Health Related Quality of Life of Women Suffering from Pelvic Organ Prolapse

Before and 9 to 11 Months After Surgical Interventions

2013

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

United Nations Population Fund

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Government of Nepal
Ministry of Health & Population
DEPARTMENT OF HEALTH SERVICES

Teku, Kathmandu

Refe No.

FOREWORD

It is my pleasure to write few words on the study report "Health related quality of life of women suffering from Pelvic Organ Prolapse before and 9 to 11 months after surgical intervention". This study presented the outcome of the surgical interventions on the patient who suffered from pelvic organ prolapse (POP) in terms of quality of life gain after the surgery.

POP prevention and management is a priority program of the Ministry of Health and Population (MoHP), Government of Nepal (GoN). To address this problem, the MoHP has created the fund for the provision of free surgeries to women who are suffering POP and is committed to address the problem to the best within its available resource. After years of continuous support, GoN and other stakeholders felt that there is a need to assess the effect of this surgical intervention has on the quality of life of those affected. In this context, United Nations Population Fund (UNFPA) commissioned this study under the guidance of Family Health Division/Department of Health Services (FHD/ DoHS) to evaluate the health related quality of life gain through POP surgery interventions.

This study demonstrates that surgical interventions have positive impact on the improvement of the health related quality of life of women who suffer from POP. The effort of the government and the stakeholders for providing treatment in this regard has benefited the women of Nepal. However, surgical intervention alone will not be a complete solution in addressing the comprehensive needs. The information obtained from this study will help for future policy and planning interventions against POP programme in Nepal.

I would also like to extend my sincere appreciation to UNFPA for providing financial and technical support and Population, Health and Development (PHD) group for conducting this study.

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The study on “Health related quality of life of women suffering from Pelvic Organ Prolapse before and 9 to 11 months after surgical intervention" was conducted under the guidance of the Family Health Division/Department of Health Services (FHD/DoHS) with financial and technical support from United Nations Population Fund (UNFPA). The overall coordination and field work support was provided by Population, Health and Development (PHD) Group, a local research organization.

It has been possible to conduct this study due to the efforts put in by several individuals and organizations and I would like to acknowledge them for providing technical guidance and invaluable support in the various phases of the study.

I greatly acknowledge the support we received from various institutions. I would especially like to thank Adventist Development and Relief Agency (ADRA) and Himalayan Health and Environmental Services, Solukhumbu (HHESS); Staffs of Birat Nursing Home, Biratnagar, Nepalgunj Medical College Teaching Hospital, Banke and Team Hospital, Dadeldhura.

I express my deep sense of gratitude to district health officers, health facility staffs and FCHVs of the districts visited, for their contribution to complete this study. My deep gratitude goes to the study respondents for their valuable time and patience in providing information during data collection.

Finally, I would like to acknowledge UNFPA for providing the financial and technical support and PHD Group for conducting this study.

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ACRONYMS

ACR	Anterior Colporrhaphy
ADRA	Adventist Development and Relief Agency
AHW	Auxiliary Health Workers
ANC	Antenatal care
ANM	Auxiliary Nurse Midwife
CD	Children dead
CEB	Children ever born
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
COPD	Chronic Obstructive Pulmonary Disease
CRADI	Colorectal-Anal Distress Inventory
CRAIQ	Colorectal-Anal Impact Questionnaire
DLC	Differential Leucocytes Count
DHO	District Health Office
DPHO	District Public Health Office
Dr.	Doctor
DRHCC	District Reproductive Health Coordination Committee
FCHV	Female Community Health Volunteer
FHD	Family Health Division
FP	Family Planning
GoN	Government of Nepal
HHESS	Health and Environmental Services Solukhumbu
HA	Health Assistant
HCP	Health Care Provider
HP	Health Post
Hb	Haemoglobin
ICPD	International Conference on Population and Development
MCHW	Maternal and Child Health Worker
MO	Medical Officer
MOHP	Ministry of Health and Population
NDHS	Nepal Demographic Health Survey
NGO	Non- Governmental Organization
PCPR	Posterior Colpoperineorrhaphy
POA	Programme of Action
POP	Pelvic Organ Prolapse

POPDI	Pelvic Organ Prolapse Distress Inventory
PFDI	Pelvic Floor Distress Inventory
PFR	Pelvic Floor Repair
POP-Q	Pelvic Organ Prolapse Questionnaire
PFIQ	Pelvic Floor Impact Questionnaire
POPIQ	Pelvic Organ Prolapse Impact Questionnaire
PHDG	Population, Health and Development Group
POA	Program of Action
QoL	Quality of Life
RBS	Random Blood Sugar
RH	Reproductive Health
SHP	Sub Health Post
S-POP-Q	Simplified Pelvic Organ Prolapse Quantification
SPSS	Statistical Packages for Social Sciences
Std	Standard Deviation
SUI	Stress Urinary Incontinence
UN	United Nations
UNFPA	United Nations Population Fund
UP	Uterine Prolapse
TBA	Traditional Birth Attendant
TC	Total Count
TAHBSO/TAH	Total Abdominal Hysterectomy with Bilateral Salpingo-ophorectomy
UDI	Urinary Distress Inventory
VH	Vaginal Hysterectomy
VIP	Ventilated Improved Pit
VVF	Vesico Vaginal Fistula
WHO	World Health Organization
WRA	Women of Reproductive Age

EXECUTIVE SUMMARY

The current study on health related quality of life of women suffering from Pelvic Organ Prolapse before and 9 to 11 months after surgical intervention was conducted at two points in time. In 2011, a Baseline study was conducted which analysed information from 357 women from 11 districts[1] with stage III, IV and few stage II cases referred by Reproductive Health (RH) camps organized by Adventist Development and Relief Agency (ADRA) Nepal and Health and Environmental Services Solukhumbu (HHESS). They had Pelvic organ surgery (POP) in three hospitals. Out of the 15 gynaecologists who performed POP surgeries in three hospitals, 4 doctors conducted 7 surgeries or more a day while the rest performed 5 surgeries or less a day. The women who had POP surgery were administered a quantitative questionnaire which sought information on socio-demographic characteristics, pregnancy and fertility, health seeking behaviour, possible causes of POP, Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7) quality of life measuring scaling questionnaires and pre-operative assessment about the condition of POP. Furthermore, 31 case studies of women were prepared. After about 9 months of Baseline study, in 2012 Endline study was conducted through follow-up camps set up to examine the same clients in 10 districts except Kalikot. The total clients followed-up were 322.

The Baseline study showed that the mean age of women undergoing POP surgery was 48.9 years and the majority (80 percent) of women were over 40 years of age, illiterate (94 percent), married early (median age 14) and have more than four children. Nearly every woman does farming, wage labouring and engage in household chores. Eighty percent respondents reported owning a mobile telephone, 36 percent own radio and 28 percent own television. Overall 75 percent households possess agricultural land. The median monthly income of households is NRs. 6,000. The women from the Terai are far richer (median income Rs. 6,000) than their counterparts from the Hill (NRs. 800) and Mountain (Rs. 600). The majority of women who had POP surgery were poor and 19 percent consumed tobacco products.

The median age at first marriage of women undergoing POP surgery was 14 and the median age at first pregnancy was 18 years. Only 15 percent women visited health facility for antenatal checkup (ANC) and only 3 percent delivered in health facilities following which they experienced symptoms of POP. The overwhelming majority (97 percent) of women delivered at home which is much higher than the proportion (68 percent) of rural births that took place at home shown by Nepal Health Demographic Survey (NDHS) 2011. They, on average, had 5.7 hours of labour and this varied from 0.5 hour to 72 hours. When women first experienced symptoms of POP they were, on average, 27 years old and the minimum age was 15 and the maximum age was 48.

After having about 3 children, women from the Terai and Hill experienced symptoms of POP and the corresponding figure in the Mountain region was 2 children. In order to speed up the process of child delivery, 61 percent women from the Terai reported doing something to push the baby out of the uterus, contrastingly none of the respondents from Mountain and Hill regions said so. Among these, Terai women, 98 percent said that the abdomen was pressed and 57 percent of them were asked to push the baby by breathing hard.

Most women (95 percent) said that their baby was not weighted at birth but when asked for opinions on the weight of the baby at birth about 10 percent women said that their babies were small and the largest proportion of small babies was reported in the Terai.

Women undergoing POP surgery rested, on average, for 20 days after delivery and comparatively Terai women rested longer (21 days) than their counterparts in Hill (15 days) and Mountain regions (16 days).

[1]Saptari, Siraha, Dhanusha, Mahottari, Rautahat, Kapilvastu, Dang, Bardiya, Kalikot, Baitadi, and Darchula

However, a substantial proportion (35 percent) of Terai women rested only for 6 days or less. Overall, 80 percent women rested for 15 days or less after delivery and by regions all rested only for 15 days or less in Hill and Mountain and 77 percent in the Terai. Every woman reported of carrying heavy load after delivery.

Duration for resting improved among the follow-up clients. After the POP surgery, on an average, women rested for 3 months. Ninety - three percent women carried load only about 3 months after POP surgery. They worked in family farm and also worked as wage labourers. The work included carrying heavy load on back, farm digging, rice planting, harvesting and grass cutting. However participants reported taking extra care while working.

The duration between the previous delivery and the delivery after which women first experienced symptoms of POP, on average, 3.5 years in the Terai. It was slightly longer (3.8 years) in the Hill region, but slightly shorter (3.2 years) in the Mountain region. About 20 percent women experienced symptoms of POP after the first delivery and 1 percent did so without giving any live birth.

Only 2 percent women used contraceptives before the delviery following which they first experienced symptoms of POP. Eighty - five percent women said they took sufficient nutritious food after delivery; they took nutritious food for a month and this period was less by 10 days in the Hill and Mountain compared to the Terai region. Among the follow-up clients intake of nutritious food improved. All of them took nutritious food and 86 percent women took it 3 times a day. Over 97 percent women took rice, daal, beans, and green vegetables.

When women first experienced symptom of POP, only Terai women (66.1 percent) discussed it with someone but none of the women from the Hill and Mountain did so. Seventy- nine percent Terai women discussed their POP problem with their husbands, followed by daughter-in-laws (9 percent) and sisters/sister-in-laws (3.5 percent). Most women (86 percent) who did not share their POP problem with others said that they have no knowledge that POP problem should be shared, that treatment should be sought and the second most important reason for not sharing the problem was embarrassment (40 percent).

None of the respondents from the Hill and Mountain regions consulted anybody for treatment of POP problem before coming to the camp but some women (20 percent) from the Terai did consult someone for the treatment of POP problem. Most (77 percent) women not seeking treatment before coming to the camp said that they were very poor and about 70 percent did not know that it could be treated. About 21 percent women said that it was embarrassing to go for treatment and 18 percent thought that the problem was not that serious to seek treatment.

Some 38 percent follow-up study women experienced health problem after POP surgery. About 7 percent each experienced difficulty in passing urine and difficulty in walking while about 4 percent reported of smelly or blood stained discharge. Of the total women experiencing POP related health problems, 93 percent also had other health problems. Most (21 percent) of the follow-up women mentioned backache followed by lower abdomen pain (6.2 percent) and painful surgical wound (7.7 percent). About 5.2 percent of follow-up women mentioned that they had POP problem even after surgery.

Comparison of health status before and after surgery reveals that they have substantially improved after the surgery. Very high proportion (92 percent) of women experienced difficulty in passing urine before surgery but it reduced substantially to 7 percent after surgery. Similarly 93 percent of women had difficulty in walking before surgery and it reduced to 7 percent after surgery. At Baseline 31 percent women had smelly or blood stained discharge which was reduced to 4 percent after the POP surgery.

Among the follow-up women who experienced health problems after surgery, 40 percent sought health care one month after having the health problem. Of those women seeking care, 24 percent each went to Health Post (HP) and health camp followed by 20 percent to hospital. Among the women who did not seek treatment after experiencing some health problem, most of them (67 percent) said that it was not serious and therefore they did not seek care. Other reasons given were that hospital was too far, could not afford the travel and other costs, and did not find it necessary to seek treatment.

All women participating in the follow-up study were asked for their opinions on factors contributing to POP. Everybody said that the factors contributing to POP were too many births, doing hard physical work even when sick or weak or soon after delivery, giving birth at an early age, not taking enough rest after delivery, short birth spacing and not taking sufficient nutritious food after delivery. Physical violence by husband also topped the list as 88 percent of the respondents mentioned this as a contributing factor, followed by the practice of pressing abdomen for delivery (76 percent) and having to yield to husband's demand for sex (72 percent).

Women's life experience following realization that they had POP was also inquired about and 95 percent said that they preferred loneliness followed by lost hope in life (80 percent). Surprisingly, only 4 percent women said that their husband began avoiding them or married another woman. Some 23 percent respondents said that they had sex unwillingly.

The quality of life (QoL) of women after POP surgery is found to have improved after the POP surgery. The QoL scores overall and in all 3 subscales via the PFDI-20 and PFIQ-7, all show improvement in the quality of life of women after POP surgery. The PFDI-20 total score and the Pelvic Organ Prolapse Distress Inventory (POPDI-6) and Urinary Distress Inventory (UDI-6) domain scores, all demonstrated large responsiveness (>0.8). The Colorectal-Anal Distress Inventory (CRADI-8) scores also showed large responsiveness (>0.8), but the scores of CRADI-8 were slightly lower (1.06 to 1.08) than the scores shown by other two domains (1.88 to 2.45).

Significant improvements (P<.001) were seen in all PFIQ-7 total and domain scores for stages II and III, IV and the entire group at 11 months. The PFIQ-7 total score and the POPIQ-7 and UIQ-7 domain scores all demonstrated large responsiveness (>0.8). Although the CRAIQ-7 domain scores demonstrated large responsiveness (>0.8) it was relatively less responsive, showing response scores at 0.90-0.94. PFIQ-7 total and domain scores were less responsive than respective PFDI-20 scores. All this indicates that the impact of bladder, bowel, and vaginal symptoms on a woman's daily activities, relationships and emotions are much better following POP surgery.

Among the 322 followed-up respondents, the gynaecological examination showed there were no women with stage 0 and I in the baseline study, whereas in the Endline, there were 23 (7.1 percent) in stage 0 and 179 (55.6 percent) in stage I respectively. In stage II there were 9 (2.8 percent) cases in the Baseline and 111 (34.5 percent) in the Endline. In stage III, 299 (92.9 percent) cases were found in the Baseline and 9 (2.8 percent) in the Endline. Data showed pre-operatively 2 cases in stage II, 7 cases in stage III and 2 cases in stage IV had vault prolapse of the same stage post-operatively, raising some concern on the adequacy of the surgical repair performed. Nine out of 322 had stage III POP after surgery and 111 (34.4 percent) had stage II POP. Finally in the Baseline, 13 cases were in stage IV and no cases in the Endline. Thus, the cases of POP shifted from the more severe stages (III and IV) in the Baseline to less severe stages (0, I and II) in the Endline. The difference in number of POP stages before and after surgery was found statistically significant ($p < 0.05$).

There were 23 patients who had Stress Urinary Incontinence (SUI) at Baseline. After surgery, 22 of 23 have improved with this symptom. However among the 298 patients who didn't have urinary leakage on coughing before surgery, 2 had developed it after surgery.

Of 322 followed-up cases, 63 had some form of complication after POP surgery which accounted for 19.6 percent. Of the 63 complications noted, backache was observed in 48 percent of cases followed by Vaginitis in 27 percent.

Also this is the first study of PFDI-20 and PFIQ-7 responsiveness in POP surgery in Nepal. The study demonstrates improvement in total and individual domain scores 11 months after surgery of Pelvic Floor Repair System. Distribution-based metrics found both instruments were quite responsive to POP surgery. The PFDI-20 was more responsive than the PFIQ-7, implying greater patient symptom improvement than QoL. Of the 3 domains, colorectal-anal domains were least responsive.

In response to the question how they felt after surgery most women said that they have gained good quality of life. In addition, the case studies of 30 women who attended the follow-up camps clearly support the evidence that after POP surgery the women have improved substantially.

This study demonstrates that surgical interventions have positive impact on the health of women as the quality of life of women suffering from POP has substantially improved following surgery. The effort of the government and other stakeholders for providing treatment in this regard has benefited the women of Nepal. However, surgical intervention alone will not be a complete solution in addressing the comprehensive needs of women suffering from this debilitating condition.

Recommendations

1. POP surgery organized in an established institution is better than organizing in a camp set-up where preliminary requirements are difficult to meet.

2. The standard for quality surgery should be adequately followed, including the number of surgeries by a surgeon in a day as per national standard and protocol.

3. A comprehensive surgical training manual on POP should be developed to ensure uniformity in the surgical procedure and post-operative care, throughout the country.

4. Complicated POP and POP associated with co-morbid conditions should be referred to the higher centers for appropriate management through multidisciplinary approach.

5. Pre-operative screening, counselling and evaluation should be proper and adequate to minimize the complications following surgery.

6. Post-operative follow-up of women undergoing POP surgery should be mandatory to identify the complications following surgery.

7. Various sectoral ministries should work in a collaborative manner for the prevention and management of POP.

8. Extensive information and prevention program should be the first step to reduce the problem of POP in the country.

9. Government and other stakeholders should ensure the provision of quality service and provide guidance for effective implementation of the program through regular monitoring and supervision.

10. A comprehensive national study is recommended to establish indicators on different aspects of POP.

1

INTRODUCTION AND BACKGROUND

1.1 Introduction

The International Conference on Population and Development (ICPD) held in Cairo in September 1994, under the auspices of the United Nation (UN) was the third inter-governmental World Population Conference. The theme of the Cairo conference was population, sustained economic growth and sustainable development. Essentially the ICPD sought greater political commitments from participating countries (177 countries officially represented the conference) to implement the Program of Action (POA) which identified 13 areas and one of them and very important one was **Reproductive rights and reproductive health** (UN. ICPD, Cairo, 1994). The ICPD POA represents a critical shift of focus in the population field from a concern with achieving demographic targets, largely through the provision of family planning services, to an emphasis on improving individuals' quality of life. Central to this analysis is the role of women, not just as beneficiaries of services but as active agents of change. Thus the ICPD gave an important impetus to the reproductive and sexual health agenda. It made it a goal for the world's governments to make available universal access to a full range of high-quality reproductive health services by the year 2015. It emphasized people's right to reproductive health and most importantly, quality services: services should be accessible, acceptable and convenient to all users.

The Interim Constitution 2007 of Nepal (Aayush Prakashan, 2007) has guaranteed access to health service as a fundamental right of the Nepalese citizens. Nepal has ratified convention on the elimination of all forms of discrimination against women (CEDAW) in 1991 and has reaffirmed its commitments on the Beijing Declaration 1995 (UN 1995) to work for equal rights and inherent human dignity of women. The concept of reproductive health as a central component of women's development was endorsed during the Fourth World Congress on Women held in Beijing. One of the strategic objectives set forth in the POA is to "ensure equality and non-discrimination under the law and in practice" and more specifically to "revoke any remaining laws that discriminate on the basis of sex and remove gender bias in the administration of justice". However, the country's socio-cultural values and State laws are discriminatory against women. POP is one of the consequences of unequal gender relationships and an expression of the subversion of women and the denial of their rights.

Although more recently growing attention is given by the government and donors to safe motherhood issues, many have been raising concerns on the neglected and very often overlooked issue of POP. The Government of Nepal (GoN) has adopted several policy measures to make reproductive health services available to all Nepalese citizens through the primary health care system. The initiatives by the Government and the donors to address the Uterine Prolapse (UP) problem will certainly bestow much sought after socio-psychological and physical benefits to over 600,000 women in Nepal (UNFPA, 2006). This will contribute to achieving the state of good health for women of Nepal particularly those who live in rural hinterlands.

1.2 Background and Rationale

1.2.1 Magnitude of the problem

POP is a health concern effecting millions of women world wide. The global prevalence of genital prolapse is estimated to be 2-20 percent in women under 45 years of age. The condition is mainly due to insufficiency of the pelvic floor and consists of herniation of an adjacent pelvic organ into the vagina.

POP is considered a major cause of maternal morbidity among women in Nepal. The 2006 NDHS found that up to 7 percent of women of reproductive age (15-49 years) were suffering from the condition (MOHP, New ERA and Macro International Inc. 2007). In the 2006 NDHS survey women aged 15-49 who have had a pregnancy were asked whether they had ever experienced symptoms of UP (patheghar khasne/ang khasne).In 2006, 7 percent of women said they had experienced symptoms of UP while by 2011 the prevalence declined to 6 percent (Table 1.1).

Table 1.1 Percentage of currently married women age 15-49 who mentioned having experienced symptoms of UP, by background characteristics, Nepal , 2006 and 2011

Background characteristics	Percent		Percent change
	2006	2011	
Age			
15-19	1.7	1.6	(5.63)
20-24	3.6	2.4	(34.41)
25-29	5.6	3.5	(36.87)
30-34	7.9	4.8	(39.65)
35-39	9.2	8.0	(13.59)
40-44	7.8	10.3	31.70
45-49	9.3	11.9	28.23
Residence			
Urban	8.0	4.6	(42.23)
Rural	6.5	6.2	(4.13)
Ecological zone			
Mountain	8.8	7.3	(17.60)
Hill	8.1	7.6	(5.67)
Terai	5.2	4.7	(10.07)
Sub-region			
Eastern mountain	5.7	8.2	44.35
Central mountain	12.4	8.9	(28.32)
Western mountain	8.1	5.5	(32.22)
Eastern Hill	7.0	9.6	37.32
Central Hill	8.5	6.9	(18.59)
Western Hill	7.0	6.8	(3.15)
Mid-western Hill	11.2	9.2	(17.64)
Far-western Hill	6.3	6.6	4.43
Eastern terai	5.3	4.4	(16.36)
Central terai	5.1	4.4	(13.74)
Western terai	4.8	3.2	(32.96)
Mid-western terai	7.5	4.4	(41.30)
Far-western terai	4.8	9.2	92.24
Education			
No education	6.9	7.0	1.81
Primary	7.5	6.3	(16.33)
Some secondary	5.5	4.8	(12.77)
SLC and above	4.9	3.2	(34.89)
Wealth quintile			
Poorest	7.7	7.9	2.15
Poorer	6.5	6.3	(3.63)
Middle	5.4	6.0	11.19
Richer	7.1	5.6	(21.10)
Richest	6.9	4.8	(30.91)
Children born			FROM NONE
0	0.0	4.2	TO 4.2
1	2.8	1.9	(30.64)
2	5.9	5.7	(3.20)
3	8.3	7.3	(11.43)
4	7.5	7.9	6.30
5+	8.7	8.0	(7.94)
Total Percentage	**6.7**	**6.0**	**(10.45)**
Total Number	**7,882**	**9,021**	

Source: MOHP, New ERA & Macro International Inc. 2007 and MOHP, New ERA & Measure DHS ICF Macro. 2012

Overall, interestingly more urban women (8 percent) reported symptoms of UP than their rural counterparts (6.5 percent) in 2006 however it was reversed in 2011. There is a significant variation by ecological region, sub region, education and age group, with symptoms ranging from as low as 2 percent among women under 20 years of age to 9 percent among women between 45–49 years. The percentage of women experiencing symptoms of UP is directly related to the number of children they have had: this ranges from a low of 3 percent among women who have had one live birth to a high of 9 percent among women who have had at least five live births in 2006 but 2011 data also shows that women who have had no live births also had experienced symptoms of UP (Table 1.1).

The 2006 NDHS showed no significant variation of the prevalence of UP among women belonging to different wealth quintiles. However, NDHS 2011 data clearly shows that poor women significantly suffer more from UP than their richer counterparts (Table 1.1).

In 2011 older women, women from Eastern Mountain, Eastern Hill and Far-western Terai reported experiencing symptoms of UP more than in 2006 (Table 1.1).

However studies have shown varying prevalence for Nepal. The 2006 study conducted by Institute of Medicine (IOM) and United Nation Population Fund (UNFPA) estimates that there may be around 600,000 women with UP in Nepal and 200,000 are in need of immediate care (UNFPA, 2006). Another study claims that over 1/4th reproductive age women of Nepal suffer from UP (MIREST, Nepal). Still another study reports UP is one of the most widespread reproductive health problems in Nepal and over one million Nepalese women are suffering from this disease (Barbara Bodner-Adler & Chanda Shrivastava & Klaus Bodner 2007).

Lack of skilled care during birth, including harmful practices to expedite deliveries, in which traditional birth attendants use push and pull methods, restrictions on women's decision making, young age at delivery, multiparity, inadequate rest in postpartum period and early resumption of household work as well as field work including carrying heavy work and heavy weight lifting, wearing Patuka (homemade abdominal binder made of cloth), are factors correlated with POP in Nepal. There may also be inherent genetic risk factors for POP in Nepalese women, in addition to other health-risk factors such as smoking and malnutrition.

Although POP is not an immediately life threatening, the condition seriously hampers the quality of life for those affected. Basic activities in life become challenges for women with POP. Activities such as urinating,

defecating, walking, standing, sitting and sexual intercourse can be difficult and painful, this in turn, leads to various forms of psycho-social and physical impairments. Women with genital prolapse are considered impure in Nepali society and are looked down upon by husband, families and society. Husbands threaten to marry another wife when their sexual desires are not fulfilled and women become isolated from social activities.

POP is usually classified into 4 anatomical stages, corresponding to the severity of the condition. For the two lower stages (I and II) conservative management including pelvic floor muscle training or ring pessary insertion are considered the best options. For the more severe stages (III and IV), where conservative management is no longer effective, corrective surgeries are performed.

1.2.2 National Response to POP

Government of Nepal has recognized POP as a high priority condition and has shown its commitment by creating a fund for provision of free POP surgery services to women in need. UNFPA and other key stakeholders have been supporting GoN efforts by supporting POP treatment through designated reproductive health (RH) camps and POP surgeries.

From 2008/9 to 2011/12, around 34,000 women have been benefited from POP surgery through GoN supported RH camps. UNFPA has supported for POP surgery of about 6,700 women and ring pessaries for additional 8,100 women from 2005-2012.

