KNOWLEDGE, ATTITUDE AND PREVENTIVE MEASURES AMONGST THE MARRIED WOMEN OF REPRODUCTIVE AGE TOWARDS UTERINE PROLAPSE IN THE 8 VDCS OF SURKHET DISTRICT, NEPAL

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ความรู้ ทัศนคติ และ การป้องกันโรคกระบังลมหย่อนในสตรีสมรสที่อยู่ในวัยเจริญพันธุ์ใน 8 หมู่บ้าน เมืองซูเก็ต ประเทศเนปาล

นางสาว อัสมา บารูวาล

วิทยานิพนธ์เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
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Thesis Title	KNOWLEDGE,ATTITUDE AND PREVENTIVE MEASURES AMONGST THE MARRIED WOMEN OF REPRODUCTIVE AGE TOWARDS UTERINE PROLAPSE IN THE 8 VDCs OF SURKHET DISTRICT, NEPAL
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อาชมา บารูวาล: ความรู้ ทัศนคติ และการป้องกันโรคกระบังลมหย่อนในสตรีสมรสที่อยู่ในวัยเจริญพันธุ์ใน 8 หมู่บ้าน เมืองซูเก็ท ประเทศเนปาล (KNOWLEDGE, ATTITUDE, PREVENTIVE MEASURES AMONGST MARRIED WOMEN OF REPRODUCTIVE AGE TOWARDS UTERINE PROLAPSE IN THE 8 VDCs OF SURKHET DISTRICT, NEPAL) อาจารย์ที่ปรึกษาหลัก: ผู้ช่วยศาสตราจารย์ ดร. รัตนา สำโรงทอง ,104 หน้า

การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อศึกษาถึงความชุก ความรู้ ทัศนคติ และการป้องกันโรคกระบังลมหย่อนในสตรีสมรสที่อยู่ในวัยเจริญพันธุ์ใน 8 หมู่บ้าน ในตำบลซูเก็ท ประเทศเนปาล อันเป็นการศึกษาแบบตัดขวาง กลุ่มตัวอย่างจำนวน 267 คน โดยการสุ่มอย่างเป็นระบบ เก็บข้อมูลโดยใช้แบบสอบถามที่สร้างขึ้น การวิเคราะห์ข้อมูลใช้ ร้อยละ ค่าเบี่ยงเบนมาตรฐาน ไคว์สแคว และการวิเคราะห์การถดถอยโลจิสติก ที่ระดับนัยสำคัญทางสถิติ ที่ p value 0.05 นอกจากนี้ได้จัดการสนทนากลุ่มในกลุ่มผู้หญิงที่เป็นและไม่เป็นกระบังลมหย่อนเพื่อทำความเข้าใจเรื่องพฤติกรรมการป้องกัน

ผลการศึกษาพบว่าความชุกของการเกิดกระบังลมหย่อนร้อยละ 24.7 กลุ่มตัวอย่างร้อยละ 51.9% มีความรู้เรื่องกระบังลมหย่อนระดับปานกลาง ผลการวิเคราะห์การถดถอยโลจิสติก พบว่าความรู้ และจำนวนการตั้งครรภ์ มีระดับนัยสำคัญทางสถิติ ที่ p value < 0.05 และพบว่ากลุ่มตัวอย่างมีความรู้เรื่องการป้องกันโรคกระบังลมหย่อนน้อยกว่า ความรู้เรื่องปัจจัยเสี่ยง อาการแสดงของโรค ดังนั้นควรมีการสร้างความตระหนักในเรื่องการป้องกันให้มากขึ้น ผลการสนทนากลุ่มพบว่ากลุ่มตัวอย่างมีความรู้เรื่องกระบังลมหย่อน หากแต่ไม่สามารถป้องกันโรคได้ เนื่องจากขาดความช่วยเหลือจากสมาชิกในครอบครัว ซึ่งรวมทั้งสามี .

สาขาวิชา: สาธารณสุขศาสตร์ ..... ลายมือชื่อนิสิต .....

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ASHMA BARUWAL: KNOWLEDGE, ATTITUDE AND PREVENTIVE MEASURES AMONGST THE MARRIED WOMEN OF REPRODUCTIVE AGE TOWARDS UTERINE PROLAPSE IN THE 8 VDCs OF SURKHET DISTRICT, NEPAL. ADVISOR: ASSISTANT PROFESSOR RATANA SOMRONGTHONG, Ph.D., 104 pp.

The general objective of the study was to determine the prevalence of uterine prolapse in the studied sample area, knowledge, attitude and preventive measures of uterine prolapse amongst the married women of reproductive age in the 8 vdcs of Surkhet district of Nepal. It was a cross sectional study. There were a total of 267 participants in the study. Systematic random sampling was done. Data were collected by constructed questionnaire and analyzed by percentage, arithmetic mean, standard deviation, chi square and the logistic regression. The data were analyzed by using level of significance at 0.05.Focus group discussion was carried amongst women with and without prolapse to understand their preventive behavior

The results showed that the prevalence of uterine prolapse was 24.7%.Women had a moderate level of knowledge regarding uterine prolapse (51.9%).Logistic regression revealed that knowledge level (p value<0.01) ,attitude level(p value<0.05) and parity(p value<0.05) were significant.

The results showed that women have knowledge about the preventive measures is less as compared risk factors, signs and symptoms therefore showing that more awareness programs are needed in the area. Focus group revealed that though women had knowledge about uterine prolapse, they could not practice it due to lack of help from family members including her husband.

Field of Study:.....Public Health..... Student's Signature .....

Academic Year:.....2010..... Advisor's Signature .....

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LIST OF ABBREVIATIONS

MOHP	Ministry of Health and Population
UNDP	United Nations Development Program
UNFPA	United Nations Fund For Population Activities
WHO	World Health Organization
GTZ	German Agency for Technical Cooperation
HMG	His Majesty's Government
NDHS	Nepal Demographic Health Survey
CAED	Center for Agro Ecology Development
WRRP	Women's Rights Reproductive Program
POP-Q	Pelvic Organ Prolapse Quantification System
SMNF	Safe Motherhood Network Foundation
CBS	Central Bureau of Statistics, Nepal.
ANC	Ante natal care
TBA	Traditional birth attendants
SBA	Skilled birth attendants
WOREC	Women's Rehabilitation Centre

CHAPTER I
INTRODUCTION

1.1 Background and Rationale

Women comprise slightly over 50% of the total population of Nepal but the country has one of the highest indices of maternal mortality rate (Ministry of Health and Population of Nepal [MOHP],2010).Reproductive morbidity includes gynecological and obstetrics morbidity.Gynecological morbidity signifies poor health throughout the reproductive episode that is before and after the delivery of the child (Younis et.al.,1993).Maternal morbidity is the unspeakable anguish undergone by millions of women in Nepal, which is not as focussed as much as the causes of maternal mortality. Life expectancy of female population at birth is 67 years (World Health Report, 2005). The maternal mortality ratio is 281 per 100,000 live births in 2006 and is projected to be reduced to 250 per 100,000 life births by 2017 (National Demographic Health Survey of Nepal[NDHS], 2006).

Reproductive mortality and morbidity is one of the major problems for the women of Nepal. A study shows that out of 50 women reporting illness during a family planning camp, 96% was diagnosed with reproductive morbidity related illness (Thapa and Basnet, 1999). Around 3% of women were clinically diagnosed with reproductive health morbidity in the community based study done by Bhatia et al (1997). One of the most common, but often hidden and untreated gynecological morbidities is uterine prolapse (Messerschmidt.L, 2009).

According to the reports of Women's Rights Reproductive Program [WRRP], 2007 uterine prolapse is a significant health problem amongst women and has affected women all over, in the mountains, hills, plains and the valleys. It is a condition in which women's uterus slips or sags out of its normal position. This is called incomplete prolapse. In a more severe case--called complete prolapse, the uterus slips so far out of

place that some of the tissue drops outside of the vagina (Cleveland Clinic, 2010).The population based survey conducted by United Nations Fund for Population Activities [UNFPA], 2005 reported that 600,000 women in Nepal suffer from uterine prolapse out of which 200,000 women need immediate surgery. 69.1% of women have first degree prolapse and 30.9% suffer from second and third degree of prolapse . The reason why uterine prolapse has been a major health concern and alarmed many non governmental organisations and various others is the agegroup in which it has been seen in Nepal.Unlike western countries where prolapse usually occurs in old age,menopausal women, in Nepal girls as young as 15 years have been found to suffer from prolapse while some have been suffering from it for as long as 45 years.Studies have reported that more than 51% of prolapse cases occur between the age of 20-24,14% before the age of 20 and another 44% before a woman reaches 30 (Center for Agro-Economy Development-Women's rights Reproducitve Program[CAED-WRRP],2007).Very few studies have been conducted in Nepal and of the few studies that have been carried out, majority of them are clinic-based, only giving a clue of prevalence (Shah, 2010). The high prevalence only shows negligence on the government's part to address a condition which is preventable and treatable.

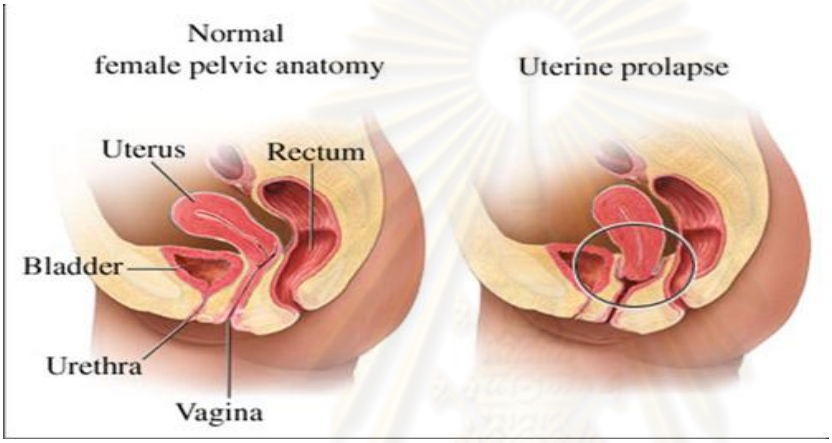
Types of Prolapse:

1) Anterior vaginal prolapse - Cystocele or urethracele: The bladder base descending with the anterior vaginal wall and ultimate forming a pouch is known as cystocele, it is due to the weakness of the investing fascia of the vagina (pubocervical facia). In this type of prolapse the urethra is dislocated from the sub pubic angle and is displaced backwards and downwards on straining.
2) Posterior vaginal prolapse-

a) Rectocele: Rectocele is known as lower posterior vaginal wall prolapse. This type of prolapse means a break in inverting vaginal fascia with hermination of the bowel.

b)Enterocele: The prolapse of upper posterior wall associated with hermination of pouch of Douglas containing loops of bowel is known as enterocele.(Bay State Health, 2010)

Figure 1: Prolapse of the Uterus



Source: www.urogynecologycenter.com [12th September 2010]

The biomedically generally identified causes of uterine prolapse are such as inaccessibilty to excellent maternal health care (skilled birth attendent and emergency obstetric care), poverty, gender discrimination related to health (Reproductive Health and Maternal care), nutrition (life cycle), workload during post natal period and domestic violence(Darshan, 2009). The circumstances of intricate geography, insufficient and poor health services, the pre-natal period manifested by a heavy workload, a low rate of pre-natal care, and restrictions on women's own health decision-making are the major factors of this problem in Nepal (Amatya, 2006).

Various studies have reported the discrimination against girls' right from the child rearing practices to diet and to availability of health care. According to the report from United Nations Development Program [UNDP], 2005 almost 70% of women who are of child bearing age are anemic and a projected 40% of them have given birth to at least one child between the ages of 15-19.Post marriage women live in their husband's home where their rights are extremely reduced to an extent that they have no say in the

decisions imposed on them even if it harms their very survival life (Shah, 2010). Women's right to be in control over resources is also limited. Of the total landholdings only 8% of it is owned by women and the average size is also just two-thirds of the overall average holding. Women who are in charge of both house and land property only account for 4% of the total population (UNDP, 2004).

The problems arising from prolapse can gravely affect the quality of life. the most common problems associated with it are difficulty in walking, standing, sitting, constipation ,backache, voiding dysfunction,urinary retention,vaginal erosion resulting in dysparaunia and sexual dysfunction(Rahman et al., 2006).Uterine prolapse not only results in physical pain, unbearable distress and extended infection but also has social implications. The patients are detested by the villagers. The patient loses her ability to work and is often left by her husband for another woman which is relatively cost effective for a man than struggling to pay for his wife's surgery. The uterine prolapse results in a loss of woman's self respect, which is definitely disastrous interms of communal recognition (Messerschmidt ,2009).

