants were informed about the nature and purpose of the study and were explained the potential risks and benefits. The study participants were also made aware of the confidentiality and anonymity policy of the study. Their names and other individual identifiers were not disclosed but recorded for future follow-up as indicated in the consent form. Only the participants giving voluntary written consent were enrolled for the study. For laboratory testing of the enrolled participants, oral consent was obtained by the nursing staff before collecting the samples.

Measures were taken during data collection, management and analysis to protect the privacy, confidentiality and dignity of all participants.

2.12 Limitations of the Study

- This study was conducted in 15 districts of Nepal. The analysis and results presented in this report are, therefore, confined to those districts only, and may not necessarily reflect or be generalized to the other districts or other parts of the country.
- The cross-sectional sampling design of the study means that it provides a "snapshot in time" scenario of the study population. Although, the findings provide evidence of statistical association between those items and the risk behavior; it may not be able to show a cause and effect relationship.
- Bearing in mind that this study was conducted in a camp based scenario, the prevalence of morbidity cannot be generalized to the national level. Also for the same reason, the possibility of over estimation cannot be completely eliminated.
- Lack of knowledge, limited time duration of the camp period and long waiting time for clinical examination may be factors discouraging all the enrolled participants from

having clinical examination.

- The camp based nature of the study, possible sense of stigma and lack of knowledge may be factors discouraging Obstetric Fisutula patients from visiting the RH camps.
- Difficulty in following up on some patients that had been referred to higher institutions for further management, especially for Cervical Cancer.
- HPV testing outcome is reliant on the presence or absence of the virus in cervical swabs collected in the camp settings. Not all swabs can effectively capture infected cells.
- HPV testing was limited to high risk groups 16 and 18 only, and thus the prevalence percentage is an indication of these two types only. However, at least another 13 High Risk types are also known to cause Cervical Cancer in females.

CHAPTER 3:

BACKGROUND CHARACTERISTICS

This chapter presents the information on background characteristics of the study population, primarily focused on geographical characteristics, socio-demographic characteristics, socio-economic background characteristics, pregnancy related information and knowledge of RH morbidities.

3.1 Enrollment of Study Participants

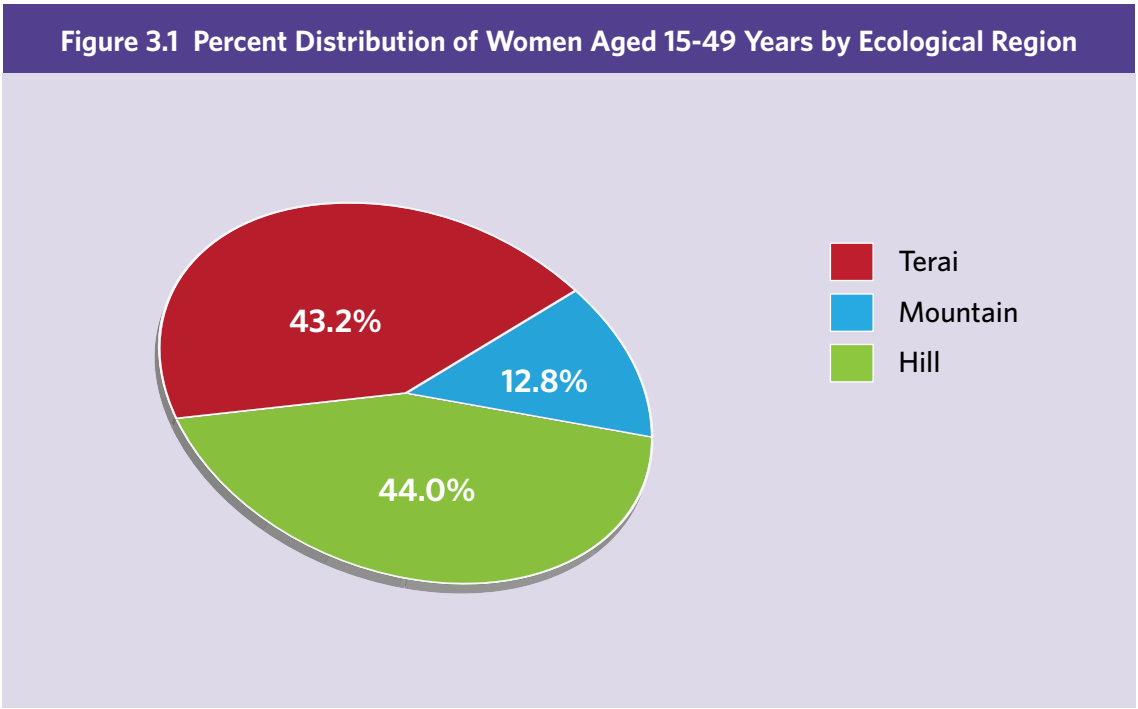
In fifteen study districts, a total of 5,555 women came to the RH camps organized for the study purpose. Among the women visiting the camp, only 4, 277 women of reproductive age group (15-49 years) were enrolled in the study and interviewed. However, all the women interviewed were not participated in the clinical examination for the screening of selected morbidities.

3.2 Geographical Characteristics

Detailed information on the geographical characteristics of the women (N=4,277) included in the study is presented in this section.

The highest representation of women was from the Hill (44.0%), followed by the Terai (43.2%) and the Mountain (12.8%) Region (Figure 3.1).

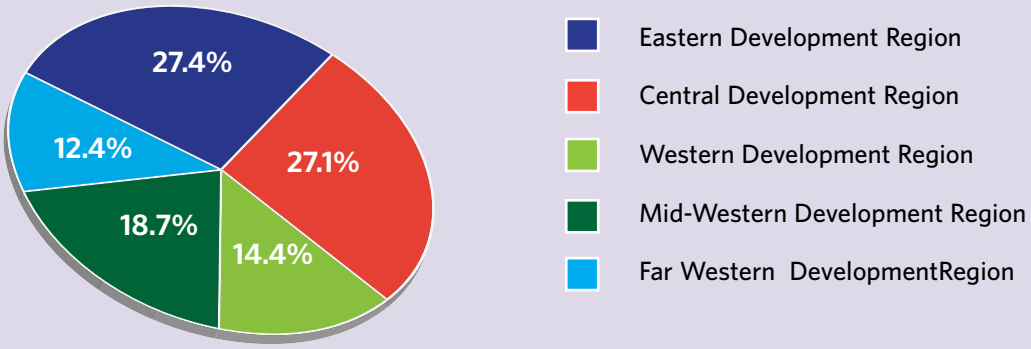
Figure 3.1 Percent Distribution of Women Aged 15-49 Years by Ecological Region



Likewise, 27.4 percent of the women were from the Eastern Development Region (EDR) and 27.1 percent from the Central Development Region (CDR), 18.7 percent were from the Mid-western

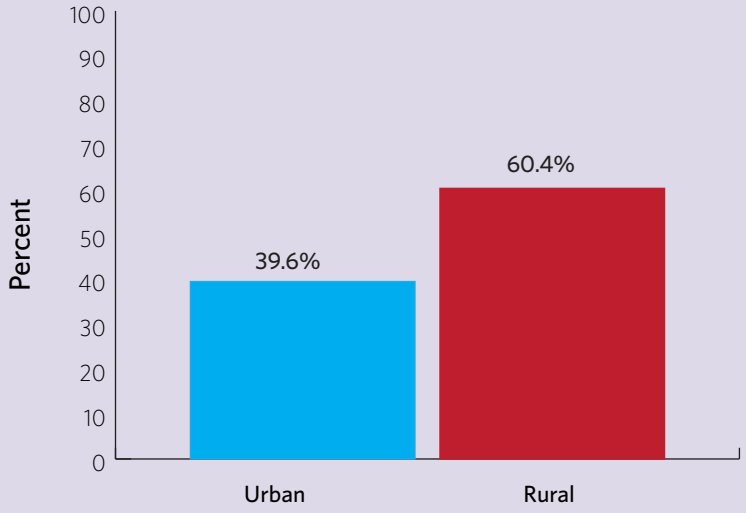
Development Region (MWDR), 14.4 percent from the Western Development Region (WDR) and 12.4 percent were from the Far-western Development Region (FWDR) (Figure 3.2).

Figure 3.2 Percent Distribution of Women Aged 15-49 Years by Development Region



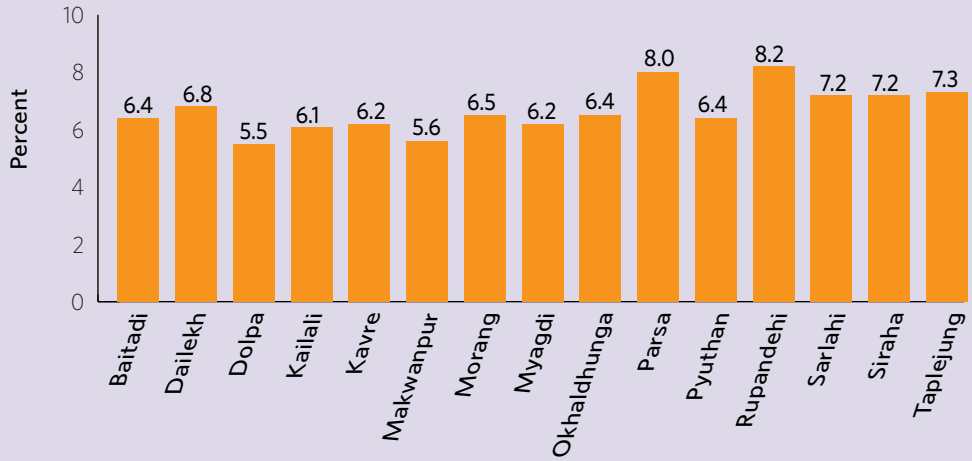
As shown in the Figure 3.3, representation of women from rural areas was more than half (60.4%), with the remaining 39.6 percent from urban areas.

Figure 3.3 Percent distribution of Women Aged 15-49 Years by Place of Residence



Among the fifteen study districts, participation of women in the study was higher from Rupandehi (8.2%) and Parsa (8.0%) amongst others. The least represented group of women was from Dolpa (5.5%) district (Figure 3.4).

Figure 3.4 Percent Distribution of Women Aged 15-49 Years by District



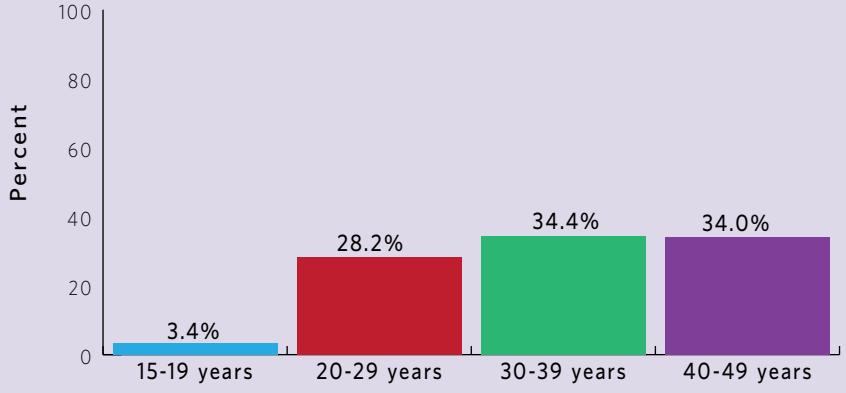
3.3 Socio-demographic Characteristics

Information regarding the socio-demographic characteristics such as age, religion, education, marital status, caste/ethnicity, religion and age was collected in this study. This section presents the findings on these aspects.

Figure 3.5 shows that more than one-third of the women (34.4%) were within the age group of 30 to 39 years, followed by 40 to 49 years of age (34.0%) and 20 to 29 years of age (28.2%). A small number were between 15 to 19 years of age (3.4%).

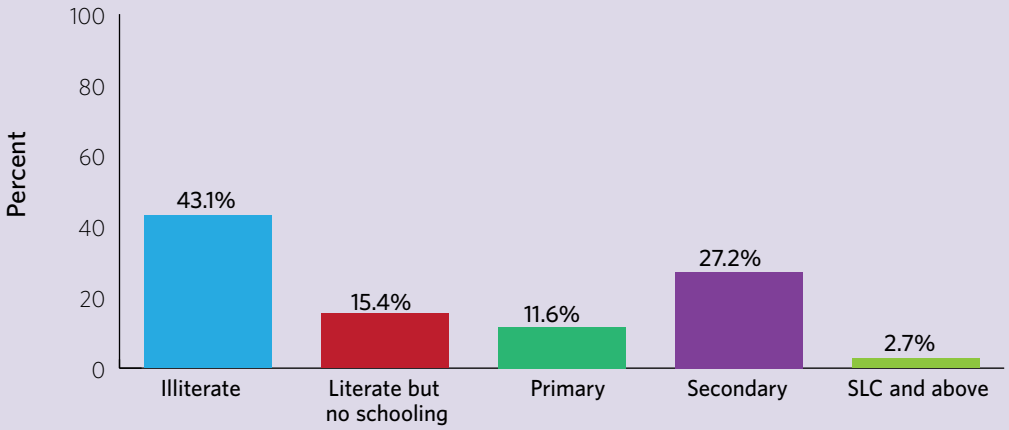
The median age of the women was 35 years.

Figure 3.5 Percent Distribution of women Aged 15-49 Years by Age Group



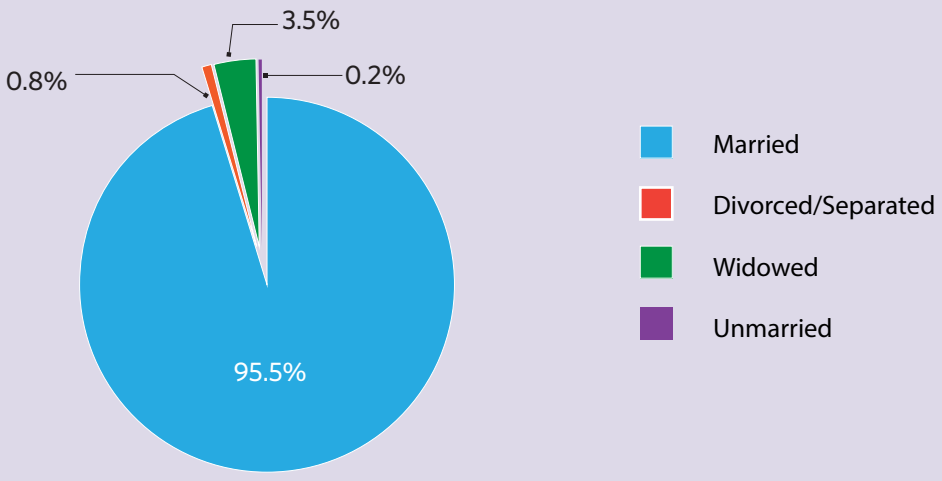
More than two-fifths of the women (43.1%) were illiterate and 15.4 percent were literate but with no formal schooling. About 27.2 percent had a secondary level education. Only about three percent of women had a School Leaving Certificate (SLC) and/or above level of education (Figure 3.6).