The current program on POP is more focused to curative services, particularly surgical treatment in camp settings. However the health condition of women who under went surgery is largely unknown. It has been widely acknowledged that the most challenging part of service provision is follow up care. The concern about quality of surgery and follow up care is consistently raised.

During the National consultation workshop on UP organized by MoHP in June 2010, the stakeholders, including the GoN, came up with the recommendation that after a year of continuous support for POP treatment, there is a need to assess the effect of the surgical intervention has on the quality of life of women with POP in the context that GoN is planning to expand the service in future. Before moving ahead, the outcome of the intervention must be clearly analysed, and provisions must be made to guarantee the quality and safety of these services.

1.3 Objectives of the study

The objectives of the study was to:

- Determine the condition related signs and quality of life of women suffering from high degree (min. Grade III) POP before and 9 to 11 months after surgical intervention.
- Evaluate the outcome of POP surgery intervention in terms of quality of life gain.

2

METHODOLOGY

2.1 Organization of the Study

The present study was carried out under the aegis of the Family Health Division, Department of Health Services (FHD, DoHS) under Ministry of Health and Population and was implemented by Population, Health and Development (PHD) Group, a local research organization. UNFPA provided financial and technical support.

This is a prospective study as women with POP were first studied before they had POP surgery and were followed-up after 9 to 11 months after surgery. The respondents for the study were the women who were screened at RH camps organized by NGOs (ADRA Nepal and HHESS) at different locations of 11 districts[2] and referred for POP surgery to three pre-identified hospitals: Team Hospital, Dadeldhura; Birat Nursing home, Biratnagar and Nepalgunj Medical College Teaching hospital, Banke. The women from Kapilvastu and districts west of it were referred to Team hospital, Dadeldhura and Nepalgunj Medical College Teaching Hospital, Banke and women from the Terai districts of Central and Eastern regions to Birat Nursing Home, Biratnagar. Endline data collection work was jointly implemented by ADRA Nepal and PHD Group through follow-up RH camp.

2.2 Study Materials and Methods

The study methodology comprised of the review of the relevant literature/materials on POP, sample size determination, modification of some sections of the questionnaire supplied by UNFPA including translation of tools into Nepali language, training of field research team on the objectives and tools of data collection, data collection (mobilization of field research team to respondent enumeration sites), data processing including editing of completed questionnaires, coding, development of computer template for data entry and system file development, and creation of system file of the data in SPSS format. The clean data were rigorously analysed to arrive at study findings.

2.2.1 Quantitative Questionnaire

In the Baseline, women referred for POP surgery from 11 districts (Saptari, Siraha, Dhanusha, Mahottari, Rautahat, Kapilvastu, Dang, Bardiya, Kalikot, Baitadi, and Darchula) were administered Baseline questionnaire at the hospitals. In order to find out about the quality of life of women after POP surgery, the same women were administered follow-up questionnaire during follow-up study.

In the Endline/follow-up study, health related quality of life gain through POP surgery interventions were focused and relevant information were collected using the same questionnaire but with some modifications to suit the follow-up study.

2.2.2 Pre and Post-operative Assessment

The women who underwent POP surgery were administered pre-operative assessment form by the gynaecologist who performed the surgery. At the follow-up RH camps women who had undergone POP surgery at the Baseline were examined by an experienced medical doctor and administered the post-operative assessment form.

2.2.3 Qualitative Study: Case Studies

In order to supplement the findings from the quantitative tools, 31 case studies[3] of women who underwent POP surgery at the Baseline was prepared. Efforts were made to prepare case studies of women from each study district. At Endline 30 case studies have been collected. Of these women, 28 women were the same who participated at the Baseline.

[2]Saptari, Siraha, Dhanusha, Mahottari, Rautahat, Kapilvastu, Dang, Bardiya, Kalikot, Baitadi, and Darchula
[3] The target at Baseline was 27 case studies

2.3 Study Design

This study has been carried out at two phase: at Baseline and Endline. The Baseline respondents were from among the women attending the RH camps, diagnosed with POP with at least grade III (POP-Q classification), declared eligible for surgery and referred to pre-identified hospital for surgery. A total of 357 women with POP of different stages, mostly stage III to IV and few stage II , eligible for surgery were interviewed at the Baseline. This number of women was needed at Baseline so that at the Endline sufficient number of women could be followed-up. The same women who had POP surgery were followed up after 9 to 11 months of surgery for the Endline data collection.

2.3.1 Study Tools

The tools consisted of quantitative questionnaires (Baseline and Endline), pre-operative and post-operative assessment form. In addition case study guideline was also used.

The Baseline quantitative questionnaire (**Annex I**) included a number of sections as mentioned below:

- Introduction and consent
- Respondent's socio-demographic and household information
- Pregnancy and fertility
- Possible causes of POP
- Health seeking behaviour
- Pelvic Floor Distress Inventory (PFDI) and Pelvic Floor Impact Questionnaire (PFIQ)
  PFDI-20 and PFIQ-7 (Ubersax et al 1995) were supplied by UNFPA.

These questionnaires was developed on 4-point scales. After examining the tools the research team modified them without changing the essential elements and translated the English questionnaire into Nepali language. This questionnaire was administered to Baseline clients who underwent surgery for POP.

The Endline quantitative questionnaire (**Annex II)** included sections as shown below:

- Introduction and consent
- Condition of woman after POP surgery
- Health seeking behaviour after POP surgery
- Pelvic Floor Distress Inventory (PFDI) and Pelvic Floor Impact Questionnaire (PFIQ)
  PFDI-20 and FPIQ-7 questionnaires asked at the Baseline were also asked at the Endline.

Pre-operative Assessment Form (Annex III)

The gynaecologist prior to performing POP surgery administered one-page pre-operative assessment form to assess women suffering from POP. The pre-operative form sought information on identification of client, stage of prolapse, type of surgery performed and post-operative information.

Post-operative Assessment Form (Annex IV)

The one-page pre-operative assessment form that was used at the Baseline was slightly modified during the Endline data collection. The issues investigated at the Baseline were again examined at the Endline by a medical doctor attending the follow-up RH camps. A form was also developed to collect information on clients who could not attend RH camp

Case Study Guideline

As described briefly in section 2.2.3 above, a case study guideline or tool was developed and administered both at the Baseline and Endline

2.3.2 Sampling Frame

A quantitative survey is designed using a sampling frame. As a part of the study, NGOs were mobilized to organize RH camps where women with POP problem were screened and referred to specific hospitals for POP surgery. At the hospital the referred clients were again screened for contraindication and all clients were found eligible for surgery. The sampling frame for this study was women eligible for POP surgery. The clients who had undergone POP surgery at Baseline were followed after 9 to 11 months of surgery.

2.3.3 Sample Size Determination

Estimated sample size is based on two main factors: (1) the reported prevalence of POP in Nepal, and (2) the cluster sampling design. The sample size was determined using the following formula:

n=deff * [z2pq/d2] (Lwanga and Lemeshow, WHO, 1991)
Where:
n= the desired sample size
Deff = design effect of cluster sampling (often set at 2)
z= the standard normal deviate, usually set at 1.96, which corresponds to the 95 percent confidence level.
p= the proportion in the target population estimated to have a particular characteristics.
q= 1.0-p.
d= degree of accuracy desired, often set between .01 and .05.

Assuming, as shown in Table 1.1, 7 percent women reported experiencing symptoms of POP, 5 percent accuracy and a design effect for cluster sampling of two, 232 women would be required. However, sticking to this sample size for the follow-up study might be a problem as indicated by somewhat similar study conducted by Schaff, J. M. et al (2007) in Nepal which could track only 45 percent of the first round clients for the follow-up study after about 12 months. For practical purposes, if at least 300 clients were to be tracked at the Endline it was necessary to target for larger number of women at the Baseline. Although other studies could follow-up only about half of the clients, in this study it was hoped that higher proportion of Baseline clients would be followed up for several reasons:

a) All study districts have UNFPA supported partner NGOs who could help the study team keep track of women for at least about a year following the surgery; and
b) The study team has prepared a track record of women who have been interviewed in the Baseline; their contact addresses have been recorded and the human resources of partner NGOs and the study team would be keeping track of these women for about a year.

2.3.4 Quality Control

In order to ensure high quality data in terms of validity and reliability, following measures were taken during the data collection period:

- The field researchers correctly identified the respondents and administered the questionnaire.
- Field interviewers checked whether the questionnaire was filled-in correctly and completely before completing each interview.
- At the end of each day, field interviewer checked each filled-in questionnaire to ensure consistency and completeness.
- Upon arrival of study team in Kathmandu, each of the filled-in questionnaires was reviewed for its consistency before computer entry.

2.3.5 Recruitment of Enumerators, Training and Pre-testing

Females experienced and trained in survey techniques and field enumeration procedures were recruited for field data collection. A 3-day intensive training was provided to the three enumerators before mobilizing them to the field. For Baseline data collection, training was conducted by the senior members of the study team including a gynaecologist. At the time of Endline data collection too, training was provided to two field female enumerators and one medical doctor.

All three enumerators trained to conduct Baseline interviews conducted pre- testing of the questionnaire at Binayak Hospital, Gongabu, Kathmandu. Based on the findings of the pre-test, questionnaires were further refined.

2.3.6 Fieldwork

During Baseline phase, three enumerators conducted interviews with the respondents of the study from 5 August, 2011 to 23 December, 2011. The enumerators were stationed at three pre-identified hospitals to interview women undergoing POP surgery. The number of cases depended on the number of women referred by NGOs conducting RH camp to specified hospitals for POP surgery.

Endline data collection procedure was different. The challenge was to track respondents who had undergone POP surgery at three hospitals but lived in 11 districts. The PHD Group and ADRA Nepal together developed a model to track clients. Some prior work for follow-up was already completed by the PHD Group during Baseline data collection. This included listing of clients by their home address, contact telephones or mobile numbers. At the time of Baseline data collection the clients were given an identity card with their name, address and photograph. One copy of the card was provided to the client and another copy was kept by the PHD Group. A computer database of clients was prepared and shared with ADRA Nepal. ADRA Nepal, on the other hand, developed a social mobilization plan to track clients for RH follow-up camp. The Endline data collection was carried out in 2012.

In order to follow-up with Baseline study respondents a Flow Chart (Figure 2.1) was developed. The list of study respondents and follow-up mechanism was shared with FHD. FHD was requested to write a letter to concerned DHO/DPHO about organization of RH camp for conducting the follow-up study.

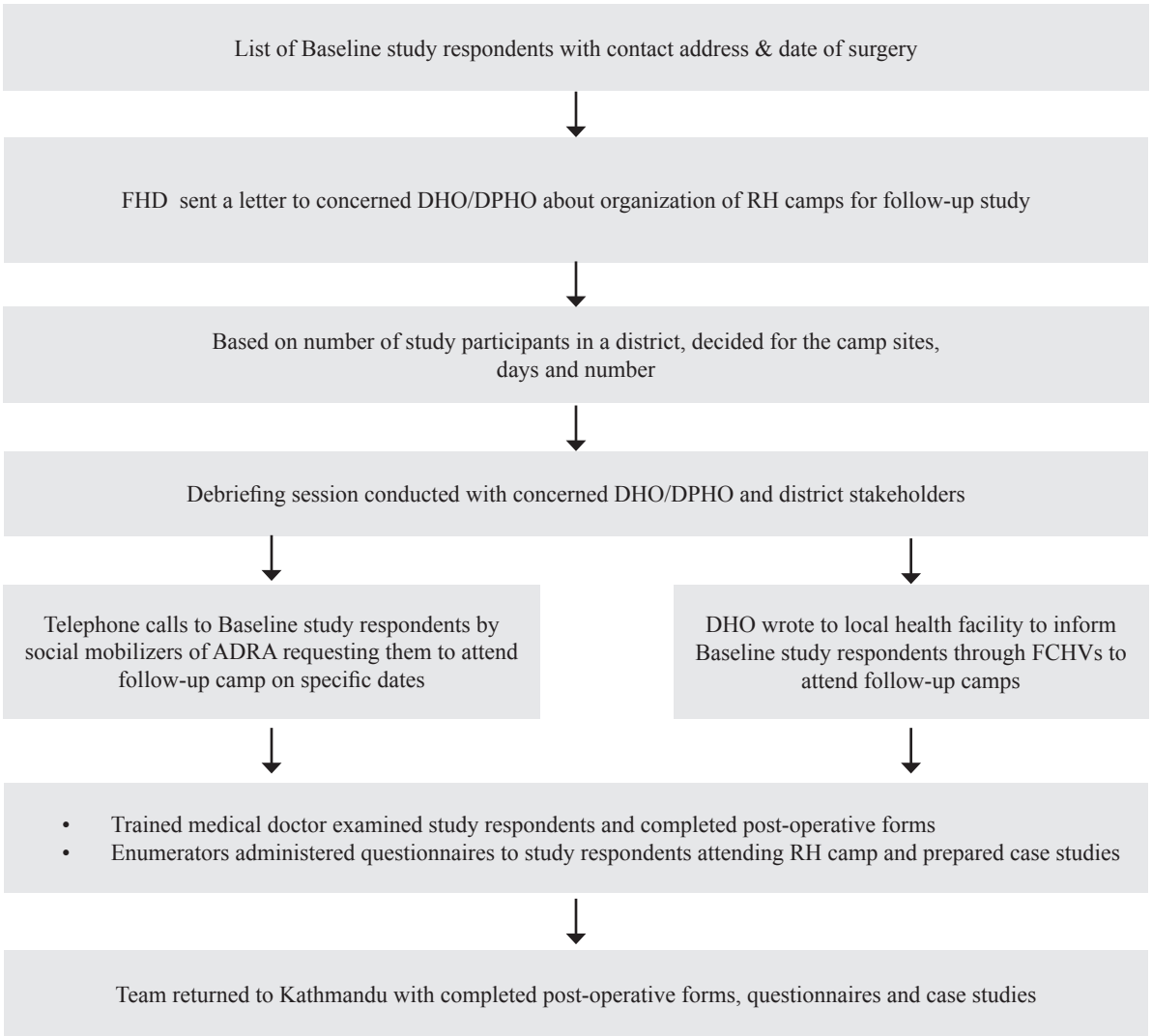


Figure 2.1 Flow chart of follow-up camp activities, Nepal, 2012

Table 2.1 POP follow-up camp site & district, Nepal, 2012

District	Name of Camp Site	Total
Darchula	Khalanga	1
	Rithachaupata	1
Baitadi	Hatt	1
	Shivalinga	1
Bardiya	Neulapur	1
Dang	Shreegaun	1
Kapilvastu	Hathausa	1
	Chanuta	1
Rautahat	Gangapipara	1
	Dumariya	1
Mahottari	Manara	1
	Ramgopalpur	1
Dhanusa	Dhanusadham	1
	Barmajhiya	1
Shiraha	Chandralalpur	1
	Asanpur	1
Saptari	Topa	1
	Nargho	1
	Kachan	1
Total		**19**

On the basis of number of study participants in a district, the number of camps, sites and days were decided. It was decided to organize follow-up camps in 19 sites (Table 2.1). In some districts, more than one camp site was planned to make it convenient and accessible for clients to attend follow-up camp.

ADRA Nepal and the PHD Group organized debriefing session with concerned DHO/DPHO and district level stakeholders about follow-up camps. DHO/DPHO wrote letter to local health facilities to inform study respondents through FCHVs to attend follow-up camps.

The follow up camp was conducted by a team consisting of Medical Officer (MO), Staff Nurse, Drug Dispenser, two enumerators and a support staff with the support of local health facility staffs and FCHV(s). The MO examined every study respondents that attended the RH camp and rang up the one who could not make it and enquired about their health status. The local health facility staffs and FCHVs also helped to contact and bring as many study respondents as possible to attend the follow-up camp. The MO besides examining the study respondents also completed post-operative assessment form while the two enumerators administered follow-up questionnaires to them. Some case studies of the study respondents were also prepared at the camps.

2.3.7 Data Processing, Entry and Analysis

The data collected through interviews were manually edited to check for consistencies in the recorded answers. Based on question items and open ended responses a codebook was developed. The edited completed questionnaires were then coded. In the meantime a computer data entry template was designed in FoxPro. The coded questionnaires were computer entered in FoxPro. After cleaning the data they were transferred onto the SPSS system file for detailed analysis. Frequency tables were run in SPSS to see if there were any inconsistencies in the data. Data cleaning was, therefore, also done in SPSS.

2.4 Ethical Considerations

In order to safeguard the confidentiality of the respondents, several steps were applied to carry out the consent process. The participants both at the Baseline and Endline phases were clearly informed about the nature and

purpose of the study and were explained the potential risks and benefits. The invitation to participate was accompanied by an assurance of confidentiality. Only those participants giving verbal informed consent voluntarily were enrolled. No written consent was collected as it may have a negative effect since the participants tend to be afraid of any implied commitment resulting from signing a form. None of the potential respondents refused to participate in the study.

The confidentiality of all participants enrolled into this study was protected to the fullest extent possible. Interview data forms included an identification number of respondents only. Only the core team members have access to the master code that linked the participant identification numbers to their names and were stored under lock and key. All the questionnaires are kept intact safely for two years; they will be burned after that. In addition, no names were entered into the computerized database. Participants were not identified by name or any other identifying information on any documentation and in the report resulting from this study.

2.5 Limitations of the Study

There are no major limitations in the study that affected the quality and outcomes of the study considerably. However, there were few minor limitations. One limitation of the study was that the questionnaire was not developed solely by the study team; the quality of life scaling questionnaire (continence scales) was supplied by UNFPA. Another limitation was that all women screened for POP surgery from the RH camp could not be interviewed as the study was conducted later than the NGOs conducting RH camps in different parts of the country. At the Endline phase, field work was interrupted for quite some time due to long strikes (bandha) in the Far-Western Development Region and in the Mid-Western Development Region.

At the Endline phase, a medical doctor attending the follow-up RH camps examined the clients. Ideally it would have been better to have a gynaecologist at the follow-up camp but due to unwillingness and unavailability of gynaecologist to go out in the field for a short time, an experienced medical doctor with experience in working in POP surgical camps was recruited and trained by consultant gynaecologist, team member of the study team.

2.6 Number of Respondents Interviewed at Baseline

A total of 357 respondents from 11 districts who had POP surgery in three hospitals were successfully interviewed at Baseline (Table 2.2). Of the total respondents, 331 (92.7 percent) were screened and referred by ADRA and 26 (7.3 percent) was screened and referred by HHESS for POP surgery.

Table 2.2 Distribution of respondents by hospital where surgery took place by district according to organization setting up RH camp, Nepal, 2011

Camp organizer	Respondent district	Hospital			Total
		BNH*	Nepalgunj**	Team***	
ADRA Nepal	Saptari	55	0	0	55
	Siraha	38	0	0	38
	Dhanusha	84	0	0	84
	Mahottari	46	0	0	46
	Rautahat	50	0	0	50
	Kapilvastu	0	6	0	6
	Baitadi	0	12	26	38
	Darchula	0	9	5	14
	Total	273	27	31	331
HHESS	Kapilvastu		12		12
	Dang		5		5
	Bardiya		8		8
	Kalikot		1		1
	Total		26		26
Total Number		**273**	**53**	**31**	**357**
Total Percentage		**76.5**	**14.8**	**8.7**	**100.0**

*BNH=Birat Nursing Home, Biratnagar; **Nepalgunj Medical College Teaching Hospital, Banke; ***Team Hospital, Dadeldhura

Among the districts, largest number of women came from Dhanusha (n=84), followed by Saptari (n=55), Rautahat (n=50), Mahottari (n=46), Siraha (n=38), Baitadi (n=38), Kapilvastu (n=14) and so on (Table 2.2).

Largest proportion (76.5 percent) of interviews with women who underwent POP surgeries took place at Birat Nursing Home, Biratnagar followed by Nepalgunj Medical College Teaching Hospital, Banke (14.8 percent) and Team Hospital (8.7 percent), Dadeldhura (Table 2.2).

For every woman one-page pre-operative assessment form was also completed at the Baseline.

Table 2.3 shows number of POP surgeries performed by a doctor (Dr.) on a daily basis. Table 2.3 shows that doctor (Dr.) # 1 performed the largest number of surgeries, i.e, 219 cases and that person did a minimum of one case a day to a maximum of 11 cases a day. In one day he/she performed 11 surgeries. Dr. #2 performed a minimum of one case a day to a maximum of 7 cases a day. Dr. #4 performed a minimum of one case a day to a maximum of 9 cases a day. Most doctors performed not more than 5 surgeries a day. Out of 15 gynaecologists 4 doctors performed 7 surgeries or more a day while the rest performed 5 surgeries or less a day. There was one case for which the name of gynaecologist was not mentioned in the form.

Table 2.3 Distribution of number of surgeries done per day by a gynaecologist, Nepal, 2011

		Number of surgery a day										
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**11**	**Total**
Dr. # 1	Number of days	5	7	4	11	12	7	2	1	1	1	
	Total	5	14	12	44	60	42	14	8	9	11	219
Dr. # 2	Number of days	6	5	3	2	0	0	1	0	0	0	
	Total	6	10	9	8	0	0	7	0	0	0	40
Dr. # 3	Number of days	4	2	1	1	1	0	1	0	0	0	
	Total	4	4	3	4	5	0	7	0	0	0	27
Dr. # 4	Number of days	6	1	0	0	0	0	0	0	1	0	
	Total	6	2	0	0	0	0	0	0	9	0	17
Dr. # 5	Number of days	4	2	2	0	0	0	0	0	0	0	
	Total	4	4	6	0	0	0	0	0	0	0	14
Dr.# 6	Number of days	3	0	0	1	0	0	0	0	0	0	
	Total	3	0	0	4	0	0	0	0	0	0	7
Dr. # 7	Number of days	7	0	0	0	0	0	0	0	0	0	
	Total	7	0	0	0	0	0	0	0	0	0	7
Dr. # 8	Number of days	1	0	0	0	1	0	0	0	0	0	
	Total	1	0	0	0	5	0	0	0	0	0	6
Dr. # 9	Number of days	4	1	0	0	0	0	0	0	0	0	
	Total	4	2	0	0	0	0	0	0	0	0	6
Dr. # 10	Number of days	2	1	0	0	0	0	0	0	0	0	
	Total	2	2	0	0	0	0	0	0	0	0	4
Dr. # 11	Number of days	2	1	0	0	0	0	0	0	0	0	
	Total	2	2	0	0	0	0	0	0	0	0	4
Dr. # 12	Number of days	0	1	0	0	0	0	0	0	0	0	
	Total	0	2	0	0	0	0	0	0	0	0	2
Dr. # 13	Number of days	1	0	0	0	0	0	0	0	0	0	
	Total	1	0	0	0	0	0	0	0	0	0	1
Dr. # 14	Number of days	1	0	0	0	0	0	0	0	0	0	
	Total	1	0	0	0	0	0	0	0	0	0	1
Dr. # 15	Number of days	1	0	0	0	0	0	0	0	0	0	
	Total	1	0	0	0	0	0	0	0	0	0	1
						GRAND TOTAL						**356**

1 CASE, NAME OF DOCTOR NOT KNOWN

2.7 Follow-up Response Rate

At the Baseline, one woman from Kalikot district, a high Mountain far-flung district in the Mid Western region of Nepal was also included. She underwent POP surgery at Nepalgunj Medical College Teaching Hospital. But for the follow-up study Kalikot district was dropped due to logistics challenges. Therefore a plan was drawn to follow-up 356 women from the other ten districts (see Map of Nepal showing follow-up camp districts). The response rate of POP clients in the follow-up camps was extremely high at 90.4 percent (Table 2.4). The response rate is more than double the rate reported in a similar study conducted by Schaff, J. M. et al (2007) in Nepal which was able to track only 45 percent of the first round clients for the follow-up study after about 12 months. A follow-up study of 121 purposively selected women who had undergone POP surgery in the last five years in Doti district was carried out by Ramesh Adhikari and Susheel C. Lekhak in 2011 to understand their perception, experience and health outcomes following POP surgery but, however, did not report the coverage (Ramesh Adhikari and Susheel C. Lekhak. 2011).

The response rate was lowest in Kapilvastu where 72.2 percent clients turned up in the follow-up camp for check-up. Overall, 18 clients (5.1 percent of total) could not be contacted at all and 16 clients (4.5 percent of total) could not make it to the follow-up camp sites but upon inquiry through local FCHVs, their friends and telephone enquiries they said they were fine after the POP surgery (Table 2.4).

Table 2.4 Distribution of respondents by follow-up status according to district, Nepal, 2012

Respondent district	Baseline Number	Follow-up status						Total
		Followed-up		Unable to contact		Absentees but feel fine		
		Number	percentage	Number	percentage	Number	percentage	
Saptari	55	51	92.7	3	5.5	1	1.8	100.0
Siraha	43	40	93.0	3	7.0	0	0.0	100.0
Dhanusha	79	75	94.9	3	3.8	1	1.3	100.0
Mahottari	46	40	87.0	5	10.9	1	2.2	100.0
Rautahat	50	48	96.0	1	2.0	1	2.0	100.0
Kapilvastu	18	13	72.2	1	5.6	4	22.2	100.0
Dang	5	5	100.0	0	0.0	0	0.0	100.0
Bardiya	8	7	87.5	0	0.0	1	12.5	100.0
Baitadi	38	32	84.2	1	2.6	5	13.2	100.0
Darchula	14	11	78.6	1	7.1	2	14.3	100.0
Total	**356**	**322**	**90.4**	**18**	**5.1**	**16**	**4.5**	**100.0**

In the follow-up camps, efforts were made to contact the absentees too. Overall, 18 women could not be contacted. Sixteen women did not come for follow-up due to various reasons namely strikes or bandh (n= 2), no time to visit but are fine(n=5), out of station (n=5), too far to travel(n=3), went to collect Yarshagumba (n=1). However their health condition was good which was found out by contacting over telephone, by contacting neighbour or by the respective FCHV. Even in the developed countries the follow-up rate was found to be low, as compared to the present study (Tegerstedt G, Hammarström M. 2004). The active role of FCHVs and local health workers was crucial for this high percentage of attendance in the follow-up camps.