The fertility rate of women in Nepal is 2.9 and also only 17% of the total population is urbanized(United Nations Children's Fund[UNICEF],2008).This means the majority of the population live in rural areas where the living conditions are pretty harsh and women are involved in the household work, farming and poultry (Sarkar,2007:online) which are the basis for the risk factors for prolapse.Also women hole up their reproductive problems silently to themselves as "way of life".They are too shy and feel ashamed to report conditions related to their reproductive area(Younis et al., 1993)

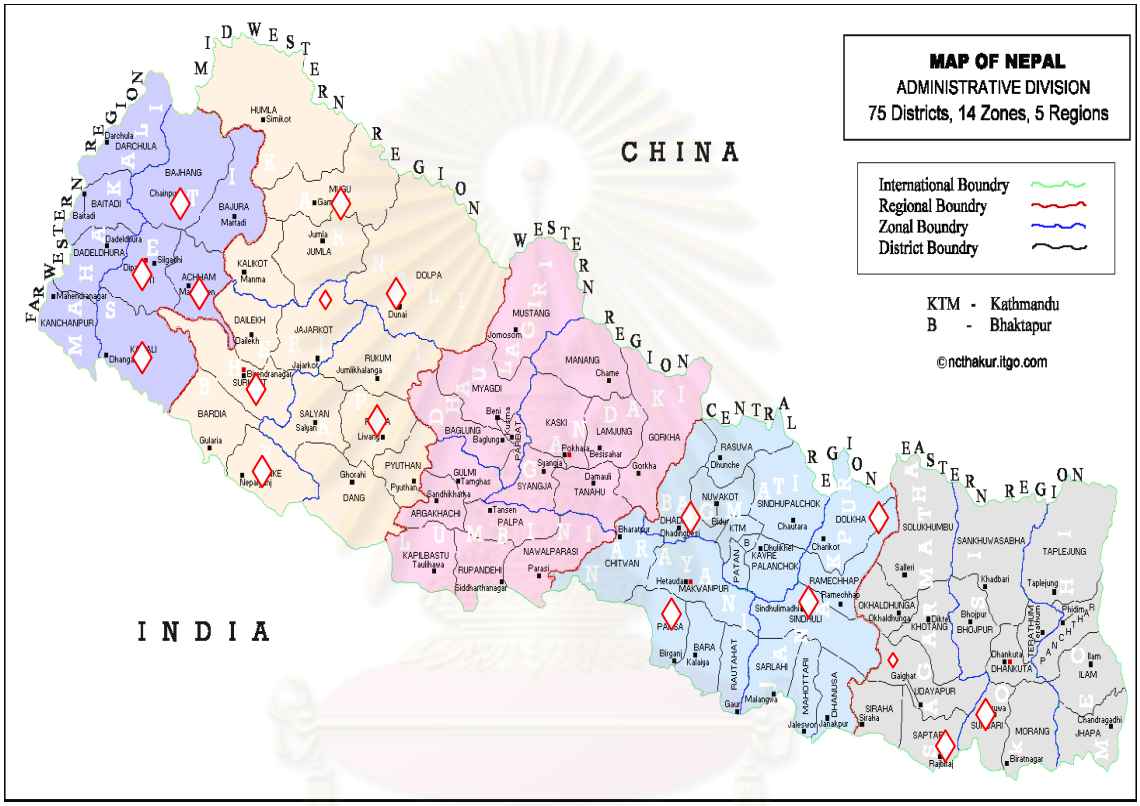
Surkhet is a district in the mid western development region of Nepal. Birendranagar is the district headquarters and lies to the west of the capital of Kathmandu.The total population of the district is 288,527 with female population being 145,710. The mean age of women entering into marriage is 18.77. (Central Bureau Of Statistics[CBS], 2009).

A clinic based study carried out in the districts of Doti,Achham found the prevalence to be 20% (UNFPA,GTZ and Government of Nepal, 2002) .Doti and Achaam both share borders with Surkhet district so it is assumed that prevalence might be in high numbers. No studies have been conducted in the Surkhet region so far. The researcher hopes to add information regarding the situation in the district by doing the study ”knowledge,attitude and preventive measures amongst married women of reproductive age towards uterine prolapse in the Surkhet district of Nepal”.It will be done in collaboration with the National Government Organization[NGO] namely Women’s Rights Reproductive Program which specifically work on uterine prolapse in Nepal and are looking to carry out interventions in the area.

Moreover, the studies in Nepal that the researcher has come across till now have only dealt with the aetiology,risk factors of uterine prolapse(Upadhyay, 2010; Messerschmidt , 2009).The researcher did not find any study that actually looks in to the knowledge level about uterine prolapse and the attitude towards it.And conducting this study amongst both women with and without uterine prolapse,the results will provide information as to knowledge level regarding uterine prolapse and as to how the women without prolapse look at uterine prolapse as a disease and their attitude towards prolapsed women.

Prevalence areas in Nepal

Figure 2: Map of Nepal and the uterine prolapse prevalence areas



◊ Prevalence of uterine prolapse

Source: www.clicknepal.com/where-is-nepal.html [5th December'2010]

Figure 3: Map of Surkhet District

Source: www.cthakur.itgo.com/districtmaps/surkhet_district.htm [5th December'2010]

1.2 Research Questions

- What is the prevalence of self reported cases of uterine prolapse amongst women?
- What is the knowledge,attitude and knowledge of preventive measures of women towards uterine prolpase in the Surkeht district of Nepal?

1.3 Hypothesis

Knowledge,attitude and preventive measures of women towards uterine prolapse living in the Surkhet district of Nepal

1.4 Objectives

1.4.1 General Objective

To assess the knowledge and attitude of uterine prolapse in the Surkhet district of Nepal.

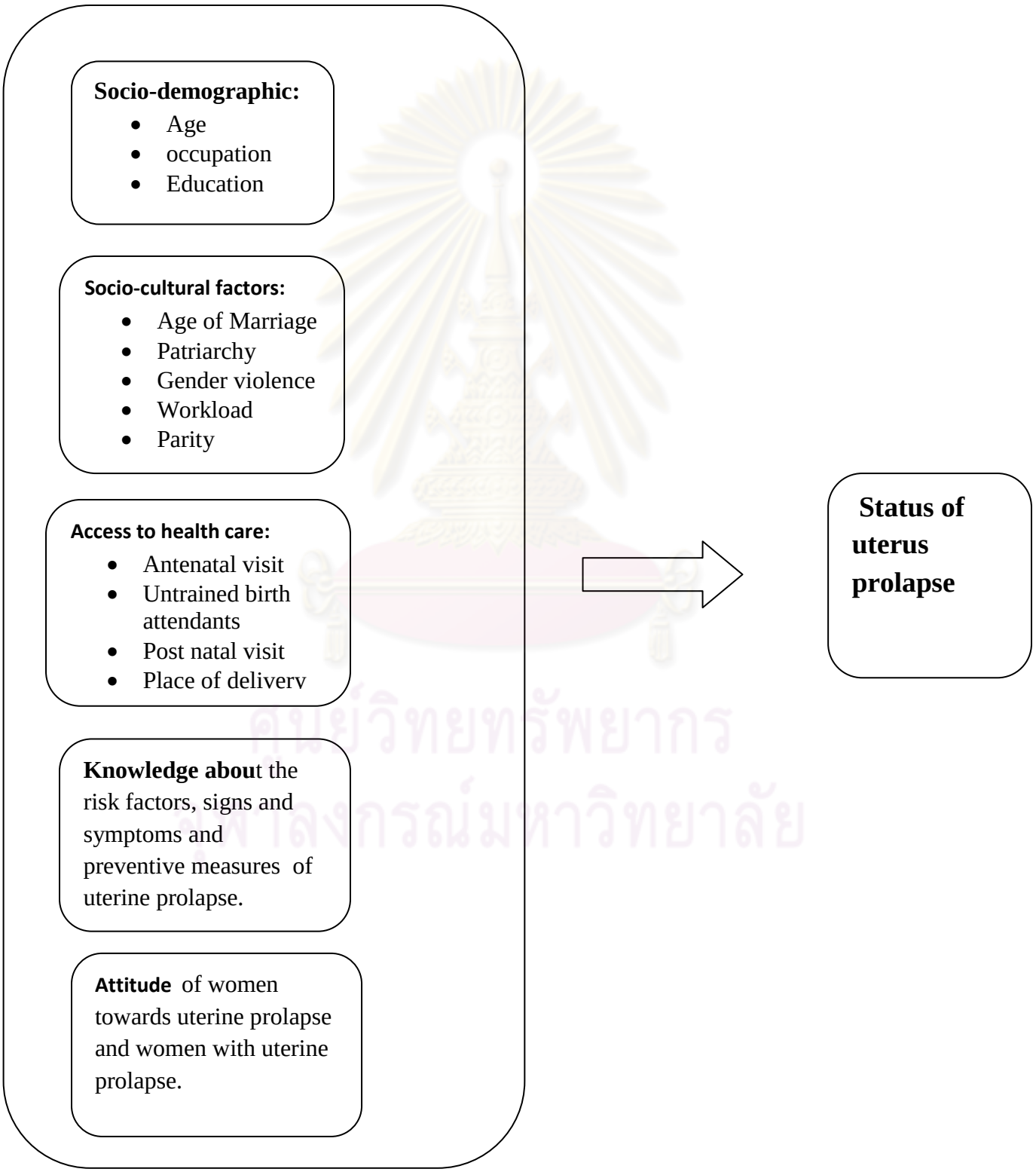
1.4.2 Specific Objectives

- To determine the prevalence of uterine prolapse in the studied sample area.

- To assess the level of knowledge regarding the risk factors of uterine prolapse.
- To assess the level of knowledge regarding signs and symptoms and preventive measures of uterine prolapse.
- To determine the attitude towards women with uterine prolapse.
- To determine the possible risk factors related to status of uterine prolapse.
- To analyze the association of knowledge and attitude with the status of uterus prolapse.

1.5 Conceptual Framework

Figure 4: Conceptual Framework



1.6 Operational Definitions:

Age of marriage: It refers to getting married below 18 years which is the legal age of marriage in the country.

Poor birth practices: Delivery at home by untrained relatives(push and pull techniques) which lead to pelvic damage.

Parity: Multiple births with low birth spacing.

Patriarch**y**: The head of the house is a male and everyone follows his decision.

Gender violence: This is basically carried out by the husband or partner if they are not happy with their wife and usually takes place behind closed doors.

Untrained birth attendants: The women who are untrained and have learnt delivery practices from generations or self taught.

Knowledge: Knowledge in this study refers to the knowledge regarding the signs and symptoms,risk factors and treatment of uterine prolapse.

Attitude: In this study,it is what they think about uterine prolapse as a dieases and what do they think about women who suffer from uterine prolapse. and the availability to health services and the barriers to seeking it.

Preventive Measures: Knowledge about measures to be taken to prevent uterine prolapse or prevent it from degrading further.

Status of Uterine Prolapse: The status of uterine prolapse in the study means the women who have uterine prolapse.

1.7 Expected Benefits and Applications:

It can be used for further literature study as very limited studies have been done on the topic.

This is the first study to be carried out in the area so it can be used as a baseline by the donor agencies and NGOS working in the field of uterine prolapse to work out specific interventions.The study can be used to create awareness programmes regarding uterine prolapse and advocate the concerned authorities.

CHAPTER II
LITERATURE REVIEW

The chapter II deals with the followring components:

- History of uterine prolapse
- Global situation of uterine prolapse
- Situation of uterine prolapse in Nepal
- Signs and symptoms of uterine prolapse
- Risk Factors for uterine prolapse
- Consequences of uterine prolapse on the lives of women with uterine prolapse
- Preventive measures for uterine prolapse
- Treatment for uterine prolapse

2.1 History of the uterine prolapse

Uterine prolapse has been prevalent since ages and it is proven by the fact that it was mentioned in the writings of Hippocrates and Galen. During the Hippocrates era, it was treated by tying the woman to a ladder which was inverted with the hope that prolapsed organ would return to its normal position. An Egyptian medical text around 2000 BC also mentioned “falling womb” and its treatment. The problem seems to have continued over the centuries with cases of uterine prolapse making its way into the articles available from the mid 19th century (Kumari, Walia and Singh, 2000). A study in 1952-54 found that among 5,494 women visiting private clinics in Bengal, Delhi, Punjab and Uttar Pradesh with gynecological complaints, one in five was suffering from uterine prolapse. Shining Hospital in Pokhara, Nepal had found 1,500 women suffering from UP, indicating that the problem was already identified 46 years ago. However, it was not taken seriously by any of the concerned sectors(Watson ,1975 cited in WRRP-CAED, 2007). In a study carried out in a pair of rural villages in Egypt , November 1989-July 1990, 56% of the women suffered from genital prolapse in which 8% had a severe level

of morbidity involving uterine prolapse(Stewart, 2004). It is astonishing that such a serious problem has remained neglected for so long (Kumari et.al, 2000).