Figure 3.6 Percent distribution of Women Aged 15-49 Years by Educational Status



The majority of women (95.5%) were married (Figure 3.7). Among them, 80.3 percent were married before the age of 20 years. The median age of marriage among the women was 17 years (Table 3.1).

Figure 3.7 Percent Distribution of Women Aged 15-49 Years by Marital Status



About 47 percent women were from Upper caste groups, followed by Dalit (19.1%), disadvantaged Janajati (16.2%) and disadvantaged non-Dalit Terai caste group (13.6%). Hindu (90.3%) was the predominant religion followed by Buddhist (5.8%), as shown in the below Table 3.1.

Table 3.1 Distribution of Women Aged 15-49 Years by Socio-demographic Characteristics		
Socio-demographic Characteristics	**Number (N=4,277)**	**Percent**
Caste/Ethnicity**		
Dalit	817	19.1
Disadvantaged Janajati	695	16.2
Disadvantaged non-Dalit Terai caste group	583	13.6
Religious minorities	94	2.2
Relatively advantaged Janajati	97	2.3
Upper caste group	1,991	46.6
Religion		
Hindu	3,862	90.3
Buddhist	247	5.8
Muslim	96	2.2
Christian	49	1.1
Others *	23	0.5
Age at Marriage (N=4,268)		
Below 20 years	3,428	80.3
20 years and above	840	19.7
Median (Range)	**17 (8-48)**	

** Others include; Aarya, Kirat, Om Shanti, Aananmargi*
*** Based on Central Bureau of Statistics (CBS)*

3.4 Occupational Characteristics

This section presents the information on occupations and monthly income of the women enrolled in the study.

Nearly half of the women (47.5%) were farmers followed by homemakers (36.2%) with the lowest (1.7%) being daily wage earners and others including foreign employment, self-employment, student, social worker etc. Most of the women (72.9%) had no income, whereas 11.8 percent had a monthly income of up to NRs. 5,000. The average monthly income of a woman was NRs. 10,000. (Table 3.2)

Table 3.2 Distribution of Women Aged 15-49 Years by Occupational and Income Characteristics		
Occupational and Income Characteristics	**Number (N=4,277)**	**Percent**
Main Occupation		
Farmer	2,031	47.5
Homemaker	1,550	36.2
Business	368	8.6
Service	183	4.3
Daily wage earner	72	1.7
Others **	73	1.7
Approximate Monthly income		
No income	3,120	72.9
No Response	176	4.1
Up to 5,000 NRs.	504	11.8
5001 – 10,000 NRs	221	5.2
10,001- 20,000 NRs.	189	4.4
More than 20,000 NRs.	67	1.6
Average Monthly Income	**10,000.00 NRs.**	

*** Others include; foreign employment, self-employment, politician, student, social worker*

3.5 Fertility Related Information

Information regarding the age of first pregnancy, the number of pregnancies and children, the place of last delivery and contraceptive use was also collected in the study. This section presents findings on these aspects.

More than half of the women (53.7%) had their first pregnancy before the age of 20 years and 38.6 percent had their first pregnancy between the ages of 20 to 29 years. The median age of first pregnancy was 19 years ranging from 13 to 41 years. About 41 percent of the women became pregnant between 3 to 4 times and 31 percent became pregnant 1 to 2 times. About 6 percent of the women became pregnant more than eight times. The median number of pregnancies was three, ranging from a frequency of 1 to 17 times.

About 68 percent of women had 1 to 3 children, 28 percent had 4 to 6 children and 2 percent had no children. The range was from 1 to 12 children with the median number of children being three. The majority of women (66.7%) had delivered their last child at home whereas only a third of the women (32.8%) reported delivering at a health facility. Nearly two-thirds of women (65.0%) reported ever using a family planning method (Table No 3.3).

Table 3.3 Distribution of Women aged 15-49 Years by Fertility Related Information		
Fertility Related Information	**Number (N=4,277)**	**Percent**
Age at First Pregnancy		
Below 20 years	2,295	53.7
20-29 years	1,653	38.6
30 and above	31	0.7
Not pregnant yet	213	5.0
Don't remember/know	85	2.0
Median (Range)	**19 (13-41)**	
Number of Pregnancies (N=4,064)*		
1-2 times	1,272	31.3
3-4 times	1,652	40.6
5-7 times	913	22.5
8 and more times	227	5.6
Median (Range)	**3 (1-17)**	
Number of Children (N=4,064)*		
None	67	1.6
1-3	2,750	67.7
4-6	1,124	27.7
7 and more	123	3.0
Median (Range)	**3 (1-12)**	
Place of Last Delivery (N=4,009)**		
Health Facility	1,314	32.8
At home	2,675	66.7
On the way/Ambulance	20	0.5
Ever Used Family Planning Method		
Yes	2,780	65.0
No	1,497	35.0

** N: Excluded who were 'not pregnant yet*
*** N: Excluded who had not delivered yet*

3.6 Knowledge of POP, Obstetric Fisutula and Cervical Cancer

The majority of women (79.1%) had heard about POP. About 43 percent of women had heard about Cervical Cancer. However, only about 5.4 percent of women had heard about Obstetric Fistula (Figure 3.8).

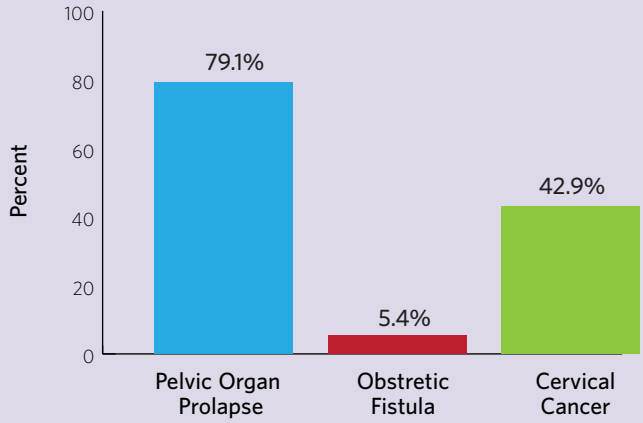
" ..... awareness is made through hospital OPD counseling, from nursing staff and also through FCHVs....."

District Health Office, Kailali

"..... no awareness programs as such in the district. There is an adolescent counseling service and that's it..."

District Health Office, Sarlahi

Figure 3.8 Percent Distribution of Women Aged 15-49 Years by Knowledge of POP, Obstetric Fistula and Cervical Cancer



The main source of information on POP was relatives/friends of the women (79.5%) followed by health personnel (58.9 %) and television/radio (45.6%). Newspapers (9.3%) were the least reported source of information on POP. For Cervical Cancer the main source of information was relatives/friends (72.3 %) followed by doctors/nurses/health camps (56.1%) and television/radio (49.8%). Regarding Obstetric Fistula, doctors/nurses/health camp (66.8%) were the main source of information followed by television/radio (53.7%) and relatives/friends (40.2%) (Table 3.4).

Table 3.4 Distribution of Women Aged 15-49 Years by Source for Information on POP, Obstetric Fistula and Cervical Cancer

Information Source*	Number (N=4,277)	Percent
Source of information about POP (N=3,383)		
Radio/Television	1,541	45.6
Newspaper	316	9.3
Health Personnel/FCHV	1,991	58.9
Relatives/Friends	2,691	79.5
Source of information about Cervical Cancer(N= 1,836)		
Television/Radio	914	49.8
Newspaper	250	13.6
Doctor/Nurse/Health Camp	1,030	56.1
Relatives/Friends	1,328	72.3
Aama Samuha[1]	4	0.2
Books/Training	20	1.1
School/Teacher	9	0.5
Others	2	0.1
Source of information about Obstetric Fistula (N=2,29)		
Television/Radio	123	53.7
Newspaper	47	20.5
Doctor/Nurse/Health Camp	153	66.8
Relative/Friends	92	40.2
Books/Training	6	2.6

** Multiple response*
[1]Welfare women group formed in a community

CHAPTER 4:

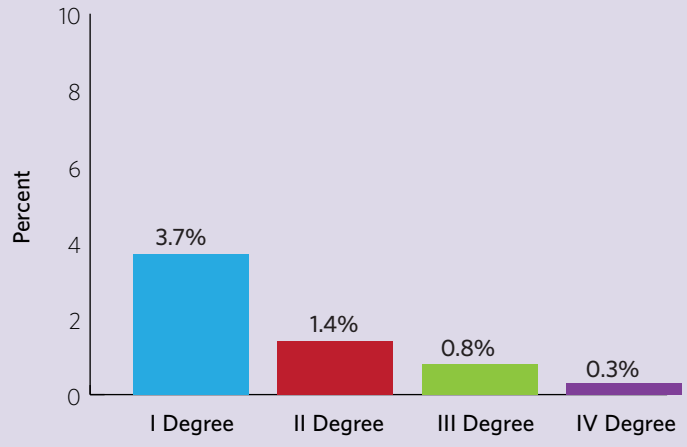
PELVIC ORGAN PROLAPSE

Pelvic organ prolapse is one of the major public health problems in the country. In Nepal, it is the most frequently reported cause of poor health among women of reproductive age group. The term "Prolapse" refers to the descending or drooping of organs. Specifically, POP refers to the bulging or descending of one or more of the pelvic organs including bladder, uterus, Pouch of Douglas and rectum into the vagina. This chapter presents the findings on the prevalence of POP and factors associated with it.

4.1 Prevalence of Pelvic Organ Prolapse

Among the 4,277 women interviewed for the study, only 4,031 of them were clinically examined for POP. Among the clinically examined women, 256 (6.4%) were diagnosed with different degrees of POP, among which 3.7 percent had first degree prolapse, 1.4 percent had second degree, 0.8 percent had third degree and 0.3 percent had fourth degree prolapse (Figure 4.1).

Figure 4.1 Prevalence of POP among Women Aged 15-49 Years according to Degree



** Total sum is not equals to 100 due to mathematical decimal error*

4.2 Prevalence of Pelvic Organ Prolapse by Region

Among 256 women diagnosed with POP, 6.6 percent were from the Tera followed by Hill (6.5%) and Mountain Regions (4.8%) as shown in Table 4.1.

In the Far-western Development Region, 11.3 percent of the women were diagnosed with POP, which was the highest among all development regions. In the Eastern Development Region POP was diagnosed among 4.6 percent of the women, while in the Central Development Region 8 percent were diagnosed. In the Western Development Region 3.4 percent and in the Mid-western Development Region, 5.3 percent of the women were diagnosed with POP.

About 7 percent of women from the urban areas were diagnosed with POP, followed by the rural areas (6%).

Table 4.1 Prevalence of POP Among Women Aged 15-49 Years by Ecological Region, Development Region and Place of Residence

Location	Pop				Total (N=4,031)
	Yes		No		
	(n=256)	Percent	(n=3,775)	Percent	
Ecological Region					
Mountain	25	4.8	491	95.2	516
Hill	117	6.5	1,680	93.5	1,797
Terai	114	6.6	1,604	93.4	1,718
Development Region					
Eastern Development Region	50	4.6	1,044	95.4	1,094
Central Development Region	91	8.0	1,043	92.0	1,134
Western Development Region	20	3.4	561	96.6	581
Mid-western Development Region	38	5.3	681	94.7	719
Far-western Development Region	57	11.3	446	88.7	503
Place of Residence					
Rural	145	5.9	2,312	94.1	2,457
Urban	111	7.1	1,463	92.9	1,574

4.3 Socio-demographic Characteristics of Women with Pelvic Organ Prolapse

Among the women diagnosed with POP, more than two-thirds of the women (67.2%) were within 40 to 49 years of age followed by 30 to 39 years (20.7%) and 20 to 29 years (11.7%) of age. Only one woman diagnosed with POP was below 19 years of age. The median age of women diagnosed with POP was 41 years.

More than two-third of the women (61.7%) were illiterate and 17.2 percent were literate with no formal schooling. About 14 percent had secondary level education. Only one woman had a School Leaving Certificate (SLC) and/or above level of education.

About half of the women (49.2%) were from upper caste groups followed by Dalit (18.8%), disadvantaged Janajati (12.5%) and disadvantaged non-Dalit Terai caste group (16.8%).

The majority of women (91.8%) reported being married with some of the women reporting as widowed (7.8%), whereas a very small number (0.4 %) reported being divorced.

The Socio-demographic characteristics of women with POP have been illustrated in Table 4.2.

Table 4.2 Distribution of Women Aged 15-49 Years with POP by Socio-demographic Characteristics

Socio- demographic Characteristics	Number (N=256)	Percent
Age		
15-19 years	1	0.4
20-29 years	30	11.7
30-39 years	53	20.7
40-49 years	172	67.2
Median Age	**41 years**	
Educational Status		
Illiterate	158	61.7
Literate but no schooling	44	17.2
Primary	17	6.6
Secondary	36	14.1
SLC and above	1	0.4
Caste/Ethnicity		
Dalit	48	18.8
Disadvantaged Janajati	32	12.5
Disadvantaged non-Dalit Terai caste group	43	16.8
Religious minorities	3	1.2
Relatively advantaged Janajati	4	1.6
Upper caste group	126	49.2
Marital Status		
Married	235	91.8
Divorced	1	0.4
Widowed	20	7.8
Unmarried	0	0.0

4.4 Age when First Experienced Pelvic Organ Prolapse

Among the 256 women diagnosed with POP, only 174 were able to report the age when they first experienced POP. Of those reporting the age when they first experienced POP, the majority of them were 20 years and above (Table 4.3).

Table 4.3 Distribution of Women Aged 15-49 Years with POP by Age when First Experienced Signs and Symptoms of POP

Characteristics	Number (N=174)	Percent
Age		
Below 20 years	10	5.7
20-29 years	61	35.1
30-39 years	63	36.2
40 years and above	40	23.0

4.5 Fertility Related Information of Women with Pelvic Organ Prolapse

As shown in Table 4.4, about 86 percent women were married before the age of twenty years. More than half of the women (57.8%) had their first pregnancy before the age of twenty years and 39.8 percent had their first pregnancy between ages of 20 to 29 years. The median age of first pregnancy was 19 years and ranges from 13 to 41 years.

About 42 percent of women became pregnant between 3 to 4 times and 32 percent of women became pregnant 5 to 7 times. About 10 percent women became pregnant more than eight times. The median number of pregnancies was found to be three, ranging from a frequency of 1 to 17.

About 54 percent of women had 1 to 3 children, 39 percent had 4 to 6 children and one woman had no children. Ranging from 1 to 12 children, the median number of children was three.