3

CHARACTERISTICS OF RESPONDENTS

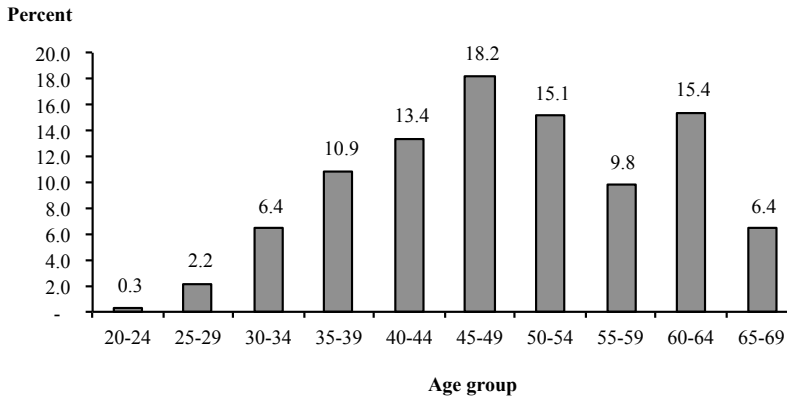
3.1 Socio-demographic Characteristics

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

3.1.1 Age composition

Figure 3.1 shows the age distribution of women respondents. The age curve is like the inverted "u" as shown by Figure 3.1. Nearly one in five (19.8 percent) women were under 40 years of age, another 32 percent were between 40 to less than 50 years of age and nearly half (48.4 percent) were 50 years of age and above.

Figure 3.1 Age distribution of respondent (n=357) who have undergone POP surgery, 11 districts, Nepal, 2011



The mean age of women respondents underwent POP surgery was estimated at 48.9 years with standard deviation (Std) 10.608 (Table 3.1). Women from the Hill experience POP problem earlier than women from either the High Mountain region or the Terai.

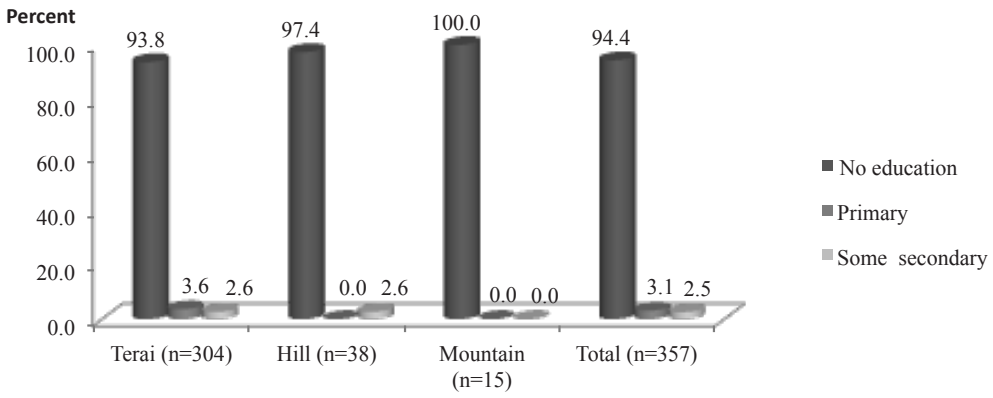
Table 3.1 Mean and median age of respondents underwent POP surgery by ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Std. Error of Mean	Minimum	Maximum
Terai	49.1	304	10.753	49	0.617	24	72
Hill	47.0	38	9.359	48	1.518	28	60
Mountain	48.9	15	10.833	48	2.797	30	66
Total	**48.9**	**357**	**10.608**	**49**	**0.561**	**24**	**72**

3.1.2 Education

Education is one of the most influential factors affecting an individual's knowledge, attitudes and behaviours. Overall, 94.4 percent of the women respondents had no education (Figure 3.2) which is very high compared to the national figure of 40 percent women aged 15-49 shown by NDHS 2011. Virtually every woman from the Hill and Mountain is illiterate whereas illiteracy was slightly low among the Terai women.

Figure 3.2 Distribution of respondents by Educational attainment, 2011, Nepal



3.1.3 Religion and caste/ethnicity

The vast majority (96.6 percent) of women who underwent POP surgery were Hindu. The other smaller groups were Buddhist, Muslim and Kirant (Table 3.2).

Table 3.2 shows the caste/ethnic composition of the women who underwent POP surgery. For deeper understanding of caste/ethnic diversification of the study population, fairly detailed information of caste/ethnic groups was collected but for analytical purposes they were combined into seven major categories as shown in Table 3.2. Of the eleven districts that the respondents belonged to, eight districts are from the Terai and therefore for obvious reasons the large number of respondents bears caste/ethnicity of the Terai population. Nearly half (47.9 percent) of the respondents belonged to Terai middle castes[4], followed by Chhetri (14.3 percent)[5], Terai Janjati (13.2 percent)[6], Dalit (10.6 percent)[7], Bahun (7.3 percent)[8], Hill Janjati (4.5 percent)[9] and Muslim (2.2 percent), in that order.

3.1.4 Occupation

Nearly half (46.8 percent) of all respondents reported themselves as housewives (Table 3.2). The second largest number of respondent (38.4 percent) reported farming as their main occupation and 13 percent women reported as daily wage earners. Very few women reported engaged in service or business.

In contrast, more than half (52.9 percent) of the respondents husbands' occupation was farming, followed by daily wage earner (13.7 percent, Table 3.2). Nearly one in five (18.8 percent) women reported being widow.

[4]Specific types of Terai middle castes enrolled in this study includes Yadav, Teli, Kurmi, Sonar, Kewat, Mallaha, Hajam/Thakur, Kumhar, Haluwai, Bardhai, Mali, Kayastha, Chaurashiya, Kahar and Patel/Jaiswal
[5]Chhetri include Chhetri, Thakuri and Rajput
[6]Terai Janjati include Tharu/Chaudhari, Dhanuk, Majhi and Terai Adibasi/Janajatis
[7]Dalit include Kami, Damai/Doli/Nepali, Sarki, Chamar/Harijan/Ram, Dushadh/Paswan/Pashi, Lohar, Tatma, Dhobi, and other Dalit/Parki
[8]Bahun include Bahun (Hill), Bahun (Terai) and Sanyasi
[9]Hill Janjati include Magar, Tamang/Lama, Newar, Rai, Gharti/Bhujel, Danuwar and Kumal

Table 3.2 Percentage distribution of respondents by selected background characteristics and ecological region, Nepal, 2011

	Ecological region			Total
	Terai	Hill	Mountain	
Religion				
Hindu	96.4	97.4	100.0	96.6
Buddhist	0.7	2.6	0.0	0.8
Muslim	2.6	0.0	0.0	2.2
Kirat	0.3	0.0	0.0	0.3
Caste/ethnic group				
Terai Middle Castes	56.3	0.0	0.0	47.9
Chhetri	3.3	71.1	93.3	14.3
Bahun	6.9	13.2	0.0	7.3
Terai Janjati	15.5	0.0	0.0	13.2
Hill Janjati	5.3	0.0	0.0	4.5
Dalit	10.2	15.8	6.7	10.6
Muslim	2.6	0.0	0.0	2.2
Occupation				
Farming	38.5	36.8	40.0	38.4
Service	0.7	0.0	0.0	0.6
Business	1.3	0.0	0.0	1.1
Daily wage earner	15.1	0.0	6.7	13.2
Housewife	44.4	63.2	53.3	46.8
Occupation of husband				
Farming	47.7	81.6	86.7	52.9
Service	0.3	0.0	0.0	0.3
Business	3.0	0.0	0.0	2.5
Daily wage earner	16.1	0.0	0.0	13.7
No husband; dead	19.4	15.8	13.3	18.8
Too old/ Unable to work	2.6	2.6	0.0	2.5
Social worker	0.3	0.0	0.0	0.3
Works abroad	4.6	0.0	0.0	3.9
Does not do any work	0.7	0.0	0.0	0.6
Retried	1.0	0.0	0.0	0.8
Carpenter	2.3	0.0	0.0	2.0
Disappeared	0.3	0.0	0.0	0.3
Fishery	0.3	0.0	0.0	0.3
Security guard	0.3	0.0	0.0	0.3
Teacher	0.7	0.0	0.0	0.6
Rickshaw puller	0.3	0.0	0.0	0.3
Total percentage	**100.0**	**100.0**	**100.0**	**100.0**
Total Number	**304**	**38**	**15**	**357**

3.1.5 Tobacco use

Women interviewed in this study were asked about their smoking habits. Table 3.3 shows the percentage of women who smoke cigarettes or tobacco by ecological region.

Table 3.3 Percentage distribution of respondents who smoke cigarettes or other tobacco products by ecological region, Nepal, 2011

Currently use any tobacco product	Ecological region			Total
	Terai	Hill	Mountain	
Yes	17.8	26.3	33.3	19.3
No	82.2	73.7	66.7	80.7
Total Percentage	**100.0**	**100.0**	**100.0**	**100.0**
Total Number	**304**	**38**	**15**	**357**

Smoking is more common among Hill (26.3 percent) and Mountain (33.3 percent) women than women (17.8 percent) from the Terai (Table 3.3). Overall, 19.3 percent women were found consuming tobacco products and this figure is very close to the national figure of 19.6 percent reported by NDHS 2006. However, the national figure is for women aged 15-49 while the present study covers women up to age 72.

3.1.6 Family type

Overall, nearly three in five (58.3 percent) respondents said that they live in a nuclear family comprising of a couple and their children only and this significantly varied by ecological region (Table 3.4). Nuclear family is found much more common in the Terai than in the Hill and Mountain.

Table 3.4 Percentage distribution of respondents by type of family and ecological region, Nepal, 2011

Type of family****	Ecological region			Total
	Terai	Hill	Mountain	
Nuclear family (a couple and their children)	65.1	18.4	20.0	58.3
Joint family (several couples and their children)	34.9	78.9	80.0	41.5
Large extended family (several couples, children, in-laws and others)	0.0	2.6	0.0	0.3
Total Percentage	**100.0**	**100.0**	**100.0**	**100.0**
Total Number	**304**	**38**	**15**	**357**

Significant at *p≤0.10; **p≤0.05; ***p≤0.01; ****p≤0.001. ns=not significant

3.2 Household Characteristics

Information regarding household possessions and housing characteristics of the responding women was also collected in the study. This section presents findings on these aspects.

3.2.1 Water and sanitation

The source of drinking water for nine in ten households in the study districts is improved source such as tube well or borehole, public tap/stand pipe, and pipe water into house/yard/plot (Table 3.5). The remaining 10 percent households use unsafe water like dug well or stone spout/dhara.

Overall, nearly four in five households (77.9 percent) have no toilet facility; they use bushes or open field for latrine (Table 3.5). Improved toilet facilities are used by only 16 percent of households.

Table 3.5 Percentage distribution of respondents according to household characteristics, Nepal, 2011

Characteristics	Ecological region			Total
	Terai	Hill	Mountain	
Source of drinking water				
Piped water into house/yard/plot	0.0	21.1	46.7	4.2
Public tap/standpipe	2.0	28.9	40.0	6.4
Tube well or borehole	91.8	0.0	0.0	78.2
Protected dug well	1.6	0.0	0.0	1.4
Improved source	95.4	50.0	86.7	90.2
Unprotected dug well	4.3	0.0	0.0	3.6
Stone Spout/Dhara	0.3	50.0	13.3	6.2
Non-improved source	4.6	50.0	13.3	9.8
Total %	100.0	100.0	100.0	100.0
Type of toilet/latrine facility				
Flush to piped sewer system	1.0	5.3	6.7	1.7
Flush to septic tank	5.6	0.0	13.3	5.3
Flush to pit latrine	4.3	0.0	6.7	3.9
Ventilated improved pit (VIP) latrine	1.0	0.0	0.0	0.8
Pit latrine with slab	1.3	21.1	20.0	4.2
Improved, not shared facility	13.2	26.3	46.7	16.0
Flush not to sewer septic tank/pit latrine	1.3	0.0	0.0	1.1
Pit latrine without slab/open pit	1.3	31.6	13.3	5.0
No facility/bush/field	84.2	42.1	40.0	77.9
Non-improved facility	86.8	73.7	53.3	84.0
Total %	100.0	100.0	100.0	100.0
Number	**304**	**38**	**15**	**357**

3.2.2 Housing condition

Information regarding the housing conditions of the respondents was also collected in the study. Table 3.6 shows two in three (66.4 percent) households in the study areas have access to electricity which is slightly better than the national average of 76 percent reported by the NDHS 2011.

Earth/sand was the main materials used on the floor in nine out of ten households and the remaining houses had cement and dung floor (Table 3.6).

Indoor pollution has important implications for the health of household members. The study collected information on the type of fuel used for cooking and the place where cooking is done. A little over half of the households cook in the house which means that they are subject to the risk of indoor pollution. Biogas or charcoal are hardly used for cooking; nearly all households use solid fuel for cooking, which includes charcoal, wood/straw/shrubs, agricultural crops and animal dung. Animal dung is most common in the Terai while in the Hill and Mountain it is all wood (Table 3.6).

Table 3.6 Percentage distribution of respondents according to housing characteristics, Nepal, 2011

Housing characteristics	Ecological region			Total
	Terai	Hill	Mountain	
Electricity				
Yes	73.0	34.2	13.3	66.4
No	27.0	65.8	86.7	33.6
Total %	100.0	100.0	100.0	100.0
Flooring material				
Earth/sand	88.5	100.0	100.0	90.2
Dung	3.3	0.0	0.0	2.8
Cement	8.2	0.0	0.0	7.0
Total %	100.0	100.0	100.0	100.0
Place for cooking				
In the house	48.0	92.1	86.7	54.3
In a separate building	11.2	5.3	6.7	10.4
Outdoors	40.8	2.6	6.7	35.3
Total %	100.0	100.0	100.0	100.0
Cooking fuel				
Biogas	0.3	0.0	0.0	0.3
Charcoal	0.3	0.0	0.0	0.3
Wood	25.7	100.0	100.0	36.7
Straw/shrubs/grass	8.2	0.0	0.0	7.0
Animal dung	65.5	0.0	0.0	55.7
Total %	100.0	100.0	100.0	100.0
Number	**304**	**38**	**15**	**357**

3.2.3 Household possessions

Nearly four in five (80 percent) respondents reported owning a mobile telephone, about 36 percent own radio and 28 percent own Television (Table 3.7). The NDHS 2011 showed 75 percent household possess mobile telephones. The extensive use of mobile telephone has the potential for reaching a vast majority of women with programme messages be it POP or any development message.

Table 3.7 Percentage distribution of respondents according to household effects, means of transportation, agricultural land and livestock/farm animals, Nepal, 2011

Possession	Ecological region			Total
	Terai	Hill	Mountain	
Household effects				
Mobile telephone	78.3	89.5	86.7	79.8
Dhiki/janto	59.5	100.0	86.7	65.0
Watch	55.3	94.7	86.7	60.8
Radio	30.9	60.5	73.3	35.9
Television	32.2	2.6	0.0	27.7
Land line telephone	1.6	2.6	6.7	2.0
Refrigerator	1.6	0.0	0.0	1.4
Computer	1.6	0.0	0.0	1.4
Means of transportation				
Bicycle/Rickshaw	63.5	0.0	0.0	54.1
Animal-drawn cart	3.9	0.0	0.0	3.4
Motorcycle or motor scooter	6.3	0.0	0.0	5.3
Car or truck	1.3	0.0	6.7	1.4
Ownership of agricultural land	73.0	89.5	100.0	75.9
Ownership of farm animals/ poultry	81.9	89.5	93.3	83.2

A little over half (54.1 percent) of households own bicycle/rickshaw and ownership of other means of transportation is minimal (Table 3.7). Overall three in four households own agricultural land and this is higher in the Hill and Mountain than in the Terai. Ownership of farm animals is high, over four in five households own farm animals such as cows, buffaloes, and poultry like chicken.

3.2.4 Economic status index

The economic status (ES) index of the households of the respondents was constructed using monthly household income reported by the respondents. The mean and median monthly incomes of households estimated are NRs. 6,024 and NRs. 6,000 respectively (Table 3.8). The women from the Terai are far too richer than their counterparts from the Hill and Mountain.

Table 3.8 Mean and median monthly household income of respondents by ecological region, Nepal, 2011

	Approximate monthly income (NRs.) of household					
Ecological region	**Mean**	**Number**	**Std. Deviation**	**Median**	**Minimum**	**Maximum**
Terai	6,814	304	3388.48	6,000	400	20,000
Hill	1,605	38	1816.73	800	300	7,000
Mountain	1,213	15	1357.45	700	500	5,000
Total	**6,024**	**357**	**3712.19**	**6,000**	**300**	**20,000**

Over four in five women from the Hill and Mountain reported NRs. 3,000 or less monthly income whereas 12 percent reported so in the Terai (Table 3.9). Women from the Mountain region are even poorer than their counterparts from the Hill.

Table 3.9 Percentage distribution of respondents by their economic status index, Nepal, 2011

Quintiles based on HH monthly income	**Ecological region**			**Total**
	Terai	**Hill**	**Mountain**	
Up to NRs.3,000	12.2	86.8	86.7	23.2
NRs.3,001 to NRs.5,000	23.7	5.3	13.3	21.3
NRs.5,000 to NRs.6,900	17.8	5.3	0.0	15.7
NRs.6,901 to NRs.8,000	24.7	2.6	0.0	21.3
NRs.8,001+	21.7	0.0	0.0	18.5
Total Percentage	**100.0**	**100.0**	**100.0**	**100.0**
Total Number	**304**	**38**	**15**	**357**

4

POSSIBLE FACTORS CONTRIBUTING TO PELVIC ORGAN PROLAPSE

4.1 POP and Child Bearing

4.1.1 Age at first marriage

Age at first marriage has a major effect on childbearing because women who marry early, on average, has a longer period of exposure to the risk of becoming pregnant and a greater number of lifetime births. Information on age at marriage was obtained by asking respondents the age, at which they started living with their first husband.

Table 4.1 shows the mean and median age at first marriage of women who underwent POP surgery, according to ecological region. Marriage occurs relatively early in Nepal: the median age at first marriage among women aged 20-49 was 17.5 years in NDHS 2011 (MOHP, New ERA and ICF International Inc. 2012), in this study however, the corresponding figure is only 13.6 among women aged 24-72 who underwent POP surgery (Table 4.1). The women from the Terai get married earlier (median age at first marriage 13 years) than their counterparts from either the Hill or Mountain (median age at first marriage 15 years). In the Terai some women got married as early as at age 5.

Table 4.1 Mean and median age at first marriage by ecological region, Nepal, 2011

Ecological region	Mean***	Number	Std. Deviation	Median	Std. Error of Mean	Minimum	Maximum
Terai	13.3	291	3.314	13	0.194	5	25
Hill	15.1	38	2.845	15	0.462	10	25
Mountain	15.0	15	3.000	15	0.775	10	20
Total	**13.6**	**344[1]**	**3.303**	**14**	**0.178**	**5**	**25**

Significant at ***p≤0.001.
[1]13 women did not remember their age at marriage

4.1.2 Age at first pregnancy

Pregnancy at an early stage has a major effect on the health of both mother and child, and also contributes to higher fertility of women. The median age at first pregnancy was estimated at 18 years for women who had POP surgery that means they had, on average, 4 years duration between age at first marriage and age at first pregnancy. No inquiry was done with respect to the duration between age at first marriage and age at first pregnancy. In the Mountain and the Terai regions the median age at first pregnancy was 18 while in the Mid Hill it was 19. The median age at first pregnancy for these women was below 20 which is risky and perhaps contributed to POP.

Table 4.2 Mean and median age at first pregnancy by ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Std. Error of Mean	Minimum	Maximum
Terai	18.5	293	2.963	18	0.173	14	30
Hill	19.6	38	4.278	19	0.694	14	32
Mountain	17.8	14	3.786	18	1.012	12	24
Total	**18.6**	**345[1]**	**3.179**	**18**	**0.171**	**12**	**32**

Significant at *p≤0.10
[1]8 women did not remember their age at first pregnancy and 4 women never got pregnant

Women with prolapse have high fertility and high mortality of children compared to the national average. The mean number of children ever born was estimated at 4.36 and the mean number of children dead was estimated at 0.71 (Table 4.3). The corresponding figures for Nepal as shown by NDHS 2011 were 2.68 and 0.26 (MOHP, New ERA and ICF International Inc. 2012).

Higher fertility (mean number of CEB 4.45) was found for women from the Terai than in the Hill (4.0) and Mountain (3.53, Table 4.3). Similarly mean number of children dead was highest (0.80) in the Terai than in the Hill (0.18) and Mountain (0.20).

Table 4.3 Mean number of live births to respondents by ecological region, Nepal, 2011

Ecological region		Children dead (CD)	Children ever born (CEB)
Terai	Mean	0.80	4.45
	Number	304	304
	Std. Deviation	1.078	1.924
	Std. Error of Mean	0.062	0.11
	Minimum	0	0
	Maximum	6	10
Hill	Mean	0.18	4.00
	Number	38	38
	Std. Deviation	0.393	1.594
	Std. Error of Mean	0.064	0.259
	Minimum	0	1
	Maximum	1	7
Mountain	Mean	0.20	3.53
	Number	15	15
	Std. Deviation	0.414	1.922
	Std. Error of Mean	0.107	0.496
	Minimum	0	0
	Maximum	1	8
Total	Mean	0.71	4.36
	Number	357	357
	Std. Deviation	1.029	1.9
	Std. Error of Mean	0.054	0.101
	Minimum	0	0
	Maximum	6	10

After having 3.21 mean numbers of births, women experienced symptoms of POP (Table 4.4). Comparatively women from Mountain region experienced symptoms of POP earlier, after only having 2.47 live births than their counterparts from the Hill (average of 2.79 live births) and the Terai region (3.3 live births). Some women from the high Mountain and the Terai experienced symptoms of POP even without giving birth (Table 4.4).

After having 3 children, women experienced symptoms of POP (Table 4.4). The corresponding median number of children in the Mountain region was lower by one child.

Table 4.4 Mean and median number of live births to respondents when first experienced symptoms of POP by ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	3.30	304	1.997	3.00	0	10
Hill	2.79	38	1.359	3.00	1	6
Mountain	2.47	15	1.302	2.00	0	5
Total	**3.21**	**357**	**1.924**	**3.00**	**0**	**10**

When women first experienced symptoms of POP they were, on average, 26.8 years old and the minimum age was 15 and the maximum age was 48 (Table 4.5). In Mountain region women experienced symptoms of POP as early as 24 years, while the corresponding ages for women from Mid Hill and Terai regions were 26.7 years and 26.9 years.

Table 4.5 Mean and median age of respondents when first experienced symptoms of POP by ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	26.9	299	6.835	26	15	48
Hill	26.7	38	6.775	25	15	44
Mountain	23.6	14	5.653	24	15	33
Total	**26.8**	**351***	**6.800**	**26**	**15**	**48**

*6 cases excluded (5 women with no live delivery & 1 case "DK")

4.2 Delivery Practices

Women who had undergone POP surgery had, on average, 5.7 hours of labour and this varied from 0.5 hour to 72 hours (Table 4.6). Women in the Terai had longer labour (5.8 hours) than women from the Hill (4.7 hours) and Mountain (4.6 hours).

Table 4.6 Mean and median length of labour in hours experienced by respondents that led to POP by ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	5.8	280	8.860	4	0.5	72
Hill	4.7	34	1.590	4	3.0	8
Mountain	4.6	9	1.130	5	3.0	6
Total	**5.7**	**323**	**8.275**	**4**	**0.5**	**72**

The overwhelming majority (96.9 percent) of women who had undergone POP surgery delivered at home (Table 4.7) which is much higher than the proportion (68 percent) of rural births that took place at home in Nepal as shown by NDHS 2011 (MOHP, New ERA and ICF International Inc. 2012). All women from the Mountain region delivered at home; 98 percent women from the Terai did so and the corresponding figure for the Hill region is 90 percent.

Table 4.7 Place of delivery after which respondents first experienced symptoms of POP by ecological region, Nepal, 2011

Ecological region	Place of delivery		Total	
	Home	Health facility	Percent	Number
Terai	97.7	2.3	100.0	300
Hill	89.5	10.5	100.0	38
Mountain	100.0	0.0	100.0	14
Total	**96.9**	**3.1**	**100.0**	**352**

Overall, less than 4 percent of deliveries were attended by health personnel and it was much less in Hill and Mountain regions (Table 5.8). HA/AHW attended 12 deliveries in Terai, Nurses attended 5 deliveries in the Terai and 4 deliveries in the Hill, doctors attended 3 deliveries in the Terai and none in the Hill and Mountain, ANM attended 2 deliveries in the Terai and MCHW attended 1 delivery in the Terai. Majority (73 percent) of the deliveries were attended by relatives and neighbours followed by Sudeni/TBAs (44.3 percent, Table 4.8). Sudeni/TBAs attended half of the deliveries in the Terai but virtually none in the Hill and Mountain. Ten women from Terai, one woman from Hill and 11 women from Mountain had nobody present when they delivered their babies.

Table 4.8 Person attending delivery after which respondents first experienced symptoms of POP by ecological region, Nepal, 2011

Person attending delivery (Multiple responses)	Ecological region						Total	
	Terai		Hill		Mountain			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Relative/friend	208	69.3	38	100.0	11	78.6	257	73.0
Sudeni	155	51.7	1	2.6	0	0.0	156	44.3
Neighbour	51	17.0	35	92.1	14	100.0	100	28.4
Mother-in-law	40	13.3	1	2.6	0	0.0	41	11.6
Mother	17	5.7	1	2.6	0	0.0	18	5.1
Husband	14	4.7	1	2.6	0	0.0	15	4.3
HA/AHW	12	4.0	0	0.0	0	0.0	12	3.4
Nobody present	10	3.3	1	2.6	0	0.0	11	3.1
Nurse	5	1.7	4	10.5	0	0.0	9	2.6
FCHV	6	2.0	0	0.0	3	21.4	9	2.6
Sister-in-law	7	2.3	1	2.6	0	0.0	8	2.3
Father	4	1.3	1	2.6	0	0.0	5	1.4
Grand mother-in-law	4	1.3	1	2.6	0	0.0	5	1.4
Daughter	3	1.0	1	2.6	0	0.0	4	1.1
Doctor	3	1.0	0	0.0	0	0.0	3	0.9
ANM	2	0.7	0	0.0	0	0.0	2	0.6
MCHW	1	0.3	0	0.0	0	0.0	1	0.3
Total Respondents	**300**		**38**		**14**		**352**	

When inquired about whether any action was taken to push the baby out of the uterus in order to hasten the delivery process, 61 percent women from the Terai said they did something (Table not shown) whereas, none of the woman respondents from the Mountain and Hill regions had done anything. Among the Terai women nearly every woman (97.8 percent) reported that the abdomen was pressed and a little over half (56.5 percent) of them were asked to push the baby by breathing hard (Table 4.9).