2.2 Global Situation of the uterine prolapse

Globally 30% women who have delivered a child are affected from uterine prolapse (Adler, Shrivastava and Bodner, 2007). More than 338,000 procedures for prolapse are performed annually in the United States. The estimated lifetime risk by age 80 years undergoing surgery for urinary incontinence or pelvic organ prolapse was 11.1% in a large managed care population in Oregon. Prevalence data for prolapse are scattered at best. In a 2002 study in the United States, 27,342 women were evaluated in the Women's Health Initiative. 14.2% of the 16,616 women who had a uterus were diagnosed with genital prolapse (Hendrix et al., 2002). Another US study suggests that genital prolapse is present in some 20% of post-menopausal women. In a 1993 study from Egypt, physician diagnosis found that 56% of 509 ever-married women between the ages of 14 and 60 had prolapse.

In 1997, 694 parous non-pregnant women in Istanbul were examined and 27% were diagnosed with severe "pelvic relaxation". In a 1997 study in southern India, 440 women under the age of 35 were evaluated for gynecological morbidity, and cases of prolapse were noted in 3.4%. In a 2000 study in northern India, of 2,990 married women surveyed for prolapse, 7.6% had prolapse (Amatya, 2006).

9.8% women suffered from genital prolapse for a total of 1365 women, this was found in a study conducted in Oman for reproductive morbidity. The same study also showed that prolapse has a highly significant association with large number of children. Other significant factors included large number of children, living in an extended family, illiteracy, old age, poor means and hygiene (Mabry, Al- Riyami and Morsi, 2007). A 1997 study found that women with normal life expectancy of 79 years have 11-12% chances of undergoing at least one operation for prolapse or incontinence with a reoperation rate of 29.2% (Drutz and Alarab, 2007).

One study carried out amongst 713 Korean women , the prevalence of any form of prolapse was 2.0% in women 20 to 29 years old and 57.5% in those older than 50 years with an overall prevalence of 31.7%.prolapse occurred in 40.1% of parous women. The corresponding prevalence among non parous women was 1.9% (Seo and Kim, 2006). A Swedish study found a prevalence of any degree of uterine prolapse of 5% in women aged 20–59 years.While another study carried out amongst Swedish women aged 20-59 years found the prevalence to be 30% (Samuelsson et al., 1999). The study conducted in another part of Europe, Italy roughly produced the same results of about prevalence being 5.5% for 21449 women (Progetta Menopausa Italia study group, 2000). In a clinical study carried out in Gambia, Africa out of 1067 women who agreed to speculum examination 488 (46%) were found to have some degree of uterine prolapse. In 152 women (14%) the prolapse was in severe need of surgical intervention (Scherf et al., 2002).

2.3 Situation of uterine prolapse in Nepal

110 out of 1,147(9.6%) of women were detected with prolapse in the study conducted by Institute of Medicine,2006. In a study carried out by Tuladhar (2005) in Bajhang district of Nepal, out of the total 530 women visiting the gynecological camp, 273(51.5%) of them had gynecological problems and uterovaginal prolapse (18.3%) seemed to be the leading cause behind it followed by sub fertility(14.2%) and reproductive tract infections accounting for another 13.9%. Only 22.0% of them used family planning methods. This might also explain the parous condition of the women.

Another study jointly conducted by CAED-WRRP (2007) in the Terai districts, Siraha and Saptari found the prevalence at an average of 37% , where Siraha had a prevalence of 30% (967)and Saptari at 42% (1,301). A population based survey by UNFPA, WHO and IOM (2006) which included 8 districts from high to mid hills and Terai (plains) found the prevalence to be 10% and the prevalence was found to be the highest in the Terai (plains), Rautahat district with 44%.This proves that prolapse is not necessarily confined to hilly regions as was earlier thought to be the case.

A gynecological study camp undertaken by the Safe Motherhood Network Federation-Nepal [SMNF] in the 10 hill and Terai districts found the prevalence to be 9% , out of total of 4518 (Deuba,2005 cited in CAED-WRRP,2007). A study conducted to find out the reproductive morbidity in the three districts of eastern region of Nepal found pelvic organ prolapse as the second leading cause, accounting for 20.1% of the total causes (Dangal, 2008).Report on the western region of Nepal shows 25% of visitors of free female health care clinics diagnosed with first, second and third degree of prolapse (Schaaf, Dongol, and Leeuw-Harmsen, 2008). Another report published in 2004 by Bonetti, Erpelding and Pathak conducted a clinic-based study which examined 2,072 women with gynecological complaints found one in four had uterine prolapse. Among them 95% had self reported their prolapse.out of a total of 77 women selected from remote districts around Dhulikhel,Kathmandu who underwent vaginal hysterectomies at the Dhulikhel Hospital,78% had surgeries related to anterior and posterior vaginal prolapse (Schaaf et al., 2008). Also the report by Messerschmidt (2009) found that out of a total of 1006 women diagnosed with uterine prolapse during the organised gynecological camps which were carried out in 13 district in Nepal found that out of a total of 1006 women diagnosed with uterine prolapse, nearly 40%(402) were diagnosed with third degree prolapse and nearly 53% of them required surgical intervention.

2.4. Degrees of uterine prolapse: (Manual of Medical Surgical Nursing Care,Pg 664)

2.4.1 First Degree – The uterus is slightly descended towards the vaginal and cervix remains within the vagina.

2.4.2 Second Degree – In straining and standing position of woman the cervix projects through the vulva and the cervix extended ouside of the vaginal orifice.

2.4.3 Third Degree – Coming of the uterus outside the vulva.

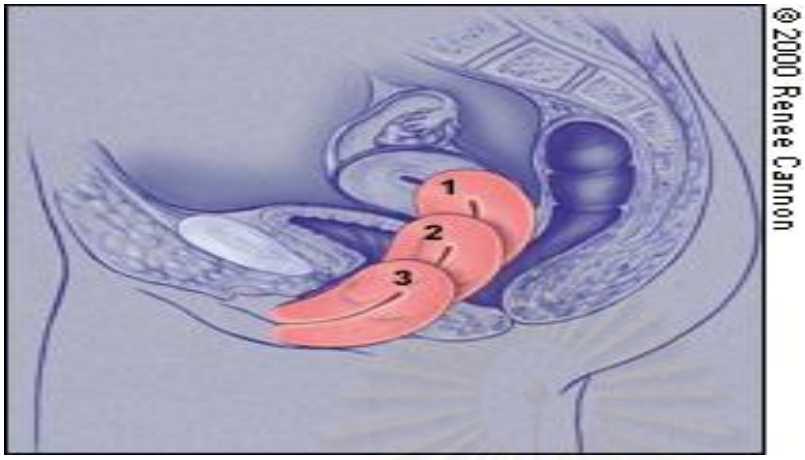


Figure 5: Degrees of uterine prolapse
Source: http:// faculty.washington.edu [6th December ‘ 2010]

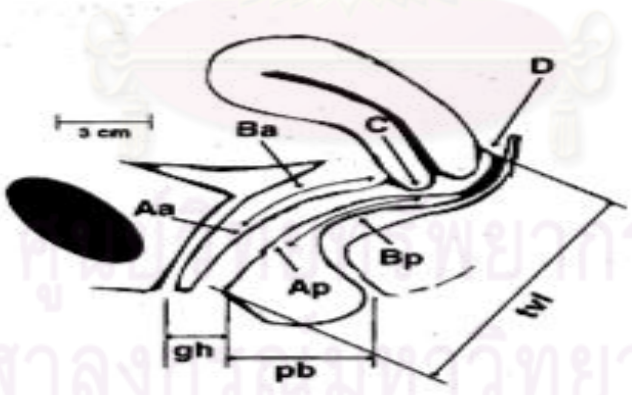
The degrees of uterine prolapse is found only on examination.The International Continence Society came up with the method of identification of degrees of prolapse,Pelvic Organ Prolapse-Quantification(POP-Q) which is now widely used all over the world as a validated tool for measuring degrees of prolapse. The POP-Q considers six defined points within the vagina: two anterior (Aa and Ba), two posterior (Ap and Bp) and two apical (C and D). Each point was expressed as distance in centimeters from the hymen, considered as landmark for reference, with the woman performing maximum Valsalva. Each point was defined as zero if it were seen at the level of the hymenal ring and as a negative or positive numbers if they were seen above or below the hymen, respectively.

Point Aa is located in the midline of the anterior vaginal wall, 3 cm proximal to the external urethral meatus. Point Ba represents the most distal position of the upper portion of the anterior vaginal wall from the vaginal cuff or anterior vaginal fornix to the point Aa. Point C is the most distal part of the anterior lip of the cervix (or the vaginal cuff in a woman who has undergone total hysterectomy). Point D represents the location of the posterior fornix and it is omitted in the women underwent total hysterectomy (Digesu et al., 2005)

Point Ap is located in the midline of the posterior vaginal wall 3 cm proximal to the hymen. Point Bp represents the most distal position of the upper portion of the posterior vaginal wall from the vaginal cuff or posterior vaginal fornix to point Ap. Finally, POP-Q considers three other measurements: total vaginal length (TVL), genital hiatus (GH) and perineal body (PB). These are expressed in centimeters and have no sign because they denote lengths and not positions relative to the hymen.

TVL is the greatest depth of the vagina in centimeters when C and D are reduced to its full normal position. GH is measured from the middle of the external urethral meatus to the posterior midline hymen. PB is measured from the posterior margin of the GH to the middle of the anal orifice. The prolapse can be staged according to the position of the lowest portion of the prolapse. Prolapse is rated as none, grade 1 (within the vagina), grade 2 (to the introitus), or grade 3 (beyond the hymen).the hymen seems to be a stand off point for the prolapse degree marking. (Digesu et al., 2005).

Figure 6: POP-Q SYSTEM



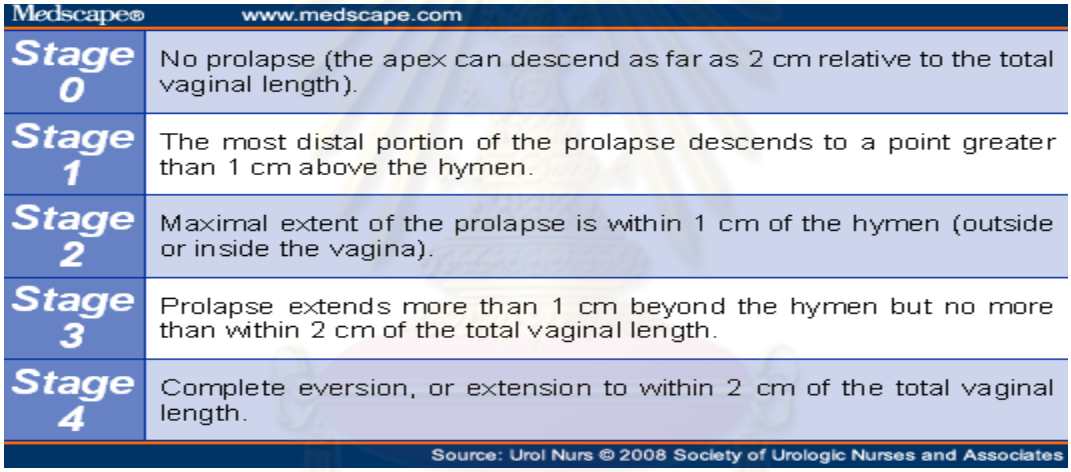
Source: www.ptjournal.apta.org/content/876/4/399.full [16th December'2010]

Types, degree and symptoms of prolapse have been found to be strongly correlated. In fact types and symptoms have been found to be highly significant from the various studies. Anterior vaginal wall prolapse may present as stress incontinence. A large cystocele may cause urethral kinking and overflow incontinence. Uterine descent

can cause lower back and sacral pain. Enterocele may cause only vague symptoms of vaginal discomfort. A retocele can lead to incomplete evacuation of stool (Marinkovic and Stanton, 2004).