Table 4.4 Distribution of Women Aged 15-49 years with POP by Fertility Related Information

Fertility Related Information	Number (N=256)	Percent
Age at Marriage		
Below 20 years	219	85.5
20 years and above	37	14.5
Median Age	**16 years**	
Age at First Pregnancy		
Below 20 years	148	57.8
20 - 29 years	102	39.8
30 and above	1	0.4
Not pregnant yet	0	0.0
Don't remember/know	5	2.0
Median Age (Range)	**19 years (13 to 41 years)**	
Number of Pregnancies		
1- 2 times	41	16
3-4 times	107	41.8
5-7 times	83	32.4
8 or more times	25	9.8
Median (Range)	**3 (1 to 17)**	
Number of Children		
None	1	0.4
1-3	137	53.5
4-6	100	39.1
7 ad more	18	7.0
Median (Range)	**3 (1 to 12)**	

4.6 Delivery Related Information of Women with Pelvic Organ Prolapse

As shown in Table 4.5, the majority of women (82.8%) had delivered their last child at home whereas only 17.2 percent of the women reported delivering their last child at a health facility. About 31 percent reported having their last delivery assisted by the health workers.

Regarding the birth interval among the women diagnosed with POP, a majority of them (83%) had 1 to 3 year interval since their last childbirth.

Table 4.5 Distribution of Women Aged 15-49 Years with POP by Delivery Related Information

Delivery Related Information	Number (N=256)	Percent
Place of Last Delivery		
Health facility	44	17.2
At home	212	82.8
Assisted by Health Worker During Last Delivery		
Yes	79	30.9
No	177	69.1
Birth Interval of Last Child (N=241)*		
1-3 years	200	83.0
3-5 years	30	12.4
More than 5 years	11	4.6

** Excluded those women who had only one child*

4.7 Symptoms Experienced among Women with Pelvic Organ Prolapse

Although 1,698 women interviewed reported of having signs and symptoms of POP, only 256 women were diagnosed with POP. Among them, a majority of women experienced back pain (81.6%), pain in lower abdomen (77.7%) and bulging of something in/out of the vagina (70.7%). More than half of the women (56.3 %) experienced heaviness or dullness in the pelvic area (Table 4.6).

Table 4.6 Distribution of Women Aged 15-49 Years with POP by Symptoms

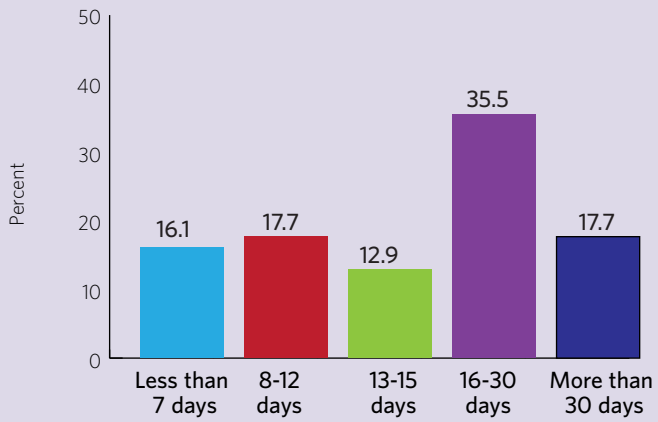
Reported Symptoms *	POP (N=256)	Percent
Heaviness or dullness in pelvic area	144	56.3
Bulging of something in/out of the vagina	181	70.7
Pain in lower abdomen	199	77.7
Foul smelling discharge	129	50.4
Itching	122	47.7
Painful intercourse	93	36.3
Burning urination	110	43.0
Back pain	209	81.6
Difficulty/pain in defecating	41	16.0

** Multiple responses*

4.8 Rest after Delivery

To assess the practice of the women with regard to having rest after delivery, women diagnosed with POP who reported experiencing POP following childbirth were asked how many days they took complete rest after the delivery of the baby, with reference to the last delivery they had. The majority (35.5%) of women reported that they took complete rest for 16 to 30 days. Similarly, 17.7 percent women took complete rest for more than 30 days and 8 to 12 days respectively. Only 16.1 percent reported taking rest for less than seven days (Figure 4.2).

Figure 4.2 Percent Distribution of Women Aged 15-49 Years with POP by Rest after Delivery



4.9 Use of Patuka

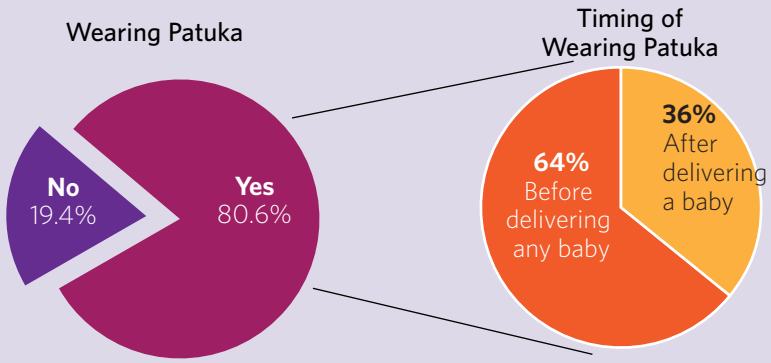
Use of Patuka (homemade abdominal binder made of cloth) is common among women in Nepal particularly in the Hill and Mountain Regions. There is a belief that this material is a contributory factor to POP as it helps to push the uterus down. A few questions were asked in this study about the use of Patuka of the women who reported experiencing POP following childbirth (Figure 4.3).

Among POP diagnosed cases, 80.6 percent of women reported wearing Patuka, amongst which 64 percent used it on a regular basis even before delivery, and 36 percent started wearing after delivering a baby (Figure 4.3).

"There is an unavailability of skilled human resources to work for the surgical management of pelvic organ prolapse cases, but at the hospital and PHCs there are staff nurses who are able to insert ring pessaries. However, we do not have regular clients for it. There is always a problem due to a lack of human resource. There are not any human resources and services for the management of Obstetric Fistula and Cervical Cancer."

District Health Office, Taplejung

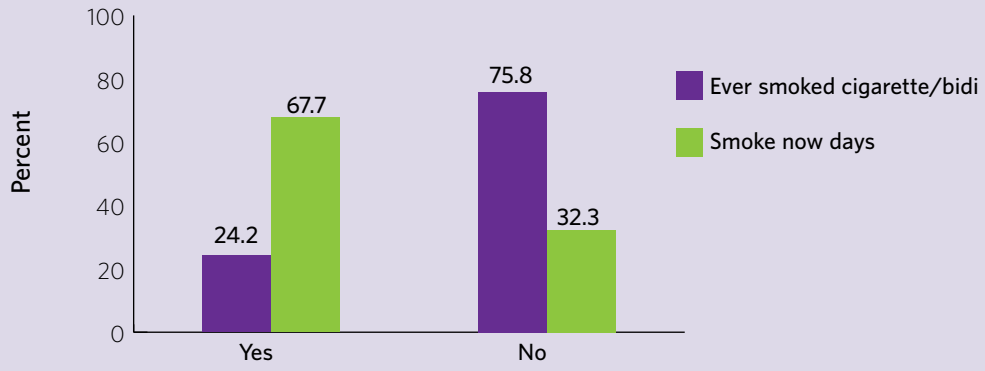
Figure 4.3: Percent Distribution of Women Aged 15-49 Years with POP by Patuka Use



4.10 Pelvic Organ Prolapse and Smoking

As shown in figure 4.4, the respondents were asked if they had ever smoked cigarette/bidi. Among POP diagnosed cases, 24.2 percent reported that they had smoked ever; whereas 75.8 percent had never smoked before. Out of those who reported that they had smoked, 67.7 percent said that they were still smoking and 32.3 percent said that they had quit.

Figure 4.4 Percent Distribution of Women Aged 15-49 Years with POP by Smoking Habit



4.11 Health Seeking Behavior among Women Who Reported Having Signs and Symptoms of Pelvic Organ Prolapse

Among the interviewed women who reported ever having had POP related symptom(s) were asked whether they were currently having any signs and symptoms of POP, about 44 percent reported of having signs and symptoms of POP. Among them, about 35 percent of women said they had a health checkup after the onset of POP. Most of them consulted doctors (82.6%) and nurses (11.1%) for the POP problem. About them 27 percent were advised to go for surgery, 24 percent had a ring pessary inserted and 23 percent reported that they were taught the pelvic floor exercises (Table 4.7).

Table 4.7 Distribution of Women Aged 15-49 Years Who Reported Having Signs and Symptoms of POP by Health Seeking Behaviors		
Characteristics	**Number (N=3,891)**	**Percent**
Reported having Signs and Symptoms of POP		
Yes	1,698	44.6
No	2,193	56.4
Sought Health Service after Experiencing Symptoms of POP (n=1,698)		
Yes	596	35.1
No	1,102	64.9
Consulted for Checkup (n=596)		
Doctor	492	82.6
Nurse	66	11.1
MCHW	14	2.3
FCHV	12	2.0
Others (AHW, ANM, Medical Store)	12	2.0
Service Provided by Health Worker (n=501)		
Got ring pessary inserted	121	24.2
Learned about pelvic floor exercises	116	23.2
Got advice to go for surgery	133	26.5

4.12 Key Risk Determinants and Pelvic Organ Prolapse

Bivariate analysis of key indicators with POP were performed using Chi-square test. A p-value less than 0.05 were considered as statistically significant.

4.12.1 Association between Socio-demographic and Economic Characteristics and Pelvic Organ Prolapse

There was a significant association between age and education with POP. POP was found to be associated with older age groups; the prevalence being 12.6 percent in the 40 to 49 year age group followed by 3.8 percent of those between 30 to 39 years. POP varied with respect to education status; women who were illiterate (9.2%) had a higher POP prevalence compared to those who had SLC and above (0.9%). Table 4.8 shows the association between socio-demographic characteristics and POP (Table 4.8).

Table 4.8 Association between Key Socio-demographic and Economic Characteristics and POP						
Characteristics	POP					P-value
	Yes		No		Total	
	Number (n=256)	Percent	Number (n=3,775)	Percent	Number (n=4,031)	
Age						
15-19 years	1	0.8	132	99.2	133	<0.05*
20-29 years	30	2.7	1,094	97.3	1,124	
30-39 years	53	3.8	1,351	96.2	1,404	
40-49 years	172	12.6	1,198	87.4	1,370	
Educational Status						
Illiterate	158	9.2	1,556	90.8	1,714	<0.05*
Literate but no schooling	44	6.9	590	93.1	634	
Primary	17	3.6	458	96.4	475	
Secondary	36	3.3	1,064	96.7	1,100	
SLC and above	1	0.9	107	99.1	108	
Caste/Ethnicity						
Dalit	48	6.3	715	93.7	763	0.17
Disadvantaged Janajati	32	4.8	634	95.2	666	
Disadvantaged non-Dalit	43	8.2	484	91.8	527	
Terai caste group						
Religious minorities	3	3.6	80	96.4	83	
Relatively advantaged Janajati	4	4.2	91	95.8	95	
Upper caste group	126	6.6	1,771	93.4	1,897	
Marital Status						
Married	235	6.1	3,620	93.9	3,855	0.9
Divorced	1	3.1	31	96.9	32	
Widowed	20	14.8	115	85.2	135	
Unmarried	0	0.0	9	100.0	9	
Occupation						
Farmer	133	6.9	1,797	93.1	1,930	0.7
Service	12	6.9	161	93.1	173	
Business	20	5.7	332	94.3	352	
Daily wage earner	4	5.9	64	94.1	68	
Homemaker	85	5.9	1,356	94.1	1,441	
Others	2	3.0	65	97.0	67	

**= P value significance*

4.12.2 Association between Selected Key Determinants (Health Seeking Behavior, Access to and Utilization of Health Services) and Pelvic Organ Prolapse

Table 4.9 shows the association between selected key determinants variables and POP. There was a significant association between POP and age at first pregnancy, place of delivery, delivery assisted by health workers, number of children, rest after delivery, smoking habits and the age when first experienced signs and symptoms. POP was highest among women having more children (15.8%) compared to no children (1.7%). POP was found to be highest (8.2%) among women who delivered at home in comparison to women who delivered at health facility (3.5%). Highest POP prevalence was found among women who were smokers (10.8%) than non-smokers (5.6%). Similarly POP prevalence was higher among women who had health workers unassisted delivery (8.8%). Similarly duration of rest is found to be associated with POP.

Table 4.9 Association between Selected Key Determinants (Health Seeking Behavior, Access to and Utilization of Health Services) and POP

Characteristics	POP					P-value
	Yes		No		Total	
	Number (n=256)	Percent	Number (n=3,775)	Percent	Number (n=4,031)	
Age at First Pregnancy						
Below 20 years	148	6.9	1,996	93.1	2,144	<0.05*
20 - 29 years	102	6.5	1,475	93.5	1,577	
30 and above	1	3.4	28	96.6	29	
Not pregnant yet	0	0.0	197	100	197	
Don't remember/know	5	6	79	94	84	
Number of Children (n=3834)						
None	1	1.7	59	98.3	60	<0.05*
1-3	137	5.3	2,472	94.7	2,609	
4-6	100	9.5	951	90.5	1,051	
7 and more	18	15.8	96	84.2	114	
Place of Last Delivery						
Health facility	44	3.5	1,208	96.5	1,252	<0.05*
At home	212	8.2	2,370	91.8	2,582	
Assisted by Health Worker During Last Delivery						
Yes	79	4.5	1,689	95.5	1,768	<0.05*
No	177	8.8	1,840	91.2	2,017	
Birth Interval of Last Child						
1-3 years	200	7.6	2,438	92.4	2,638	0.38
3-5 years	30	5.9	480	94.1	510	
More than 5 years	11	8.1	125	91.9	136	
Age When First Experienced Signs and Symptoms of POP (n=1628)						
Below 20 years	10	6.1	154	93.9	164	<0.05*
20-29 years	61	9.6	575	90.4	636	
30-39 years	63	10.6	529	89.4	592	
40 years and above	40	16.9	196	83.1	236	

Rest After Delivery (n=506) Less than 7 days 8 - 12 days 13 - 15 days 16 - 30 days More than 30 days	 10 11 8 22 11	 13.5 12.2 8.9 8.8 25.6	 64 79 41 228 32	 86.5 87.8 45.6 91.2 74.4	 74 90 90 250 43	<0.05*
Ever Smoke Cigarette /Bidi Yes No	 62 194	 10.8 5.6	 514 3,261	 89.2 94.4	 576 3,455	<0.05*
Smoke Now Days (n=576) Yes No	 42 20	 11.0 10.3	 339 175	 89.0 89.7	 381 195	0.77

**= P value significance*

4.12.3 Factors Associated with Pelvic Organ Prolapse in Multivariate Analysis

Age, education and age when first experienced signs and symptoms of POP were found to be statistically significant in bivariate analysis so these variables were included in the multivariate analysis. However considering the small number of cases, it was not possible to include all of the other variables found to be statistically significant in bivariate analysis for the multivariate analysis.