Table 4.9 Types of actions taken to hasten the delivery process, Terai Women (n=184), Nepal, 2011

Actions	Percentage
The abdomen pressed	97.8
Asked to push the baby by breathing hard	56.5
Waist & lower abdomen massaged with hot oil in front of fire	4.9
Hair put in the mouth of woman for expulsion of placenta and forcibly pulled the baby out	3.8
Pushed by hitting with leg on the back	2.2
Injection given	2.2
Pulled the baby by putting hand in the uterus	0.5

Most women (95 percent) said that their baby was not weighed at birth following which they first experienced symptoms of POP (Table not shown). However the respondents were also asked for their opinions on the weight of the baby when it was born. Accordingly slightly more than one in ten babies was small and the largest proportion of small babies was reported in the Terai (Table 4.10). A few babies were reported to be very large in the Terai but no such babies were reported in either the Hill or Mountain.

Table 4.10 Perceived weight of baby at birth after which respondents first experienced symptoms of POP by ecological region, Nepal, 2011

Ecological region	Perceived weight of baby				Total	
	Very large	Large	Normal	Small	Percentage	Number
Terai	2.3	35.7	49.0	13.0	100.0	300
Hill	0.0	78.9	18.4	2.6	100.0	38
Mountain	0.0	71.4	28.6	0.0	100.0	14
Total	**2.0**	**41.8**	**44.9**	**11.4**	**100.0**	**352**

4.3 Workload after Delivery

It is generally recommended that after delivery the mother needs to take rest for a fairly long time to recover to normality. In this study respondent was asked how many days did she rested after the delivery of the baby following which she first experienced symptoms of POP and it was found that, on average, they took rest for 20.4 days (Table 4.11). Comparatively Terai women rested longer (21.3 days) than their counterparts in Hill (14.7 days) and Mountain regions (16.1 days).

Table 4.11 Mean and median length of rest taken in days following delivery after which respondents first experienced symptoms of POP according to ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median
Terai	21.3	300	40.953	12
Hill	14.7	38	2.801	15
Mountain	16.1	14	4.009	14
Total	**20.4**	**352**	**37.882**	**12**

Highest proportion (21.3 days, Table 4.11) of Terai women rested longer after delivery. However, a substantial proportion (34.7 percent, Table 4.12) of them took rest only for 6 days or less and a few (7 percent) took rest for 35 days to one year (Table 4.12). Nearly three in four (72.2 percent) women rested for 15 days or less after delivery.

Table 4.12 Percentage distribution of respondents by number of days taken rest following delivery after which first experienced symptoms of POP according to ecological region, Nepal, 2011

Ecological region	Length of rest					Total	
	5-6 days	7-12 days	13-15 days	16-30 days	35 days- 1 year	Percentage	Number
Terai	34.7	25.7	11.0	21.7	7.0	100.0	300
Hill	-	23.7	57.9	18.4	-	100.0	38
Mountain	-	7.1	57.1	35.7	-	100.0	14
Total	**29.5**	**24.7**	**17.9**	**21.9**	**6.0**	**100.0**	**352**

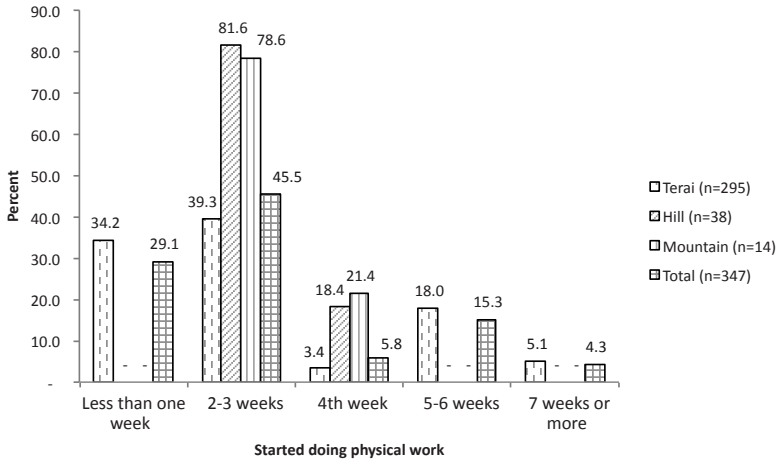
The respondents were asked whether they carried heavy load or lifted heavy items after delivery, may it be water pot (gagri), big bucket containing water (thulo pani ko balti) or cattle food container (kundo ko taulo) and in response the overwhelming proportion (98.6 percent) of them said that they did so (Table 4.13). Every woman from the Hill and Mountain reported carrying heavy loads while only a few (1.7 percent) Terai women did not carry heavy loads.

Table 4.13 Percentage distribution of respondents mentioning carrying heavy load/ lifting heavy items following delivery after which first experienced symptoms of POP according to ecological region, Nepal, 2011

Ecological region	Whether carried heavy load/ lifted heavy item		Total	
	Yes	No	Percentage	Number
Terai	98.6	1.4	100.0	300
Hill	100.0	-	100.0	38
Mountain	100.0	-	100.0	14
Total	**98.6**	**1.4**	**100.0**	**352**

The respondents mentioning doing heavy physical work after delivery were asked after how many weeks of delivery they resumed working. Slightly over one in three women from the Terai started doing physical work in less than one week of delivery while most women from the Hill and Mountain started doing physical work in 2 to 3 weeks after delivery (Figure 4.1).

Figure 4.1 Distribution of respondents by time starting doing physical work after delivery according to ecological region, Nepal , 2011



About one in five women from the Hill and Mountain were found doing heavy physical work from the fourth week of delivery but in the Terai the corresponding figure is only 3.4 percent (Figure 4.1). Over 20 percent of respondents in the Terai started doing physical work only after 5 weeks or more, while in the Hill and Mountain none did so. By 7th week nearly every woman started physical work.

A case study from Baitadi reveals that a woman suffering from POP experienced symptoms of prolapse when she was only 18 years old and that was after her second delivery. She did physical work after 20 days of delivery. In her own words:

> ***"When I was only 18 years old I gave birth to my second child. I experienced the symptoms of POP after that delivery. We are poor; we have to work all the time to make our living; after resting for some time; about 20 days after the delivery I started to work in my family farm. I have to feed my cattle and goats. Everyday I go to fetch water, carry large feed in a big container (taulo) to feed our cattle. In addition, I wash clothes and do all the cooking for my family." (30 years old woman from Baitadi)***

Another woman who underwent surgery for POP started to do physical work only after 16 days of delivery. In her own words:

> ***"I was 14 years old when I got married to my husband who was 18 years old. I had my first child when I was 18 years old. I started doing physical work from the 16th day of my third delivery when I was 27 years old. I first experienced symptoms of POP after the third delivery. I carried heavy loads (bhari bokeko), lifted water container from the well; washed clothes; grinded spices; grinded corns etc. pushing heavy grinding stone. I started doing all kitchen household chores such as cooking, dish washing, wiping the floor, etc." (30 years old woman from Saptari)***

On an average, in about 54 days of delivery women started physical work (worked in family farm) and this length of time was three times longer in the Terai than either the Hill or Mountain regions (Table 4.14).

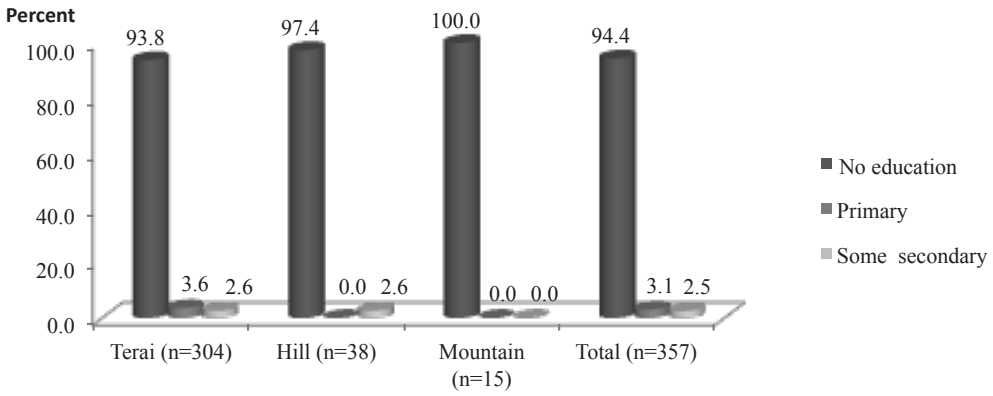
Table 4.14 Mean and median number of days of delivery after which respondents started to work in family farm By ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Terai	60.4	211	75.566	30	5.202
Hill	21.2	31	4.003	20	0.719
Mountain	21.0	13	4.619	20	1.281
Total	**53.6**	**255***	**70.319**	**30**	**4.404**

* 97 women did not work in family farm and 5 women did not have live birth

Women in villages generally work as wage labourer for livelihood. The study respondents were asked whether they worked as wage labourer after the delivery following which they first experienced symptoms of POP. Over all, slightly over one in three (37.2 percent) women reported working as wage labourer after the delivery. Wage labouring was reported much higher (41.7 percent) in the Terai than either the Hill (13.2 percent) or Mountain regions (7.1 percent, Figure 4.2).

Figure 4.2 Percentage distribution of respondents by whether they worked as wage labourer after delivery according to ecological region, Nepal, 2011



Types of wage labouring mentioned by women respondents included carrying heavy load (bhari bokne), digging farm, working as a porter, rice planting, harvesting, plucking seedlings, cutting wheat plants and pulling lentil plants . Carrying heavy load (bhari bokne) was reported by most (87.8 percent) respondents followed by digging farm (67.2 percent), working as a porter (45.8 percent), rice planting (29 percent), harvesting (29.8 percent), plucking seedlings (0.8 percent) in that order (Table 4.15).

Table 4.15 Percentage of respondents mentioning type of wage labouring following delivery after which first experienced symptoms of POP according to ecological region, Nepal, 2011

Type of wage labouring	Ecological region			Total
	Terai	Hill	Mountain	
Carried heavy load (bhari bokne)	87.2	100	100	87.8
Worked in farm digging	67.2	80	0	67.2
Worked as a porter	48.0	0	0	45.8
Rice planting	30.4	0	0	29.0
Harvesting	31.2	0	0	29.8
Plucking seedlings	0.8	0	0	0.8
Cutting wheat plants	3.2	0	0	3.1
Pulling lentil plants	3.2	0	0	3.1
Total Respondents	**125**	**5**	**1**	**131**

A Terai woman strated doing physical work not only at home but also in a farm as a wage labourer.

"After my fourth child I expereinced sysmptoms of POP. I was 27 years old then. Eventhough I had POP problem after the fourth birth I worked in the kitchen doing all kinds of chores after the 13th day of my delivery. After one month of delivery I worked as a wage labourer in other people's farm by digging earth and carrying earth in basket from one place to another. I have no family farm land and therefore I and my husband do wage labouring in other family's farm land." (36 years old woman from Rautahat)

Among the women who did wage labouring after the delivery, on average, they did it after 54 days and the median number of days was 30 or a month (Table 4.16). Wage labouring was mainly found in the Terai.

Table 4.16 Mean and median number of days of delivery after which respondents started to work as wage labourer according to ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Terai	55.8	125	59.713	31	5.341
Hill	22.8	5	3.899	20	1.744
Mountain	22.0	1	.	22	.
Total	**54.3**	**131**	**58.737**	**30**	**5.132**

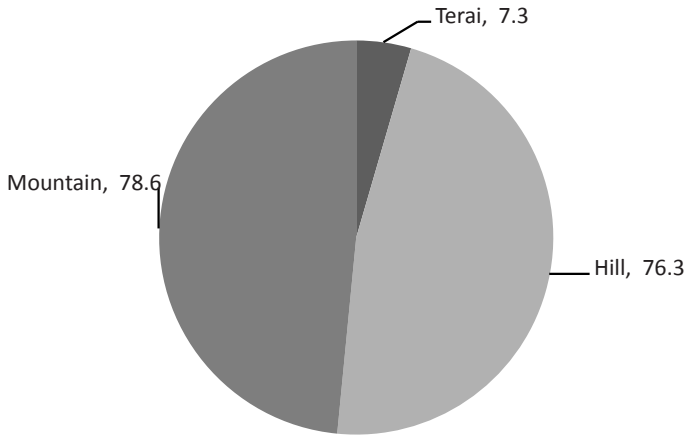
4.4 Use of Patuka (homemade abdominal binder made of cloth)

Use of Patuka is common among women in Nepal particularly in the Hill and Mountain. Some hold the belief that this material is a contributory factor to POP as it helps to push the uterus down. A few questions were asked on the use of Patuka in this study.

Overall, only about one in five (17.6 percent) women were found wearing Patuka regularly but by ecological regions significantly high proportions of women (76.3 percent) of Hill and (78.6 percent) Mountain reported wearing Patuka regularly than their counterparts in the Terai (7.3 percent, Figure 4.3). Even among the Terai women most of them were of Hill or Mountain origin[10].

Figure 4.3 Percent distribution of respondents wearing Patuka by ecological region, Nepal, 2011

Terai n=300, Hill n=38, Mountain n=14



Significanlty more (54.5 percent) women in the Terai started wearing Patuka after delivering a baby than before delivering a baby (45.5 percent, Table 4.17). In the Hill and Mountain regions wearing of Patuka has not to do much with giving birth as very high proportions of them wear it before delivering a baby anyway.

Table 4.17 Distribution of respondents mentioning timing of wearing Patuka by ecological region, Nepal, 2011

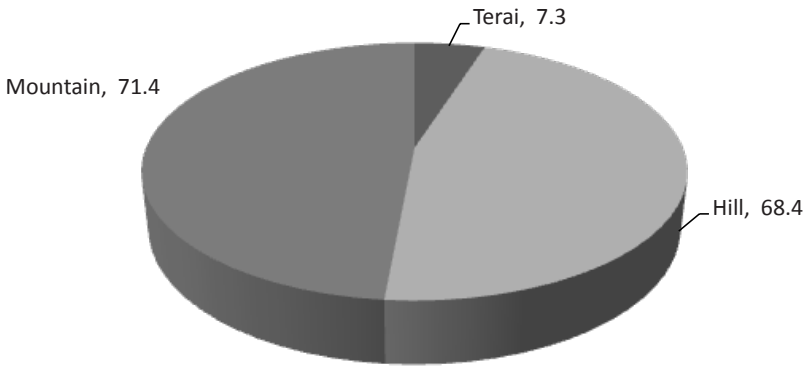
Ecological region	Timing of wearing Patuka		Total	
	Before delivering a baby	After delivering a baby	Percentage	Number
Terai	45.5	54.5	100.0	22
Hill	86.2	13.8	100.0	29
Mountain	90.9	9.1	100.0	11
Total	**72.6**	**27.4**	**100.0**	**62**

[10]Of total 22 Terai women wearing Patuka, 15 (68.2%) were of Hill or Mountain origin

Respondents were also asked whether they were wearing Patuka at the time when they first experienced symptoms of POP and it was reported that high proportions of Hill (68.4 percent) and (71.4 percent) Mountain women were doing so than the women from the Terai (7.3 percent, Figure 4.4).

Figure 4.4 Percentage distribution of respondents reporting whether wearing Patuka at the time when they first experienced symptoms of POP by ecological region, Nepal, 2011

Terai n=300, Hill n=38 , Mountain n=14



Participants were also inquired about the number of years' gap between the delivery after which they first experienced symptoms of POP and the previous delivery and it was reported that, on average, the gap was 3.5 years and it was slightly longer (3.8 years) in the Hill region and slightly shorter (3.2 years) in the Mountain region (Table 4.18). Seventy-three women experienced symptoms of POP after the first delivery and five women did so without giving any live birth.

Table 4.18 Mean and median number of years' gap between the delivery after which respondents first experienced Symptoms of POP and the previous delivery according to ecological region, Nepal, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	3.5	235	2.2968	3	1	16
Hill	3.8	32	1.9582	3	2	11
Mountain	3.2	12	0.8348	3	2	5
Total	**3.5**	**279**	**2.2164**	**3**	**1**	**16**

4.5 POP and Contraception

Very few women (2 percent) used contraceptives before the delivery, following which they first experienced symptoms of POP (Table 4.19). Overall only 2 percent women suffering from POP used contraceptives before experiencing POP problem. Contraceptive use among women suffering from POP problem does not vary between Hill and Terai women much but in the Mountain region none of the women used contraceptive. The national contraceptive prevalence rate for women of reproductive age is estimated at 50 percent in NDHS 2011 (MoHP, New ERA and ICF International. 2012).

Table 4.19 Practice of contraception before experiencing symptoms of POP by ecological region, Nepal, 2011

Ecological region	Yes		No		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
Terai	2.0	6	98.0	294	100.0	300
Hill	2.6	1	97.4	37	100.0	38
Mountain	0.0	0	100.0	14	100.0	14
Total	**2.0**	**7**	**98.0**	**345**	**100.0**	**352**

Among the women who used contraceptive methods before experiencing POP problem, Norplant and Depo provera were the only methods used.(Table 4.20).

Table 4.20 Type of contraceptive method used before the delivery following which experienced symptoms of POP by ecological region, Nepal, 2011

Ecological region	Norplant		Depo		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
Terai	33.3	2	66.7	4	100.0	6
Hill	0.0	0	100.0	1	100.0	1
Mountain	0.0	0	0.0	0	0.0	0
Total	**28.6**	**2**	**71.4**	**5**	**100.0**	**7**

4.6 POP and Nutrition

The women who underwent uterine surgery were asked whether they consumed sufficient nutritious food after they delivered their babies. In response over 85 percent said that they consumed enough nutritious food after delivery (Table 4.21). It is also seen that all women from the Hill and Mountain region took sufficient nutritious food after the delivery while it was 82 percent in the Terai.

Table 4.21 Percentage distribution of respondents taking nutritious food after delivery by ecological region, Nepal, 2011

Ecological region	Whether took enough nutritious food after delivery?		Total	
	Yes	No	Percentage	Number
Terai	82.0	18.0	100.0	300
Hill	100.0	0.0	100.0	38
Mountain	100.0	0.0	100.0	14
Total	**84.7**	**15.3**	**100.0**	**352**

Women who delivered a baby took nutritious food three times a day and this did not vary much by ecological region (Table 5.22).

Table 4.22 Mean and median number of times food taken after delivery following which experienced symptoms of POP according to ecological region, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	2.55	246	0.582	3	2	4
Hill	2.74	38	0.503	3	2	4
Mountain	2.79	14	0.579	3	2	4
Total	**2.58**	**298**	**0.576**	**3**	**2**	**4**

Women after delivery took nutritious food for about a month and this period was less by about ten days in the Hill and Mountain compared to the Terai region (Table 4.23).

Table 4.23 Mean and median number of days nutritious food taken after delivery following which experienced symptoms of POP according to ecological region, 2011

Ecological region	Mean	Number	Std. Deviation	Median	Minimum	Maximum
Terai	30.67	246	21.552	30	3	180
Hill	20.82	38	6.229	20	9	35
Mountain	20.93	14	5.37	21	12	30
Total	**28.96**	**298**	**20.08**	**30**	**3**	**180**

Nearly every woman consumed rice and lentils regardless of region of residence . Other commonly taken items were vegetables and meat. Less commonly consumed food items were milk, fish, ghee, fruits, bread, porridge, eggs, sakhar, Jwanoko Jhol, millet ((Table not shown)

4.7 Perceived Reasons Contributing to POP

All women (n=322) who had undergone POP surgery and participated in the follow-up study were asked for their opinions on factors contributing to POP. Everybody mentioned the following as the factors contributing to POP:

1. having too many births,
2. doing hard physical work even when sick or weak,
3. giving birth at an early age,
4. not taking enough rest after delivery,
5. doing hard physical work soon after delivery and
6. short birth spacing

A very high proportion of women (97 percent) said that not taking sufficient food after delivery causes POP (Table 4.24). Physical violence by husband or domestic violence also topped the list as 88 percent of the respondents mentioned this as a factor contributing to POP. This finding is very close to the NDHS 2011 finding that domestic violence is caused by mainly husband (84 percent, MOHP, New ERA and ICF International. 2012). The practice of pressing abdomen for fast delivery was mentioned by 76 percent of respondents and having to yield to husband's demands was reported by 72 percent of the women. Some respondents have the notion that wearing patuka causes POP as it pushes the vagina away from its normal place and this reason was mentioned by less than half (44 percent) of the respondents. Very few (1 percent) women mentioned conflict can contribute to POP in women (Table 4.24) and when asked of women whether conflict contributed to their own problem none of the women mentioned it.

Table 4.24 Distribution of respondents by district according to perceived reasons contributing to POP, Nepal, 2012

Reason	Saptari	Siraha	Dhanusha	Mahottari	Rautahat	Kapilvastu	Dang	Bardiya	Baitadi	Darchula	Total
Too many births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Doing physical work even when sick or weak	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Giving birth at an early age	100.0	100.0	100.0	100.0	100.0	92.3	100.0	100.0	100.0	100.0	99.7
Not taking enough rest after delivery	100.0	100.0	100.0	100.0	100.0	92.3	100.0	100.0	100.0	100.0	99.7
Doing physical work soon after delivery	100.0	100.0	100.0	100.0	100.0	92.3	100.0	85.7	100.0	100.0	99.4
Short birth spacing	100.0	100.0	100.0	100.0	100.0	84.6	100.0	85.7	100.0	100.0	99.1
Not taking sufficient food after delivery	96.1	97.5	94.7	100.0	100.0	84.6	100.0	85.7	100.0	100.0	96.9
Physical violence by husband	94.1	95.0	90.7	57.5	89.6	92.3	100.0	85.7	96.9	90.9	88.2
Practice of pressing abdomen for delivery	92.2	92.5	68.0	67.5	64.6	76.9	80.0	57.1	78.1	72.7	75.8
Yield to husband's demand	90.2	87.5	70.7	50.0	77.1	53.8	100.0	28.6	65.6	63.6	72.4
Patuka pushes the vagina from its normal place	56.9	60.0	26.7	27.5	41.7	53.8	80.0	42.9	53.1	45.5	43.5
Unpleasant incident with outsider(s) during conflict	2.0	0.0	0.0	0.0	2. 1	7.7	0.0	0.0	0.0	9.1	1.2
Total	**51**	**40**	**75**	**40**	**48**	**13**	**5**	**7**	**32**	**11**	**322**

5 HEALTH SEEKING BEHAVIOURS

5.1 POP and ANC

Antenatal Care (ANC) is more beneficial in preventing adverse pregnancy outcomes when it is sought early in pregnancy and is continued through delivery. ANC presents opportunities for reaching pregnant women with a number of interventions that are vital to their well-being and of their baby. Providing information on birth spacing is recognized as an important factor in improving infant survival. The WHO recommends that antenatal care for normal pregnancies should consist of four visits during pregnancy, and has outlined the key elements of the visits and their timing (WHO, 2003).

Table 5.1 shows that 85.4 percent of the women who underwent POP surgery had no ANC visits for the pregnancy following which they experienced symptoms of POP and this is 83 percent for women from the Terai, 97 percent for women from Hill and 100 percent for women from Mountain region. This means that overall among the women who underwent POP surgery only 15 percent went for ANC visits which is very low compared to the data reported by NDHS 2011 which showed 84 percent of rural women having ANC visits (MOHP, New ERA and ICF International Inc, 2012). Only 1 percent or 3 women from the Terai had 4 ANC visits, which is very low compared to the national figure of 50 percent reported in NDHS 2011.

Table 5.1 Percentage distribution of respondents by number of ANC visits following which experienced symptoms of POP according to ecological region, Nepal, 2011

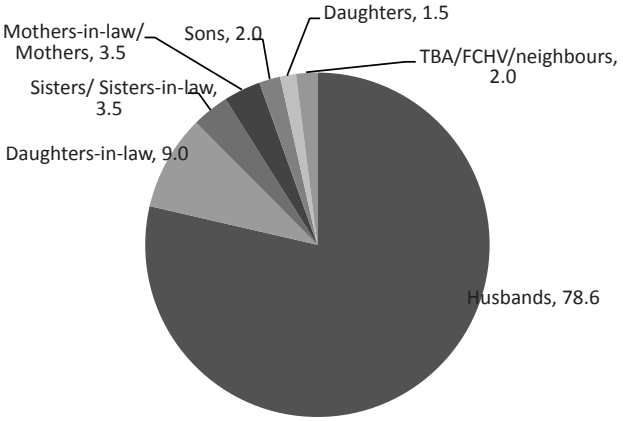
Number of ANC visits	Ecological region			Total
	Terai	Hill	Mountain	
1	0.7	0.0	0.0	0.6
2	4.3	0.0	0.0	3.6
3	10.9	2.6	0.0	9.5
4	1.0	0.0	0.0	0.8
None	83.2	97.4	100.0	85.4
Total Percentage	**100.0**	**100.0**	**100.0**	**100.0**
Total respondents	**304**	**38**	**15**	**357**

5.2 Health Seeking Behaviour and POP among Baseline Respondents

When women first experienced symptoms of POP, only Terai women (66.1 percent) mentioned discussing it with someone but none of the women from the Hill and Mountain did so (Table not shown).

Nearly four in five (78.6 percent) Terai women discussed their POP problem with their husbands, followed by daughters-in-law (9 percent) and sisters/ sisters-in-law (3.5 percent, Figure 5.1).