. In a study carried out in London, urinary symptoms were not correlated with uterovaginal prolapse severity whereas bowel symptoms were strongly associated with posterior vaginal wall prolapse. Cervical descent was found to be associated with sexual dysfunction symptoms (Digesu et al., 2005).

Figure 7: Five stages of pelvic organ support as defined by the pelvic organ prolapse quantitation system



Source: www.medscape.com [10th December'2010]

2.5. Symptoms of uterine prolapse:

Uterine descent is often associated with coexistent anterior, posterior vaginal wall prolapse and/or an enterocele.

2.5.1 Pelvic symptoms:

Pressure or heaviness in the abdomen, feeling a bulge or something falling out, more commonly referred to as sensation of dragging, vaginal or perineal pain, low back

pain, abdominal pain, difficulty in lifting, sitting and standing vaginal discharge, vaginal pain.

2.5.2 Urinary symptoms:

Difficulty in voiding, urinary incontinence, weak stream, burning during urination, need to adjust position to void.

2.5.3 Bowel Symptoms:

More associated with posterior vaginal wall prolapse include difficulty in defecation with excessive straining to empty the bowels, feeling of incomplete bowel emptying, constipation and manual evacuation with digital aid (Alessandro et al., 2005).

2.5.4 Sexual symptoms:

Vaginal laxity, lack of sensation, dyspareunia and incontinence during coitus. Also rectal pressure, swelling, and a feeling of passing “gas” or “noise” through vagina are some of the symptoms of uterine prolapse (Kumari et al., 2000).

2.6 Risk Factors for uterine prolapse:

Uterine prolapse is not a result of one single cause.multiple risk factors associated to it such as heavy work load during pre and post natal period,delivery by unskilled birth attendants,gender violence, patriarchial system of society. Poverty and illiteracy seems to be the underlying factors to the various causes of uterine prolapse (WRRP-CAED, 2007).

2.6.1 Heavy work load

Women in Nepal work 11-16 hours a day, much higher than the global average, and 3.1 hours more than men. This includes demanding agricultural work in addition to physical household chores. A study carried out in 1997 by maternity hospital in Kathmandu found that heavy workload had a very strong association (94%) with the onset of uterine prolapse. Carrying heavy loads on their back is an ordinary doings of rural women in Nepal, with the use of a traditional kit called as *doko* (bamboo container) and *namlo* (a strap around forehead) that requires pressure on the abdominal muscles inorder to lift and carry the load. It was further pointed out that the act of wearing *patuka* was a risk factor. The *patuka* is a conventional cloth which is bound very tightly around the waist so that it gives support for lifting, and tightens the abdomen like a corset (Bhat, 1997 cited in Earth and Sthapit, 2002).

Normally a woman is expected to return to work within days after giving birth. In the study carried out by Bhat, 1997 with women affected by uterine prolapse, 96% reported to have tightened the *patuka* around their waist during the postnatal period; 80% had involved themselves with the household work within 20 days of delivery; 86% reported that the harm usually occurs lifting heavy weight; 71% had illness such as chronic constipation, dysentery, diarrhea or coughing in the postnatal period; and 47% in order to expel the placenta had induced vomiting (Earth and Sthapit, 2002). In a study in the Siraha, Saptari regions of Nepal mentioned that 40% were doing weighty work for long hours and felt weak while 36% said they had been lifting heavy load or carrying one, and doing their agricultural/household work such as husking, pounding rice, grinding corn, collecting water, chopping firewood, washing clothes when they had their first fall (WRRP-CAED, 2007).

2.6.2 Delivery by Untrained birth attendants

Neupane's (1999) statistical analysis of risk factors identified delivery by untrained birth attendants, delivery at home, obstructed labor, and history of prolapse among first degree relatives as having the strongest associations with the condition. With

more than 81% of births still occurring at home, very few deliveries are assisted by a skilled birth attendant. Following delivery, it is common for the new mother to receive massage, but a masseuse can unknowingly apply too much pressure to the pelvic region. The study by WRRP- CAED, 2007 found that 52% of the women participating in the study were ministered by their mother in law while 50% received help from their neighbors and another 40% from the traditional birth attendants.

In a study done in the Okhaldunga and Ramechhap regions many women reported having used unfamiliar objects in assisting delivery and removal of placenta from the body (Messerschmidt, 2009). Pregnancy, labor, and vaginal delivery damage the pelvic regions such as the muscles, ligaments. The damage is most severe when the labor is either prolonged or a baby has a large head, or improper use of forceps takes place. Delivery by unskilled attendants often leads to stretching of pelvic muscles as the women are made to bear down for the full dilatation of cervix (Kumari et al., 2000).

2.6.3 Parity

An estimated 50% of parous women have some degree of genital prolapse and 10–20% of them have had symptoms related to prolapse (Ravindra, 2005 cited in CAED-WRRP, 2007). In a case control study carried out amongst Asian women over al 10 year period in the San Francisco General Hospital of USA found that multi parity was associated with advanced stages of anterior vaginal wall prolapse (Duong and Kom, 2009). In another study carried out in Turkey, increasing age, parity, age at marriage, age of first delivery had a significant relation with urinary incontinence, one of the prime symptoms of prolapse (Onur et al., 2009). In the context of Nepal, the longing for a male child results in multiple pregnancies. The average childbirth rate is 3.2 in women which itself explains the situation. The status of a woman is more so related to producing a male heir and doing household work throughout her life with the same efficiency and rigor (Dangol, 2008).

2.6.4 Gender violence

Around the world, as many as one in every three women has been beaten, coerced into sex, or abused in some other way, most often by someone the woman knows, which most often in the case is her husband or another male family member. One woman in four has been reported to have been abused during pregnancy (UNFPA, 2010). In Nepal, violence against women is one of the major causes responsible for the poor health of women, livelihood insecurity, and inadequate social mobilization. The enormity of gender-based violence in Nepal is extremely high (Women's Rehabilitation Center[WOREC]).Several research projects under taken in Nepal have reported that 66 percent of women have endured verbal abuse, 33 percent emotional abuse, where 77 percent of the inflictors were family members (UNICEF, 2001 cited in WOREC,2010)

The limited literature available on reproductive morbidity and gender indicates a connection between uterine prolapse and gender issues. In a study carried out in a gynecological camp in Rautahat and Saptari, 67 out of 109 women were found to have suffered from gender based violence, out of which 40% of the prolapse cases were as a result of such violence. Similarly in Kirtipur, 52% of uterine prolapse cases (out of a total of 42 cases) were found due to gender based violence. One woman reported to have undergone violence from her husband right from the start of her prolapse. Hostility and beating coupled with forced sexual intercourse have also been reported (Ravindra, 2005 cited in CAED-WRRP, 2007).Some studies propose that prolapse can be prevented if there is a decrease in gender discrimination (Upreti, Bhattarai and Onta, 2001; Safe Motherhood Network [SMN], 2005).

2.6.5 Patriarchy

Being a patriarchal society, women are looked down upon and deprived of any rights whether it is reproductive, human or social rights. This is even more prevalent in the lower strata of the society who are mostly the recipients of the prolapse. Women have no say in the decision making of the family and are largely confined to doing the

household chores, help with the farming and obey the rules stated upon them. The decision sharing is also nowhere in sight (CAED, 2006).This women or specifically daughter in law mostly have their meals at the end after every member of the household has had their share which mostly results in women eating very scant meals or leftover food. This severely affects the nutrition status of the women and the condition is pretty much the same even during pre and post pregnancy.

More than 50% of the women were subjected to normal meals of rice and vegetables during the post natal period, 11% of them had only rice or roti(round bread)with salt post delivery. Most of the women are given only ginger and jaggery, *juwano, sathaura* (a mixture of herbs) for at least the first six days after childbirth sight (CAED, 2006). At least 70% of the pregnant women in Nepal are estimated to be anaemic and such conditions only increase the risk of complications during pregnancy (Earth and Sthapit, 2002).

2.6.6 Poor health seeking behavior

Poor geographical access and inaccessible medical care services often results in women shying away from seeking treatment. Also it interferes with the women's daily chores as it generally requires long distance travel and the societal norms where a woman is generally expected to bear her pains and difficulties with a smile plastered on her face. a follow up study found that out of a total of 72 patients only 45% of them came for follow up. The reason assumed by the researchers was hours of walking to give an interview and a follow up might not have deemed feasible for the women. Out of 1006 women, 83% of them had not sought treatment until the prolapse had advanced considerably (Schaaf et al., 2008).

One study, carried out in Western India in a community, revealed that only 638(61%) out of a total of 1,048 women came for referrals. The major reasons cited by the women for refusal to attend the clinic were loss of salary, incompatible timing, accessibility to the clinic, inability to pay the doctor's fee, and the soaring medication

costs .in addition to that, women also were concerned that their gynecological problems would be discussed in the company of others. They felt shy exposing themselves in the presence of other people (Ravindra, 2005 cited in CAED-WRRP, 2007). Religious belief, faith in spiritual healers, was also found to be accountable for the low rate of referrals (Kumari et al., 2000).

2.7 Consequences of suffering from Uterine Prolapse on the lives of the women with uterine prolapse:

2.7.1 Social stigma

Women with prolapse are perceived to be dirty and treated poorly by their husband, family members and society, which results in the women being cut off them from social activities, one of the reasons for women not opening up to the subject. Husbands threatening to take another wife for not being sexually satisfied and breakdown of the family are few of the problems that have been reported by women since they had their prolapse.

Women stated disgrace, fear, husband resorting to second marriage, being out casted from the society and falling of the uterus to be normal amongst many other as reasons for not coming out in the open about their health condition (WRRP-CAED, 2007).Uterine prolapse has been proven to seriously affect the quality of life of the women with prolapse, costing them not only their physical health, but also sexual dysfunction and their skill to work ultimately affecting their living (Ravindra, 2005 cited in CAED-WRRP,2007). Being a hidden condition, women did not feel comfortable discussing about it openly and only preferred to discuss with people whom they had confidence (Stewart, 1994).

2.7.2 Daily household activities

Women had difficulty in standing, suffering from backache, weakness and abdominal pain this affected their daily chores resulting in decreased productivity. This in

turn had a profound effect on their family ties as the members perceived her to be laidback and running away from house duties (Messerschmidt ,2009; CAED,2006; Adner.et.al.,2007) .They also had problems defecating or urinating and usually got it done by pushing the uterus back with their hand (Messerschmidt, 2009;CAED,2006;Adner et al., 2007; Pakbaz et al., 2010) Some women even went to the extent of pushing it back in using slipper, bangles (Advocacynet,2009).While some have been reported to using tight undergarments in order to prevent it falling as they always felt a bulge in the vagina (Pakbaz et al., 2010).

2.7.3 Sexual life

Majority of the women reported to have had dyspareunia, that is painful intercourse because of which they avoid having it which resulted in their partners looking for an alternative (Messerschmidt , 2009; CAED, 2006; Adner et al., 2007; Stewart, 1994; Kumari et al., 2000). Some reported to changing their position during intercourse so that the uterus would not fall out. The woman also complained of feeling sexually unattractive (Pakbaz.et.al., 2010).

2.8 Preventive Measures:

Uterine prolapse can occur anywhere, but in rural Nepal the incidence is likely exacerbated by a combination of factors that conspire additively to increase risk (Farkouh, 2009). Uterine Prolapse can be prevented and is treatable but majority of the women do not have knowledge about it which makes the situation even more heartbreaking. Increased awareness regarding the disease is a foremost and abolition of risk factors associated with it will help in prevention of prolapse (Amatya, 2006).

2.8.1 Awareness campaigns regarding prolapse

Women must be provided with counseling for prevention and management of uterine prolapse (Bonetti et al., 2002). Efforts are needed at the grass root level and

addressing uterine prolapse at the community level can have a positive impact on the women's lives (Farkouh, 2009).

2.8.2 Increase health access to the women

Women's reproductive health requires infrastructure, well equipped center and staffs who are available round the clock. The health centers in Nepal are short staffed most of the time, lacks medicines, ill equipped because of which majority of the women do not take advantage of the modern method (Earth and Sthapit, 2002).The government should make sure that staff and medications are available at health facilities (World Bank, 2001).Also it should be made sure that a females service provider is available at all times since the women tend to back out from seeking health services if a male health worker was present due to problems of modesty (Earth and Sthapit , 2002).