Age was found to be significant in multivariate logistic regression model. The occurrence of POP was highest among 20 to 29 years. Education and age when first experienced signs and symptoms of POP were significant in bivariate analysis, however, these variables were not significant in multivariate analysis. The results of the multivariate analysis are shown in Table 4.10.

Table 4.10 Factors Associated with POP in Uni-variate and Multivariate Analysis								
Variable	**Uni-variate OR**	**95%(CI)**		**P-value**	**Multiple OR**	**95%(CI)**		**P-value**
		Lower	**Upper**			**Lower**	**Upper**	
Age								
15-19 years	1							
20-29 years	18.9	2.6	48.4	0.03*	12.1	1.4	55.5	<0.05*
30-39 years	5.2	3.5	7.7		7.8	4.1	15	
40-49 years	3.6	2.6	5.1		3.9	2.5	6.1	
Educational Status								
Illiterate	1				1			
Literate but no schooling	0.09	0.013	0.664	0.03	0.18	0.025	1.39	0.2
Primary	0.12	0.017	0.919		0.33	0.043	2.53	
Secondary	0.25	0.03	1.91		0.48	0.06	3.9	
SLC and above	0.27	0.03	2.03		0.37	0.05	2.87	
Age When First Experienced Signs and Symptoms of POP								
Below 20 years	1				1			
20-29 years	3.1	1.5	6.4	0.05*	0.43	0.18	1.02	0.6
30-39 years	1.9	1.2	2.9		0.38	0.22	0.64	
40 years and above	1.71	1.1	2.6		0.88	0.56	1.38	

** = P value significant*

4.13 Conservative Management and Referral

During the RH camps, those who were diagnosed with POP and had medical indications for conservative management were provided with silicon ring pessaries as determined by the Gynecologist. A total of 126 women were managed through the insertion of a silicon ring pessary. In addition to silicon ring pessaries, these women were also taught about Kegle's exercise. For cases requiring surgical intervention, the women were referred to the hospitals performing POP surgeries along with a referral slip. Before the referral, the clients were counseled on their condition and the treatment required for the condition.

CHAPTER 5:

CERVICAL CANCER, PRE-CANCEROUS LESIONS AND HUMAN PAPILOMAVIRUS

Worldwide, Cervical Cancer is the second most frequent cancer type and the third greatest cause of death from cancer in women (WHO Fact Sheet, 2013). Cervical cancer is a public health problem in developing countries like Nepal and is the most frequent cancer seen among women in Nepal. This chapter presents the findings on Cervical Cancer, Cervical Pre-cancerous lesions and factors associated with it.

5.1 Cervical Pre-Cancerous Lesions

Cervical cancer screening aims to prevent the development of cancer by identifying high-grade, Pre-cancerous cervical lesions. Pre-cancerous lesions detected by screening can be easily treated. Screening also helps detect cancerous lesions at an early stage, when treatment has a much higher rate of success. In accordance with Cervical Cancer Screening and Prevention National Guideline 2010, VIA and treatment by cryotherapy as a Single Visit Approach (SVA) method was followed for Cervical Cancer screening during this study.

5.1.1 Prevalence of Cervical Pre-cancerous Lesions

Among the 4,277 women interviewed, only 3,831 women were screened for Cervical Cancer. Out of the total screened 60 (1.6%) women had a positive result on VIA. The result of VIA screening is presented in Table 5.1.

A total of eight cases were suspected of Cervical Cancer and were referred to higher centers providing Cervical Cancer diagnosis and management services for further management.

Table 5.1 Prevalence of Cervical Pre-cancerous Lesions Among Women Aged 15-49 Years

Result	VIA	
	Number (N=3,831)	Percent
Negative	3,771	98.4
Positive	60	1.6

5.1.2 Prevalence of Cervical Pre-cancerous Lesions by Region

Among 60 VIA positive cases, 2.2 percent of the women were from the Terai followed by Mountain (2.0%) and Hill (0.8%) Region.

The Eastern Development Region had the most (2.2%) VIA positive cases in comparison with the Far-western Development Region having the least (1.0%) VIA positive cases. Among those tested, 1.4 percent of the VIA positive cases were from urban areas and 1.8 percent of the VIA positive cases were from rural areas (Table 5.2).

Table 5.2 Prevalence of Cervical Pre-Cancerous Lesions Among Women Aged 15-49 Years by Ecological Region, Development Region and Place of Residence

Location	VIA				Total (N=3831)
	Positive		Negative		
	(n=60)	Percent	(n=3,771)	Percent	
Ecological Region					
Mountain	10	2	480	98	490
Hill	14	0.8	1,701	99.2	1,715
Terai	36	2.2	1,590	97.8	1,626
Development Region					
Eastern Development Region	23	2.2	1,015	97.8	1,038
Central Development Region	12	1.1	1,045	98.9	1,057
Western Development Region	9	1.6	552	98.4	561
Mid-western Development Region	11	1.6	678	98.4	689
Far-western Development Region	5	1	481	99	486
Place of Residence					
Urban	33	1.4	2,296	98.6	2,329
Rural	27	1.8	1,475	98.2	1,502

5.1.3 Socio-demographic Characteristics of Women with VIA Positive Result

The Table 5.3 shows that among the women with VIA positive result, about half of them (50.0%) were between 30 to 39 years of age followed by 20 to 29 years (25%) and 40 and above years of age (20.0%). About 42 percent of the women had secondary level education, 22 percent were illiterate, 18 percent were literate but with no formal schooling and 13 percent had primary level education. Only three women had education upto School Leaving Certificate (SLC) and/or above.

About 33 percent were from upper caste groups followed by disadvantaged Janjatis (31.7%), Dalit (16.7%).Disadvantaged non-Dalit Terai caste groups were 13.3 percent and religious minorities were only 3.3 percent. The majority of women (96.7%) were married.

Table 5.3 Distribution of Women Aged 15-49 Years with VIA Positive Result by Socio-demographic Characteristics		
Socio-Demographic Characteristics	**Number (N=60)**	**Percent**
Age		
Below 19 years	3	5.0
20 - 29 years	15	25.0
30 - 39 years	30	50.0
40 years and above	12	20.0
Educational Status		
Illiterate	13	21.7
Literate but no schooling	11	18.3
Primary	8	13.3
Secondary	25	41.7
SLC and above	3	5.0
Caste/Ethnicity		
Dalit	10	16.7
Disadvantage Janajati	19	31.7
Disadvantaged non-Dalit Terai caste groups	8	13.3
Religious minorities	2	3.3
Relatively advantaged Janajati	1	1.7
Upper caste group	20	33.3
Marital Status		
Married	58	96.7
Divorced/Separated	1	1.7
Widowed	1	1.7

5.1.4 Occupational Characteristics of Women with VIA Positive Result

Among the women with VIA positive results, around one-third of them (35.0%) were homemakers, followed by farmers (28.3%) and business holders (21.7%). One woman reported of working as a FCHV. More than half of the women (56.7%) had no income whereas 23.3 percent had a monthly income of up to NRs 5,000, as shown in Table 5.4.

Table 5.4 Distribution of Women Aged 15-49 Years with VIA Positive Result by Occupational Characteristics		
Occupational Characteristics	**Number (N=60)**	**Percent**
Occupation		
Farmer	17	28.3
Service	5	8.3
Business	13	21.7
Daily wage earner	3	5.0
Homemaker	21	35.0
Others(FCHV)	1	1.7
Income		
No Income	34	56.7
Up to 5,000	14	23.3
5,001 - 10,000	8	13.3
10,001 - 20,000	4	6.7

5.1.5 Fertility Related Information of Women with VIA Positive Result

Among the women with VIA positive results, it was found that 75 percent were married before the age of 20 years with the remaining 25 percent above the age of 20 years. About 67 percent of women with VIA positive results had 1 to 3 children and 28 percent had 4 to 6 children. Five percent of women with VIA positive results had no children yet. (Table 5.5).

Table 5.5 Distribution of Women Aged 15-49 Years with VIA Positive Result by Fertility Related Information

Fertility Related Information	Number (N=60)	Percent
Age at Marriage		
Below 20 years	45	75.0
20 years and above	15	25.0
Number of Children		
None	3	5.0
1 - 3	40	66.7
4 – 6	17	28.3

5.1.6 Reported Screening of Cervical Cancer

As shown below in Table 5.6, among 4,277 surveyed women, only 1.5 percent were ever screened for Cervical Cancer. Among them, nearly half of the women (50.8%) had a Pap Smear test done and 9.5% had biopsy. About 42 percent were unable to report the proper screening method performed at the health facility.

About 44 percent of women reported making self-decision regarding screening whereas 35 percent reported having screening after referral by doctors/nurses.

Table 5.6 Distribution of Women Aged 15-49 Years by Screening for Cervical Cancer

Cervical Cancer Screening	Number (N=4,277)	Percent
Ever Screened for Cervical Cancer		
Yes	63	1.5
No	4,214	98.5
Method of Screening (n=63)		
Biopsy	6	9.5
Pap smear test	32	50.8
Unable to mention proper method	27	42.9
Advised/Referred for Cervical Cancer Screening (n=63)		
Self	28	44.4
Doctor/Nurse	22	34.9
Husband/family member/neighbor	10	15.9
Health worker/FCHV	3	4.8

"There are many problems related to maternal health but many women tend to hide those problems. They do not want to expose themselves in front of a doctor for a medical checkup. In addition, there are no female doctors in the district. According to the information we received from health institutions under us there are 3-4 cases of Obstetric Fistula, about 100 cases of Pelvic Organ Prolapse and 1 case of Cervical Cancer. In summary about 12 percent of women are affected due to maternal health related problems."

District Health Office, Pyuthan

5.1.7 Association between Key Indicators and VIA Positive Result

Table 5.7 shows the association between key indicators and VIA Positive result. There was a significant association between age, education and caste/ethnicity with VIA positive result (p-value <0.05). VIA was found to be associated with younger age group; the prevalence being 2.6 percent in the below 20 years group. Women with secondary level education had higher VIA positive result (2.1%) compared to other education groups. No significant association between HPV positive and VIA positive was found.

Table 5.7 Association between Socio-Demographic and Economic Characteristics and VIA						
Characteristics	VIA					P-value
	Positive		Negative		Total (N=3,831)	
	(n=60)	Percent	(n=3,785)	Percent		
Age						
15-19 years	3	2.6	112	97.4	112	<0.05*
20-29 years	15	1.4	1,065	98.6	1,065	
30-39 years	30	2.2	1,326	97.8	1,326	
40-49 years	12	0.9	1,268	99.1	1,268	
Educational Status						
Illiterate	13	0.8	1,591	99.2	1,591	<0.05*
Literate but no schooling	11	1.8	598	98.2	598	
Primary	8	1.8	447	98.2	447	
Secondary	25	2.4	1,032	97.6	1,032	
SLC and above	3	2.8	103	97.2	103	
Caste/Ethnicity						
Dalit	10	1.4	713	98.6	713	<0.05*
Disadvantaged Janajati	19	3.0	624	97.0	624	
Disadvantaged non-Dalit Terai caste groups	8	1.6	481	98.4	481	
Religious minorities	2	2.7	73	97.3	73	
Relatively advantaged Janajati	1	1.1	91	98.9	91	
Upper caste group	20	1.1	1,789	98.9	1,789	
Marital Status						
Unmarried	0	0.0	3	100.0	3	0.77
Married	58	1.6	3,622	98.4	3,622	
Divorced/Separated	1	3.4	28	96.6	28	
Widowed	1	0.8	118	99.2	118	
Occupation						
Farmer	17	0.9	1,822	99.1	1,839	0.1
Service	5	2.9	168	97.1	173	
Business	13	3.8	331	96.2	344	
Daily wage earner	3	4.6	62	95.4	65	
Homemaker	21	1.6	1,331	98.4	1,352	
Others	1	1.7	57	98.3	58	
Income						
Up to 5,000	34	1.1	2,892	98.9	2,965	0.1
5,001 - 10,000	14	3.0	442	97	456	
10,001 - 20,000	8	3.7	206	96.3	214	
More than 20,000	4	6.7	170	4.5	174	
Age at Marriage						
Below 20 years	45	1.5	3,015	98.5	3,060	0.33
20 years and above	15	1.9	753	98.1	768	
Number of Children						
None	0	0.0	49	100.0	49	0.46
1 - 3	40	1.6	2,476	98.4	2,516	
4 - 6	17	1.7	972	98.3	989	
7 and more	0	0.0	100	100.0	100	
HPV						
Yes	1	1.7	59	98.3	60	0.95
No	59	1.6	3,771	98.4	3,771	

** = P value significant*

5.1.8 Management of Cervical Pre-cancerous Lesions by Cryotherapy

In the course of the study, among the total women screened for Cervical Cancer, 60 were found to have a VIA positive result. Among VIA positive cases, 53 were provided with cryotherapy treatment on the site, while seven cases did not provide consent and deferred for the cryotherapy treatment.

5.2 Human Papillomavirus

The Human papillomavirus is a pathogen that affects mostly epithelial cells in sensitive areas and can lead to the development of genital warts, abnormal cervical cells or, in the long term, Cervical Cancer in females. In this study, HPV testing was carried out not as a screening tool for Cervical Cancer, but rather as an opportunity to understand the prevalence of high risk HPV types (16 and 18) present in females visiting health camps around the country (as outlined in the objectives section). This section presents the prevalence of HPV and various factors associated with it.

5.2.1 Prevalence of HPV

Among the 4,277 women interviewed for the study, 3,464 of them were clinically screened for HPV 16 and 18. Of them, HPV 16 was found among 3.6 percent whereas, HPV 18 was found amongst 2 percent. In addition, co-infection of both HPV 16 and 18 types was found among 0.2 percent of women screened. Similarly, either HPV 16 or HPV 18 was found among 5.4 percent women (Table 5.8).

Table 5.8 Prevalence of HPV among Women Aged 15-49 Years

Prevalence of HPV	HPV Positive		HPV Negative	
	Number	Percent	Number	Percent
HPV 16	126	3.6	3,338	96.4
HPV 18	68	2	3,396	98
HPV 16 or HPV 18	188	5.4	3,276	94.6
Co-infection (HPV 16 and 18)	6	0.2	3,458	99.8

5.2.2 Prevalence of HPV by Region

Among the 188 HPV positive cases, 6.2 percent were from Terai followed by Hill (5.3%) and Mountain Region (3.2%). The Western Development Region had 6.8 percent HPV prevalence whereas the Far-western Region having the prevalence of 3.7 percent only. The rural/urban distribution was 5.3 and 5.6 percent respectively (Table 5.9).