Figure 5.1 Percentage distribution of Terai respondents (n=201) reporting the person they shared their POP problem first, Nepal, 2011



Nearly 43.7 percent women (33.9 percent Terai women and all women from Hill and Mountain) did not share their POP problem with anybody. Most women (85.9 percent) reported that they had no knowledge that POP problem should be shared, that treatment should be sought and the second most important reason for not sharing the problem was embarrassment (40 percen, Table 5.2). About 21.8 percent women also said that people would ostracise them if they shared their POP problem with others.

Table 5.2 Percentage distribution of respondents reporting reasons for not discussing their POP problem with anybody, Nepal, 2011

Reasons for not discussing (Multiple responses)	Number	Percentage
Lack of knowledge	134	85.9
Embarrassing	63	40.4
People start hating	34	21.8
Fear of losing husband	4	2.6
Husband dead, did not want to tell other	2	1.3
Fear	1	0.6
Husband away from home	1	0.6
Poor	1	0.6

None of the respondent from the Hill and Mountain regions consulted anybody for treatment of POP problem but some women (20.1 percent or n=61) from the Terai did consult someone for the treatment of POP problem (Table not shown). Of those women who consulted someone for treatment, most consulted nurse (60.7 percent) followed by doctor (41 percent), HA (11.5 percent) and MCHW (4.9 percent, Table 5.3).

Table 5.3 Percentage distribution of respondents reporting person first met or consulted for treatment of POP problem, Nepal, 2011

Person first met or consulted (n=61), Multiple responses	Percentage
Doctor	41.0
Nurse	60.7
HA	11.5
MCHW	4.9
Traditional healer	1.6
TBA	3.3

Most (45.39 percent) women reported their husbands accompanied them to the place where they went for consultation or treatment of POP problem and about 10 percent respondents were accompanied by their sisters (Table 5.4). Other persons accompanying respondents to the place of service were daughter in law, neighbour, son, friend, daughter, TBA, husband's sister and daughters-in-law in that order. About 6.6 percent women reported that they went alone for the consultation on POP problem.

Table 5.4 Percentage distribution of respondents (n=61) by person accompanying for consultation/treatment of POP problem, Nepal, 2011

Person accompanying	Percentage
Husband	45.9
Sister	9.8
Daughter in law	8.2
Nobody	6.6
Neighbour	6.6
Son	6.6
Friend	4.9
Daughter	3.3
TBA	3.3
Treatment at home	3.3
Husband's sister	1.6
Total	**100.0**

The respondents who did not seek treatment for POP problem before joining the RH camp were asked the reason behind it. More than three in four respondents (76.7 percent) said that they were too poor to seek treatment and another important reason for not seeking treatment was the lack of knowledge about treatment of POP (70.3 percent, Table 5.5). Some one in five women said that it was embarrassing to go for treatment and it was much high among the Terai women. Nearly about one in five (18.2 percent) women thought that the problem was not that serious to seek treatment.

Other reasons for not seeking treatment for POP were facility too far (2.4 percent), husband did not give permission (2 percent), Lack of time to go for treatment (1.7 percent), thought that after surgery child birth would not be possible (Table 5.5).

Table 5.5 Percentage distribution of respondents by reason for not seeking treatment for POP before joining the RH camp, Nepal, 2011

Reason for not seeking treatment for POP before RH camp	Ecological region			Total
	Terai	Hill	Mountain	
Did not have money	76.1	81.6	73.3	76.7
No knowledge	63.8	100.0	100.0	70.3
It is embarrassing to examine POP	24.7	2.6	0.0	20.6
It was not serious	18.9	13.2	20.0	18.2
Health facility too far	1.2	5.3	13.3	2.4
Husband did not give permission	2.5	0.0	0.0	2.0
No time to go for treatment	1.2	2.6	6.7	1.7
Fear	0.8	0.0	0.0	0.7
Thought that it would cure by itself	0.4	0.0	0.0	0.3
No one helped to go along for	0.4	0.0	0.0	0.3
Thought that after surgery child birth not possible	0.4	0.0	0.0	0.3
Total respondents	**243**	**38**	**15**	**296**

The women underwent POP surgery were inquired about the problems related to POP. Hundred percent women from Hill and Mountain said they had difficulty in passing urine while in the Terai the corresponding figure was 91 percent (Table 5.6). Similarly over 90 percent respondents said that they have difficulty in walking. Overall one in three women reported experiencing smelly or blood stained discharge and this was much more in Terai (36.5 percent) than in Hill (7.9 percent) and Mountain (20 percent, Table 5.6).

Only about one in five women from the Terai did something to manage POP at home before coming to the RH camp while the women from the Hill and Mountain did not do anything. The Terai women reported inserting something inside the vagina to manage POP before coming to the RH camp (Table 5.6).

Table 5.6 Percentage distribution of respondents reporting various problems and managing POP at home, Nepal, 2011

Different issue	Terai	Hill	Mountain	Total
Percentage of respondents experiencing difficulty in passing urine	91.1	100.0	100.0	92.4
Percentage of respondents experiencing difficulty in walking	92.4	97.4	86.7	92.7
Percentage of respondents having smelly or blood stained discharge	36.5	7.9	20.0	32.8
Percentage of respondents managing POP before coming to the camp	22.0	0.0	0.0	18.8
Percentage of respondents putting something inside vagina to manage the POP	20.4	0.0	0.0	17.4
Total respondents	**304**	**38**	**15**	**357**

Of the 62 women who had inserted something inside the vagina to manage the POP problem before coming to the RH camp, most (60 women) reported inserting rag inside vagina and two had ring pessary. The women with rag inside the vagina reported changing the rag at some intervals, most of them changed rag once a day (Table 5.7).

Table 5.7 Frequency of changing rag, Terai women, Nepal, 2011

Number of times changed	Number	Percentage
3 times a day	2	3.3
Once a day	48	80.0
Once a month	1	1.7
Twice a day	9	15.0
Total	**60**	**100.0**

It was reported that before joining the RH camp only women from the Terai received service from health care providers, it was about one in five (n =59) women (Table 5.8).

Table 5.8 Percentage distribution of respondents receiving service from health care providers before joining the RH camp, Nepal, 2011

Ecological region	Yes	No	Total Percentage	Total respondents
Terai	19.4	80.6	100.0	304
Hill	0.0	100.0	100.0	38
Mountain	0.0	100.0	100.0	15
Total	**16.5**	**83.5**	**100.0**	**357**

Before joining the RH camp, 29 (49.2 percent) of 59 Terai women got ring pressary inserted into the uterus, 38 women (64.4 percent) were advised to go for POP surgery, 15 women (25.4 percent) got medicines and one woman had surgery (Table 5.9) but she had surgery again at Birat Nursing Home in Biratnagar.

Table 5.9 Percentage distribution of respondents by type of service received from health care providers before joining the RH camp, Nepal, 2011

Type of service received	Percentage of cases
Got ring pessary inserted	49.2
Got advice to go for surgery	64.4
Got medicines	25.4
Surgery	1.7

Before coming to the RH camp some women from the Terai had ring pessary inserted but it appears that pessary was badly managed. Only 5 out of 29 women changed it every three months and most of them had it dropped and they never went to see health worker for further help. Some women did not even have the knowledge when to change the pessary (Table 5.10).

Table 5.10 Percentage distribution of women by frequency of changing ring pessary before joining the RH camp, Nepal, 2011

Frequency of changing ring pessary	Number	Percentage
Every 3 months	5	17.2
Had ring pessary but it dropped out and did not put it again	18	62.1
Changed it in 6 months	5	17.2
Do not remember	1	3.4
Total Respondents	**29**	**100.0**

5.3 Self-Care after POP Surgery

Women undergoing POP surgery is counselled to take complete rest at home, prohibit weight lifting and other strenuous activities for atleast six weeks after surgery. Heavy lifting should be prohibited forever.

5.3.1 Rest after POP surgery

The follow-up study respondents were asked for the duration of rest taken after the POP surgery, on average, they reported taking rest for 89 days or about 3 months (Table 5.11). Another similar study reported patients taking rest for at least 30 days after discharge from the hospital before participating in normal daily activities (Schaff, J. M. et al. 2007).

In Saptari, a Terai district, women took rest only for 2 months and in Baitadi, a hill district, the corresponding figure was only 45 days. Women of Siraha and Kapilvastu apparently take longer rest (on average, 145 days and 218 days respectively) than their counterparts from other districts. In Dang, Bardiya and Darchula women took rest only for 2 months but in these districts the number of cases studied is too small to generalize (Table 5.11).

Table 5.11 Distribution of respondents by mean and median days of resting after POP surgery according to district, Nepal, 2012

District	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Saptari	65.2	51	35.496	60	4.970
Siraha	145.3	40	247.785	90	39.178
Dhanusha	85.7	75	110.644	90	12.776
Mahotari	92.0	40	32.261	90	5.101
Rautahat	78.7	48	34.972	90	5.048
Kapilvastu	217.6	13	349.348	90	96.892
Dang	57.8	5	23.435	60	10.480
Bardiya	58.4	7	32.577	60	12.313
Baitadi	45.5	32	28.667	45	5.068
Darchula	62.6	11	26.409	60	7.963
Total	**89.1**	**322**	**129.984**	**75**	**7.244**

5.3.2 Physical work after POP surgery

Over nine in ten (93 percent) women participating in the follow-up study carried heavy load after POP surgery. The corresponding proportions were much lower in Kapilvastu (46 percent) and Bardiya (57 percent) districts (Table 5.12) while in other 8 districts they were all above 92 percent.

Table 5.12 Distribution of respondents by whether they carried or lifted heavy load after POP surgery according to district, Nepal, 2012

District	Carried load		Did not carry load		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Saptari	48	94.1	3	5.9	51	100.0
Siraha	37	92.5	3	7.5	40	100.0
Dhanusha	73	97.3	2	2.7	75	100.0
Mahotari	37	92.5	3	7.5	40	100.0
Rautahat	47	97.9	1	2.1	48	100.0
Kapilvastu	6	46.2	7	53.8	13	100.0
Dang	5	100.0	0	0.0	5	100.0
Bardiya	4	57.1	3	42.9	7	100.0
Baitadi	31	96.9	1	3.1	32	100.0
Darchula	11	100.0	0	0.0	11	100.0
Total	**299**	**92.9**	**23**	**7.1**	**322**	**100.0**

Among those women who carried heavy load after POP surgery, they reported carrying heavy loads, on average, after about 3 months following surgery (86 days, Table 5.13). In Kapilvastu, Bardiya, Baitadi and Darchula women reported carrying heavy load earlier than average i.e. 67 days to 70 days.

Table 5.13 Distribution of respondents by mean and median number of days after which carried or lifted heavy load following POP surgery according to district, Nepal, 2012

District	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Saptari	78.8	48	36.540	90	5.274
Siraha	91.7	37	31.808	91	5.229
Dhanusha	92.2	73	32.672	91	3.824
Mahotari	97.5	37	27.292	91	4.487
Rautahat	89.7	47	36.315	91	5.297
Kapilvastu	69.7	6	55.655	54	22.721
Dang	89.8	5	22.698	91	10.151
Bardiya	70.0	4	26.153	76	13.077
Baitadi	66.8	31	30.951	61	5.559
Darchula	68.5	11	31.360	61	9.456
Total	**86.0**	**299**	**34.334**	**91**	**1.986**

Six out of ten (61 percent) women attending follow-up RH camp reported that they worked in family farm after POP surgery. Working in family farm was low in Siraha (50 percent), Kapilvastu (31 percent) and Bardiya (43 percent) compared to other districts (Table not shown).

Among the respondents who had their own farm started working, on average, after 108 days i.e. about 3 and half months after surgery. The minimum median days after which they started to work in family farm was 61 days in Bardiya to maximum median days of 166 in Kapilvastu (Table 5.14).

Table 5.14 Distribution of respondents by mean and median number of days after which started working in family farm following POP surgery according to district, Nepal, 2012

District	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Saptari	119.3	38	62.187	120	10.088
Siraha	129.2	20	55.298	121	12.365
Dhanusha	96.5	45	42.153	91	6.284
Mahotari	121.6	23	29.871	121	6.228
Rautahat	109.1	29	37.123	106	6.894
Kapilvastu	147.8	4	80.975	166	40.487
Dang	92.3	3	50.846	65	29.356
Bardiya	77.0	3	66.461	61	38.371
Baitadi	76.1	22	43.868	85	9.353
Darchula	102.9	9	64.652	92	21.551
Total	**107.7**	**196**	**50.727**	**98**	**3.623**

Twelve percent of the follow-up respondents reported working as a wage labourer after POP surgery. Wage labouring among women was highest (37 percent) in Sapatari, followed by Dhanusha (13 percent), Siraha (10 percent), Darchula (9 percent) and so on (Table 5.15).

Table 5.15 Distribution of respondents by whether they worked as wage labourer after POP surgery according to district, Nepal, 2012

District	Yes		No		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Saptari	19	37.3	32	62.7	51	100.0
Siraha	4	10.0	36	90.0	40	100.0
Dhanusha	10	13.3	65	86.7	75	100.0
Mahotari	2	5.0	38	95.0	40	100.0
Rautahat	1	2.1	47	97.9	48	100.0
Baitadi	1	3.1	31	96.9	32	100.0
Darchula	1	9.1	10	90.9	11	100.0
Total	**38**	**11.8**	**284**	**88.2**	**322**	**100.0**

NOTE: Women did not report doing any wage labouring in Kapilvastu, Dang and Bardiya

Among the respondents who did wage labouring after POP surgery, reported doing so, on average, after 128 days (about 4 months and 8 days) of surgery. The minimum median days after which they started to work as wage labourers was 15 days in Bardiya to maximum median days of 180 in Saptari (Table 5.16).

Table 5.16 Distribution of respondents by mean and median number of days after which started working as wage labourer following POP surgery according to district, Nepal, 2012

District	Mean	Number	Std. Deviation	Median	Std. Error of Mean
Saptari	152.0	19	67.465	180	15.477
Siraha	119.0	4	75.127	120	37.563
Dhanusha	101.0	10	59.597	106	18.846
Mahotari	127.5	2	45.962	128	32.500
Rautahat	150.0	1	.	150	.
Baitadi	15.0	1	.	15	.
Darchula	61.0	1	.	61	.
Total	**127.7**	**38**	**67.621**	**135**	**10.970**

Types of wage labouring performed after POP surgery included carrying heavy load (bhari bokne) on back, working in farm digging, rice planting, harvesting and grass cutting. Most women did rice planting and harvesting.

5.3.3 Nutrition after POP surgery

The women participating in follow-up RH camps after POP surgery mentioned that all of them consumed nutritious food (Table not shown) and 86 percent of the women consumed food three times a day (Table 5.17). About one in five women consumed food up to 5 times day.

Table 5.17 Distribution of respondents by number of times a day took nutritious food after POP surgery according to district, Nepal, 2012

District	Number of times a day took nutritious food						Total	
	2 times		3 times		4 times			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Saptari	2	3.9	49	96.1	0	0.0	51	100.0
Siraha	0	0.0	40	100.0	0	0.0	40	100.0
Dhanusha	3	4.0	69	92.0	3	4.0	75	100.0
Mahotari	2	5.0	38	95.0	0	0.0	40	100.0
Rautahat	7	14.6	35	72.9	6	12.5	48	100.0
Kapilvastu	3	23.1	7	53.8	3	23.1	13	100.0
Dang	0	0.0	3	60.0	2	40.0	5	100.0
Bardiya	0	0.0	6	85.7	1	14.3	7	100.0
Baitadi	10	31.3	22	68.8	0	0.0	32	100.0
Darchula	2	18.2	8	72.7	1	9.1	11	100.0
Total	**29**	**9.0**	**277**	**86.0**	**16**	**5.0**	**322**	**100.0**

5.4 Health Problems after POP Surgery

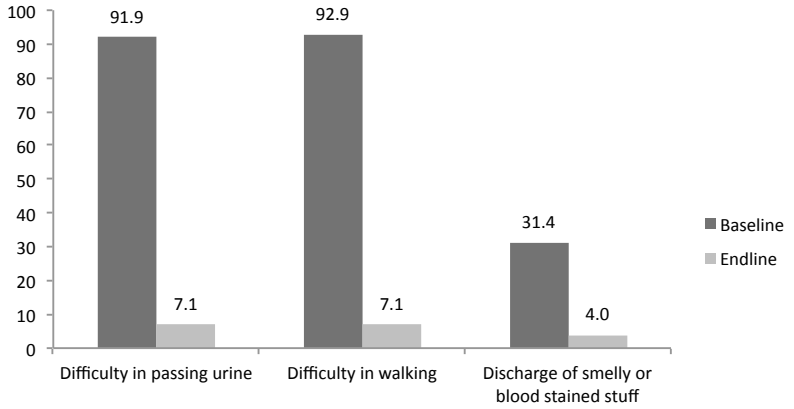
Interview with women who had attended the follow-up RH camps revealed that some 38 percent of women who had POP surgery experienced health problems. Relatively more women experienced health problems in Saptari, Kapilvastu, Dang, Bardiya and Baitadi (Table 5.18).

Table 5.18 Distribution of respondents by problem experienced after POP surgery according to district, Nepal, 2012

District	Percentage of cases		Total Number
	Health problem after the POP surgery	Other problems	
Saptari	49.0	41.2	51
Siraha	22.5	17.5	40
Dhanusha	30.7	29.3	75
Mahottari	37.5	35.0	40
Rautahat	33.3	33.3	48
Kapilvastu	53.8	53.8	13
Dang	40.0	40.0	5
Bardiya	57.1	57.1	7
Baitadi	53.1	50.0	32
Darchula	27.3	27.3	11
Total Percentage	**37.6**	**34.8**	**322**
Total respondents	**121**	**112**	

Twenty-three women or about 7 percent of women who were followed-up experienced difficulty in passing urine, an equal number of women experienced difficulty in walking and thirteen women or 4 percent reported discharge of smelly or blood stained stuff (Figure 5.2). Besides difficulty in urination, walking and discharge of smelly or blood stained stuff 35 percent or 112 follow-up women mentioned other health problems. Higher proportion (41 percent) of women from Saptari, Kapilvastu (54 percent), Dang (40 percent), Bardiya (57 percent) and Baitadi (50 percent) reported having other health problems (Table 5.18).

Figure 5.2 Percentage of respondents (n=322) reporting three problems before and after POP surgery



Comparison of three POP related problems of 322 women who were followed-up before and after surgery reveals that they have substantially improved after the surgery. Very high proportion (92 percent) of women experienced difficulty in passing urine before surgery but it reduced substantially (7 percent) after surgery (Figure 5.2). Similar situation was found with respect to difficulty in walking and discharge of smelly or blood stained stuff, both was also reduced but not that substantially. About one in three (31 percent) women had the problem of discharge of smelly or blood stained stuff at Baseline which has come down to 4 percent after the POP surgery.

Of the 112 women reporting other health problems, most (n=70) mentioned suffering from backache followed by painful surgical wound (n=25) and lower abdomen pain (n=20). Seventeen women reported that they still has POP problem along with lower abdominal pain. (Table 5.19).

Table 5.19 Distribution of respondents by district according to type of other health problems experienced after POP surgery, Nepal, 2012

Other health problems	Saptari	Siraha	Dhanusha	Mahottari	Rautahat	Kapilvastu	Dang	Bardiya	Baitadi	Darchula	Total
Backache	15	3	15	6	11	4	2	0	13	1	70
Lower abdomen pain	2	2	5	5	0	1	1	1	2	1	20
Still has POP and lower abdominal pain	2	1	5	4	1	2	0	0	2	0	17
Painful Surgical wound	10	2	4	2	2	2	1	0	0	2	25
Difficult to do physical work	0	1	1	1	1	3	0	2	1	2	12
Difficult to sit down	0	0	0	1	0	2	0	4	2	1	10
Weakness	2	0	0	1	1	2	0	0	1	0	7
Pain in uterus	1	0	2	2	2	0	0	0	0	0	7
Hand & leg ache	2	0	1	0	2	0	0	0	1	0	6
Itching around vagina	0	0	3	0	0	0	0	0	2	0	5
Difficult Sexual intercourse	0	0	0	0	1	1	0	0	2	0	4
Chest pain	0	0	0	0	1	1	0	0	1	0	3
Wound got worse	0	1	0	0	0	1	0	0	0	0	2
Painful Surgical wound	0	0	0	0	1	0	0	0	1	0	2
itching	0	0	0	0	0	0	0	0	1	0	1
Bleeding	0	0	0	0	0	1	0	0	0	0	1
Headache	0	0	0	1	0	0	0	0	0	0	1
Total	**21**	**7**	**22**	**14**	**16**	**7**	**2**	**4**	**16**	**3**	**112**

5.5 Health seeking behaviour in the Follow-up respondents

In response to the question whether the women sought health care for the problem experienced after POP surgery about 40 percent said that they sought health care and the proportions seeking care was low in Saptari (24 percent), Siraha (29 percent), Dhanusha (32 percent), Rautahat (31 percent) and Baitadi (31 percent, Table 5.20).

On average, women sought health care about one month (29 days) after having the health problem. Women from Saptari (mean days 33), Mahottari (mean days 45), Bardiya (mean days 46) and Darchula (mean days 38) sought care later than a month (Table 5.20).

Table 5.20 Distribution of follow-up respondents with health problems seeking care, mean and median days after which sought care for the problem experienced according to district, Nepal, 2012

District	Sought care (n=45) Percentage	Days after which sought care Mean	Std. Deviation	Days after which sought care Median	Std. Error of Mean	Total number with health problems
Saptari	23.8	33.0	26.363	30	11.790	21
Siraha	28.6	22.5	10.607	23	7.500	7
Dhanusha	31.8	27.3	29.809	20	11.267	22
Mahottari	64.3	44.8	31.312	30	10.437	14
Rautahat	31.3	13.2	10.232	10	4.576	16
Kapilvastu	57.1	14.8	12.685	14	6.343	7
Dang	50.0	3.0	NA	3	NA	2
Bardiya	100.0	46.3	36.827	45	18.414	4
Baitadi	31.3	10.4	3.782	12	1.691	16
Darchula	100.0	38.3	49.075	10	28.333	3
Total Percentage	**40.2**	**28.5**	**27.898**	**15**	**4.159**	**112**

NA=Not applicable as number of cases was only one

Of the 45 women who sought care for their health problem, 11 each went to HP and health camp, 9 went to hospital, and 7 each went to private clinic and SHP (Table 5.21).

Table 5.21 Distribution of respondents by type of health facility visited for care and treatment according to district, Nepal, 2012

District	Hospital	Private Clinic	HP	SHP	Camp	Total
Saptari	1	1	1	0	2	5
Siraha	0	0	2	0	0	2
Dhanusha	0	2	0	1	4	7
Mahottari	0	2	1	1	5	9
Rautahat	3	1	0	1	0	5
Kapilvastu	2	0	1	1	0	4
Dang	0	1	0	0	0	1
Bardiya	2	0	1	1	0	4
Baitadi	0	0	3	2	0	5
Darchula	1	0	2	0	0	3
Total	**9**	**7**	**11**	**7**	**11**	**45**

Table 5.22 Distribution of respondents by district according to reason for not seeking care, Nepal, 2012

District	Saptari	Siraha	Dhanusha	Mahottari	Rautahat	Kapilvastu	Dang	Baitadi	Total
It was not serious	9	3	10	4	10	3	1	5	45
Hospital too far	0	0	2	0	0	0	0	4	6
Could not afford travel and other costs	3	0	3	1	0	0	0	0	7
Did not find it necessary	0	1	0	0	1	1	0	3	6
Embarrassing to see the doctor	1	0	1	0	1	0	0	0	3
Waited for follow-up camp	1	0	0	1	0	1	0	0	3
Lack of knowledge	0	0	1	0	0	0	0	1	2
Lack of time to go for treatment	0	0	0	0	0	0	0	1	1
Husband did not allow	1	0	0	0	0	0	0	0	1
No improvement after surgery, didn't go	0	0	0	0	0	1	0	0	1
Service not good	1	0	0	0	0	0	0	0	1
Don't know where to go for check up	2	1	1	0	0	0	0	0	4
Total	**16**	**5**	**15**	**5**	**11**	**3**	**1**	**11**	**67**

Of the women who did not seek treatment even after experiencing some health problem most of them (n=67 or 45 percent) said that it was not serious and therefore they did not seek care. Seven women said that they could not afford the travel and other costs, six women each said that hospital was too far and did not find it necessary to seek treatment (Table 5.22).

Other reasons given were “do not know where to go for check up”, “embarrassing to go back to the doctor’, “waited for follow-up camp”, “lack of knowledge about what to do”, “no time to go for treatment’, “husband did not give permission”, “no improvement after surgery, didn’t go”, “service not good” and “no money” (Table 5.22).

6

PELVIC ORGAN PROLAPSE AND QUALITY OF LIFE

6.1 Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7)

In this study information has been collected from women underwent POP surgery using short forms of two condition-specific quality-of-life (QoL) questionnaires known as the Pelvic Floor Distress Inventory (PFDI) and Pelvic Floor Impact Questionnaire (PFIQ) for women with pelvic floor disorders.

At the Baseline stage, PFDI and PFIQ QoL questionnaires (Ubersax et al 1995, Barber MD, et al 2005) were administered to women before surgery at hospital sites where they underwent POP surgery. In all, 357 women with symptomatic stage III and IV prolapse who underwent POP surgery answered these questionnaires. The same set of PFDI and PFIQ QoL questionnaires were administered to 322 of 357 women who participated in the follow-up study 9 to 11 months post-operatively.

The PFDI and PFIQ together can be used by clinicians and researchers to measure the extent to which lower urinary tract, lower gastrointestinal tract and pelvic organ prolapse symptoms affect the quality of life of women who suffer from disorders of the pelvic floor. Each measure has three domains: urinary, colo-rectal anal and prolapse. The PFDI and PFIQ have each been shown to be psychometrically valid, reliable and responsive to change (Barber MD, Kuchibhatla MN, et al 2001; Barber MD, Walters MD, 2006 et al; and Wren PA, Janz NK, et al 2005).

The PFDI-20 has 20 items and 3 domains. All items use the following response scale from 0-4:

Example
Do you usually experience pressure in the lower abdomen?
No: Yes:

If yes, how much does this bother you?