2.8.3 Avoid heavy workload pre and post delivery period

Women should be educated about the effects of carrying heavy load during the pre and post partum period including their spouse and family members. Sufficient rest after delivery should be promoted (World Bank, 2001).

2.8.4 Adequate birth spacing

Parity which seems to be the one of the major risk factors of the uterine prolapse, if avoided could act as a form of preventive measure (Farkouh, 2009)

2.8.5 Delivery by skilled birth attendants

One of the foremost important preventive measures is delivery by a SBA since the malpractices employed by the untrained birth attendants can have an adverse effect on the pelvic floor thus leading to prolapse (Earth and Sthapit, 2002).

2.8.6 Sufficient diet throughout pregnancy and after delivery (Darshan, 2009; Messerschmidt, 2009)

2.8.7 Kegals exercise

Exercise which strengthens the pelvic floor muscle that supports the uterus. It not only helps prevent the occurrence of uterine prolapse but, in milder cases of the condition, can be a useful treatment too (CAED, 2006).

2.9 Treatment:

Uterine prolapse is a treatable disease and treatments for it have been available through the centuries such as ring pessaries and the most recent ones have been the surgical interventions (Luft, NP, and MS, 2006)

2.9.1 Ancient Treatment:

It is surprising to know that the treatment for prolapse has been available since 400 BC. Hippocrates mentioned placing half a pomegranate soaked in wine into the vagina to prevent it from falling (Luft, 2006). Prior to the intervention of surgery, the only treatments available for prolapse were basically makeshift devices made of sponge, cotton, linen, wood, bone, ivory, cork, etc. These were inserted into vagina and bounded to place in the uterus in the same position prior to the fall. Massage, and some forms of workouts were also used to some extent. Some women were hanged vertically facing downward for a day in a futile shot to restore one's health. Launching a red hot iron in a way as if you are about to light it on fire was also suggested assuming it would frighten the uterus to retreat back into the vagina.

A wide range of caustics and chemicals such as silver nitrate, nitric acid, nitrate of mercury and sulphuric acid were also used for treatment. The pessary that is in use nowadays is also an ancient extraction. Hundreds of types of vaginal pessaries have been mentioned which have been used in the past. These were made of both organic and inert materials. The fitting of pessaries became an art form and undoubtedly brought relief to many women in the nineteenth century (Kumari et al., 2000).

2.9.2 Recent Treatments:

First and second degree prolapse can be treated with ring pessaries while third degree requires surgical intervention that is hysterectomy where there is complete removal of the uterus.

1. Ring pessary:

Presently, less than 20 different types of pessary are in use, and all of them are made up of silicone or plastic. Although they are of different types but only a handful of them really help. Pessaries support the uterus, cervix, or hernias of pelvic floor regions. Generally, ample support is mandatory both from the anterior region as well as from the perineal side, failure of which may result in the pessary slipping out from the vagina. These ring pessaries do not exactly cure prolapse but have been found to be an effective temporary treatment. They can be used for years if properly inserted and guided throughout the period of insertion (Kumari et al., 2000). The size of the vagina is predicted and the fitting size and shape of pessary is inserted in such a manner both the prolapse is decreased and the woman is at ease with the device inside. The doctor should be able to sweep his or her finger between the pessary and the walls of the vagina. The patient should be made to do various activities such as standing, walking, doing a Valsalva manoeuvre, and bending, to make sure that the pessary does not fall out. The patient should also be able to void without difficulty with the inserted pessary before leaving the clinic (Luft, 2006).

2. Hysterectomy:

Removal of uterus is one of the most common operations performed on women. It is carried out when the prolapse reaches the final stage. In Finland and Great Britain every fifth women, aged 45-64 has undergone hysterectomy .however there are variations in the rates of hysterectomy regionally. A recent study found that the rates vary considerably amongst the Nordic countries (Finland, Denmark and Norway) found that there was a twofold variation in the hysterectomy rates with Finland ranking the highest.

Denmark was 2.6 folds to 10 fold in Norway which is quite a variation in itself (Luoto, Keskimaki and Reunanen, 1997). A follow up study done in Nepal reported that 74 women underwent hysterectomy operations out of a total of 77 patients (Schaaf et al., 2008)

CHAPTER III
METHODOLOGY

3.1 Research Design

It is a cross sectional study that was carried out amongst the married women of reproductive age in the Surkhet district of Nepal.

3.2 Study Area:

Surkhet district which lies in the midwestern region of Nepal and is one of the poorly developed regions of the country. Of a total of 51 VDCs, 8 VDCs of the Surkhet district was sampled during the survey.The 8 VDCs were Mehalkuna, Uttarganga, Chinchu, Lekhfarsa, Maintada, Gumi, Dahachour and Ghumkahare.

3.3 Study Population:

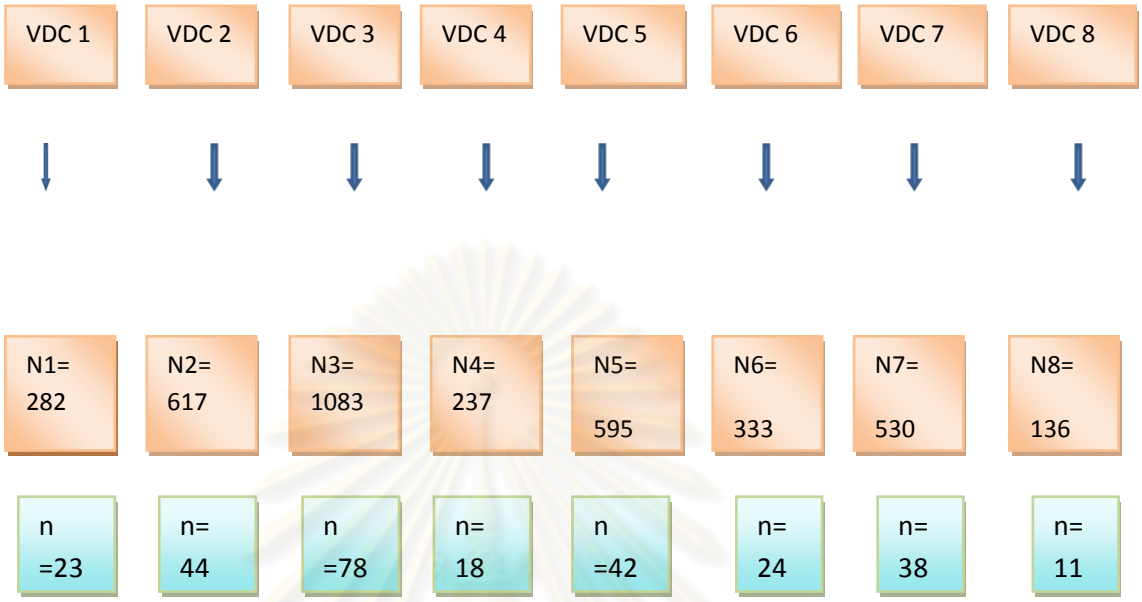
The study was conducted amongst married women of reproductive age who are between 15-49 years of age

3.4 Sampling Technique:

Selection of sample sites

Eight VDCs were pre-selected in the district where the NGO partner is working. Each VDC has 9 wards out of which three wards from each VDC was selected systematically. The total number of wards selected was 24.

Systematic random sampling was done for the data collection. For equal representation of the total population of the 24 wards, the total population of the 24 wards was divided by the sample size giving the interval as 14.Using the voting data (household numbers) available from the election commission office. Every 14^{th} house was included in the study. The heads of households were also culled from the said list.



3.5 Sample Size

Yamane sample size was used to calculate the sample size for this study.

The sample size was 270.

$$n = \frac{z^2 p(1-p)}{(e)^2}$$

$$n = \frac{(1.96)^2 \times 0.02(1-0.02)}{(0.05)^2} = 245 \ = 245$$

Where,

n = sample size.

p = estimated proportion of the population that is likely to have knowledge about uterine prolapse.

e = desired level of precision.

z= value from normal distribution associated with 95% confidence interval of 1.96.

Taking 10% as the missing data into account, the total sample size is 245+24.5(10%) = 270

3.6 Data Collection

A total of 24 data collectors were hired for the study. The data collectors underwent two day orientation program at Chinchu vdc.On the first day,the data collectors were given a brief introduction about uterine prolapse and then the questionnaire was explained to them.Role play was carried out by dividing into groups of 3 each.The next day, the data collectors were given questionnaire and asked to go into the community. Then , the problems faced by the data collectors while presenting the questions and the problems that could be encountered while doing the survey was discussed.1 data collector was assigned per 1 ward.Female community health volunteers, model couple campaigners and teachers from the selected communities were hired for the collection. A supervisor, including the researcher was present in each village development committee(VDCs) to supervise the data collection.The research supervisors were public health professionals from the partner NGO or the local NGOS working in the district.

Data collection was done by creating a numbered list of the names of the househead and the house numbers of each ward.In case of any subject who was not present during the survey,the house beside the selected house was used as replacement. To ensure data quality,the questionnaire was re-checked by the assigned supervisor at the end of the day.Incomplete questionnaires were sent back to the data collector.

3.7 Measurement tools

The study will be assesed quantitavely as well as qualitatively.Quantitative data was assessed through a survey questionnaire.The survey questionnaire has been divided into six parts.

- Socio demographic characteristics such as age,marital status,occupation,education and caste.
- Utilization of health services
- Maternal health status of the women
- Knowledge about uterine prolapse(risk factors, signs and symptoms and preventive measures.
- Attitude towards uterine prolapse
- Status of uterine prolapse.

The survey questionnaire was administered to the subject and the interviews were conducted by the researcher along with the data collectors.The interviews were conducted face to face and all the respondent's were asked the same questionnaire.Only participants who were willing to participate were interviewed.The interviews were for 15-20 minutes. All the interviews was conducted in nepali language.

Qualitative data was assessed through focus group discussion. Focus Group Guidelines was prepared by the researcher to reduce interviewr's bias.Two focus group discussion was carried out amongst women with uterine prolapse and women without uterine prolapse to find out their behavior influencing preventive measures related to uterine prolapse. It was carried out by a health professional from the NGO with the researcher as the note taker.The focus group discussion was carried out with 8 women in each group.In the focus group discussion amongst women with uterine prolapse,the participants were above 35 years old while the women without uterie prolapse were less than 35 year olds. The discussion was carried out amongst women who were willing to participate in the discussion.

3.7 Data Analysis

Questionnaire was coded before entering into the computer.

Descriptive statistics such as frequency, percentage, mean and standard deviation was used.

Bivariate analysis: Chi square and Fisher exact test were used to determine the relationship between the independent and dependent variables.

Multivariate analysis: Logistic regression was used.

For knowledge questions, the respondents were asked about the risk factors, signs and symptoms and preventive measures of uterine prolapse. The Knowledge about uterine prolapse comprises of 19 questions in total and the score was 1 for correct answer (Yes) and 0 for incorrect answer (No, Don't Know) (Bloom's cut off point). Knowledge score was categorized as high (>80%), moderate (60-80%) and low level (<60%).

The attitude questions were 12 in total and comprised of both negative as well as positive statements. The variable was divided into three categories agree, disagree and uncertain (Likert Scale). For positive statement, the score was given as 3 for agree, 2 for uncertain and 1 for disagree while for negative statements the scores were distributed as 3 for disagree, 2 for uncertain and 1 for agree. The standard used for the attitude was mean± standard deviation.

Data was analysed using SPSS version 16.0.

3.8 Reliability and Validity

Pre testing of the questionnaire was carried out amongst 20 women for the reliability of the questionnaire in a different area with the same population size and characteristics. The Cronbach score obtained for knowledge level was 0.78 and attitude level was 0.74.

Validity of the questionnaire was done by three experts, one from College of Public Health Sciences,Chulalongkorn University and the other two from Nepal, the director of the partner NGO and another one a gynecologist. Subsequent changes on the mesurement tools were made based on their recommendations.

3.9 Ethical Consideration

The study was reviewed and approved by the Nepal Health Research Council(NHRC), Ministry of Health and Population(MOHP).

Informed consent from the participants prior to the interview was taken. Participation was voluntary. Respondents could choose not to answer any question/s in the survey questionnaire.

Access to the audio recordings during the during the focus group discussion was limted only to the research team. Confidentiality of the patient was maintained by ensuring that personally idetifiable information was not easily accessible.

3.10 Limitations

The study was conducted in the 8 VDCs of Surkhet district, so cannot be generalized to the whole population.The prevalence of uterine prolapse obtained was a result of self report as well as diagnostic case so the study may not be able to pinpoint the exact figures though there is evidence to prove that self reported cases on clinical examination have turned out to be correct.