Table 5.9: Prevalence of HPV 16 and/or 18 among Women Aged 15-49 Years by Ecological Region, Development Region and Place of Residence					
Location	HPV				Total (N=3,464)
	Positive		Negative		
	n=188	Percent	n=3,276	Percent	
Ecological Region					
Mountain	14	3.2	421	96.8	435
Hill	82	5.3	1,458	94.7	1,540
Terai	92	6.2	1,397	93.8	1,489
Development Region					
Eastern Development Region	39	4.2	888	95.8	927
Central Development Region	54	5.9	864	94.1	918
Western Development Region	35	6.8	481	93.2	516
Mid-western Development Region	43	6.7	600	93.3	643
Far-western Development Region	17	3.7	443	96.3	460
Place of Residence					
Rural	111	5.3	1,981	94.7	2,092
Urban	77	5.6	1,295	94.4	1,372

5.2.3 Socio-demographic Characteristics of Women with HPV Positive Result

As shown in Table 5.10, among the women with HPV positive result, about 38 percent were 30 to 39 years of age, 36 percent were from 20 to 29 years and 26 percent were from 40 to 49 years. Only one respondent was below 19 years of age. The median age of women with HPV positive result was 33 years. More than one third of the women (36.7%) were illiterate, 28.2 percent had secondary level education, 19.7 percent were literate but with no formal schooling and about 13 percent had a primary level education. Only four women had a School Leaving Certificate (SLC) and/or above level of education. Nearly half of the women (45.5%) were from upper caste groups followed by disadvantaged non-Dalit Terai caste group and Dalit (17.6%) each, disadvantaged Janjatis (14.4%). The majority of women (94.1%) were married and 84 percent were married before the age of 20 years with the remaining 16 percent being married above the age of 20 years. About 72 percent of women had 1 to 3 children, 23 percent had 4 to 6 children, 2 percent had 7 and more children. About 2 percent reported having no children yet.

Table 5.10 Distribution of Women Aged 15-49 years with HPV Positive Result by Socio-demographic Characteristics		
Socio-demographic Characteristics	**Number (N=188)**	**Percent**
Age in Years		
15-19 years	1	0.5
20-29 years	67	35.6
30-39 years	71	37.8
40-49 years	49	26.1
Median	**33 years**	
Educational Status		
Illiterate	69	36.7
Literate but no schooling	37	19.7
Primary	25	13.3
Secondary	53	28.2
SLC and above	4	2.1
Caste/Ethnicity		
Dalit	33	17.6
Disadvantaged Janajati	27	14.4
Disadvantaged non-Dalit Terai caste group	33	17.6
Religious minorities	5	2.7
Relatively advantaged Janajati	4	2.1
Upper caste group	86	45.7
Marital Status		
Married	177	94.1
Divorced/ Separated	6	3.2
Widowed	5	2.7
Age at Marriage		
Below 20 years	158	84.0
20 years and above	30	16.0
Number of Children		
None	6	3.2
1 - 3	135	71.8
4 - 6	43	22.9
7 and more	4	2.1

5.2.4 Occupational Characteristics of Women with HPV Positive Result

More than one-third of the women with HPV positive result (41.5 %) were homemakers followed by farmers (38.8%) and business holders (12.2%). More than two-thirds of the women (70.7%) had no income whereas around 14 percent had a monthly income of up to NRs. 5,000 (Table 5.11).

Table 5.11 Distribution of Women Aged 15-49 Years with HPV Positive Result by Occupational Characteristics		
Occupational Characteristics	**Number (N=188)**	**Percent**
Occupation		
Farmer	73	38.8
Service	7	3.7
Business	23	12.2
Daily wage earner	5	2.7
Homemaker	78	41.5
Others (FCHV, Student)	2	1.1
Income		
None	133	70.7
Up to 5,000	26	13.8
5,001 – 10,000	17	9.0
10,001- 20,000	7	3.7
More than 20,000	5	2.7

5.2.5 Association between Key Indicators and HPV

Age, educational status, caste, marital status, occupation, income, age at marriage and parity have been identified as key indicators to investigate the association with HPV. Table 5.12 shows the association between theses selected indicators and HPV. Only age at marriage was found to be significantly associated with HPV. Women who married early below 20 years have higher prevalence of HPV (5.8%) than women who married above 20 years (4.3%).

Table 5.12 Association between Socio-demographic and Economic Characteristics and HPV						
Socio-demographic and Economic Characteristics	**HPV**					**P-value**
	Positive		**Negative**		**Total (N=3,464)**	
	n=188	**Percent**	**n=3,276**	**Percent**		
Age						
15-19 years	1	0.9	112	99.1	113	0.1
20-29 years	67	6.3	1,003	93.7	1,070	
30-39 years	71	5.3	1,263	94.7	1,334	
40-49 years	49	5.2	898	94.8	947	
Educational Status						
Illiterate	69	5.1	1,278	94.9	1,347	0.8
Literate but no schooling	37	6.9	503	93.1	540	
Primary	25	5.7	412	94.3	437	
Secondary	53	5.1	987	94.9	1,040	
SLC and above	4	4.0	96	96.0	100	
Caste/Ethnicity						
Dalit	33	5.1	620	94.9	653	0.4
Disadvantaged Janajati	27	4.6	554	95.4	581	
Disadvantaged non-Dalit Terai caste group	33	7.3	416	92.7	449	
Religious minorities	5	7.4	63	92.6	68	
Relatively advantaged Janajati	4	5.2	73	94.8	77	
Upper caste group	86	5.3	1,550	94.7	1,636	
Marital Status						
Unmarried	177	5.3	3,170	94.7	3,347	0.7
Married	6	20.0	24	80.0	30	
Divorced/Separated	5	5.9	80	94.1	85	
Widowed	0	0	2	100.0	2	
Occupation						
Farmer	73	4.5	1,555	95.5	1,628	0.3
Service	7	4.3	156	95.7	163	
Business	23	7.1	300	92.9	323	
Daily wage earner	5	7.6	61	92.4	66	
Homemaker	78	6.4	1,147	93.6	1,225	
Others	2	1.8	57	99.2	59	
Income						
None	133	5.1	2,488	94.9	2,621	0.19
Up to 5,000	26	6.2	394	93.8	420	
5,001 – 10,000	17	8.5	183	91.5	200	
10,001 – 20,000	7	4.4	155	95.6	162	
More than 20,000	5	8.2	56	91.8	61	
Age at Marriage						
Below 20 years	158	5.8	2,599	94.2	2,757	<0.05*
20 years and above	30	4.3	675	95.7	705	
Number of Children						
None	2	4.4	43	95.6	45	0.93
1 - 3	135	5.7	2,240	94.3	2,375	
4 - 6	43	5.3	770	94.7	813	
7 and more	4	6.7	55	93.2	59	

CHAPTER 6:

OBSTETRIC FISTULA

Obstetric Fistula, one of the most serious injuries of childbearing, is an abnormal opening in the birth canal, caused by prolonged and obstructed labor due to lack of timely and adequate medical care, early or closely spaced pregnancies, disease, injury, or congenital malformation. This chapter presents the findings of Obstetric Fisutula from this study and secondary data collection.

6.1 Detection of Obstetric Fistula

Among the 4,277 interviewed women for the study, 4,031 of them were clinically examined for Obstetric Fistula. Of them, three cases of Obstetric Fistula were identified in the course of the study. All three women diagnosed with Obstetric Fistula were referred and received surgical treatment at Kathmandu Model Hospital.

6.2 Secondary Data on Obstetric Fistula

6.2.1 Obstetric Fistula Service Sites

In Nepal, four sites are providing Obstetric Fistula surgery, three sites on a regular basis and one site through a camp based setting once or twice a year. The sites providing services on a regular basis are B.P Koirala Institute of Health Sciences (BPKIHS), Patan Hospital and Kathmandu Model Hospital. International Fellowship Nepal (INF) provides service through a camp based setting through Surkhet Regional Hospital. During the course of the study, the data on the Obstetric Fistula cases who received surgical treatment at these sites in 2014 and 2015 was collected and reviewed.

In 2015, 166 women with Obstetric Fistula received treatment from these four sites. Similarly, in 2014, 162 cases received treatment from these four sites.

6.2.2 Screening Camp

Since the Fiscal Year 2013/14, the GoN has provisioned for screening of Obstetric Fistula cases through their regular RH camps carried out across the country, which earlier had been focused on screening for POP cases only. In between the Fiscal Years 2013/14 and 2014/15 around 100 women with Obstetric Fistula were screened through these camps conducted across the country (Source: FHD).

CHAPTER 7:

SUMMARY OF FINDINGS AND WAY FORWARD

This study aims to determine the prevalence of RH morbidities, namely POP, Obstetric Fistula, Cervical Cancer, and HPV types 16 and 18 among women of reproductive age groups. The major findings of the study, with a brief summary of the key findings and further programmatic implications are discussed in this section.

7.1 Summary of Findings

Altogether, 4,277 women of reproductive age were enrolled in the study and were interviewed. The majority of the women were from the urban area (60.4%), almost equal representation from Hill (44.0%) and the Terai (43.2%); and Eastern Development Region (27.4%) and Central Development Region (27.1 %). The majority of women were Hindu by religion (90.3%), from upper caste group (46.6%), young within the age group of 20 to 39 years (62.6%), married (95.5%) and were married young around the median age of 17 years; and come from both illiterate and literate backgrounds. Pregnancies at a young age (below 20 years) were common (53.7%) with the median age of first pregnancy being 19 years and many had become pregnant upto 3 to 4 times (40.6%), and majority (66.7%) having their last child delivered at home.

Regarding knowledge of POP, Obstetric Fistula and Cervical Cancer, many women had heard of POP (79.1%), less than half (42.9%) had heard about Cervical Cancer and very few women (5.4%) were aware of Obstetric Fistula. The main source of information on RH Morbidities were friends/relatives, health personnel and radio/television.

Among the 4,031 women clinically examined for POP, 6.4 percent women were diagnosed with POP, among which 5.1 percent of women had first and second degree prolapse whereas only 1.1 percent women had third and fourth degree prolapse requiring surgical management. Among the women diagnosed with prolapse, 11.3 percent were from Far-western Development Region, 6.6 percent were from Terai and 7.1 percent were from urban areas. The majority of women were within 40-49 years of age (67.2%), illiterate (61.7%), from upper caste (49.2%), married (91.8%). About 86 percent were married before the age of twenty years and 58 percent had their first pregnancy before twenty years of age. About 42 percent became pregnant between 3 to 4 times and 54 percent gave birth to 1 to 3 children. The majority of women (82.8%) had their last delivery at home and only about 31 percent received assistance from health workers during their last childbirth. Only 35.5 percent of women reported taking complete rest for 16 to 30 days following delivery, whereas other women reported taking less rest. Patuka was reported to be used by most of the women (80.6%).

In this study, from bivariate analysis, POP was found to be associated with age, education status, place of delivery, health worker assisted delivery, rest after delivery, number of children, age at first pregnancy and age when first experienced signs and symptoms of POP. However, multivariate logistic analysis shows POP were found to be associated with age only. POP was highest among women aged 20-29 years.

Among 3,831 women screened for Cervical Cancer 1.6 percent women had a positive result on VIA. Among the women with VIA positive result, 2.2 percent were from the Eastern Development Region and Terai and 1.8 percent were from Rural areas. The majority of the women with VIA positive result were between 30 to 39 years of age (50.0%), had secondary level education (41.7%), from upper caste group (33.0%) and almost all of them were married (96.7%), homemakers (35.0%) but without any income whatsoever (56.7%). Three fourths of these women (75.0%) were married quite young (before 20 years) and almost two thirds (67.7%) had 1 to 3 children. The study has revealed that a mere 1.5 percent of women had ever undergone screening for Cervical Cancer and most reported having Pap Smear test as a method of screening for Cervical Cancer. None were able to tell whether they had undergone VIA screening. The eight women suspected of Cervical Cancer were referred to higher center for further investigation and diagnosis.

The study showed that there was significant association between age, education and caste/ethnicity with VIA positive result. VIA positive result was found to be associated with younger age groups (below 20 years) (2.6%); women with higher education (SLC and above) (2.8%) and disadvantaged janajatis (3.0%).

Among the 3,464 women screened for HPV, the prevalence of HPV among the screened population was 5.4 percent (HPV 16-3.6 percent and HPV 18-2 percent) and with co-infection (HPV 16 and 18) being 0.2 percent. This study did not look into detecting other known High Risk HPV types other than 16 and 18 and therefore overall HPV prevalence could be higher. Among the women with HPV positive result, 6.2 percent were from Terai, 6.8 percent were from Western Development Region and 5.6 percent were from urban areas. The majority of the women who had an HPV positive result were 30 years or above (63.9%), illiterate (36.7%), from upper caste group (45.7%), married (94.1%), married before the age of 20 years (84.0%) and mostly having 1 to 3 children (71.8%).

The study showed that there is a significant association between age at first marriage and HPV positive result in bivariate analysis. HPV positive result was found to be associated with marriage below 20 years compared to marriage above 29 years. .

Among the 4,031 women screened for Obstetric Fistula, only three cases were found to have Obstetric Fistula. However, a review of the secondary data from the four sites that provide Obstetric Fistula surgeries shows that more than 150 women are receiving treatment for Obstetric Fistula each year. Due to the fact that limited Obstetric Fistula cases came to the study

site, this study could not determine the prevalence of Obstetric Fistula.

7.2 Way Forward

- Considering more women are in need of conservative management for POP, conservative management of POP needs equal attention as to surgical management, with the provision for screening and trained human resources at all levels of health facilities.
- Due to the limitations of the study, hidden Obstetric Fistula cases could not be reached. A focused strategy with a massive awareness program is required to reach women suffering from Obstetric Fistula.
- Support for sexual and reproductive health and rights of women, including most illiterate, marginalized group in rural and deprived communities; with focus on prevention and awareness raising programmes on delaying early marriage and pregnancy, increasing access to skilled birth attendants at each delivery and contraceptive choices to avoid unintended pregnancies, and promote gender equality across the sectors.
- As the awareness levels of Obstetric Fistula and Cervical Cancer are very low, awareness raising programmes focusing on the prevention, condition, treatment, and availability of service should be prioritized. Information from the Government and non-government health facilities that provide related services needs to be disseminated and promoted.
- In order to detect Cervical Pre-cancerous lesion at the early stage Cervical Cancer screening service should be made available upto the Health post level across the country with the provision of trained human resources and infrastructure. Similarly, information dissemination and education to the women regarding the need for Cervical Cancer screening should be prioritized.
- Since not having any baseline data of high risk HPV screening (for at least 15 known types), it is recommended to have study to get baseline information about those typing. In addition, high risk HPV screening (for at least 15 known types) should be made available at key health institutions around the country, and referral mechanisms to support the screening process should also be facilitated by the government.
- The referral linkage mechanism should be strengthened, particularly for Cervical Cancer. There should be an established system of referrals and continuum of care from the community level to the treatment sites.