1	2	3	4
Not at all	Somewhat	Moderately	Quite a bit

(Note: while answering questions, the respondent was asked to consider symptoms over the **last 3 months**).

The PFIQ-7 has 7 questions and each question has 4 separate responses (one for each of 3 domains). All of the items use the following response scale:
0 = Not at all; 2 = Somewhat 3 = Moderately 4 = Quite a bit

Example

How do symptoms or conditions related to the following usually affect your	Bladder or urine	Bowel or rectum	Vagina or Pelvis
q. Ability to do physical activities such as walking, or carrying loads (bhari bokne) ?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit

(Note: while answering questions, the respondent was asked to consider symptoms or conditions over the **last 3 months**).

Responsiveness of total Pelvic Floor Distress Inventory - short form 20 (PFDI-20) is composed of three domains:

- Pelvic Organ Prolapse Distress Inventory (POPDI-6)
- Colorectal-Anal Distress Inventory (CRADI-8)
- Urinary Distress Inventory (UDI -6)

The PFDI items assess symptom distress in women with pelvic floor disorders and have three scales or domains: the POPDI: range 0-300, the CRADI; range 0-300 and the UDI; range 0-300.

Similarly, the Pelvic Floor Impact Questionnaire (PFIQ) measuring the impact of bladder, bowel, and vaginal symptoms on a woman's daily activities, relationships and emotions is composed of 3 scales or domains:

Urinary Impact Questionnaire (UIQ-7; range 0-300)
Colorectal-Anal Impact Questionnaire (CRAIQ-7; range 0-300) and
Pelvic Organ Prolapse Impact Questionnaire (POPIQ-7; range 0-300).

The results of the Pelvic Floor Distress Inventory (PFDI) and its domains (POPDI-6, CRADI-8 and UDI-6) and, Pelvic Floor Impact Questionnaire (PFIQ) and its domains (UIQ-7, CRAIQ-7 and POPIQ-7) before and after POP surgery are presented below for total and domain scores for each instrument. Responsiveness of total and domain scores for each instrument was measured in the entire cohort and separately for POP stages III and IV using 2 methods:

a. Mean and standard deviation (Std.) were calculated for all total and domain scores. A paired t-test was used to test for significance of the score change from Baseline to 11-months (Sikirica V. et al, no date).
b. Distribution-based metrics: Effect size (ES; mean score change divided by the Std. of Baseline score) and standardized response mean (SRM; mean score change divided by Std. of that change). ES and SRM >0.8 were considered large, 0.5-0.8 medium and 0.2-0.5 small (Cohen, J. 1988).

These data have been computer processed and Baseline severity measures have been established. In the follow-up camps these questionnaires were, as mentioned above, again administered to the same women and their responses have been processed to produce severity measures at the Endline. The Baseline and Endline measures have been compared to see the quality of life of women following POP surgery.

6.2 Pelvic Floor Distress Inventory (PFDI-20)

Significant improvements (P<.001) were seen in all PFDI-20 and domain scores for stages II and III, IV and the entire group at 11 months (Table 6.1). The effect size (ES) and standardized response mean (SRM) for the PFDI-20 total score and the Pelvic Organ Prolapse Distress Inventory (POPDI-6) and the Urinary Distress Inventory (UDI-6) domain scores all demonstrated large responsiveness (>0.8). The Colorectal-Anal Distress Inventory (CRADI-8) scores also showed large responsiveness (>0.8), but the scores of CRADI-8 were slightly lower (1.06 to 1.08) than the scores shown by other two domains (1.88 to 2.45, Table 6.1).

The PFDI-20 scores were lower (2.18 to 2.23) for women with stage II and III POP than for women with stage IV (3.52 to 3.88) POP. When compared to stage II and III women, stage IV women had a higher responsiveness on the POPDI (3.41 to 4.01) than stage II and III women (2.35 to 2.43). Similarly CRADI scores were also higher for stage IV women. On the other hand responsiveness was higher (3.52 to 3.88) for UDI for stage II and III women than for stage IV women (2.74 to 2.89, Table 6.1).

Table 6.1 Effect Size and Standardized Response Mean of the PFDI-20 at 11 months										
Group	Instrument	Pre-operative		Post-operative		Mean Change			Effect	
		Mean	Std.	Mean	Std.	Value	Std.		Size	SRM
Overall (n=322)	PFDI-20	148.7	58.508	16.3	21.041	-132.4	59.887	*	2.26	2.21
	POPDI-6	62.7	23.258	5.7	9.139	-57.1	23.937	*	2.45	2.38
	CRADI-8	26.4	21.264	3.5	7.287	-22.9	21.646	*	1.08	1.06
	UDI-6	59.6	26.173	7.1	10.464	-52.5	27.880	*	2.00	1.88
Stage II and III (n=309)	PFDI-20	147.6	58.840	16.2	21.066	-131.4	60.400	*	2.23	2.18
	POPDI-6	62.2	23.272	5.7	9.160	-56.6	24.071	*	2.43	2.35
	CRADI-8	26.0	21.404	3.4	7.188	-22.6	21.874	*	1.06	1.03
	UDI-6	59.4	26.401	7.1	10.536	-52.2	28.129	*	1.98	1.86
Stage IV (n=13)	PFDI-20	174.0	44.527	17.2	21.259	-156.8	40.376	*	3.52	3.88
	POPDI-6	74.7	20.232	5.7	8.974	-69.0	17.190	*	3.41	4.01
	CRADI-8	34.6	16.110	4.8	9.599	-29.8	14.069	*	1.85	2.12
	UDI-6	64.7	20.099	6.7	8.927	-58.0	21.209	*	2.89	2.74

*P-value<.001 based on t-test

6.3 Pelvic Floor Impact Questionnaire (PFIQ-7)

Significant improvements (P<.001) were also seen in all PFIQ-7 total and domain scores for stages II and III, IV and the entire group at 11 months (Table 6.2). The ES and SRM for the PFIQ-7 total score and the POPIQ-7 and UIQ-7 domain scores all demonstrated large responsiveness (>0.8). Although the CRAIQ-7 domain scores demonstrated large responsiveness (>0.8) it was relatively less responsive, showing response scores at 0.90-0.94. PFIQ-7 total and domain scores were less responsive (Table 6.1) than respective PFDI-20 scores (Table 6.2).

When compared to stage IV women, stage II and III women had a lower responsiveness on the total scores. For instance, the PFIQ - 7 total score for stage II and III women was 2.12 while the corresponding score for stage IV women were 1.72. All three domains such as POPIQ - 7, CRAIQ - 7 and UIQ - 7 had a lower responsiveness among stage IV women than stage II and III women (Table 6.2).

Women after POP surgery showed statistically significant symptom and quality of life (QoL) improvement scores in overall and in all 3 subscales via the PFDI-20 and PFIQ-7, respectively. Comparatively, symptom responsiveness on the PFDI-20 was greater than QoL responsiveness PFIQ-7, QoL index overall, implying greater patient improvement in POP symptoms than QoL. In both questionnaires, the colorectal-anal subscale was the least responsive of the 3 respective subscales, but maintained moderate-level responsiveness.

Table 6.2 Effect Size and Standardized Response Mean of the Mean of the PFIQ-7 at 11 months										
Group	Instrument	Pre-operative		Post-operative		Mean Change			Effect	
		Mean	Std.	Mean	Std.	Value	Std.		Size	SRM
Overall (n=322)	PFIQ-7	136.4	47.819	25.5	26.261	-110.8	52.898	*	2.32	2.10
	POPIQ-7	48.0	17.458	9.3	9.451	-38.7	19.604	*	2.22	1.97
	CRAIQ-7	30.4	23.760	8.1	8.468	-22.3	24.760	*	0.94	0.90
	UIQ-7	58.0	16.553	8.1	9.152	-49.9	18.134	*	3.01	2.75
Stage II and III (n=309)	PFIQ-7	137.2	48.143	25.3	26.082	-112.0	52.839	*	2.33	2.12
	POPIQ-7	48.2	17.609	9.2	9.395	-39.0	19.630	*	2.21	1.98
	CRAIQ-7	30.8	23.912	8.0	8.460	-22.7	24.902	*	0.95	0.91
	UIQ-7	58.3	16.756	8.0	9.006	-50.3	18.118	*	3.00	2.78
Stage IV (n=13)	PFIQ-7	116.1	34.860	31.9	30.700	-84.2	48.926	*	2.42	1.72
	POPIQ-7	43.2	12.963	11.4	10.918	-31.9	18.380	*	2.46	1.73
	CRAIQ-7	21.6	18.403	9.9	8.794	-11.7	18.910	*	0.64	0.62
	UIQ-7	51.3	8.508	10.6	12.319	-40.7	16.566	*	4.78	2.45

*P-value<.001 based on t-test

6.4 Consequences of POP

The follow-up study respondents were asked about their life experience following realization that they had POP problem. Overall 5 percent respondents said that their mother-in-law and family members started hating them and 4 percent said neighbours tried to avoid them (Table 6.3).

Table 6.3 Percentage distribution of respondents by type of consequences experienced after having POP according to district, Nepal, 2012

District	Mother-in-law & family members started hating	Neighbours tried to avoid	Preferred loneliness	Felt like giving up life for good	Took POP as woman's way of life	Lost hope in life	Total Number
Saptari	9.8	0.0	100.0	74.5	2.0	74.5	51
Siraha	10.0	2.5	97.5	75.0	0.0	75.0	40
Dhanusha	2.7	1.3	97.3	74.7	1.3	80.0	75
Mahottari	2.5	10.0	97.5	80.0	7.5	90.0	40
Rautahat	0.0	6.3	97.9	87.5	0.0	95.8	48
Kapilvastu	23.1	7.7	46.2	46.2	30.8	46.2	13
Dang	20.0	0.0	100.0	60.0	20.0	80.0	5
Bardiya	0.0	0.0	71.4	57.1	57.1	57.1	7
Baitadi	0.0	3.1	93.8	71.9	0.0	78.1	32
Darchula	0.0	9.1	100.0	90.9	27.3	81.8	11
Total	**5.0**	**3.7**	**95.0**	**75.8**	**5.3**	**80.1**	**322**

Very high proportion of respondents said that they preferred loneliness (95 percent) followed by lost hope in life (80 percent) and felt like giving up life for good (76 percent). A few women (5 percent) took POP as woman's way of life (Table 5.17). More women from Kapilvastu (31 percent), Dang (20 percent), Bardiya (57 percent) and Darchula (27 percent) took POP as woman's way of life whereas this did not surface much in other districts (Table 6.3) and conversely these women did not lose much hope in life compared to women from other districts.

Husband's behaviour has also been examined. Overall 4 percent women said that their husband began avoiding them after knowing that they had POP and 1 percent husbands married another woman (Table 6.4).

Table 6.4 Percentage distribution of respondents reporting about husband's behaviour after having POP by district, Nepal, 2012

District	Husband started avoiding		Husband married another woman		Total Number
	Number	Percentage	Number	Percentage	
Saptari	3	5.9	0	0.0	51
Siraha	2	5.0	1	2.5	40
Dhanusha	2	2.7	0	0.0	75
Mahottari	1	2.5	0	0.0	40
Rautahat	3	6.3	1	2.1	48
Kapilvastu [a]	1	9.1	0	0.0	11
Dang	2	40.0	1	20.0	5
Bardiya	0	0.0	0	0.0	7
Baitadi	0	0.0	0	0.0	32
Darchula	0	0.0	0	0.0	11
Total	**14**	**4.4**	**3**	**0.9**	**320**

[a] Two widowed from Kapilvastu

Overall about one in four (23 percent) women suffering from POP said that they had sex unwillingly (Table 6.5). Higher proportions of women from Saptari (31 percent), Siraha (33 percent) and Darchula (36 percent) mentioned experiencing forced sex.

Table 6.5 Distribution of respondents reporting whether they had sex unwillingly/ by force after having POP according to district, Nepal, 2012

District	Had sex unwillingly/ by force			Total	
	Yes	No	Do not know	Percentage	Number
Saptari	31.4	66.7	2.0	100.0	51
Siraha	32.5	67.5	0.0	100.0	40
Dhanusha	24.0	73.3	2.7	100.0	75
Mahottari	17.5	80.0	2.5	100.0	40
Rautahat	20.8	79.2	0.0	100.0	48
Kapilvastu	23.1	76.9	0.0	100.0	13
Dang	20.0	80.0	0.0	100.0	5
Bardiya	0.0	100.0	0.0	100.0	7
Baitadi	9.4	90.6	0.0	100.0	32
Darchula	36.4	54.5	9.1	100.0	11
Total Percentage	**23.3**	**75.2**	**1.6**	**100.0**	
Total Number	**75**	**242**	**5**		**322**

6.5 Perceived Level of Quality of Life after POP Surgery

The field researchers at the end of the interview asked a simple question,"How are you feeling now after the surgery?" The majority of respondents (52 percent) said they "feel just okay" while another large proportion (42 percent) said they "feel great, no problem" (Table 6.6). Overall, very few women (6 percent) taking part in the follow-up camp after surgery said that they were not feeling good.

Table 6.6 Distribution of respondents reporting level of quality of life after POP surgery according to district, Nepal, 2012

District	Do not feel good at all		Do not feel that good		Feel just okay		Feel great, no problem		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Saptari	0	0.0	3	5.9	32	62.7	16	31.4	51	100.0
Siraha	0	0.0	3	7.5	13	32.5	24	60.0	40	100.0
Dhanusha	0	0.0	1	1.3	41	54.7	33	44.0	75	100.0
Mahottari	0	0.0	4	10.0	18	45.0	18	45.0	40	100.0
Rautahat	0	0.0	3	6.3	26	54.2	19	39.6	48	100.0
Kapilvastu	1	7.7	2	15.4	8	61.5	2	15.4	13	100.0
Dang	0	0.0	0	0.0	3	60.0	2	40.0	5	100.0
Bardiya	0	0.0	1	14.3	3	42.9	3	42.9	7	100.0
Baitadi	0	0.0	2	6.3	19	59.4	11	34.4	32	100.0
Darchula	0	0.0	0	0.0	3	27.3	8	72.7	11	100.0
Total	**1**	**0.3**	**19**	**5.9**	**166**	**51.6**	**136**	**42.2**	**322**	**100.0**

6.6 Case Studies

A large number of study respondents from different districts had their hopes raised following their visit to RH camps from where they were screened for surgery and had surgery at the hospital.

It can be seen from data presented above that the surgery has changed the lives of women who were suffering from POP and had given up hopes for better. Two case studies are presented here as illustrations.
Case studies were done on 28 women at both Baseline and Endline. As far as possible the women whose cases have been documented at the Baseline have been followed at the Endline too.

Case study 1: Rita Yadav (name changed), woman from Saptari (A case study of woman who is happy with POP surgery)

Rita Yadav from Saptari was only 14 when she got married. Her husband was 18 years old. After marriage she stayed at her parents' place for 3 years to continue her schooling. She moved to her husband's place after 3 years and at the age of 17 she got pregnant and gave birth to her first child at the age of 18. She is now 35 years old and her husband is 39. By the age of 35 she gave birth to 2 sons and 2 daughters. Her fourth pregnancy ended in spontaneous abortion; that pregnancy was only six months old. She was then 27 years old. The last birth she had was at the age of 29.

She has never practiced any modern contraceptive method. She fears of side effects of the methods. She thinks if condom is used it would stay inside. Depo-provera, she says causes a lot of bleeding and death. As her children are all young and if she dies by using contraceptive methods nobody would look after her children. Therefore she does not practice any modern methods. She says she has enough children and to prevent further pregnancy she is very careful; she tries to abstain from sex and in case she has sex she takes recourse to natural method such as calendar method.

She experienced symptoms of prolapse when she was 27 years old. After she gave birth to her third child she had diarrhoea after 15 days. While passing stool during diarrhoea a small portion of her uterus was seen coming out of its normal place. She started doing all household chores from the 16th day of her third delivery including carrying heavy loads and working in field.

Because she thought it was only a small portion of her uterus that came out and got inside by itself, so she did not tell anybody about it. She thought it would heal by itself. She became pregnant the fourth time. After 6 months of that pregnancy lot of water came out of her uterus, and she also had bleeding and later she had miscarriage. After experiencing prolapse for about one year and a half she mentioned the problem to her husband. Until then she did not tell anything to anybody. Although her husband's reaction was positive she did not go for treatment as she did not know where to go for treatment. She thought the problem was not that serious. Besides, she said it was embarrassing to seek treatment for prolapse.

After 4 years of bearing the problem she first went to her village RH camp for treatment. She went to the camp because other women of her village went there. After physical examination she came to know that she needed surgery. One year earlier she had heard about the camp but she did not go because her child was too young. She did not do anything about her POP problem before coming to the camp; she was put up with it quietly. She said; even while doing minor physical works, her urine leaks and when she sits down her uterus comes out and that it is painful while urinating or defecating.

She said in her village nobody talks about POP. Nobody knows who has the problem. It is embarrassing to talk about POP; the society hates a woman with the problem. Nobody knows what problems do women of the village have. In her village many women seem to have POP but they never talk about it. Three women came to the camp and all of them were referred for surgery. She thinks many other village women have the problem. In her opinion, women have POP because they carry heavy load, do hard physical work such as pounding rice (dhiki kutne), grinding grains in big stone plates (jaanto pidhne), women with cough and asthma, weakness, starting to do physical work early from 7th day of delivery and so on.

She said all women who had POP surgery at the time she had are all happy; everybody smiles now. Had there been no RH camp, women in these villages would have lived a miserable life with the POP problem. All women who have had POP surgery have got new life; they have got a big relief and live a happy life. She said she had her POP surgery done in Birat Nursing home in Biratnagar. After the surgery she is happy and energetic. She can do her daily normal work without any problem. She never dreamt that she would be so well after the surgery. She advocates for POP surgery in her village. She tells her villagers that there is no need to fear about POP surgery; she tells them that they should go to camps or hospitals and get the treatment.

Case study 2: Chankhi Pariyar (name changed), Baitadi (A case study of a Dalit woman who has completely improved after POP surgery and is very happy)

Chankhi Pariyar, a Dalit illiterate widow aged 50 from Baitadi has three sons. She was married at the age of 18 and got pregnant at 29. She was 40 when she gave birth to her last child. She has never practiced any modern contraceptive methods. Also health facility is far away from her village.

She experienced symptoms of prolapse after her third delivery, at the age of 40. After the 30th day of her third delivery she started to do all physical work. She experienced a small ball like stuff coming out of the uterus which made it difficult for her to do any physical work. She could not completely urinate and had difficulty walking. She did not tell anybody that she had POP. Initially she even did not know whether the problem was POP. After many years of living with the condition she mentioned about her problem to her neighbour and from there she came to know that she had POP. She did not seek treatment immediately after knowing about it. Living with the condition for 10 year, after neighbour's advice she went to the village RH camp. In the RH camp she was counselled about the surgery and was referred to Team Hospital in Dadeldhura. She did not do anything to manage the problem prior to reaching the camp. Besides she had no money to seek treatment.

In her village many women have the POP problem but because of the lack of knowledge they do not seek treatment. They hide the problem in fear of embarrassment. She thinks several other women in her village has this problem and women have POP because after delivery they do not take enough rest, they do hard physical work carrying loads, and they are poor and cannot take enough nutritious food after giving birth. She says women do not talk about POP in villages. However, at RH camp and Team Hospital she met several women like her. She said that women who had POP surgery, gained improvement and they could walk and work like other normal persons.

Before surgery Chankhi had to urinate frequently, was unable to do physical work, and had difficulties walking. She had white discharge with bad odour. She was embarrassed to meet people in the society. Her villagers talked bad things about her. However after surgery her life changed completely. Now she is free of all these problems.

Chankhi did not know that she could be well after the POP surgery; it was a great surprise for her. Everybody in her community thinks that she did the right thing. She says after the surgery she can walk and work like any other normal person.

The message of Chankhi to her fellow women is that every woman should seek treatment on time. She encourages every woman to go for treatment. She says one must not live with a disease. Every woman should understand that after treatment POP can be cured. She suggests that village women should not hide the POP problem.

7

PRE AND POST OPERATIVE ASSESSMENT

Pelvic organ prolapse (POP) occurs when the tissue and muscles of the pelvic floor no longer support the pelvic organs resulting in the descent of one or more of the pelvic structures from the normal anatomic position. Generally more than one organ is involved with prolapse like anteriorly the urinary bladder and urethra, posteriorly the rectum and centrally the Pouch of Douglas with intestines.

Realizing the magnitude of POP problem, the GoN has instituted various programs to address this issue. Among them was the surgical camps organized by GoN itself and through different national and international NGOs throughout the country. Thousands of surgeries in the country have been performed through these programs in the past; however the quality of work and quality of life of these women after surgery is not followed up.

In this study, pre-operative assessment of the women who underwent POP surgery was done by the gynaecologist who performed the surgery. The same respondents were followed up at the Endline study and post-operative assessment was conducted by an experienced medical doctor. This section presents the findings of the pre and post-operative assessment of the study respondents.

At the Baseline 357 women with different stages of POP were assessed. According to Simplified Pelvic Organ Prolapse Quantification (S-POP-Q) staging, 328 cases (91.9 percent) were of stage III disease followed by 17 cases (4.8 percent) of stage IV, 10 cases (2.80 percent) of stage II and 1 case (0.03 percent) of stage I prolapse. One case had no information about the stage of POP (Table 7.1).

Table 7.1 Stages of POP according to S-POP-Q classification

Stage	Distribution	
	Number	Percentage
I	1	0.3
II	10	2.8
III	328	91.9
IV	17	4.8
Not mentioned	1	0.3
Total	**357**	**100.0**

Table 7.2 shows the detailed information of stages of POP according to the different compartment. Among the stage III prolapse cases (n=328), 216 also had stage III anterior and posterior compartments prolapse (Table 7.2).

Table 7.2 Stages of POP according to three compartments		
Status of all compartments	**Distribution**	
	Number	**Percentage**
All compartments Stage III	216	60.5
All compartments Stage II	6	1.7
All compartments Stage IV	2	0.6
Central Stage III & no mention of other compartments	62	17.4
Ant & Central Stage III & post Stage II	24	6.7
Post Stage I, Ant & Central Stage III	1	0.3
Ant & Post Stage II & Central Stage III	14	3.9
Ant Stage III, Central Stage II & Post Stage I	1	0.3
Central & Post Stage II & Ant Stage III	3	0.8
Post Stage III & Ant & Central Stage IV	3	0.8
Central Stage IV & no mention of others	1	0.3
Ant Stage I, Post Stage II & no mention of Central	1	0.3
Ant & Post no descent & Central Stage I	1	0.3
Ant & Post Stage II & Central Stage IV	11	3.1
Post no descent & Ant & Central Stage III	5	1.4
Ant Stage II & Central & Post Stage III	1	0.3
Ant & Central Stage III & no mention of Post Compartment	5	1.4
Total	**357**	**100**

In 62 cases of stage III POP there was no information about anterior and posterior compartments. Six patients had all compartments stage II prolapse (anterior, central and posterior compartments). Similarly two cases had all compartments (anterior, central and posterior) stage IV prolapse (Table 7.2).

Majority of the women with POP were diagnosed concomitantly to have anterior compartment (cystocele), posterior compartment (rectocele) prolapse or both. Five cases of stage III prolapse had no information about posterior compartment (Table 7.2).

Twenty three cases of POP had associated stress urinary incontinence (SUI). All of these cases with SUI suffered from severe degree POP (20 with stage III and 3 with stage IV disease, Table 7.3).

Table 7.3 POP and Stress Urinary Incontinence (SUI)			
Stages	**SUI**		**Total**
	Present	**Absent**	
I	0	1	1
II	0	10	10
III	20	306	326
IV	3	13	16
Total	**23**	**330**	**353**

The high number of major degree prolapse cases in the present study is due to the screened and selected cases for surgery from the different community. Only the cases of POP who were referred for surgery from the screening RH camps were included in the study.

Table 7.4 Surgical Procedures performed in different stages of POP

Surgical procedure performed	Stages					Total	
	I	II	III	IV	Not mentioned	Number	Percentage
ACR+PCPR+VH	0	10	290	9	0	309	86.6
ACR+VH	0	0	28	1	0	29	8.1
ACR+PCPR+VH+Kelly's suture	0	0	6	3	0	9	2.5
Manchester repair /forthergills repair	0	0	2	0	1	3	0.8
ACR+PCPR+VH +Vault suspension	0	0	0	3	0	3	0.3
Vault suspension	0	0	0	1	0	1	0.8
TAH BSO/TAH	1	0	2	0	0	3	0.8
Total	**1**	**10**	**328**	**17**	**1**	**357**	**100.0**

(Note: ACR=Anterior Colporrhaphy, PCPR= Posterior Colpoperineorrhaphy, VH= Vaginal Hysterectomy, TAH BSO= Total Abdominal Hysterectomy with Bilateral Salpingo-oophorectomy)

Among the 357 POP cases, Pelvic floor repair i.e. Anterior Colporrhaphy (ACR) and Posterior Colpoperineorrhaphy (PCPR) with Vaginal Hysterectomy (VH) were done in 309 cases (86.6 percent) with different stages of prolapse (Table 7.4). Twenty nine cases (8.1 percent) had undergone ACR with VH. Three cases (0.8 percent) had Manchester/Forthergill's repair. Along with the standard surgery of POP, few additional surgeries like Kelly's Plication had been performed in 9 cases (2.5 percent) in women who had suffered from severe degree prolapse with stress urinary incontinence. Among the vault suspension surgeries (n= 4), 3 had undergone ACR+PCPR+VH and Sacrospinous Ligament Suspension and one woman who had post vaginal hysterectomy vault prolapse had Laparoscopic Sacrocolpopexy. In 3 cases, total abdominal hysterectomy with bilateral Salpingo-ophorectomy (TAHBSO)/TAH were performed (Table 7.4).

The treatment of severe degree POP can be performed vaginally as well as abdominally. In this study, the treatment of POP consisted mainly of vaginal procedure. They were PFR (AC+PCPR) + VH/ACR+VH. Few of the women had uterine conservation technique like Manchester/Forthergill's repair as the patients were young and desired to maintain their fertility. Additional surgeries like Kelly's Plication were performed in 9 cases of 23 who had presented with POP and stress urinary incontinence (Table 7.4). However, some literature claims that there is no role of Kelly's Plication in cases of stress urinary incontinence. (Kayano CE, et al 2002).