But on the other hand, women who have uterine prolapse could have hidden their problem thus resulting in lower prevalence than the actual figures.Also uterine prolapse being considered a taboo, old age women were not comfortable talking about it openly.

During focus group discussion, women without uterine prolapse revealed that they were taking preventive measures but the actual practice of it could not be seen due to the cross sectional nature of the study.

CHAPTER IV

RESULTS

There were a total of 267 married women of reproductive age who participated in the study voluntarily. The study was carried out in the 8 VDCs of the Surkhet district of Nepal namely: Chinchu, Uttarganga, Mehelkuna, Maintada, Dahachour,Lekhfarsa,Gumi, Ghumkhare. The participants have been distributed in proportion to the total population of the respective wards which in this study is 24 wards in total. The participants in the study were married women of reproductive age (15-49 years).

4.1 Socio demographic characteristics

Table 1 shows the frequency distribution of basic demographic information of all the participants such as age, marital status, occupation, education and caste

Age:

The range of the age of women being wide has been divided into seven categories. Majority of the subjects fall under the age group 30-34 (20.6%) followed by 25-29(18%). Age group 15-19 years and 45-49 years had the same percentage of participants at 7.9%. The mean age was 31.72 and SD was 8.51.

Marital status:

Nearly all the respondents of the study were married (98.1%) with only 5(1.9%) of them being widowed.

Educational status:

Nearly half of the total study subjects (47.2%) lacked any formal education followed by another 33.7% who had basic education till elementary school. Only 4.1% had received education till high school. None of the respondents had college education.

Occupation:

Almost three fourth (74.2%) of the participants had farming as their main occupation. Only two women (0.7%) were housewives and did not work outside the confines of the house.

Caste:

The caste system prevails in Nepal and majority of the respondents belonged to group Janjati (30%) and Dalit (28.5%). Brahmin's and Chettri's accounted for 18% and 19.5% respectively.

Table 1: Socio Demographic Characteristics

Characteristics	Frequency	Percent
Observation(n=267)	267	100
Age		
- 15-19	21	7.9
- 20-24	46	17.2
- 25-29	48	18.0
- 30-34	55	20.6
- 35-39	40	15.0
- 40-44	36	13.5
- 45-49	21	7.9
Mean±SD	31.72±8.51	
Marital status		
- Married	262	98.1
- Widow	5	1.9
Educational status		
- High school	11	4.1
- Secondary school	39	14.6
- Elementary school	90	33.7
- No formal education	127	47.6
Occupation		
- Housewife	2	0.7
- Farming	198	74.2

Characteristics	Frequency	Percent
- Laborer	34	12.7
- Others	33	12.4
Caste		
- Brahmin	48	18.0
- Chettri	52	19.5
- Dalit	76	28.5
- Janjati	80	30.0
- Others	11	4.1

4.2 Utilization of Health Services

Table 2 represents the utilization of different forms of health services by the women in the past year. All the respondents were allowed to answer more than one form of health service they had undergone in the past year. Majority of the respondents opted for private practice (38.2%).Women visiting relatives and traditional healers were negligible at 0.7% each while 12.7% of the women did not go anywhere for treatment in the past 1 year.

Table 2: Utilization of health services by the women in the past 1 year

Items	Frequency	Percent
Government hospital	94	35.2
Private hospital	102	38.3
Primary health care center	65	24.3
Traditional healers	2	0.7
Relatives	2	0.7
Spiritual healers	4	1.5
No treatment	34	12.7

Almost 90% of women cited not being sick as the reason for not going to health institution in Table 3. did not undergo any treatment.6.1% of women cited geographical inaccessibility as the reason followed by another 4.1% who could not visit health

institution due to lack of decision making power. Remaining 2.0% were not able to visit due to lack of time.

Table 3: Reasons for not visiting health institution

REASONS (n=49)	Frequency	Percent
Lack of time	1	2.0
Geographical inaccessibility	3	6.1
Lack of decision making power	2	4.1
Did not fall sick	43	87.8
Total	49	100.0

.**Table 4: Modes of payment**

More than three fourth (82.9%) of the respondents paid for their health services out of their pocket (Table 4).

Items	Frequency	Percent
Out of pocket	180	82.9
Free health service at the government health centers	38	17.4
Total	218	100.0

In terms of obtaining information on different health problems, 73.4% of the women mentioned that radio was their main source in Table 5.Health workers as a source was the second choice at 47.2%.The women (12.7%) surveyed stated that they got information from family and friends.

Table 5: Sources of information regarding health problems

Observations	Frequency	Percent
Radio	196	73.4
Newspaper	21	7.9

Observations	Frequency	Percent
Pamphlet	21	7.9
T.V	47	17.6
Health workers	127	47.2
organizations	4	1.5
others	34	12.7

4.3 Maternal Health Status

The range for the age of women at marriage was found to be 9-26(This is shown in Table 6).Majority of the women who were married between 15-20 were 76.7% and the least was between 21-26 at 6.0% .The mean and standard deviation was 16.8 and 2.51.As for age at the birth of first child, 66.9% of the women had their first baby between the ages 14-19 and only 3.45 had their first baby between the ages 26-30.The mean SD was 18.8 and 2.61 respectively

Table 6: Age and Marriage

Items	Frequency	Percent
Age of marriage (n=266)		
- 9-14	46	17.3
- 15-20	204	76.7
- 21-26	16	6.0
Mean	16.8	
Age at the birth of first child(n=263)		
- 14-19	176	66.9
- 20-25	78	29.7
- 26-30	9	3.4
Mean	18.8	

The above Table 7 represents the parous condition of the women. Majority of the respondents were found to have three children (28.1%) and 24.3% of them had two children. The percentage of women who have four (16.3%) and more than four (14.1%) makes up more than 30% of the total study subjects. Likewise for total number of pregnancies (includes live birth, still births and dead children), women who have had two

or three pregnancies were found to be the highest with 25.5% and 20.9% respectively. The women who had been pregnant only once were found to be the least at 14.4%.

Table 7: Women and Parity (n=264)

Observation(n=264)	Frequency	Percent
Number of total living children		
None	1	0.4
1	45	17.1
2	64	24.3
3	74	28.1
4	43	16.3
>4 children	37	14.1
Parity		
Once	38	14.4
Twice	67	25.5
Thrice	55	20.9
Quadruple	45	16.7
>4 times	59	22.4

The delivery practice amongst the respondents is represented in Table 8.These responses referred to their last delivery. Most births took place at home (72.7%). Of this 37.5% had their baby delivered with the help of relatives. Almost 30% had their baby delivered with the help of trained health workers and 23.9% had it delivered themselves alone.

Table 8: Delivery Practice

Observation**(n=264)**	Frequency	Percent
Assistance during birth		
Assisted by trained health workers	79	29.9
Assisted by traditional(untrained) birth attendants	23	8.7
Assisted by relatives/in laws	99	37.5
Own self	63	23.9

Observation**(n=264)**	Frequency	Percent
Place of delivery		
Home	192	72.7
Health institution	69	26.1

For their last delivery, a third of the respondents did not go for ante natal (34.1%) and post natal care (82.6%) (Table 9).For those who did receive antenatal and post natal care, most of them had 3 antenatal care visits (19.7%). However, a very small percentage of women received postal natal care.

Table 9: Antenatal and Post natal visits by the women

Observation(n=264)	Frequency	Percent
Number of Antenatal care visits		
>4 times	14	5.3
4 times	46	17.4
3 times	52	19.7
2 times	36	13.6
Once	26	9.8
None	90	34.1
Number of Postnatal visits		
None	218	82.6
1	16	6.1
2	14	5.3
>2	16	6.1

Majority of the respondents did all kinds of work (72.1%) during their last pregnancy and only 2.7% of them could afford to not to work. Similar result was obtained for onset of work post delivery where 68.3% of the women resumed their normal work schedule immediately and 31.7% of them after a month.

Table 10: Workload during pregnancy and post partum period

Observations(n=264)	Frequency	Percent
Type of work during pregnancy		
No work	7	2.7
Light work*	67	25.4
All kinds of work	190	72.1
Onset of work post delivery		
Immediately*	181	68.3
1 month	83	31.7
Light work		
1-7 days	84	31.8
8-14 days	51	19.3
15-21days	68	25.8
22-30days	42	15.9
>1 month	19	7.2
Mean± SD	17.3± 18.51	
Heavy work*		
1-7 days	21	8.0
8-14 days	20	7.6
15-21days	51	19.3
22-28days	11	4.2
29-35days	73	27.7
36-45days	3	1.1
>45 days	85	32.2
Mean± SD	44.29±48.89	

Light work: cooking, washing dishes, looking after children.*

Heavy work: bring water, collect wood from the forest, grazing the animals, washing clothes and cleaning cow shed.*

Immediately : <15 days*

When it came to starting light work after delivery, the results showed that majority of the women starting working as soon as the delivery was over as 31.8% of them started within 1-7 days of delivery. More than 70% of the participants resumed light work within the first three weeks of delivery and only 7.3% of them started after a month's rest. The mean and SD was 17.3 and 18.51.However, for heavy work majority of them started within a month of delivery with 27.7% starting between 28-35 days and

another 19.3% of them within the third week of delivery. The percentage of women who started heavy work after a month and forty-five days were found to be the same at 32.2%.The mean and SD was 44.29 and 48.89.

Table 11 shows the frequency (66) of self report as well as diagnostic cases of uterine prolapse of the study subjects in the sampled areas. Diagnostic in the study means women who found out about uterine prolapse after they visited the health institution for check up and self report means women who claim to have uterine prolapse based on their signs and symptoms and hearing other women uterine prolapse experiences. The prevalence of uterine prolapse was pegged at 24.7%.

Table 11: Self Reported cases of uterine prolapse

Uterine Prolapse status (n=267)	Frequency	Percent
Yes	66	24.7
No	200	74.9
Don't know	1	.4

Table 12 shows the different symptoms of prolapse and their frequency distribution. The result showed that there was not much difference in the answer pattern amongst the three symptoms.28.8% of the women had foul smelling discharge from their vagina while 27.7% of them had a sensation of something coming out or bulging out of the vagina. Remainder 27% experienced difficulty urinating.

Table 12: Symptoms of uterine prolapse

Symptoms (n=267)	Yes	No
Feel something coming out of their vagina	74(27.7)	193(72.3)
Difficulty urinating	72(27.0)	195(73.0)
Foul smelling discharge from their vagina	77(28.8)	190(71.2)

The frequency of symptoms of uterine prolapse amongst women with uterine prolapse has been shown in Table 13.. Majority of the respondents (78.4%) felt

something coming out of their vagina while 65.3% had difficulty urinating. More than half of the women had foul smelling discharge from their vagina (51.9%).

Table 13: Women with uterine prolapse and their symptoms

Symptoms(n=66)	Frequency	Percent
Feel something coming out of their vagina	58	78.4%
Difficulty urinating	47	65.3%
Foul smelling discharge from their vagina	40	51.9%

The women were asked the number of years they had had prolapse (Table 14). On the average, women with prolapsed have been suffering for 10 years (+/- 7.89 years). The majority of the respondents (27.1%) had been suffering from prolapse for 6-10 years followed by 23.7% of the women who had been living with it for 1-5 years. Number of women who had for 16-20 and 26-30 years were found to be the same at 11.9%. The minimum and maximum years of living with prolapse was found to be < 1 year and 33 years respectively.

Table 14: Years of living with prolapsed uterus

Years(n=59)	Frequency	Percent
< 1 year	5	8.5
1-5	14	23.7
6-10	16	27.1
11-15	9	15.3
16-20	7	11.9
21-25	0	0
26-30	7	11.9
>30	1	1.7
Mean± SD	10.288 ±7.893	
Minimum	<1 year	
Maximum	33 years	

It was found that more than 50% of the women had had babies after prolapse (Table 15). Number of women who had one or two babies was found to be the same at 33.3% each. The proportion of women who had more than three babies was the second highest at 19.9% with the least being three babies post prolapse at 13.9%.

Age of onset of Prolapse:

The mean age of onset of prolapse in this study was found to be 24 years (Table not shown).The minimum age at which the prolapse set in was 14 for a woman while the maximum was 26.

Table 15: Babies post Uterus Prolapse

Observation(n=36)	Frequency	Percent
1	12	33.3
2	12	33.3
3	5	13.9
>3	7	19.4
Mean± SD	2.19 ± 1.11	

Note: More than 50% of the respondents had babies after prolapse.