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ANNEX I : SAMPLE SIZE CALCULATION FORMULA

$$N = \frac{Z^2 \times (p) \times (1 - .p) \times (2) \times (1 + q)}{e^2}$$

Where,

P = (0.5) i.e., Estimated predicted or anticipated rate for a given indicator in the project area due to unavailability of robust prevalence rate.

N = required sample size

Z = (1.96) the z-score corresponding confidence level at 95.0%

e = (5.0%) margin of error

q = (10.0%) Non response rate

$$N = \frac{1.96^2 \times (0.5) \times (1 - 0.5) \times (2) \times (1+0.10)}{0.05^2}$$

Required sample size (N) = 844

ANNEX II : FIELD WORK COMPLETION

SN	Region	District	Venue	Dates
1	Far-west	Baitadi	Melauli PHC	31 December 2014 – 3 January 2015
2	Far-west	Kailali	Malakheti PHC	1–3 January 2015
3	Mid-west	Pyuthan	Bhegri PHC	1–6 January 2015
4	West	Myagdi	Darbang PHC	7–10 January 2015
5	Mid-west	Dailekh	Dullu Hospital	9–11 January 2015
6	Central	Makwanpur	Chhatiban PHC	18–20 January 2015
7	Central	Sarlahi	Lalbandi PHC	1–3 February 2015
8	East	Siraha	Golbazar HP	1–3 February 2015
9	Central	Parsa	Pokhariya Hospital	8–10 February 2015
10	East	Morang	Manglabare(Urlabari) PHC	8–11 February 2015
11	East	Taplejung	Seenam HP	18–20 February 2015
12	Central	Okhaldhunga	Raniban PHC	26–28 February 2015
13	West	Rupandehi	Dhakdhhe PHC	2–4 March 2015
14	Central	Kavre	Bhakundebesi Hostipal	11–13 March 2015
15	Mid-west	Dolpa	Dune Hospital	1–4 June 2015

ANNEX III : QUESTIONNAIRE

Study on prevalence of Pelvic Organ Prolapse, Obstetric Fistula, Cervical Cancer and Human Papillomavirus type 16 and 18 in Nepal

Form no.:				

Interview started time: Hour..... Minute.....

Name of interviewer:.....
Date of Interview:...../...../.....
District:.....
Patient's ID no.: .....

IDENTIFICATION OF RESPONDENT
1) Name :.....
2) District: .....
3) VDC/Municipality: .....
4) Ward Number: .....
5) Place/Tole: .....

Section 1: Socio Demographic Information

Q.N.	Questions	Coding Categories	Skip to
Q101	How old are you?	Age..... (write the completed years)	
Q102	What is your educational status?	Illiterate.....1 Literate.....2 Grade.....3 (write the completed grade) Others (Specify)	
Q103	What is your caste? (Specify Ethnic Group/Caste)	Ethnicity/Caste _____ Dalit.....1 Disadvantage Janajatis.....2 Disadvantage non-dalit Terai cast groups.....3 Religious Minorities.....4 Relatively advantaged Janajatis.....5 Upper caste groups 6	

Q104	Religion?	Hindu.....1 Buddhist.....2 Muslim.....3 Christian.....4 Others (specify)	
Q105	What is your current marital status?	Married..... .....1 Divorced/Permanently separated.....2 Widow .....3 Other(Specify).....	
Q106	How old were you when you got (first) married?	Age ..... (write the completed years)	
Q107	What is your occupation?	Farmer .....1 Service.....2 Business .....3 Daily wage earner .....4 Housewife.....5 None.... .....6 Others (specify) _____	
Q108	What is your husband's occupation?	Farmer .....1 Service.....2 Business .....3 Daily wage earner .....4 None .....5 Foreign employment.....6 Not applicable.....7 Others (specify)	
Q109	What is your approximate monthly income?	NRs ..... No income .....1 No Response.....2	

Section 2: Pregnancy/RH Related Information

Q.N	Questions	Coding Categories	Skip to
Q201	How old were you at the time of your first pregnancy?	.....Age (Write the completed year) Not pregnant yet.....0 → Don't know.....99 Don't remember.....98	Q212
Q202	How many times have you been pregnant?	..... times (including abortion, still births/ miscarriage)	

Q203	How many children do you have now?	..... Number of children Son..... Daughter..... None.....0	
Q204	What are the birth intervals between your children? (consider the less birth interval if she has more than two children)	1-3 years..... 3-5years..... More than 5 years (specify)_____ (write the complete years)	
Q205	Are you pregnant now?	Yes.....1 No.....2 →	Q207
Q206	How many months pregnant are you? (Write completed months)	..... months	
Q207	Did you have ANC checkup in any of your pregnancy? (latest/last pregnancy)	Yes.....1 No.....2 →	Q210
Q208	How many times did you go for ANC during that pregnancy?	Times:	
Q209	Did you follow the instructions given by the health workers during ANC?	Yes.....1 No.....2	
Q210	Where that delivery did took place?	Health facility.....1 At Home.....2 No delivery yet.....3 Other (specify) _____	
Q211	Did any health worker assist you during that delivery?	Yes.....1 No.....2	
Q212	Have you or your husband ever used any temporary or permanent family planning contraceptives or methods?	Yes.....1 No.....2 →	Q301
Q213	If yes, which contraceptives or methods do you use?	Condoms.....1 OCP.....2 Injectable.....3 Norplant.....4 IUCD.....5 Male sterilization.....6 Female Sterilization.....7 Emergency Contraceptives.....8 Other (specify).....	

Section 3: Sign and Symptom

Q.N	Questions	Coding Categories	Skip to
Q301	During the last 12 months did you ever experienced *pain* in your lower abdomen? (except during menstrual period)	Yes.....1 No.....2 →	Q303
Q302	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q303	Have you ever experienced a bulge or something falling out from the vagina that you can see or feel in genital area?	Yes.....1 No.....2 →	Q305
Q304	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q305	Have you ever experienced *heaviness* or *dullness* in the pelvic area?	Yes.....1 No.....2 →	Q307
Q306	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q307	Have you ever experienced frequent urination?	Yes.....1 No.....2 →	Q309
Q308	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q309	Have you ever experienced frequent urgency for stool?	Yes.....1 No.....2 →	311
Q310	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q311	Do you experience difficulty in passing urine?	Yes.....1 No.....2 →	Q313
Q312	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q313	Do you feel urine leakage while sneezing, coughing, carrying heavy loads or other time?	Yes.....1 No.....2	
Q314	Do you have a sense of incomplete urinary evacuation?	Yes.....1 No.....2 →	Q316

Q315	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q316	Do you have a sense of incomplete bowel evacuation?	Yes.....1 No.....2 →	Q318
Q317	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q318	Do you experience difficulty in walking?	Yes.....1 No.....2 →	Q320
Q319	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q320	Do you experience difficulty while carrying heavy load?	Yes.....1 No.....2 →	Q322
Q321	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q322	Do you usually experience pain in pelvic area?	Yes.....1 No.....2 →	Q324
Q323	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q324	Do you experience difficulty or pain while having sex?	Yes.....1 No.....2 → Not applicable.....3 →	Q326 Q328
Q325	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q326	Do you feel bleeding while having sex?	Yes.....1 No.....2 →	Q328
Q327	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	
Q328	In last 12 months, have you experienced foul-smelling genital discharge?	Yes.....1 No.....2	
Q329	Do you experience unusual bleeding from vagina?	Yes.....1 No.....2 →	Q331

Q330	Did you go for checkup at that time?	Yes.....1 No.....2	
Q331	Do you feel continuous urine and stool leakage from vagina?	Yes.....1 No.....2 →	Q331
Q332	If yes, how much does this bother you?	Somewhat .....1 Quite a bit/frequently.....2 Daily.....3	

Section 4: Pelvic Organ Prolapse

<table>
<tr><th>Q.N.</th><th>Questions</th><th>Coding Categories</th><th>Skip to</th></tr>
<tr><td>Q401</td><td>Have you heard about Pelvic Organ Prolapse?</td><td>Yes.....1
No.....2 →</td><td>Q403</td></tr>
<tr><td>Q402</td><td>How did you come to know about Pelvic Organ Prolapse?
(Multiple answer possible)</td><td>Television.....1
Radio.....2
Newspaper.....3
Health personnel 4
Relatives 5
Friends.....6
FCHV.....7
Others (specify) .....</td><td></td></tr>
<tr><td>Q403</td><td>Are you suffering from following symptoms?
(Recite all the answers)
(Multiple answer possible)</td><td>
<table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td>Heaviness or dullness in the pelvic area</td><td>1</td><td>2</td></tr>
<tr><td>Bulging of something in/out the vagina</td><td>1</td><td>2</td></tr>
<tr><td>Pain in lower abdomen</td><td>1</td><td>2</td></tr>
<tr><td>Difficulty in standing/ walking/sitting</td><td>1</td><td>2</td></tr>
<tr><td>Foul smelling discharge</td><td>1</td><td>2</td></tr>
<tr><td>Itching</td><td>1</td><td>2</td></tr>
<tr><td>Burning urination</td><td>1</td><td>2</td></tr>
<tr><td>Painful intercourse</td><td>1</td><td>2</td></tr>
<tr><td>Back pain</td><td>1</td><td>2</td></tr>
<tr><td>Difficulty /pain in defecating</td><td>1</td><td>2</td></tr>
<tr><td>Other (specify) .....</td><td></td><td></td></tr>
</table>
</td><td>Go to Q423 if all answers are coded "2"</td></tr>
<tr><td>Q404</td><td>Are you suffering from these symptoms now days?</td><td>Yes.....1
No.....2 →</td><td>Q423</td></tr>
<tr><td>Q405</td><td>How long has it been since you had first experience these signs and symptoms?</td><td>..... Months</td><td></td></tr>
</table>

Q406	Are the symptoms of POP increasing?	Yes.....1 No.....2 →	Q408
Q407	If yes, what are they?	.....	
Q408	What was the preceding event before you experienced these symptoms?	During Labour .....1 After delivery .....3 During pregnancy.....2 When lifting heavy weight.....4 Spontaneously .....5 Others (Specify)	Q418
Q409	If it was following child birth, how long ago was that delivery?	.....Year .....Month	
Q410	How old were you at that time?	Age	
Q411	How long were you in hard (prolonged and obstructed) labour during that delivery?	..... Hours	
Q412	Was anything done to push the baby out of the uterus for quick delivery?	Yes.....1 No.....2 →	Q414
Q413	If yes, what? (Multiple answer possible)	Pressing abdomen.....1] Pulling form below.....2 Others (specify) _____	
Q414	How many days did you take rest after the delivery (that is, did not do any heavy physical work?	..... Days .....Months	
Q415	How many days after the delivery did you do household / field work?	After ..... days	
Q416	Have you ever worn long piece of cloth (*patuka*) around your stomach/waist?	Yes.....1 No.....2 →	Q418
Q417	When did you start wearing *patuka*?	Before delivering any baby.....1 After delivering a baby.....2	
Q418	Did you go for check-up when you experienced symptoms of POP?	Yes.....1 No.....2 →	Q420

Q419	Whom did you consult for treatment first time?	Doctor .....1 Nurse/ANM{.....2 HA/AHW .....3 VHW .....4 MCHW .....5 FCHV .....6 DhamiJhankri.....7 Other (specify)	
Q420	Before visiting this camp, have you received any health services from any health worker for this problem?	Yes.....1 No.....2	
Q421	What type of help did you get from health worker? Circle all responses which the woman mentions unprompted. Then ask, "Is there anything else." Then, read each question and circle "2" for "yes" or "3" for "no" 1 Got ring pessary inserted 2 Learned about pelvic floor exercise 3 Got advice to go for surgery 4 Other (specify) _____	Unprompted Prompted Yes Yes No 1 2 3 1 2 3 1 2 3 1 2 3	
Q422	Could you please share with us if you have had any bad experiences after POP: (Multiple answer possible)	Husband started avoiding you.....1 Husband married another woman.....2 Mother-in-law and other family members started treating you badly.....3 Neighbors tried to avoid you.....4 Feeling depressed.....5 Felt like giving up life .....6 Lost hope in life.....7 No bad experiences.....8 Others (specify) _____	
Q423	Have you ever smoked cigarette /bidi?	Yes.....1 No.....2	
Q424	If yes, do you smoke now days?	Yes.....1 No.....2	
Q425	Does any of your family member smoke?	Yes.....1 No.....2	

Q426	What type of fuel does your household mainly use for cooking?	Electricity *(heater, hot plate etc)*.....1 LPG.....2 Natural gas.....3 Biogas.....4 Kerosene.....5 Coal, lignite.....6 Charcoal.....7 Wood.....8 Agricultural crop.....9 Animal dung.....10 Other (Specify)	
Q427	Where do you usually cook meal?	Inside house.....1 Separate kitchen house.....2 Outside house.....3 Other(specify).....	

Section 5: HPV and Cervical Cancer

Q.N	Questions	Coding Categories	Skip to
Q501	Have you heard about Cervical Cancer?	Yes.....1 No.....2 →	Q504
Q502	Do you know that cervical cancer is a form of STI?	Yes.....1 No.....2	
Q503	How did you come to know about cervical cancer? (Multiple answer possible)	Television.....1 Radio.....2 Newspaper.....3 Health personnel.....4 Relatives.....5 Friends.....6 FCHV.....7 Others (specify) _____	
Q504	Have you ever had a screening for cervical cancer?	Yes.....1 No.....2 →	Q601
Q505	Where did you go for screening?	.....(Specify)	
Q506	How and what was done in that screening?	.....	
Q507	When was the last time you had cervical cancer screening?	.....Year ..... month	

Q508	Who advise/referred you for cervical cancer screening?	.....	