Vault suspension surgery had been done vaginally in 3 cases along with PFR and VH in stage IV POP for the prevention of recurrence (Table 7.4). One case had laparoscopic Sacrocolpopexy for treatment of post vaginal hysterectomy vault prolapse which was done in Birat Nursing Home in Biratnagar. This type of surgery is possible only in specialized centers where trained manpower and equipments are available.

Total abdominal hysterectomies were performed in 3 of the cases as one of them had 16 weeks uterine fibroids, another one had extensive pelvic adhesion and third had TAH with vault fixation in case of first stage POP (Table 7.4).

The long-term outcome of any POP surgery cannot be guaranteed. There exist few women with inherent weakness of uterine supporting structures who may need several attempts of surgery to correct the defect, yet always not possible. However the complications can be minimized with good pre-operative planning, optimal repair of specific defects that are present along with meticulous postoperative care and change of lifestyle such as avoidance of heavy lifting, smoking, constipation and pelvic muscle exercise. This is always not possible in a camp setup where the surgeons have to perform a large number of surgeries in limited time.

There was no difference in the mean age among the women who came for follow-up, absentees and those who couldn't be contacted by any methods such as telephone or FCHV or friends (mean age for follow-up respondents 48.9, unable to contact 49.8 and absentees but feel fine 48.6 years respectively).

The follow-up study consisted of interviews and gynaecological examination and treatment if required. The gynaecological examination included the determination of stages of POP and any complications noted after surgery. The exam was conducted by an experienced medical doctor who worked in POP surgical camps.

Table 7.5 shows distribution of follow-up respondents by Baseline and Endline according to POP stage. Among the 322 respondents, the gynaecological examination showed there were no patients with stage 0 and I in the Baseline study, whereas in the Endline study, there were 23 (7.1 percent) in stage 0 and 179 (55.6 percent) in stage I respectively. In the stage II there were 9 (2.8 percent) cases in the Baseline and 111 (34.5 percent) in the Endline. In stage III, 299 (92.9 percent) cases were found in the Baseline and 9 (2.8 percent) in the Endline. Finally in the Baseline, 13 (4 percent) cases were in stage IV and no cases in the Endline. Thus, the cases of POP has shifted from the more severe stages (III and IV) in the Baseline to less severe stages (0, I and II) in the Endline. The difference in number of POP stages before and after surgery as shown in Table 7.5 was found statistically significant ($p < 0.05$).

Table 7.5 Distribution of follow-up respondents by Baseline and Endline according to POP stage

Stage	Baseline and Endline respondents by POP stage*			
	Baseline		Endline	
	Number	Percentage	Number	Percentage
"0"	0	0.0	23	7.1
"I"	0	0.0	179	55.6
"II"	9	2.8	111	34.5
"III"	299	92.9	9	2.8
"IV"	13	4.0	0	0.0
No mention of stage	1	0.3	0	0.0
Total	**322**	**100.0**	**322**	**100.0**

*P-value<.05 based on Pearson Chi-Square test

Table 7.6 elaborates the findings of Table 7.5 in more detail. According to Table 7.6, there were 9 cases of stage II POP clients in the Baseline study. In the Endline study, among the 9, 2 were in stage 0, 5 in stage I and 2 remained in the same stage as of pre-operatively i.e. stage II. Among the 299 who were in stage III POP in the Baseline study 7 remained in the same stage i.e. stage III. There were 13 stage IV POP in the Baseline study and after surgery in the Endline study 3 were found in stage I, 8 in stage II and 2 were in stage III. Table 5.2 shows 2 cases in stage II, 7 cases in stage III and 2 cases in stage IV had vault prolapse of the same stage post-operatively, raising concern on the adequacy of the surgical repair performed. After surgery, out of 322 respondents, 9 (2.8 percent) had stage III POP and 111 (34.4 percent) had stage II POP.

Table 7.6 Details of POP stages in Baseline and Endline study

POP STAGE, Baseline (Rows)	POP STAGE, Endline (Columns)				
	Stage 0	Stage I	Stage II	Stage III	Total
Stage II	2	5	2	0	9
Stage III	21	170	101	7	299
Stage IV	0	3	8	2	13
No mention of stage	0	1	0	0	1
Total	**23**	**179**	**111**	**9**	**322**

On asking and examination, there were 23 patients who had leakage of urine on coughing and 298 didn't have this problem at Baseline study. After surgery, 22 out of 23 have improved with this symptom and one had persistent problem. However among the 298 patients who didn't have urinary leakage on coughing before surgery 2 had developed it after surgery (Table 7.7).

Table 7.7 Details of Leakage of Urine on coughing (SUI)

Leakage of urine: Baseline	Leakage of urine: Endline		
	Present	Absent	Total
Present	1	22	23
Absent	2	296	298
No information	0	1	1
Total	**3**	**319**	**322**

The complications related to vaginal surgery of POP is lower than the abdominal route. Reported complications include pelvic infection, haemorrhage, injury to ureter and bladder leading to fistula formation and bowel injury. Of 322 cases followed-up, 63 had some form of complication after POP surgery which accounted for 19.6 percent (excluding the recurrence of prolapse) (Table 7.8).

Table 7.8 Distribution of follow-up respondents by complication after POP surgery according to problem reported

Problem reported	Complications after surgery	
	Number	Percentage
Backache	30	47.6
Vaginitis	17	27
UTI	4	6.3
Vault cuff infection	3	4.8
SUI	2	3.2
Suture in situ	1	1.6
Secondary haemorrhage	1	1.6
VVF	1	1.6
Vaginitis and backache	4	6.3
Total	**63**	**100**

These complications were noted by asking the women about their problems. However majority of the complications reported are non-specific like backache. Of the 63 complications noted, backache was observed in 47.6 percent followed by vaginitis in 27 percent and UTI in 6.3 percent. (Table 7.8). One patient has developed VVF. According to the information retrieved, she had undergone ACR+PCPR+VH thereafter, and she was advised to keep the catheter for 3 weeks. Catheter was removed after 3 weeks in the local health post, patient remained fine for 15 days after removal of catheter, and then she started leaking urine continuously. Her perineal area was covered with rashes due to irritation by urine; however the fistula could not be identified by pelvic examination.

8

CONCLUSION AND RECOMMENDATION

8.1 Conclusion

This study included follow-up of women after 9 to 11 months of POP surgery which aimed to evaluate the quality of life of these women before and following surgery. The short term complications have been depicted by this study and women definitely were benefited as they received counselling and treatment, if needed. However this kind of follow-up within one year is inadequate to pick up the long term complications like vault prolapse.

This is the first study of PFDI-20 and PFIQ-7 responsiveness in POP surgery in Nepal. The study demonstrates significant improvement in total and individual domain scores 9 to 11 months after surgery of Pelvic Floor Repair System. Distribution-based metrics found both instruments were quite responsive to POP surgery. The PFDI-20 was more responsive than the PFIQ-7, implying greater patient symptom improvement than QoL. Of the 3 domains, colorectal-anal domains were least responsive.

Simple question answer responses analysed above also support that women after POP surgery have gained good quality of life. In addition, the case studies of 30 women who attended the follow-up camps clearly provide evidence that after POP surgery the health condition of women have improved substantially. As illustrated, the case studies also indicate that after surgery women enjoy better quality of life and achieve nearly normal physical and socio-psychological wellbeing.

This study demonstrates that surgical interventions have positive impact in improvement of the health related quality of life of women who suffer from POP. The effort of the government and other stakeholders for providing treatment in this regard has benefited the women of Nepal. However, surgical intervention alone will not be a complete solution in addressing the comprehensive needs of women suffering from this debilitating condition.

It is crucial not to take the indication for surgery lightly for women's health and well-being. As surgical management of POP cannot be a substitute for preventive measures, extensive information and prevention programmes, as well as early management of pelvic organ prolapse should be the first steps to reduce this significant social and public health problem in Nepal. Prevention programmes should emphasize on empowering women, creating awareness on POP, increasing access to skill birth attendants at every delivery, accessibility to information and methods of family planning to avoid unintended pregnancies.

8.2 Recommendations

1. POP surgery organized in an established institution is better than organizing in a camp set-up where preliminary requirements are difficult to meet.

2. The standard for quality surgery should be adequately followed, including the number of surgeries by a surgeon in a day as per national standard and protocol.

3. A comprehensive surgical training manual on POP should be developed to ensure uniformity in the surgical procedure and post-operative care, throughout the country.

4. Complicated POP and POP associated with co-morbid conditions should be referred to the higher centers for appropriate management through multidisciplinary approach.

5. Pre-operative screening, counselling and evaluation should be proper and adequate to minimize the complications following surgery.

6. Post-operative follow-up of women undergoing POP surgery should be mandatory to identify the complications following surgery.

7. Various sectorial ministries should work in a collaborative manner for the prevention and management of POP.

8. Extensive information and prevention program should be the first step to reduce the problem of POP in the country.

9. Government and other stakeholders should ensure the provision of quality service and provide guidance for effective implementation of the program through regular monitoring and supervision.

10. A comprehensive national study is recommended to establish indicators on different aspects of POP.

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Annex I : BASELINE QUANTITATIVE QUESTIONNAIRE

STUDY ON HEALTH RELATED QUALITY OF LIFE OF WOMEN SUFFERING FROM POP BEFORE AND AFTER SURGICAL INTERVENTION

MOHP/FHD/UNFPA AND THE PHD GROUP

Form No.				

Time interview started: Hour: _____ Minute: _____

INTRODUCTION AND CONSENT

Namaste! My name is _____. I am from The PHD Group, which is conducting a study for the Ministry of Health and Population/Government of Nepal with the support of UNFPA. The MOHP has been helping pregnant women and mothers in this district with the objectives of improving women's health. We are here to find out about the health of women and mothers to help you and your community to keep women and mothers healthy. We would very much appreciate your participation in this survey. This information will help the MOHP to improve its program in the country. The survey usually takes around 40 minutes. I assure you that your name will not be shared with anyone else and your answers to my questions will be combined with answers from many other people so that no one will know that the answers you give me today belong to you. Your privacy is protected, and I assure that your answers will be kept confidential.

Your participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

May I proceed with the questions?

RESPONDENT:

AGREES TO BE INTERVIEWED [1] ↓ DOES NOT AGREE TO BE INTERVIEWED [2] → END.

Name of interviewer: ..... Date (d/m/y).....

IDENTIFICATION	
1) Name of District of respondent: ……	
2) Name of VDC: ……	
3) Ward Number: ……	
4) Name of Village: ……	
5) Name of household head:……	
6) Name of the respondent: ……	
7) If respondent is not head of HH, what is the relationship to head of HH:……	
8) Name of organization conducting U/P surgery: ….....	
9) Name of the POP camp site: ….....	
10) Ward number of the place of the POP camp site: …..……	
11) Name of VDC/Municipality of the place of the POP camp site: …..….	
12) Name of hospital where interview was conducted:	

Section 1: Respondent's Background

Interviewer: Now I would like to ask some questions about you and your household

Q. No	Questions	Codes	GO TO Q.
101	How old are you?	Age *(in completed years)*: …… ☐☐ Don't know/don't remember …… 98	
102	What is your educational Status?	Grade *(write completed grade)*: …… ☐☐ Literate (without attending school) …… 96 Illiterate …… 97	
103	How old were you when you (first) got married?	Age *(in completed years)*: …… ☐☐ Don't know/don't remember …… 98	
104	What is your occupation?	Farmer …… 1 Service …… 2 Business …… 3 Daily wage earner…… 4 Housewife …… 5 Other (*specify*) _____	
105	What is your husband's occupation?	Farmer …… 1 Service …… 2 Business …… 3 Daily wage earner…… 4 Housewife …… 5 Other (*specify*) _____	
106	What is your religion?	Hindu …… 1 Buddhist …… 2 Muslim …… 3 Kirat …… 4 Christian …… 5 Other (specify) _____	
107	What is your caste/ethnicity?	Caste/ethnicity……	
108	What is your approximate monthly income ?	Rs. …… No income …… 998 No answer …… 999	
109	What is the approximate monthly income of your household?	Rs. …… No income …… 998 No answer …… 999	
110	What type of family do you live in?	Nuclear family (couple and children) …… 1 Joint family (couples and their children) …… 2 Large extended family (couples, children, in-laws and others) …… 3 Other (specify) _____	
111	Do you currently smoke cigarettes?	Yes …… 1 No …… 2 → 113	
112	In the last 24 hours, how many cigarettes did you smoke?	Number of cigarettes. …… ☐☐	
113	Do you currently smoke or use any other type of tobacco?	Yes …… 1 No …… 2 →Section 2	
114	What (other) type of tobacco do you currently smoke or use?	Pipe …… 1 Chewing tobacco …… 2 Snuff …… 3 Other (*specify*) _____	

Section 2: Respondent's Household Information

Q. No	Questions	Codes	GO TO Q.
201	What is the main source of drinking water for members of your household?	<u>Piped water</u> Piped into house ..... 1 Piped to yard/plot ..... 2 Public tap/standpipe ..... 3 Tube well or borehole ..... 4 <u>Dug well</u> Protected well ..... 5 Unprotected well ..... 6 <u>Water from spring</u> Protected spring ..... 7 Unprotected spring ..... 8 Rain water ..... 9 Tanker truck ..... 10 Surface water (*River/Dam/Lake/Pond/ Stream/Canal*) ..... 11 Stone tap/Dhara ..... 12 Bottled water/Jar ..... 13 Other (*specify*) _____	
202	What kind of toilet facility do members of your household usually use?	<u>Flush or pour flush toilet</u> Flush to piped sewer system ..... 1 Flush to septic tank ..... 2 Flush to pit latrine ..... 3 Flush to somewhere else ..... 4 Flush, Do not know where ..... 5 <u>Pit Latrine</u> Ventilated improved pit latrine ..... 6 Pit latrine with slab ..... 7 Pit latrine without slab/open pit ..... 8 Composting toilet ..... 9 Bucket toilet ..... 10 No facility/bush/field ..... 11 → 205 Other (*specify*) _____	
203	Do you share this toilet facility with other households?	Yes ..... 1 No 2	

204	Does your household have:	Yes	No
	1. Electricity	1	2
	2. Radio	1	2
	3. Television	1	2
	4. Mobile telephone	1	2
	5. Non-mobile telephone	1	2
	6. Refrigerator	1	2
	7. Table	1	2
	8. Chair	1	2
	9. Bed	1	2
	10. Sofa	1	2
	11. Cupboard	1	2
	12. Computer	1	2
	13. Clock	1	2
	14. Fan	1	2
	15. Dhiki/janto	1	2
	16. Other :.....	1	2

Q. No	Questions	Codes	GO TO Q.
205	What type of fuel does your household mainly use for cooking?	Electricity ..... 1 LPG ..... 2 Natural gas ..... 3 Biogas ..... 4 Kerosene ..... 5 Coal, lignite ..... 6 Charcoal ..... 7 Wood ..... 8 Straw/shrubs/grass ..... 9 Agricultural crop ..... 10 Animal dung ..... 11 No food cooked in household ..... 12 → 208 Other (*specify*) _____	
206	Is the cooking usually done in the house, in a separate building, or outdoors?	In the house ..... 1 In a separate building ..... 2 → 208 Outdoors ..... 3 → 208 Other (*specify*) _____	
207	Do you have a separate room which is used as a kitchen?	Yes ..... 1 No 2	
208	What type of main material have you used on the floor of your house ?	<u>Natural floor</u> Earth/sand ..... 1 Dung ..... 2 <u>Rudimentary floor</u> Wood planks ..... 3 Palm/Bamboo ..... 4 <u>Finished floor</u> Parquet or polished wood ..... 5 Vinyl or asphalt strips ..... 6 Ceramic tiles ..... 7 Cement ..... 8 Carpet ..... 9 Other (*specify*) _____	
209	What type of main material have you used on the roof of your house ?	<u>Natural roofing</u> No roof ..... 1 Cane/palm/trunks ..... 2 Mud/sand ..... 3 <u>Rudimentary roof</u> Bamboo with mud ..... 4 Stone with mud ..... 5 Uncovered adobe ..... 6 Plywood ..... 7 Cardboard/carton ..... 8 Reused ..... 9 Jasta ..... 10 Reused wood ..... 11 <u>Finished roof</u> Cement ..... 12 Stone with lime/cement ..... 13 Bricks ..... 14 Cement blocks ..... 15 Cover with Raw Bricks ..... 16 Wood planks/shingles ..... 17 Khapada/Tile ..... 18 Other (*specify*) _____	

Q. No	Questions	Codes	GO TO Q.
210	What type of main material have you used on the exterior walls of your house ?	Natural roofing No walls ……..... 1 Cane/palm/trunks …… 2 Dirt …… 3 Rudimentary roof Bamboo with mud …….. 4 Stone with mud ……..... 5 Uncovered adobe ……..... 6 Plywood ……..... 7 Cardboard/carton …… 8 Reused …… 9 Jasta …… 10 Reused wood …….. 11 Finished roof Cement …… 12 Stone with lime/cement …… 13 Bricks …….. 14 Cement blocks ……. 15 Covered adobe …… 16 Wood planks/shingles …… 17 Other (*specify*) _____	

211	Does any member of this household own:	Yes	No	
	1. Bicycle/Rickshaw	1	2	
	2. Motorcycle or motor scooter	1	2	
	3. Tempo	1	2	
	4. Animal-drawn cart	1	2	
	5. Car or truck	1	2	
	6. Watch	1	2	
	7. Other items (Specify):	1	2	

212	Does any member of this household own any agricultural land?	Yes …….. 1 No ……..... 2	
213	Does any member of this household own any livestock, herds, other farm animals, or poultry?	Yes …….. 1 No ……..... 2	

Section 3: Pregnancy and Fertility

Interviewer: Now I would like to ask some questions about your pregnancy and fertility

Q. No	Questions	Codes	GO TO Q.
301	How old were you when you became pregnant the first time?	Age *(in completed years)*: …… ☐☐ Don't know/don't remember …… 98	
302	Do you have any sons or daughter to whom you have given birth in your life who are now living with you?	Yes …….. 1 No ……..... 2	→ 304
303	How many sons live with you? And how many daughters live with you? If NONE, RECORD '00'	Sons at Home……. ☐☐ Daughters at Home……. ☐☐	
304	Do you have any sons or daughters to whom you have given birth in your life who are alive but do not live with you?	Yes …….. 1 No ……..... 2	→ 306
305	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? If NONE, RECORD '00'	Sons Elsewhere ……. ☐☐ Daughters Elsewhere ……. ☐☐	
306	Do you have any sons or daughters to whom you have given birth in your life who were born alive but later died? **If NO PROBE:** Any baby who cried or showed any sign of life but did not survive?	Yes …….. 1 No ……..... 2	→ 308
307	How many boys have died? And how many girls have died? If NONE, RECORD '00'	Sons dead……. ☐☐ Daughters dead……. ☐☐	
308	Women sometimes have pregnancies that do not result in a live born child. That is, a pregnancy can end in a miscarriage, or the child can be born dead or aborted. Have you ever had a pregnancy that did not end in a live birth including induced abortion?	Yes ……..... 1 No ……..... 2 → 310	
309	How many pregnancies did not end in a live birth?	Number. …… ☐☐	
310	Sum answers to Q303, Q305, Q307 & Q309	Number. …… ☐☐	

Now I would like to record all of your pregnancies, whether born alive, born dead, or lost before full term, starting with the last one you had. RECORD ALL THE PREGNANCIES IN 311. RECORD TWINS AND TRIPLETS ON SEPARATE LINES. (If there are more than 10 pregnancies, use an additional questionnaire starting with the second row)

SN	311	312	313	314	315	316	317	318	319
	Think back to your last pregnancy. Was that a single or multiple pregnancy?	Was the baby born alive, born dead, or lost before birth?	Did that baby cry, move, or breath when it was born?	What was the name of the child?	Was [NAME] a boy or a girl?	In what day, month and year was [NAME] born?	Is [NAME] still alive?	If Born Alive and Still Living	
								How old was [NAME] at his/her last birthday?	Is [NAME] living with you?
01	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)
02	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)
03	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)
04	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)
05	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)
06	Single……1 Multiple……..2 Do not know……8	Born alive……..1→314 Born dead……..2 Lost before full term.....3→322	Yes…1 No….2 →322	Name	Boy……1 Girl……2	Day __ Month __ Year ____	Yes…1 No….2→ 320	Day __ Month __ Year ____	Yes…….1 No……..2 (Next pregnancy)

320	321	322	323	324
If born alive but now dead		If born dead or lost before birth		
How old was [NAME] when he/she died? If '1 YRS' PROBE: How many months old was [NAME]? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS	In what day, month and year did [NAME] die?	In what month and year did the pregnancy end?	How many months did this pregnancy last? RECORD IN COMPLETED MONTHS.	Was that miscarriage or abortion?
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)
Day ☐☐ Month ☐☐ Year ☐☐ ☐☐	Day ☐☐ Month ☐☐ Year ☐☐ ☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐ ☐☐	#Months ☐☐	Miscarriage…1 Abortion…….2 (Next pregnancy)

Section 4: Possible Causes of POP

Interviewer: Now I would like to ask some questions about POP

Q. No	Questions	Codes	GO TO Q.
401	Since which delivery did you experience symptoms of POP?	……th delivery [ ][ ]	
402	How long ago was that delivery?	……. years ago [ ][ ]	
403	How old were you at that time?	Age: …… [ ][ ]	
404	How long were you in hard labour during that delivery	hours: …… [ ][ ] Don't know/don't remember …… 98	
405	Where did that delivery take place?	**Public Sector** Hospital…… …. 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 **Private Sector** Pvt. Clinic/nursing Home..... 5 **Home** Your home..... 6 FCHV home…….. 7 Other (specify)_____	
406	Did any health worker assist you during that delivery?	Yes ……..... 1 No ……..... 2	
407	Who assisted you with that delivery? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

	Unprompted	Prompted	
	Yes	Yes	No
SKILL PERSONNEL			
1 Doctor	1	2	3
2 Nurse	1	2	3
3 ANM	1	2	3
TRAINED PERSONNEL			
4 HA/AHW	1	2	3
5 MCHW	1	2	3
6 VHW	1	2	3
OTHER PERSONNEL			
7 FCHV	1	2	3
8 Relative/friend	1	2	3
9 Other (specify): _____	1		

408	Was anything done to push the baby out of the uterus in order to give birth fast?	Yes ……..... 1 No ……..... 2 → 410	
409	What was done? **(Multiple Responses)**	Hair put in the mouth of woman for expulsion of placenta and forcibly pulled the baby out …..... 1 The abdomen pressed ……..... 2 Asked to push the baby by breathing hard ….. 3 Other (specify) _____	
410	What was the weight of the baby at birth?	KG ……..... [ ][ ] No weight taken……..... 97 Do not know ……..... 98	

Q. No	Questions	Codes	GO TO Q.
411	What do you think was the weight of the baby at birth?	Very large ..... 1 Large ..... 2 Normal ..... 3 Small ..... 4 Very small 5	
412	How many days did you take rest after the delivery (that is, did not do any physical work) ?	Number of days	
413	Did you carry heavy load/ lifted water pot (*gagri*) or big bucket containing water (*thulo pani ko balti*) cattle food container (*kundo ko taulo*) after the delivery?	Yes ..... 1 No ..... 2 → 415	
414	How many days after the delivery did you carry heavy load as mentioned above?	After ..... days	
415	How many days after the delivery did you start working in family farm?	After ..... days	
416	Did you work as a wage labourer after the delivery?	Yes ..... 1 No ..... 2 → 419	
417	What kind of wage labouring did you do after the delivery?	Carried heavy load (*bhari bokne*) on back ..... 1 Worked in farm digging ..... 2 Worked as a porter ..... 3 Rice planting ..... 4 Harvesting ..... 5 Pushing/pulling Rickshaw ..... 6 Other (specify) _____	
418	How many days <u>after</u> the delivery did you do wage labouring as mentioned above?	After ..... days	
419	Do you wear a long piece of cloth (*patuka*) around your stomach/waist?	Yes ..... 1 No ..... 2 → 422	
420	When did you start wearing *patuka*?	Before delivering any baby ..... 1 → 422 After delivering a baby..... 2	
421	After which delivery did you start wearing *patuka* ?	After ith .....delivery	
422	Were you wearing *Patuka* at the time when you first experienced symptoms of POP?	Yes ..... 1 No 2	
423	How long did you space the pregnancy that led to symptoms of POP and earlier pregnancy?	..... years	
424	Were you practicing family planning some time before that delivery?	Yes ..... 1 No ..... 2 → 427	
425	What method were you practicing at that time?	Name of method	
426	What was the last method you were using?	.... Not remember/do not know..... 98	
427	Did you take enough nutritious food after the delivery?	Yes ..... 1 No ..... 2 → Section 5	

Q. No	Questions	Codes		GO TO Q.
428	How many times a day did you take enough nutritious food ?	Days: ……		
429	After delivery, how many days did you take nutritious food?	Days: .....……		
430	Which nutritious food did you take?	Yes	No	
	1. Rice	1	2	
	2. Dhal	1	2	
	3. Beans	1	2	
	4. Meat	1	2	
	5. Fish	1	2	
	6. Eggs (chicken)	1	2	
	7. Green Vegetable	1	2	
	8. Fruits	1	2	
	9. Jwanoko Jhol	1	2	
	10. Other items (Specify):	1	2	

Section 5: Health Seeking Behaviour

Q. No	Questions	Codes	GO TO Q.
501	Did you go for ANC check-up for the delivery (**CHECK Q401**) following which you experienced symptoms of POP?	Yes ……..... 1 No ……..... 2 → 503	
502	How many times did you go for ANC for that pregnancy?	Times: ……	
503	When you first experienced symptoms of POP did you discuss it with someone?	Yes ……..... 1 No ……..... 2 → 505	
504	Who did you discuss the problem with?	Husband …..... 1 → 506 Mother …..... 2 → 506 Sister …..... 3 → 506 Mother-in-law …..... 4 → 506 Other (specify) _____ 5 → 506	
505	What were the reasons for not discussing the problem with anyone? **(Multiple Response)**	Embarrassing …..... 1 People start hating …..... 2 Fear of losing husband…..... 3 Lack of knowledge…..... 4 Other (specify) _____	
506	Did you consult someone about where to seek treatment?	Yes …..... 1 No ……..... 2 → 509	
507	Who did you consult for treatment first time?	Doctor …..... 1 Nurse/ANM …..... 2 HA/AHW …..... 3 VHW …..... 4 MCHW…..... 5 FCHV …..... 6 Dhami Jhankri …..... 7 Other (specify) _____	

Q. No	Questions	Codes	GO TO Q.
508	When you went for consultation for treatment first time did someone accompany you to the place?	Husband ……..... 1 → 510 Daughter ……..... 2 → 510 Sister ……..... 3 → 510 FCHV ..... 4 → 510 Nobody ……..... 5 → 510 Other (specify) _____ Do not remember……..... 98 → 510	
509	Why did you not consult anyone for treatment after you had first signs of POP? **(Multiple Response)**	It was not serious …..... 1 No time to go for treatment …..... 2 Did not have money …..... 3 Health facility too far …..... 4 Husband did not give permission …..... 5 Mother-in-law did not allow …..... 6 It is embarrassing to examine POP…..... 7 No knowledge …..... 8 Other (specify) _____	
510	Do you experience difficulty in passing urine?	Yes …..... 1 No …..... 2	
511	Do you experience difficulty in walking?	Yes …..... 1 No …..... 2	
512	Do you discharge any smelly or blood stained stuff?	Yes …..... 1 No …..... 2	
513	Did you manage the POP?	Yes …..... 1 No …..... 2 → 518	
514	Before coming to the camp did you put something inside to manage the POP at you home?	Yes …..... 1 No …..... 2 → 518	
515	What did you put inside to manage the POP at home, can you describe?	….....	
516	Was it ever changed?	Yes …..... 1 No …..... 2 → 518	
517	How frequently did you change the rag (*talo*)?	Every.....ith ..... day Other (specify) _____ Do not remember …..... 98	
518	Did you take any help from health worker to do something to your problem before coming to the camp this time?	Yes …..... 1 No …..... 2 → Section 6	

519 What type of help did you get from health worker?
Circle all responses which the woman mentions unprompted. Then ask, "Is there any other else."
Then, read each question and circle "2" for "yes" or "3" for "no."