4.4 Knowledge about uterine prolapse

The Knowledge about uterine prolapse comprises of 19 questions in total and the score was 1 for correct answer (Yes) and 0 for incorrect answer (No, Don't Know) (Bloom's cut off point).The questionnaire was divided into three parts; knowledge about risk factors, sign and symptoms and knowledge about preventive measures of uterine prolapse. Knowledge score was categorized as high, moderate and low level. If the total score of the knowledge was >80% (≥12),the person was noted as having high knowledge. Between 60-80% (9-12) of the total score was noted as moderate knowledge level and less than 60% (≤ 9) was noted as low knowledge level. The knowledge score ranged from 0-16.There were three negative questions which were mixed randomly with the positive ones.

On assessing the knowledge level, it was found that majority of the respondents (51.9%) had moderate knowledge level, 36.5% had low knowledge level and only 11.7% of them had high knowledge level.

Table 16: Composite Knowledge Level amongst the respondents

Item(n=266)	Frequency	Percent
Low knowledge level (<60%)	97	36.5
Moderate knowledge level (60-80%)	138	51.9
High knowledge level (>80%)	31	11.7

Note: Total 19 questions.

Table 17 reveals the number and percentage of married women of reproductive age who answered each correctly to each question regarding knowledge of risk factors, sign, symptoms and preventive measures. The majority of the respondents had knowledge that delivery by untrained birth attendants (80.5%) and carrying heavy load during pregnancy (80.5%) causes uterine prolapse. Nearly 90% of the respondents answered that doing heavy work during pre and post natal period causes uterine prolapse. More than 50% of the women disagreed with the statement that having many children reduced the risk of uterine prolapse. And as for knowledge regarding signs and symptoms is concerned, 89.1% of the women knew that women with prolapsed uterus had difficulty in standing, walking.80.15% of the women had knowledge that women suffering from prolapsed uterus had back pain while only 38% knew that prolapsed women urinated often.

As compared to risk, sign and symptoms, knowledge regarding preventive measures was comparatively less. Although nearly 80% of the women answered that uterine prolapse was preventable and 65.5% said that reducing heavy workload during pregnancy would prevent uterine prolapse but had very less knowledge about other measures such as taking rest for 45 days post pregnancy (16.5%), adequate birth spacing(8.2%) and having nutritious food during pregnancy(10.9%). A misleading notion

related to drinking herbs was answered correctly by 17.2% of the women. Only one woman answered correctly that doing kegel's exercise could prevent the prolapse from degrading further..One conflicting answer that has been found is while 80.5% of the women answered that delivery by untrained birth attendant causes uterine prolapse, only 4.1% answered that delivery by trained birth attendants can minimize the chances of prolapse.

Table 17: Frequency of respondents who answered correctly to the overall knowledge questions

Items		Correct answers	
		Number	Percent
Risk factors			
1.	Does delivery by untrained birth attendants cause uterine prolapse?	214	80.5
2.	Does carrying heavy load during pregnancy cause uterine prolapse?	214	80.5
3.	Does undergoing labor for long period cause uterine prolapse?	139	52.3
4.	Do you think doing heavy work during pre and post natal period causes uterine prolapse?	239	89.8
5.	Do you think having not enough food during pregnancy causes uterine prolapse?	85	32.0
6.*	Can having many children reduce the risk factor for uterine prolapse?	140	52.6
Signs And Symptoms			
7.	Does the woman with uterine prolapse experience something coming out of her vagina?	188	70.7
8.	Does the woman with uterine prolapse have difficulty in standing, walking?	237	89.1
9.	Does the woman with uterine prolapse have problem while urinating?	201	75.6
10.	Does the woman with uterine prolapse urinate very often?	101	38.0
11.	Does the woman with uterine prolapse have any back pain?	213	80.1
Preventive Measures			
12.	Is uterine prolapse preventable?	211	79.3
13.	Is uterine prolapse prevented by reducing	175	65.5

Items		Correct answers	
		Number	Percent
	workload?		
14.	Does exercise (Kegal's exercise) prevent the uterine prolapse from degrading it further?	1	.4
15.	Can delivery by trained birth attendants minimize the chances of having uterine prolapse or prevent it from degrading it further?	11	4.1
16.	Can adequate birth spacing reduce uterine prolapse?	22	8.2
17.*	Can drinking some herb prevent uterine prolapse or prevent it from degrading further?	46	17.2
18.	Can having nutritious food during pregnancy prevent uterine prolapse?	29	10.9
19.	Does proper rest for 45 days post pregnancy prevent uterine prolapse?	44	16.5

**Negative Statement*

The following tables are a breakdown of the overall knowledge questions and have been categorized into three sections; knowledge level regarding risk factors, signs and symptoms and preventive measures. The aim is to see the knowledge level amongst the women in the three different sections.

Table 17.1 shows that the knowledge level about the risk factors was found to be high amongst the respondents as nearly 40% of them had high knowledge level. This was followed by low knowledge level at 33.5% and 27.1% of the women had moderate knowledge level.

Table 17.1: knowledge level regarding the risk factors of uterine prolapse

No	Item	Frequency	Percent
1.	**Low knowledge level (<60%)**	89	33.5
	Moderate knowledge level (60-80%)	72	27.1
	High knowledge level (>80%)	105	39.5

Note: Question 1-6

The respondents seem to have fair knowledge regarding signs and symptoms as seen in the above Table 17.2. Though the level of knowledge was found to be

low(30.8%) but on computing moderate and high knowledge level, it was found that 60.2% of the women have a moderate and high level of knowledge.

Table 17.2: knowledge level regarding the signs and symptoms of uterine prolapse

No	Item	Frequency	Percent
1.	**Low knowledge level (<60%)**	106	39.8
	Moderate knowledge level (60-80%)	79	29.7
	High knowledge level (>80%)	81	30.5
	Mean± SD	1.906 ±.83	

Note: Questions 7-11

As compared to the other two, the women have a poor knowledge level regarding the preventive measures as 90.6% of the women fell under the category of low knowledge level. This could be attributed to the high prevalence of uterine prolapse. Only 6.8% of the women have moderate knowledge level followed by mere 2.6% of the women who have a high knowledge on preventive measures.

Table 17.3: knowledge level regarding the preventive measures of uterine prolapse

No	Item	Frequency	Percent
1.	**Low knowledge level (<60%)**	241	90.6
	Moderate knowledge level (60-80%)	18	6.8
	High knowledge level (>80%)	7	2.6
	Mean± SD	1.120 ±.39	

Note: Questions 12-19

4.5 Attitude towards uterine prolapse

The attitude towards uterine prolapse determines the steps to be taken towards prevention of uterine prolapse. In order to know the attitude towards uterine prolapse, the study subjects were asked their opinions as to whether they agreed or disagreed with the statements provided regarding uterine prolapse. The attitude questions were 12 in total and comprised of both negative as well as positive statements. The variable was divided

into three categories agree, disagree and uncertain (Likert Scale). For positive statement, the score was given as 3 for agree, 2 for uncertain and 1 for disagree while for negative statements the scores were distributed as 3 for disagree, 2 for uncertain and 1 for agree. The standard used for the attitude was mean± standard deviation. The score ≤mean−standard deviation (<24.49) refers to negative attitude. The score within mean+ standard deviation and mean – standard deviation refers moderate attitude (24.49-29.77). The score ≥ mean + standard deviation refers to positive attitude (≥29.77).

Level of attitude towards uterine prolapse was presented in the Table 18. The score ranged from 11-47.The mean score was found to be 27.13 and the standard deviation as 2.64.Majority of the respondents (82.7%) had a moderate attitude towards uterine prolapse while there was not much difference in the negative and positive attitude towards uterine prolapse which was found to be at 9.4% and 7.5% respectively.

Table 18: Level of attitude towards uterine prolapse

Item	Frequency	Percent
Positive attitude	21	7.9
Moderate attitude	220	82.7
Negative attitude	21	7.9
Mean± SD	27.13±2.64	

Table 19 below shows the percentage of respondent's attitude towards each question along with its mean and standard deviation. More than 90% of the respondents had positive attitude when asked whether they would take their relatives/near ones for treatment (94.7% and mean score 2.92), be friends with a prolapsed woman (91.4% and mean score 2.86) and that uterus prolapse lowers the quality of life of a woman (90.6% and mean score 2.87). 69.7% agreed that uterus prolapse is responsible for death of women and almost 60% (mean score 2.58) agreed that they felt comfortable talking about uterus prolapse with their parents and friends. However, when it came to inviting women to community functions only 52.3% (mean score 2.43) agreed to it and less than 50% (48.5%and mean score 2.38) agreed that uterus prolapse is a result of injustice towards

women. In terms of negative questions, 91% (mean score 2.06) disagreed with the statement that its alright for a husband to take on a second wife.82.3% of the women did not feel shy to talk about uterine prolapse with their husband or mother in law and the mean score was 2.22.It was found that 72.9% of the women with a mean score of 2.20 disagreed that uterine prolapse was an embarrassing disease and another 81.2% (mean score 1.98) did not agree that uterine prolapse was a result of bad karma

Table 19: Percentage of respondent's attitude towards each item

Items		**Percentage**			**Mean**	**S.D**
		agree	**disagree**	**uncertain**		
1.	Uterine prolapse is responsible for death of women	69.7	18.4	11.7	2.58	.69
2.*	Uterine prolapse is an embarrassing disease.	23.7	72.9	3.4	2.20	.47
3.*	Do you feel shy to talk about uterine prolapse with your husband or mother in law?	16.2	82.3	1.1	2.22	1.27
4.	Do you feel free to talk about uterine prolapse with your close friend or parents?	59.8	39.1	1.1	2.58	.51
5.*	Is it alright for a husband to take second wife if his wife has uterine prolapse?	7.5	91.0	1.5	2.06	.29
6.	Will you take your relative/near ones to the health center for treatment if they suffer from uterine prolapse?	94.7	3.4	1.9	2.92	.32
7.	Do you think uterine prolapse is a result of the injustice towards women?	48.5	41.7	9.8	2.38	.65
8.	Should women with uterine prolapse be invited to community functions?	52.3	38.7	9.0	2.43	.65
9.	If there is a woman with uterine prolapse, would you want to be friends with the woman?	91.4	4.1	4.5	2.86	.45
10.*	Do you think uterine prolapse is a result of bad karma?	8.6	81.2	10.2	1.98	.43

11.	Do you think uterine prolapse lowers the quality of life of women?	90.6	6.4	3.0	2.87	.41

**Negative item*

Family and Friends seems to a major source of information when it came to preventive measures as 47.2% opted for the option in Table 20. The health centers came in second at 31.1% followed by radio at 28.5%. Pamphlets and various organizations like local NGOs accounted for less than 10% and 21.3% of the women obtained information from other sources.

Table 20: Source of information regarding knowledge about preventive measures

Items	Frequency (%)
Family and friends	126(47.2)
Health institution	83(31.1)
Radio	76(28.5)
Pamphlet	10(3.7)
Gynecological camp	1(.4)
organizations	12(4.5)
Others	57(21.3)

Note: Subject could answer more than one item

The above Table 21 shows the number of women who underwent treatment for uterine prolapse. 27(49.1%) of the 55 women have been found to have undergone treatment. Traditional herbs and ring pessary was found to be the preferred choice of treatment for the women at 33.3% each followed by exercise at 7.4%. Self care, hysterectomy and others together made up 22.2% of the treatment options. Majority of the women was found to have gotten themselves treated at health institutions (51.9%) followed by home at 40.7% and others (7.4%).

Table 21: Treatment for uterine prolapse

Items	Frequency	Percent
Treatment		
Yes	27	49.1
No	28	50.9

Items	Frequency	Percent
Total	55	100
Types of treatment		
Self care	2	7.4
Traditional herbs	9	33.3
Hysterectomy	2	7.4
Ring pessary	9	33.3
Exercise	3	11.1
Others	2	7.4
Total	27	100
Place of treatment		
Home	11	40.7
Health institution	14	51.9
others	2	7.4
Total	27	100

Note: 55 women chose to answer out of 66

4.6 Relationship between socio demographic characteristics, maternal health status, knowledge, attitude and uterus prolapse status of the women.

Bivariate Analysis:

The relationship between socio demographic characteristics, maternal health status, knowledge, attitude with status of uterine prolapse was tested using Chi square test and Fisher Exact Test. The level of significance for the relationship was set at p-value=0.05

Table 22: Relationship between socio demographic characteristics and status of uterine prolapse

Age:

The respondent's age (15-49) has been categorized into 7 categories and was compared with the status of uterus prolapse. It was found that there was significant difference between the two variables (p- value=0.016). Women with uterine prolapse was found to be highest under the age group 45-49(47.6%) followed by 35-39(35%) and 25-29(31.2%). The prolapse cases were seen the least in the age group 15-19 at 14.3% respectively.