Section 6: Obstetric Fistula

Q.N +	Questions	Coding Categories	Skip to
Q601	Have you heard about Obstetric Fistula?	Yes.....1 No.....2 →	Q603
Q602	How did you come to know about cervical cancer? (Multiple answer possible)	Television.....1 Radio.....2 Newspaper.....3 Health personnel.....4 Relatives.....5 Friends.....6 FCHV.....7 Others (specify) _____	
Q603	Have you experienced any of these symptoms? (Multiple answer possible)	Continuous passing/ leakage of urine through the vagina .....1 Continuous passing/leakage of stool through the vagina.....2 Both symptoms.....3 None.....4 → Others (Specify) _____	End Interview
Q604	If yes, since when?	Following childbirth.....1 Following surgery.....2 Others (specify) ..... }	Q608
Q605	Which pregnancy caused the problem? First delivery Subsequent delivery	..... Pregnancy	
Q606	When was that delivery?	Year..... Month	
Q607	Is the baby born from that pregnancy dead or alive?	Dead.....1 Alive.....2	
Q608	If it was following surgery or other reasons, since when you experienced these symptoms?	Year..... Month..... Not applicable.....1	
Q609	How old were you at that time?	.....Years	
Q610	How many pregnancies had you completed after developing OF?	.....Times	

Q611	Did you ever seek treatment for this condition?	Yes.....1 → No.....2	Q613
Q612	If no, why not? (Multiple answer possible)	Lack of information on treatment.....1 Lack of information on treatment centers.....2 Poor economic condition.....3 Lack of support from Family.....4 Others (specify)	Q615
Q613	If yes, what type of treatment did you receive?	Surgery.....1 Continuous catherization.....2 Others (Specify) _____	
Q614	Where did you go for treatment?	(Specify the name of the Hospital)	
Q615	Could you please share with us if you have had any bad experiences after you had Obstetric Fistula? (Multiple answer possible)	Husband started avoiding you.....1 Husband married another woman.....2 Mother-in-law and other family members started hating you.....3 Neighbors tried to avoid you.....4 Preferred loneliness.....5 Felt like giving up life.....6 Lost hope in life.....7 Took OF as curse of previous life.....8 Others (specify) _____	

ANNEX IV : THE STUDY TEAM

The Core Team

Sameer Mani Dixit, PhD	Team Leader
Rajesh Man Rajbhandari	Research Manager
Dr. Swaraj Rajbhandari	Reproductive Health Expert
Dr. Laxmi Raj Pathak	Reproductive Health Expert
Sampuran Kakchapati,PhD	Data/Research Expert
Sanjeev Dhungel	Data Expert
Dr. Anu Bajracharya	In-house Gynecologist
Bishwo Shrestha	Survey Field Coordinator

Field Researchers

Hari Joshi	Field Supervisor
Kamal Timsina	Field Supervisor
Dr. Kulsang Dolma	Gynecologist
Dr. Sunita Roy	Gynecologist
Dr. Anamika Jha	Gynecologist
Dr. Ankur Bhandari	Gynecologist
Dr. Minaxi Thakur	Gynecologist
Dr. Sujita Shrestha	Gynecologist
Dr. Shuvechchha Dev	Gynecologist
Pramila Basnet	Staff Nurse
Ismita Karki	Staff Nurse
Deepa Poudel	Staff Nurse
Ekata Thakuri	Staff Nurse
Prashna Niroula	Staff Nurse
Bharati Karki	Staff Nurse
Goma Khatri	Staff Nurse
Rupa Thakuri	Enumerator
Nirmala Pandit	Enumerator
Sonu Lama	Enumerator
Sirjana Subedi	Enumerator
Punam Shahi	Enumerator
Dropati Joshi	Enumerator
Usha Adhikari	Enumerator
Nisu Pradhan	Enumerator
Susmita Pun	Enumerator
Bindu Khadka	Enumerator

ANNEX V : FURTHER TABLES

Table 1: Prevalence of Pelvic Organ Prolapse According to Degree by Development Region												
Development Region	Pelvic Organ Prolapse										Total	
	Yes								No			
	I degree		II degree		III degree		IV degree					
	n	%	n	%	n	%	n	%	n	%	N	%
Eastern	22	2.0	15	1.4	12	1.1	1	0.1	1,044	95.4	1,095	100.0
Central	59	5.2	18	1.6	9	0.8	5	0.4	1,043	92.0	1,134	100.0
Western	16	2.8	3	0.5	0	0.0	1	0.2	561	96.6	581	100.0
Mid-western	16	2.2	8	1.1	11	1.5	3	0.4	681	94.7	719	100.0
Far -western	38	7.6	13	2.6	2	0.4	4	0.8	446	88.7	503	100.0
Total	**151**	**3.7**	**57**	**1.4**	**34**	**0.8**	**14**	**0.3**	**3,775**	**93.6**	**4,031**	**100.0**

Table 2: Prevalence of Pelvic Organ Prolapse According to Degree by Ecological Region												
Ecological Region	Pelvic Organ Prolapse										Total	
	Yes								No			
	I degree		II degree		III degree		IV degree					
	n	%	n	%	n	%	n	%	n	%	N	%
Mountain	20	3.9	3	0.6	2	0.4	0	0.0	491	95.2	516	100.0
Hill	65	3.6	25	1.4	20	1.1	7	0.4	1,680	93.5	1,797	100.0
Terai	66	3.8	29	1.7	12	0.7	7	0.4	1,604	93.4	1,718	100.0
Total	**151**	**3.7**	**57**	**1.4**	**34**	**0.8**	**14**	**0.3**	**3,775**	**93.6**	**4,031**	**100.0**

Table 3: Prevalence of Pelvic Organ Prolapse According to Degree by Age Group												
Age Group	Pelvic Organ Prolapse										Total	
	Yes								No			
	I degree		II degree		III degree		IV degree					
	n	%	n	%	n	%	n	%	n	%	N	%
15-19	1	0.8	0	0.0	0	0.0	0	0.0	132	99.2	133	100.0
20-29	22	2.0	6	0.5	2	0.2	0	0.0	1,094	97.3	1,124	100.0
30-39	39	2.8	10	0.7	3	0.2	1	0.1	1,351	96.2	1,404	100.0
40-49	89	6.5	41	3.0	29	2.1	13	0.9	1,198	87.4	1,370	100.0
Total	**151**	**3.7**	**57**	**1.4**	**34**	**0.8**	**14**	**0.3**	**3,775**	**93.6**	**4,031**	**100.0**

Table 4: Prevalence of Pelvic Organ Prolapse According to Degree by Educational Status												
Educational Status	Pelvic Organ Prolapse										Total	
	Yes								No			
	I degree		II degree		III degree		IV degree					
	n	%	n	%	n	%	n	%	n	%	N	%
Illiterate	75	4.4	44	2.6	27	1.6	12	0.7	1,556	90.8	1,714	100.0
literate but no schooling	33	5.2	6	0.9	4	0.6	1	0.2	590	93.1	634	100.0
Primary	15	3.2	2	0.4	0	0.0	0	0.0	458	96.4	475	100.0
Secondary	28	2.5	4	0.4	3	0.3	1	0.1	1,064	96.7	1,100	100.0
SLC and above	0	0.0	1	0.9	0	0.0	0	0.0	107	99.1	108	100.0
Total	**151**	**3.7**	**57**	**1.4**	**34**	**0.8**	**14**	**0.3**	**3,775**	**93.6**	**4,031**	**100.0**

Table 5: Prevalence of Pelvic Organ Prolapse According to Degree by Religion												
Religion	Pelvic Organ Prolapse										Total	
	Yes								No			
	I degree		II degree		III degree		IV degree					
	n	%	n	%	n	%	n	%	n	%	N	%
Hindu	141	3.9	52	1.4	33	0.9	12	0.3	3,404	93.5	3,642	100.0
Buddhist	7	3.0	1	0.4	1	0.4	0	0.0	225	96.2	234	100.0
Muslim	1	1.2	2	2.4	0	0.0	2	2.4	80	94.1	85	100.0
Christian	2	4.1	2	4.1	0	0.0	0	0.0	45	91.8	49	100.0
Aananmargi	0	0.0	0	0.0	0	0.0	0	0.0	21	100.0	21	100.0
Total	**151**	**3.7**	**57**	**1.4**	**34**	**0.8**	**14**	**0.3**	**3,775**	**93.6**	**4,031**	**100.0**

Table 6: Distribution of Women Aged 15-49 years by Knowledge on POP and by District, Ecological Region, Development Region and Place of Residence							
Location		Knowledge on POP				Total	
		Yes		No			
		n	%	n	%	n	%
District	Baitadi	193	70.7	80	29.3	273	100
	Dailekh	161	55.7	128	44.3	289	100
	Dolpa	162	68.6	74	31.4	236	100
	Kailali	207	79.9	52	20.1	259	100
	Kavre	216	80.9	51	19.1	267	100
	Makwanpur	191	79.3	50	20.7	241	100
	Morang	243	87.1	36	12.9	279	100
	Myagdi	241	90.9	24	9.1	265	100
	Okhaldhunga	228	82.6	48	17.4	276	100
	Parsa	256	75.1	85	24.9	341	100
	Pyuthan	210	76.9	63	23.1	273	100
	Rupandehi	303	86.3	48	13.7	351	100
	Sarlahi	248	80.3	61	19.7	309	100
	Siraha	245	79.8	62	20.2	307	100
	Taplejung	279	89.7	32	10.3	311	100
	Total	**3,383**	**79.1**	**894**	**20.9**	**4,277**	**100**
Development Region	Eastern	995	84.8	178	15.2	1,173	100
	Central	911	78.7	247	21.3	1,158	100
	Western	544	88.3	72	11.7	616	100
	Mid-western	533	66.8	265	33.2	798	100
	Far-western	400	75.2	132	24.8	532	100
	Total	**3,383**	**79.1**	**894**	**20.9**	**4,277**	**100**
Ecological Region	Mountain	441	80.6	106	19.4	547	100
	Hill	1,440	76.4	444	23.6	1,884	100
	Terai	1,502	81.4	344	18.6	1,846	100
	Total	**3,383**	**79.1**	**894**	**20.9**	**4,277**	**100**
Place of Residence	Rural	2,074	80.3	509	19.7	2,583	100
	Urban	1,309	77.3	385	22.7	1,694	100
	Total	**3,383**	**79.1**	**894**	**20.9**	**4,277**	**100**

Table 7: Distribution of Women Aged 15-49 years by Source of Information on POP and by District, Ecological Region, Development Region and Place of Residence

Location		Source of Information														Total
		Relatives		Friends		Health personnel		Radio		FCHV		Television		Newspaper		
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
District	Baitadi	83	43	64	33.2	95	49.2	150	77.7	85	44.0	2	1.0	9	4.7	193
	Dailekh	82	50.9	38	23.6	87	54.0	79	49.1	15	9.3	46	28.6	27	16.8	161
	Dolpa	93	57.4	52	32.1	94	58.0	85	52.5	66	40.7	19	11.7	18	11.1	162
	Kailali	149	72.0	119	57.5	55	26.6	48	23.2	78	37.7	27	13.0	7	3.4	207
	Kavre	176	81.5	105	48.6	121	56.0	95	44.0	38	17.6	23	10.6	15	6.9	216
	Makwanpur	116	60.7	92	48.2	134	70.2	171	89.5	51	26.7	60	31.4	57	29.8	191
	Morang	179	73.7	96	39.5	121	49.8	130	53.5	30	12.3	92	37.9	29	11.9	243
	Myagdi	206	85.5	175	72.6	55	22.8	36	14.9	77	32.0	10	4.1	12	5.0	241
	Okhaldhunga	166	72.8	121	53.1	135	59.2	87	38.2	79	34.6	4	1.8	8	3.5	228
	Parsa	218	85.2	173	67.6	67	26.2	41	16.0	74	28.9	48	18.8	10	3.9	256
	Pyuthan	122	58.1	80	38.1	75	35.5	60	28.6	20	9.5	72	34.3	27	12.9	256
	Rupandehi	244	80.5	179	59.1	112	37.0	85	28.1	90	29.7	49	16.2	11	3.6	210
	Sarlahi	169	68.1	96	38.7	167	67.3	187	75.4	49	19.8	102	41.1	66	26.6	248
	Siraha	211	86.1	182	74.3	55	22.4	26	10.6	69	28.2	14	5.7	10	3.6	245
	Taplejung	225	80.6	186	66.7	82	29.4	135	48.4	86	30.8	10	3.6	10	3.6	279
	Total	**2,439**	**72.0**	**1,758**	**51.9**	**1,455**	**43.0**	**1,415**	**41.8**	**907**	**26.8**	**578**	**17.0**	**316**	**9.3**	**3,383**
Development Region	Eastern	781	78.5	585	58.8	393	39.5	378	38.0	264	26.5	120	12.1	57	5.7	995
	Central	679	74.5	466	51.2	489	53.7	494	54.2	212	23.3	233	25.6	148	16.2	911
	Western	450	82.7	354	65.1	167	30.7	121	22.2	167	30.7	59	10.8	23	4.2	544
	Mid-western	297	55.7	170	31.9	256	48.0	224	42.0	101	18.9	137	25.7	72	13.5	533
	Far-western	232	58.0	183	45.8	150	37.5	198	49.5	163	40.8	29	7.3	16	4.0	400
	Total	**2439**	**72.0**	**1758**	**51.9**	**1455**	**43.0**	**1415**	**41.8**	**907**	**26.8**	**578**	**17.0**	**316**	**9.3**	**3,383**
Ecological Region	Mountain	318	72.1	238	54.0	176	39.9	220	49.9	152	34.5	29	6.6	28	6.3	441
	Hill	951	66.0	675	46.9	702	48.8	678	47.1	365	25.3	217	15.1	155	10.8	1,440
	Terai	1170	77.9	845	56.3	577	38.4	517	34.4	390	26.0	332	22.1	133	8.9	1,502
	Total	**2439**	**72.0**	**1758**	**51.9**	**1455**	**43.0**	**1415**	**41.8**	**907**	**26.8**	**578**	**17.0**	**316**	**9.3**	**3,383**
Place of Residence	Rural	1559	75.2	1194	57.6	730	35.2	681	32.8	580	28.0	242	11.7	108	5.2	2,074
	Urban	880	67.2	564	43.1	725	55.4	734	56.1	327	25.0	336	25.7	208	15.9	1,309
	Total	**2,439**	**72.0**	**1,758**	**51.9**	**1,455**	**43.0**	**1,415**	**41.8**	**907**	**26.8**	**578**	**17.0**	**316**	**9.3**	**3,383**

Table 8: Distribution of Women Aged 15-49 years by Knowledge on Cervical Cancer and by District, Ecological Region, Development Region and Place of Residence							
Location		Knowledge on Cervical Cancer				Total	
		Yes		No			
		n	%	n	%	n	%
District	Baitadi	92	33.7	181	66.3	273	100
	Dailekh	61	21.1	228	78.9	289	100
	Dolpa	93	39.4	143	60.6	236	100
	Kailali	136	52.5	123	47.5	259	100
	Kavre	94	35.2	173	64.8	267	100
	Makwanpur	106	44.0	135	56.0	241	100
	Morang	168	60.2	111	39.8	279	100
	Myagdi	163	61.5	102	38.5	265	100
	Okhaldhunga	124	44.9	152	55.1	276	100
	Parsa	62	18.2	279	81.8	341	100
	Pyuthan	115	42.1	158	57.9	273	100
	Rupandehi	149	42.5	202	57.5	351	100
	Sarlahi	165	53.4	144	46.6	309	100
	Siraha	131	42.7	176	57.3	307	100
	Taplejung	177	56.9	134	43.1	311	100
	Total	**1,836**	**42.9**	**2,441**	**57.1**	**4,277**	**100**
Development Region	Eastern	600	51.2	573	48.8	1,173	100
	Central	427	36.9	731	63.1	1,158	100
	Western	312	50.6	304	49.4	616	100
	Mid-western	269	33.7	529	66.3	798	100
	Far-western	228	42.9	304	57.1	532	100
	Total	**1,836**	**42.9**	**2,441**	**57.1**	**4,277**	**100**
Ecological Region	Mountain	270	49.4	277	50.6	547	100
	Hill	755	40.1	1,129	59.9	1884	100
	Terai	811	43.9	1,035	56.1	1,846	100
	Total	**3,383**	**79.1**	**894**	**20.9**	**4,277**	**100**