	Unprompted Yes	Prompted Yes	Prompted No
1 Got ring pessary inserted	1	2	3
2 Learned pelvic floor exercise	1	2	3
3 Got advice to go for surgery	1	2	3
4 Other (specify):_____	1		

520	[CHECK Q515: IF RING PRESSARY INSERTED ASK) How frequently was the ring pessary changed?	Every 5 months …..... 1 Every 4 months …..... 2 Every 3 months …..... 3 No changed …..... 4 Other (specify) _____ Do not remember …..... 8	

Section 6: Pelvic Floor Distress Inventory

Instructions: Please answer these questions by putting circle in the appropriate number. If you are unsure about how to answer a question, give the best answer you can. While answering these questions, please consider your symptoms over the **last 3 months**. Thank you for your help.

Q. No	Questions	Codes	GO TO Q.
601	Do you usually experience *pressure* in the lower abdomen?	Yes ..... 1 No ..... 2 → 602	
	601_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
602	Do you usually experience *heaviness* or *dullness* in the pelvic area?	Yes ..... 1 No ..... 2 → 603	
	602_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
603	Do you usually have a bulge or something falling out that you can see or feel in the vaginal area?	Yes ..... 1 No ..... 2 → 604	
	603_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
604	Do you usually have to assume an unusual position or change positions to start or complete urination?	Yes ..... 1 No ..... 2 → 605	
	604_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
605	Do you usually have to push on the vagina or around the rectum to have or complete a bowel movement?	Yes ..... 1 No ..... 2 → 606	
	605_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
606	Do you usually experience a feeling of incomplete bladder emptying?	Yes ..... 1 No ..... 2 → 607	
	606_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
607	Do you usually feel that you have an unusually weak stream or that you take too long to empty your bladder?	Yes ..... 1 No ..... 2 → 608	
	607_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	

Q. No	Questions	Codes	GO TO Q.
608	Do you ever have to push up on a bulge in the vaginal area with your fingers to start or complete urination?	Yes ..... 1 No ..... 2 → 609	
	608_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
609	Do you feel you need to strain too hard to have a bowel movement?	Yes ..... 1 No ..... 2 → 610	
	609_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
610	Do you feel you have not completely emptied your bowels at the end of a bowel movement?	Yes ..... 1 No ..... 2 → 611	
	610_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
611	Do you usually lose stool beyond your control if your stool is well formed?	Yes ..... 1 No ..... 2 → 612	
	611_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
612	Do you usually lose stool beyond your control if your stool is loose or liquid?	Yes ..... 1 No ..... 2 → 613	
	612_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
613	Do you usually lose gas from the rectum beyond your control?	Yes ..... 1 No ..... 2 → 614	
	613_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
614	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	Yes ..... 1 No ..... 2 → 615	
	614_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
615	Do you usually experience loss of gas or stool as the result of physically stressful activities such as with exercise, coughing, sneezing, or hard laughing?	Yes ..... 1 No ..... 2 → 616	

Q. No	Questions	Codes	GO TO Q.
	615_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
616	Do you usually have pain when you pass your stool ?	Yes ..... 1 No ..... 2 → 617	
	616_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
617	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	Yes ..... 1 No ..... 2 → 618	
	617_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
618	Does a part of your bowel ever pass through the rectum and bulge outside during or after a bowel movement?	Yes ..... 1 No ..... 2 → 619	
	618_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
619	Do you usually experience frequent urination?	Yes ..... 1 No ..... 2 → 620	
	619_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
620	Do you usually experience a strong feeling of urgency to empty your bladder?	Yes ..... 1 No ..... 2 → 621	
	620_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
621	Do you usually experience urine leakage associated with a feeling of urgency, that is a strong sensation of needing to go to the bathroom?	Yes ..... 1 No ..... 2 → 622	
	621_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
622	Do you usually experience urine leakage related to coughing, sneezing, or laughing?	Yes ..... 1 No ..... 2 → 623	

Q. No	Questions	Codes	GO TO Q.
	622_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
623	Do you usually experience urine leakage related to physical exercise such as walking, running, doing physical work?	Yes ..... 1 No ..... 2 → 624	
	623_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
624	Do you usually experience small amounts of urine leakage (that is, drops)?	Yes ..... 1 No ..... 2 → 625	
	624_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
625	Do you usually awaken during your normal sleeping hours to urinate?	Yes ..... 1 No ..... 2 → 626	
	625_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
626	Do you usually experience bed-wetting?	Yes ..... 1 No ..... 2 → 627	
	626_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
627	Do you usually dribble urine as you stand up or begin to walk immediately after you have finished urinating?	Yes ..... 1 No ..... 2 → 628	
	627_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
628	Do you usually experience pain or discomfort in the lower abdomen Or genital region ?	Yes ..... 1 No ..... 2 → Section 7	
	628_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	

Section 7: Pelvic Floor Impact

Instructions

Some women find that bladder, bowel or vaginal symptoms affect their activities, relationships, and feelings. For each question, place an X in the response that best describes how many your activities, relationships or feelings have been affected by your bladder, bowel or vaginal symptoms or conditions **over the last 3 months.** You may or may not have symptoms in each of these three areas, but please be sure to mark an answer in all 3 columns for each question. If do not have symptoms in one of these areas, then the appropriate answer would be "Not at all" in the corresponding column for each question.

Example

For the following question:

If your bladder symptoms interfere with your ability to climbing Hills up and down, climbing tree or working in fields moderately, and your bowel symptoms interfere with your ability to climbing Hills up and down, climbing tree or working in fields somewhat, but your vaginal or pelvic symptoms do not interfere with your ability to climbing Hills up and down, climbing tree or working in fields or you have no vaginal or pelvic symptoms then you should circle "Not at all" in the corresponding number as indicated below:

How do symptoms or conditions related to the following → usually affect your ↓	Bladder or urine	Bowel or rectum	Vagina or Pelvis
701. Ability to do household chores (cooking, house cleaning, laundry)?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
702. Ability to do physical activities such as walking, or carrying loads (*bhari bokne*) ?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
703. Entertainment activities such as dancing in a wedding ceremony?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
704. Ability to travel by bus or cart (*Tanga*) for distances greater than 30 minutes away from home?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
705. Participating in social activities outside your home?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
706 Ability to have sexual relations?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
707. Emotional health (nervousness or anxiety, frustration)?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit

Time interview ended: Hour: _____ Minute: _____

Thank you very much for your cooperation.

Annex II: ENDLINE QUNATITATIVE QUESTIONNAIRE

STUDY ON HEALTH RELATED QUALITY OF LIFE OF WOMEN SUFFERING FROM POP BEFORE AND AFTER SURGICAL INTERVENTION
MOHP/FHD/UNFPA AND THE PHD GROUP

Form No.				

Time interview started: Hour: _____ Minute: _____

INTRODUCTION AND CONSENT

Namaste! My name is _____. I am from The PHD Group, which is conducting a study for the Ministry of Health and Population/Government of Nepal with the support of UNFPA. The MOHP has been helping pregnant women and mothers in this district with the objectives of improving women's health. You are here today because you had undergone POP surgery some months ago and we would like to find out how are you doing after the surgery. In our team we have a doctor who will examine your POP surgery and she will advice you what you might need. We would very much appreciate your participation in this follow-up survey. This information will help the MOHP to improve its program in the country. The survey usually takes around 20 minutes. I assure you that your name will not be shared with anyone else and your answers to my questions will be combined with answers from many other people so that no one will know that the answers you give me today belong to you. Your privacy is protected, and I assure that your answers will be kept confidential.

Your participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

May I proceed with the questions?

RESPONDENT:

AGREES TO BE INTERVIEWED [1] ↓ DOES NOT AGREE TO BE INTERVIEWED [2] → END.

Name of interviewer: ..... Date (d/m/y).....

IDENTIFICATION			
[ASK FOR ID CARD] ID Card checked Yes…… 1 No ……2 Lost 3			
1) [MAKE SURE INFORMATIONS MATCH WITH ID CARD] Respondent's district: ……			
2) Name of VDC: ……			
3) Ward Number: ……			
4) Name of the respondent: ……			
5) Name of the POP camp site referred her for surgery in past: ….....			
6) Name of hospital where surgery was conducted:			

Section 2: Condition of Woman after POP Surgery

Interviewer: Now I would like to ask some questions about your condition after POP surgery

Q. No	Questions	Codes	GO TO Q.
201	Can you tell me when was your surgery performed?	Days …… ☐☐ Months …… ☐☐ Years …… ☐☐	
202	How many days did you take rest after the surgery you had some months ago (that is, did not do any physical work)?	Number of days …… ☐☐	
203	Did you carry heavy load/ lifted water pot (*gagri*) or big bucket containing water (*thulo pani ko balti*) cattle food container (*kundo ko taulo*) after the surgery?	Yes …… 1 No …… 2 → 205	
204	How many days after the surgery did you carry heavy load as mentioned above?	After …… days ☐☐	
205	Did you work in your family farm after the surgery?	Yes …… 1 No …… 2 → 207 Do not have any farm…… 3 → 207	
206	How many days after the surgery did you start working in family farm?	After …… days ☐☐	
207	Did you work as a wage labourer after the surgery?	Yes …… 1 No …… 2 → 210	
208	What kind of wage labouring did you do after the surgery?	Carried heavy load (*bhari bokne*) on back ….. 1 Worked in farm digging …. 2 Rice planting …. 3 Harvesting …. 4 Other (specify) _____	
209	How many days <u>after</u> the surgery did you do wage labouring as mentioned above?	After …… days ☐☐	
210	Did you take enough nutritious food after the surgery?	Yes …… 1 No …… 2 → Section 3	
211	How many times a day did you take enough nutritious food ?	Number of times a day: …… ☐☐	
212	After surgery, how many days did you take nutritious food?	Days: .....…… ☐☐	

212	Which nutritious food did you take?	Yes	No
	1. Rice	1	2
	2. Dhal	1	2
	3. Beans	1	2
	4. Meat	1	2
	5. Fish	1	2
	6. Eggs	1	2
	7. Green Vegetable	1	2
	8. Fruits	1	2
	9. Jwanoko Jhol	1	2
	10. Other (Specify):	1	2

Section 3: Health Seeking Behaviour

Q. No	Questions	Codes	GO TO Q.
301	Did you have any problem after the POP surgery?	Yes ..... 1 No 2	
302	Do you experience difficulty in passing urine after the POP surgery?	Yes ..... 1 No 2	
303	Do you experience difficulty in walking after the POP surgery?	Yes ..... 1 No 2	
304	Do you discharge any smelly or blood stained stuff after the POP surgery?	Yes ..... 1 No 2	
305	Did you have any other problem after the POP surgery?	Yes ..... 1 No ..... 2 → 312	
306	What types of other problems do you have after the surgery?	Difficult to sit down ..... 1 Difficult to do physical work ..... 2 Itching around vagina ..... 3 Surgical wound painful ..... 4 Have backache ..... 5 Difficult to do sexual intercourse ..... 6 Feel weak..... 7 Itching in the surgical wound ..... 8 Swollen legs..... 9 Bleeding problem..... 10 Chest pain ..... 11 Hematuria ..... 12 Other (specify) _____	
307	Did you consult someone or seek treatment for the problem you had after the POP surgery?	Yes ..... 1 No ..... 2 → 310	
308	How many days after experiencing the problem after the POP surgery, did you seek advice or treatment?	After ..... days [ ][ ]	
309	Where did you go for consultation or treatment?	Hospital ..... 1 Private clinic ..... 2 PHC ..... 3 HP ..... 4 SHP ..... 5 FCHV ..... 6 Dhami Jhankri ..... 7 Other (specify) _____	
310	What were the reasons, you think, for having problem after the POP surgery? **(Multiple Response)**	Not enough rest after surgery ..... 1 The service was not good enough..... 2 Did not take enough medicines ..... 3 Other (specify) _____	→ 312
311	What were the reasons for not seeking advice or treatment for the problem you had after the POP surgery? **(Multiple Response)**	Hospital too far ..... 1 Could not afford the travel and other costs ..... 2 Embarrassing to go back to the doctor..... 3 It was not serious ..... 4 No time to go for treatment ..... 5 Husband did not give permission ..... 6 Mother-in-law did not allow ..... 7 Did not find it necessary..... 8 No knowledge ..... Other (specify) _____	

Q. No	Questions	Codes			GO TO Q.
312	In your opinion, what could be the reasons for your POP problem?	Yes	No	DK	
	1. Too many births	1	2	8	
	2. Giving birth at an early age				
	3. Short birth spacing	1	2	8	
	4. Not taking enough rest after delivery	1	2	8	
	5. Doing hard physical work soon after delivery	1	2	8	
	6. Doing hard physical work even when sick or weak	1	2	8	
	7. Not taking sufficient food after delivery	1	2	8	
	8. Practice of pressing abdomen for fast delivery	1	2	8	
	9. Wearing *patuka* which pushes the vagina away from its normal place	1	2	8	
	10 Physical violence by husband	1	2	8	
	11. Having to yield to husband's demand for sex unwillingly	1	2	8	
	12. During the conflict you had an unpleasant incident with outsider(s)	1	2	8	
	13. Other (Specify):................................	....	....	....	
313	During the conflict were you abused by outsiders(s)?	Yes …….. 1 No ………………..................................... 2			→ 315
314	Would you like to share what happened?	…...			
315	Now I would like to ask you about situations which happen to some women. Please tell me if these apply to you after you had the POP problem.	Yes	No	DK	
	1. Husband started avoiding you	1	2	8	
	2. Husband married another woman	1	2	8	
	3. Mother-in-law and other family members started hating you	1	2	8	
	4. Neighbours tried to avoid you	1	2	8	
	5. Preferred loneliness	1	2	8	
	6. Felt like giving up life for good	1	2	8	
	7. Took POP as woman's way of life	1	2	8	
	8. Lost hope in life	1	2	8	
	9. Had sex unwillingly/ by force	1	2	8	
316	Now I would like to ask you about situations which happen to some women after POP surgery. Please tell me your bad experiences after you had the POP surgery.	….. ….. …..			
Some months ago when you had POP surgery in a hospital we asked your age when you first experienced signs and symptoms of POP.					
317	How old are you?	Age in years (completed) ………………… ☐☐			
318	Has you r POP problem any relation with the conflict time?	Yes ……………................................ 1 No ……………................................ 2			→ Section 4
319	In what ways it had to do with the conflict, can you explain?	……………................................ ……………................................ ……………................................			

Section 4: Pelvic Floor Distress Inventory

Instructions: Please answer these questions by putting circle in the appropriate number. If you are unsure about how to answer a question, give the best answer you can. While answering these questions, please consider your symptoms over the **last 3 months**. Thank you for your help.

Q. No	Questions	Codes	GO TO Q.
401	Do you usually experience *pressure* in the lower abdomen?	Yes ..... 1 No ..... 2 → 402	
	401_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
402	Do you usually experience *heaviness* or *dullness* in the pelvic area?	Yes ..... 1 No ..... 2 → 403	
	402_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
403	Do you usually have a bulge or something falling out that you can see or feel in the vaginal area?	Yes ..... 1 No ..... 2 → 404	
	403_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
404	Do you usually have to assume an unusual position or change positions to start or complete urination?	Yes ..... 1 No ..... 2 → 405	
	404_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
405	Do you usually have to push on the vagina or around the rectum to have or complete a bowel movement?	Yes ..... 1 No ..... 2 → 405	
	405_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
405	Do you usually experience a feeling of incomplete bladder emptying?	Yes ..... 1 No ..... 2 → 407	
	405_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
407	Do you usually feel that you have an unusually weak stream or that you take too long to empty your bladder?	Yes ..... 1 No ..... 2 → 408	
	407_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	

Q. No	Questions	Codes	GO TO Q.
408	Do you ever have to push up on a bulge in the vaginal area with your fingers to start or complete urination?	Yes ..... 1 No ..... 2 → 409	
	408_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
409	Do you feel you need to strain too hard to have a bowel movement?	Yes ..... 1 No ..... 2 → 410	
	409_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
410	Do you feel you have not completely emptied your bowels at the end of a bowel movement?	Yes ..... 1 No ..... 2 → 411	
	410_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
411	Do you usually lose stool beyond your control if your stool is well formed?	Yes ..... 1 No ..... 2 → 412	
	411_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
412	Do you usually lose stool beyond your control if your stool is loose or liquid?	Yes ..... 1 No ..... 2 → 413	
	412_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
413	Do you usually lose gas from the rectum beyond your control?	Yes ..... 1 No ..... 2 → 414	
	413_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
414	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	Yes ..... 1 No ..... 2 → 415	
	414_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
415	Do you usually experience loss of gas or stool as the result of physically stressful activities such as with exercise, coughing, sneezing, or hard laughing?	Yes ..... 1 No ..... 2 → 415	

Q. No	Questions	Codes	GO TO Q.
	415_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
415	Do you usually have pain when you pass your stool ?	Yes ..... 1 No ..... 2 → 416	
	415_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
416	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	Yes ..... 1 No ..... 2 → 418	
	416_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
418	Does a part of your bowel ever pass through the rectum and bulge outside during or after a bowel movement?	Yes ..... 1 No ..... 2 → 419	
	418_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
419	Do you usually experience frequent urination?	Yes ..... 1 No ..... 2 → 420	
	419_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
420	Do you usually experience a strong feeling of urgency to empty your bladder?	Yes ..... 1 No ..... 2 → 421	
	420_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
421	Do you usually experience urine leakage associated with a feeling of urgency, that is a strong sensation of needing to go to the bathroom?	Yes ..... 1 No ..... 2 → 422	
	421_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
422	Do you usually experience urine leakage related to coughing, sneezing, or laughing?	Yes ..... 1 No ..... 2 → 423	

Q. No	Questions	Codes	GO TO Q.
	422_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
423	Do you usually experience urine leakage related to physical exercise such as walking, running, doing physical work?	Yes ..... 1 No ..... 2 → 424	
	423_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
424	Do you usually experience small amounts of urine leakage (that is, drops)?	Yes ..... 1 No ..... 2 → 425	
	424_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
425	Do you usually awaken during your normal sleeping hours to urinate?	Yes ..... 1 No ..... 2 → 426	
	425_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
426	Do you usually experience bed-wetting?	Yes ..... 1 No ..... 2 → 427	
	425_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
427	Do you usually dribble urine as you stand up or begin to walk immediately after you have finished urinating?	Yes ..... 1 No ..... 2 → 428	
	427_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	
428	Do you usually experience pain or discomfort in the lower abdomen Or genital region ?	Yes ..... 1 No ..... 2 → Section 7	
	428_a If yes, how much does this bother you?	Not at all ..... 1 Somewhat ..... 2 Moderately ..... 3 Quite a bit 4	

Section 5: Pelvic Floor Impact

Instructions

Some women find that bladder, bowel or vaginal symptoms affect their activities, relationships, and feelings. For each question, place an X in the response that best describes how many your activities, relationships or feelings have been affected by your bladder, bowel or vaginal symptoms or conditions **over the last 3 months.** You may or may not have symptoms in each of these three areas, but please be sure to mark an answer in all 3 columns for each question. If do not have symptoms in one of these areas, then the appropriate answer would be "Not at all" in the corresponding column for each question.

Example

For the following question:

If your bladder symptoms interfere with your ability to climbing Hills up and down, climbing tree or working in fields moderately, and your bowel symptoms interfere with your ability to climbing Hills up and down, climbing tree or working in fields somewhat, but your vaginal or pelvic symptoms do not interfere with your ability to climbing Hills up and down, climbing tree or working in fields or you have no vaginal or pelvic symptoms then you should circle "Not at all" in the corresponding number as indicated below:

How do symptoms or conditions related to the following → usually affect your ↓	Bladder or urine	Bowel or rectum	Vagina or Pelvis
501. Ability to do household chores (cooking, house cleaning, laundry)?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
502. Ability to do physical activities such as walking, or carrying loads (*bhari bokne*) ?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
503. Entertainment activities such as dancing in a wedding ceremony?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
504. Ability to travel by bus or cart (*Tanga*) for distances greater than 30 minutes away from home?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
505. Participating in social activities outside your home?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
506 Ability to have sexual relations?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit
507. Emotional health (nervousness or anxiety, frustration)?	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit	1= Not at all 2= Somewhat 3= Moderately 4= Quite a bit

Q. No	Questions	Codes	GO TO Q.
601	How are you feeling now after the surgery?	Do not feel good at all……..... 1 Do not feel that good……..... 2 Feel just okay ……..... 3 Feel great, no problem after surgery……..... 4	

Time interview ended: Hour: _____ Minute: _____

Thank you very much for your cooperation.

ANNEX III: PRE OPERATIVE ASSESSMENT FORM

PRE-OPERATIVE ASSESSMENT OF WOMEN SUFFERING FROM POP MOHP/FHD/UNFPA AND THE PHD GROUP

Form No.			

IDENTIFICATION			
1) Name of District of respondent:			
2) Name of VDC/Municipality:			
3) Ward number:			
4) Name of household head :			
5) Name of respondent:			
6) Name of referring organization for POP surgery (*circle as appropriate*) : ADRA Nepal / HHESS			
7) Name of hospital where POP surgery took place:			

Pre-operative assessment by Gynaecologist: *Please tick each row and or each column as relevant*

	Anterior compartment	Central compartment	Posterior compartment
No descent			
Above the hymen- Stage I			
At the Hymen + 1cm-Stage II			
Below the hymen- Stage III			
Complete extroversion of the vagina-Stage IV			

Leakage of urine on coughing *(please tick as appropriate)*	Present	Absent	

- Conservative treatment if bulge is at or above the hymen even if patient is symptomatic ……..
- Surgical treatment only if prolapse is below the hymen and patient is symptomatic …….

POST OPERATIVE INFORMATION:

Surgical procedure performed (please specify): ……

Name of Gynaecologist: ..... Signature: .....Date: ....

ANNEX IV: POST OPERATIVE ASSESSMENT FORM

POST-OPERATIVE ASSESSMENT OF WOMEN WHO HAD UNDERGONE SURGERY FOR POP
MOHP/FHD/UNFPA AND THE PHD GROUP

Form No.			

IDENTIFICATION			
1) Name of District of respondent:			
2) Name of VDC/Municipality:			
3) Ward number:			
4) Name of household head:			
5) Name of woman respondent:			
6) Name of hospital where POP surgery took place:			

Post-operative assessment by Gynaecologist: *Please tick each row and or each column as relevant*

	Anterior compartment	Central compartment	Posterior compartment
1. No descent			
2. Above the hymen- Stage I			
3. At the Hymen ± 1cm-Stage II			
4. Below the hymen- Stage III			
5. Complete extroversion of the vagina-Stage IV			

Leakage of urine on coughing *(please tick as appropriate)*	Present	Absent	

Simplified POP- Q (S-POP-Q) classification
Tick the appropriate stage

Stage 0	Stage I	Sage II	Stage III	Stage IV

Any complications noted:
VUF 1
RVF..... 2
SUI..... 3
Infection: vaginistis/cuff infection/UTI 4
Other (Specify):.....

Name of Examining Doctor: ..... Signature: ..... Date:…….

ANNEX V: STUDY TEAM MEMBERS

Dr. Yagya Bahadur Karki	-	Team Leader
Dr. Geeta Gurung	-	Medical Doctor, OBGYN
Mr. Khadga B. Karki	-	Project/Logistics Manager

Data Processing Staffs

Mr. Rajendra Karki	-	Programme Officer/Data Manager
Mr. Subodh Pathak	-	Data Processor
Mr. Narayan Roka	-	Data Processor
Mr. Kapil Karki	-	Data Processor

Field Staffs

Interviewers/Enumerators

Ms. Bhagwati Sharma
Ms. Renu Sen
Ms. Radhika Baniya
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