Table 9: Distribution of Women Aged 15-49 years by Source Of Information on Cervical Cancer and by District, Ecological Region, Development Region and Place of Residence

Location		Source of Information																Total
		Relatives		Friends		Radio		Nurse		Doctor		Television		Newspaper		Others		
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n
District	Baitadi	28	30.4	16	17.4	75	81.5	49	53.3	42	45.7	4	4.3	10	10.9	0	0	92
	Dailekh	12	19.7	8	13.1	43	70.5	13	21.3	26	42.6	22	36.1	22	36.1	3	4.9	61
	Dolpa	37	39.8	47	50.5	47	50.5	49	52.7	51	54.8	16	17.2	12	12.9	2	2.2	93
	Kailali	74	54.4	64	47.1	33	24.3	32	23.5	17	12.5	24	17.6	9	6.6	7	5.1	136
	Kavre	75	79.8	59	62.8	41	43.6	60	63.8	50	53.2	8	8.5	6	6.4	1	1.1	94
	Makwanpur	84	79.2	79	74.5	99	93.4	85	80.2	63	59.4	34	32.1	37	34.9	1	0.9	106
	Morang	140	83.3	118	70.2	79	47.0	71	42.3	74	44.0	66	39.3	27	16.1	2	1.2	168
	Myagdi	97	59.5	81	49.7	39	23.9	43	26.4	38	23.3	12	7.4	13	8.0	5	3.1	163
	Okhaldhunga	90	72.6	82	66.1	48	38.7	62	50.0	53	42.7	6	4.8	10	8.1	2	1.6	124
	Parsa	47	75.8	19	30.6	10	16.1	25	40.3	25	40.3	9	14.5	3	4.8	1	1.6	62
	Pyuthan	47	40.9	27	23.5	39	33.9	20	17.4	41	35.7	47	40.9	19	16.5	5	4.3	115
	Rupandehi	87	58.4	52	34.9	51	34.2	47	31.5	55	36.9	27	18.1	18	12.1	5	3.4	149
	Sarlahi	126	76.4	120	72.7	106	64.2	113	68.5	95	57.6	61	37.0	39	23.6	0	0.0	165
	Siraha	104	79.4	61	46.6	21	16.0	33	25.2	36	27.5	16	12.2	13	9.9	3	2.3	131
	Taplejung	98	55.4	56	31.6	128	72.3	41	23.2	53	29.9	13	7.3	12	6.8	5	2.8	177
	Total	**1,146**	**62.4**	**889**	**48.4**	**859**	**46.7**	**743**	**40.4**	**719**	**39.1**	**365**	**19.8**	**250**	**13.6**	**42**	**2.2**	**1,836**
Development Regions	Eastern	432	7.0	317	52.8	276	46.0	207	34.5	216	36.0	101	16.8	62	10.3	12	2.0	600
	Central	332	77.8	277	64.9	256	60.0	283	66.3	233	54.6	112	26.2	85	19.9	3	0.7	427
	Western	184	5.0	133	42.6	90	28.8	90	28.8	93	29.8	39	12.5	31	9.9	10	3.2	312
	Mid-western	96	35.7	82	30.5	129	48.0	82	30.5	118	43.9	85	31.6	53	19.7	10	3.7	269
	Far-western	102	44.7	80	35.1	108	47.4	81	35.5	59	25.9	28	12.3	19	8.3	7	3.1	228
	Total	**1,146**	**62.4**	**889**	**48.4**	**859**	**46.7**	**743**	**40.4**	**719**	**39.1**	**365**	**19.8**	**250**	**13.6**	**42**	**2.2**	**1,836**
Ecological Region	Mountain	135	50.0	103	38.1	175	64.8	90	33.3	104	38.5	29	10.7	24	8.9	7	2.6	270
	Hill	433	57.4	352	46.6	384	50.9	332	44.0	313	41.5	133	17.6	117	15.5	17	2.3	755
	Terai	578	71.3	434	53.5	300	37.0	321	39.6	302	37.2	203	25.0	109	13.4	18	2.2	811
	Total	**1,146**	**62.4**	**889**	**48.4**	**859**	**46.7**	**743**	**40.4**	**719**	**39.1**	**365**	**19.8**	**250**	**13.6**	**42**	**2.2**	**1,836**
Place of Residence	Rural	638	58.9	450	41.5	432	39.9	353	32.6	346	31.9	144	13.3	97	8.9	30	2.8	1,084
	Urban	508	67.6	439	58.4	427	56.8	390	51.9	373	49.6	221	29.4	153	20.3	12	1.6	752
	Total	**1,146**	**62.4**	**889**	**48.4**	**859**	**46.7**	**743**	**40.4**	**719**	**39.1**	**365**	**19.8**	**250**	**13.6**	**42**	**2.2**	**1,836**

Table 10: Prevalence of HPV by District						
District	HPV 16 or HPV 18				Total	
	Yes, found		No, not found			
	n	%	n	%	n	%
Baitadi	8	3.6	213	96.4	221	100
Dailekh	12	5.5	206	94.5	218	100
Dolpa	10	5.3	177	94.7	187	100
Kailali	9	3.8	230	96.2	239	100
Kavre	17	7.2	219	92.8	236	100
Makwanpur	9	4.8	177	95.2	186	100
Morang	14	6.1	217	93.9	231	100
Myagdi	10	4.1	231	95.9	241	100
Okhaldhunga	5	2.5	195	97.5	200	100
Parsa	13	5.2	235	94.8	248	100
Pyuthan	21	8.8	217	91.2	238	100
Rupandehi	25	9.1	250	90.9	275	100
Sarlahi	15	6.0	233	94.0	248	100
Siraha	16	6.5	232	93.5	248	100
Taplejung	4	1.6	244	98.4	248	100
Total	**188**	**5.4**	**3,276**	**94.6**	**3,464**	**100**

Table11: Distribution of Women Aged 15-49 Years by Health Seeking Behavior and by District																	
Health Seeking Behaviour		District															Total
		Baitadi	Dailekh	Dolpa	Kailali	Kavre	Mak-wanpur	Morang	Myagdi	Okhald-hunga	Parsa	Pyuthan	Rupan-dehi	Sarlahi	Siraha	Taple-jung	n
Ever had a Screening for Cervical Cancer		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	
	Yes	2 (0.7)	2 (0.7)	1 (0.4)	3 (1.2)	4 (1.5)	2 (0.8)	8 (2.9)	11 (4.2)	5 (1.8)	1 (0.3)	2 (0.7)	4 (1.1)	7 (2.3)	6 (2)	5 (1.6)	63
	No	271 (99.3)	287 (99.3)	235 (99.6)	256 (98.8)	263 (98.5)	239 (99.2)	271 (97.1)	254 (95.8)	271 (98.2)	340 (99.7)	271 (99.3)	347 (98.9)	302 (97.7)	301 (98)	306 (98.4)	4214
	Total	**273 (100)**	**289 (100)**	**236 (100)**	**259 (100)**	**267 (100)**	**241 (100)**	**279 (100)**	**265 (100)**	**276 (100)**	**341 (100)**	**273 (100)**	**351 (100)**	**309 (100)**	**307 (100)**	**311 (100)**	**4277**
Who advised/ referred for Cervical Cancer Screening	Self- decided	1 (50)	0 (0)	0 (0)	0 (0)	4 (100)	2 (100)	6 (75)	2 (18.2)	3 (60)	0 (0)	1 (50)	3 (75)	6 (85.7)	0 (0)	0 (0)	28
	Doctor	1 (50)	0 (0)	0 (0)	1 (33.3)	0 (0)	0 (0)	0 (0)	5 (45.5)	0 (0)	1 (100)	1 (50)	1 (25)	0 (0)	6 (100)	3 (60)	19
	Husband/Family Member/Relatives/ Neighbour	0 (0)	2 (100)	1 (100)	1 (33.3)	0 (0)	0 (0)	2 (25)	1 (9.1)	2 (40)	0 (0)	0 (0)	0 (0)	1 (14.3)	0 (0)	0 (0)	10
	Health Worker/ FCHV	0 (0)	0 (0)	0 (0)	1 (33.3)	0 (0)	0 (0)	0 (0)	1 (9.1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	3
	Nurse	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (18.2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (20)	3
	Total	**2 (100)**	**2 (100)**	**1 (100)**	**3 (100)**	**4 (100)**	**2 (100)**	**8 (100)**	**11 (100)**	**5 (100)**	**1 (100)**	**2 (100)**	**4 (100)**	**7 (100)**	**6 (100)**	**5 (100)**	**63**
Where did you go for Screening	Private Hospital/ Clinic	2 (100)	2 (100)	0 (0)	3 (100)	2 (50)	1 (50)	4 (50)	10 (90.9)	2 (40)	1 (100)	2 (100)	1 (25)	3 (42.9)	6 (100)	3 (60)	42
	Government Hospital	0 (0)	0 (0)	0 (0)	0 (0)	2 (50)	0 (0)	2 (25)	1 (9.1)	3 (60)	0 (0)	0 (0)	2 (50)	1 (14.3)	0 (0)	1 (20)	12
	Cancer Hospital	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	1 (12.5)	0 (0)	0 (0)	0 (0)	0 (0)	1 (25)	3 (42.9)	0 (0)	1 (20)	7
	Health Camp/Family Planning Clinic	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (12.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2
	Total	**2 (100)**	**2 (100)**	**1 (100)**	**3 (100)**	**4 (100)**	**2 (100)**	**8 (100)**	**11 (100)**	**5 (100)**	**1 (100)**	**2 (100)**	**4 (100)**	**7 (100)**	**6 (100)**	**5 (100)**	**63**

Note: Numbers in parenthesis represents percent

Table12: Distribution of Women Aged 15-49 Years by Health Seeking Behavior on Cervical Cancer by Development Region												
Health Seeking Behaviour		Development Region										Total
		Eastern		Central		Western		Mid-Western		Far-Western		
		n	%	n	%	n	%	n	%	n	%	n
Ever had a Screening for Cervical Cancer	Yes	24	2.0	14	1.2	15	2.4	5	0.6	5	0.9	63
	No	1,149	98.0	1,144	98.8	601	97.6	793	99.4	527	99.1	4,214
	Total	**1,173**	**100**	**1,158**	**100**	**616**	**100**	**798**	**100**	**532**	**100**	**4,277**
Who advised/ referred for Cervical Cancer Screening	Self- decided	9	37.5	12	85.7	5	33.3	1	20.0	1	20.0	28
	Doctor	9	37.5	1	7.1	6	40	1	20.0	2	40.0	19
	Husband/Family Member/Relatives/ Neighbour	4	16.7	1	7.1	1	6.7	3	60.0	1	20.0	10
	Health Worker/FCHV	1	4.2	0	0.0	1	6.7	0	0.0	1	20.0	3
	Nurse	1	4.2	0	0.0	2	13.3	0	0.0	0	0.0	3
	Total	**24**	**100**	**14**	**100**	**15**	**100**	**5**	**100**	**5**	**100**	**63**
Where did you go for Screening	Private Hospital/Clinic	15	62.5	7	50.0	11	73.3	4	80.0	5	100	42
	Government Hospital	6	25.0	3	21.4	3	20	0	0.0	0	0.0	12
	Cancer Hospital	2	8.3	4	28.6	1	6.7	0	0.0	0	0.0	7
	Health Camp/Family Planning Clinic	1	4.2	0	0.0	0	0	1	20.0	0	0.0	2
	Total	**24**	**100**	**14**	**100**	**15**	**100**	**5**	**100**	**5**	**100**	**63**

Table13: Distribution of Women Aged 15-49 Years by Health Seeking Behavior on Cervical Cancer by Place of Residence						
Health Seeking Behaviour		Place of Residence				Total
		Rural		Urban		
		n	%	n	%	n
Ever had a Screening for Cervical Cancer	Yes	37	1.4	26	1.5	63
	No	2,546	98.6	1,668	98.5	4,214
	Total	**2,583**	**100**	**1,694**	**100**	**4,277**
Who advised/ referred for Cervical Cancer Screening	Self- decided	13	35.1	15	57.7	28
	Doctor	12	32.4	7	26.9	19
	Husband/Family Member/ Relatives/Neighbour	6	16.2	4	15.4	10
	Health Worker/FCHV	3	8.1	0	0.0	3
	Nurse	3	8.1	0	0.0	3
	Total	**37**	**100**	**26**	**100**	**63**
Where did you go for Screening	Private Hospital/Clinic	28	75.7	14	53.9	42
	Government Hospital	7	18.9	5	19.2	12
	Cancer Hospital	2	5.4	5	19.2	7
	Health Camp/Family Planning Clinic	0	0.0	2	7.7	2
	Total	**37**	**100**	**26**	**100**	**63**

Table14: Distribution of Women Aged 15-49 Years by Health Seeking Behavior on Cervical Cancer by Ecological Region								
Health Seeking Behaviour		Ecological Region						Total
		Mountain		Hill		Terai		
		n	%	n	%	n	%	n
Ever had a Screening for Cervical Cancer	Yes	6	1.1	28	1.5	29	1.6	63
	No	541	98.9	1,856	98.5	1,817	98.4	4,214
	Total	**547**	**100**	**1,884**	**100**	**1,846**	**100**	**4,277**
Who advised/ referred for Cervical Cancer Screening	Self-decided	0	0.0	13	46.4	15	51.7	28
	Doctor	3	50.0	7	25.0	9	31.0	19
	Husband/family member/relatives/neighbor	1	16.7	5	17.9	4	13.8	10
	Health worker/FCHV	1	16.7	1	3.6	1	3.4	3
	Nurse	1	16.7	2	7.1	0	0.0	3
	Total	**6**	**100**	**28**	**100**	**29**	**100**	**63**
Where did you go for Screening	Private Hospital/Clinic	3	50.0	21	75.0	18	62.1	42
	Government Hospital	1	16.7	6	21.4	5	17.2	12
	Cancer Hospital	1	16.7	1	3.6	5	17.2	7
	Health Camp/Family planning Clinic	1	16.7	0	0.0	1	3.4	2
	Total	**6**	**100**	**28**	**100**	**29**	**100**	**63**