Marital Status:

The majority of the respondents were married (25.3%) and the marital status was not found to be significant with status of uterus prolapse (p value=.337).The relationship was tested using Fisher Exact Test.

Education:

Education was divided into 2 categories, any form of formal education and no education at all. The test revealed that the relationship between education and status prolapse was not significant (p value=.065).Only 20.1% of the women with uterine prolapse had any education.

Occupation:

Occupation was divided into 3 categories, farming, labor and others to facilitate analysis. The study revealed that there was no significant difference (p value =.799) between occupation and status of uterus prolapse. Majority of the women, 25.8% of the prolapsed women were involved in farming followed by others (includes housewife as well) at 23.5%.

Caste:

The study revealed that there was no significant difference (p value=.645) between the various castes and status of uterus prolapse. Majority of the respondents with prolapse were Brahmin at 31.9% and the least was found to be Dalit at 22.4%.

Table 22: Relationship between socio demographic characteristics and status of uterus prolapse

Variables	With prolapse N(%)	without prolapse N(%)	χ^2	P- value
Age(n=267)				
15-19	3(14.3)	18(85.7)		
20-24	7(15.2)	39(84.8)		
25-29	15(31.2)	33(68.8)	15.55	**.016**
30-34	8(14.8)	46(85.2)		
35-39	14(35.0)	26(65.0)		
40-44	9(25)	27(75.0)		
45-49	10(47.6)	11(52.4)		
Marital status				
Married	66(25.3)	195(74.7)		.337
Widow	0	5(100)		
Education				
Any form of education	28(20.1)	111(79.9)	3.401	.065
No education	38(29.9)	89(70.1)		
Occupation				
Farming	51(25.8)	147(74.2)		
Labor	7(20.6)	27(79.4)	.450	.799
Others	8(23.5)	26(76.5)		
Caste				
Brahmin	15(31.9)	32(68.1)		
Chettri	13(25)	39(75)	1.662	.645
Dalit	17(22.4)	59(77.6)		
Janjati	21(23.1)	70(76.9)		

Table 23 shows the relationship between status of uterus prolapse and maternal health status which includes:

Total live children:

The relationship between total live children and status of uterus prolapse was found to be near to significance but not significant (p value=.057).The percentage of women with uterus prolapse who had 4 children was found to be 40%. This was followed by women with three children at 28.0%.Women with two and more than four children were found to be almost the same at 19.2% and 19% respectively.

Parity:

There was significant difference between status of uterus prolapse and the number of total pregnancies of prolapsed women (p value=.005). The percentage of women who had 4 babies was 42.2% and this was followed by 30.5% of the women who had more than 4 babies. It was found that there was gradual increase in the percentage of prolapsed women with the number of pregnancies but decreased drastically by 10% with women who had more than 4 babies.

Place of delivery:

265 of the women with prolapsed uterus had their last baby delivered at home and another 20.9% of them at health institution. But this was not found to be significant(p value= .400).

Delivery Practice:

The delivery practice with status of uterus prolapse was found to be significant (p value=.046).Almost 48%, 47.8% of the women with prolapsed uterus had had their last baby delivered with the help of traditional (untrained) birth attendants. And 25.4% of the women had their baby delivered alone, without any help. The least was women who had delivered their baby with the help of health workers (19.2%).

Number of antenatal visits:

The relationship between number of antenatal visits and status of uterus prolapse was not found to be significant (p value=.078).Majority of the respondents(33.3%) was found to have gone for antenatal visits 4 or more than 4 times, followed by 30.6% of the women visiting only twice. However, 25% of the women did not go for any ante natal checkup.

Number of postnatal visit:

The number of postnatal visits made by the women has been categorized in two groups, no visit at all or either one visit. The relationship was found to be near to significance but not significant with the status of uterus prolapse (p value= .528).There was not much difference between the two categories. Nearly 23.9% of the women was found to have gone for post natal visit at least once as compared to 24.9% of the women who did not visit even a single time**.**

Table 23 : Relationship between maternal health status and status of uterus prolapse.

Variables	**With prolapse N(%)**	**Without prolapse N(%)**	χ^2	**P- value**
Total live children				
1	7(15.6)	38(84.4)		
2	14(19.2)	59(80.8)	9.150	.057
3	23(28.0)	59(72.0)		
4	16(40.0)	24(61.0)		
>4	4(19.0)	17(81.0)		
Parity				
1	4(10.5)	34(89.5)		
2	11(16.7)	55(83.3)		
3	13(23.6)	42(76.4)	14.921	**.005**
4	19(42.2)	26(57.8)		
>4	18(30.5)	41(69.5)		

Variables	With prolapse N(%)	Without prolapse N(%)	x^2	P- value
Place of Delivery				
Home	50(26.0)	142(74.0)	.707	.400
Health	14 (20.9)	53(79.1)		
Delivery Practice				
Own self	16(25.4)	47(74.6)		
Relatives/in laws	23(23.2)	76(76.8)	7.996	**.046**
TBA	11(47.8)	12(52.2)		
Health workers	15(19.2)	63(81.8)		
Number of antenatal visits				
4 or >4	20(33.3)	40(66.7)		
3	6(11.5)	46(90.2)		
2	11(30.6)	25(69.4)	8.388	.078
1	5(19.2)	21(80.8)		
none	23(25.8)	66(74.2)		
Number of postnatal visits				
None	54(24.9)	163(75.1)	.019	.528
At least one visit	11(23.9)	35(76.1)		

Table 24 shows the relationship between workload during pregnancy and the status of uterus prolapse

Type of work during pregnancy:

The type of work done by women during pregnancy and its relation with uterus prolapse was found to be not significant (p value= .315).The variable was categorized into two groups, no work and any kind of work. While 20.3% of the women did not do any kind of work, 26.2% of the women did all kinds of work which included light as well as heavy work.

Onset of work post delivery:

The result shows that the onset of work after pregnancy was not found to be significant with the status of prolapse (p value=.129). About 27% of the prolapsed women started doing work immediately after delivery**.**

Light Work:

Light work has been categorized into 4 groups and the relationship between light work and prolapse status was not found to be significant (p value=.383). There was not much difference between women who resumed light work within 1-7 day of delivery (27.7%) and 8-15 days of delivery (30.0%).The least was women who started light work after 22 days which was 18%.

Heavy Work:

Heavy work also has been categorized into 4 groups and like light work, it was also not found to be significant with uterine prolapse status (p- value=.654).Nearly 30% of the respondents(29%) had resumed heavy work within the first 10 days of delivery and another 28.3% between 11-20 days. The least was women who started after a month 20.6%.

Table 24: Relationship between workload during pregnancy and the status of uterus prolapse

Variables	**With Uterus Prolapse N(%)**	**Without Uterus Prolapse N(%)**	χ^2	**P- value**
Type of work during pregnancy				
No work	15(20.3)	59(79.7)	1.008	.315
Any kind of work	49(26.2)	138(73.8)		
Onset of work post delivery				
Immediately	48(27.0)	130(73)	2.300	.129
One month	15(18.3)	67(81.7)		

Light Work				
1-7 days	23(27.7)	60(72.3)		
8-14days	15(30.0)	35(70.0)	3.058	.383
15-22 days	14(21.2)	52(78.8)		
>22 days	11(18.0)	50(82.0)		
Heavy Work				
1-10	9(29.0)	20(71.0)	1.623	.654
11-20	17(28.3)	45(71.7)		
21-30	19(25.3)	55(74.7)		
>30days	20(20.6)	77(79.4)		

Table 25: Relationship between knowledge level and the status of uterus prolapse

The relationship between the knowledge level and uterus prolapse was found to be highly significant (p-value=<0.001). 33.3% of women were found to have moderate and high knowledge level each while only 9.3% of the women were found to have low knowledge level. As compared to knowledge level, attitude level was not found to be significant with status of uterus prolapse (p-value=.122). The proportion of women having positive attitude level was the highest with 38.1% and the least was found to be women with negative attitude at 12.0%.

Variables	**With uterus prolapse N(%)**	**Without uterus prolapse N(%)**	χ^2	**P-value**
Knowledge Levels				
Low	9(9.3)	88(90.7)		
Moderate	46(33.3)	92(66.7)	19.222	<0.001
High	10(33.3)	20(66.7)		
Attitude Levels				
Negative	3(12.0)	22(88.0)		
Moderate	54(24.7)	165(75.3)	4.210	.122
Positive	8(38.1)	13(61.9)		

Multivariate Analysis

Multivariate analysis was done to find the strength of association between the independent variables and the dependent variable which is status of uterus prolapse. The variables that were significant at the bivariate level were re-examined by controlling the other variables in the multivariate analysis in order to get the final model.

In the first stage multivariate analysis (Table 26), the variables which were considered to be the determinants for the status of uterine prolapse were included in the analysis such as age, total pregnancies, number of antenatal and postnatal visits, place of delivery, delivery practice, knowledge and attitude level of uterine prolapse, work during pregnancy, onset of work post delivery, number of day since starting of light and heavy work. The variables which were found to be significant in the chi square While controlling other factors and taking p value at ≤0.25, the variables which were found to be significant were age, p-value=.169 and odds ratio of 1.035, total pregnancies p-value=.049 and women with more pregnancies were 1.328 times more likely to have uterus prolapse. Knowledge level was found to be the most significant with p-value of .002 and odds ratio 2.204. The attitude level was significant with p value=.058(odds ratio as 2.149).

Table 26 shows the multivariable analysis for status of uterus prolapse

Table 26: First Stage Multivariate Analysis

Variables	**B**	**Odds Ratio**	**95% CI**		**P-value**
			Lower	**Upper**	
Age	0.34	1.035	.985	1.087	.169
Parity	.284	1.328	1.002	1.761	**.049**
Knowledge level	.790	2.204	1.333	3.645	**.002**
Attitude level	.765	2.149	.975	4.738	.058
Antenatal visits	-.084	.920	.727	1.164	.485
Postnatal visit	.217	1.243	.517	2.988	.627
Delivery Practice	-.114	.892	.619	1.286	.541
Place of Delivery	.036	1.036	.376	2.855	.945
Onset of work post Delivery	-.062	.940	.295	2.997	.916

Light Work	-.142	.868	.548	1.376	.547
Heavy Work	-.081	1.084	.734	1.600	.685
Work during pregnancy	-.058	.944	.430	2.073	.885

Significant at $\alpha \leq 0.25$

The variables which were significant in the first stage multivariable were included in the final stage multivariable analysis in Table 27. While delivery practice (p-value=-.359), antenatal visits (p-value=.732), total live children (p-value=.093) was not found to be significant. Knowledge level was found to be highly significant with a p-value ≤ 0.01 and odds ratio of 2.448.Apart from knowledge level, total pregnancies was also found to be significant(p-value= .045) with odds ratio of 1.332.In the multivariate analysis (p-value=.170 and p-value=.119). This could be because the study has women with prolapse as well and prolapsed women are more likely to have more knowledge about uterine prolapse than without prolapse.

Table 27: Final Model Multivariate Analysis

Variables	**B**	**Odds Ratio**	**95% CI**		**P-value**
			Lower	**Upper**	
Age	.027	1.027	.983	1.073	.227
Parity	.296	1.344	1.027	1.759	**.031**
Knowledge Level	.869	2.385	1.473	3.860	**<0.01**
Attitude Level	.789	2.200	1.003	4.827	**.049**
Onset of work post pregnancy	.111	1.117	.544	2.295	.763
Place of delivery	.-1.465	.231	.027	1.997	.183
Delivery Practice	-1.591	.204	.024	1.722	.144

p- value <0.05

Focus Group Discussion

Focus group discussion was carried out amongst women with and without uterine prolapse

The survey on knowledge about uterine prolapse revealed that women had knowledge about risk factors, signs and symptom but had low knowledge about preventive measures. The aim of the discussion was to find out the factors influencing

preventive behavior towards uterine prolapse amongst the women. The interview was conducted by a health worker from the partner NGO using standard guidelines prepared by the researcher with the researcher as the note taker and observer. The discussion was carried out in one of the VDCs of the sampled study area keeping in mind the feasibility and accessibility of the location. The discussion was carried out for 40-45 minutes. Eight participants were recruited for each of the discussion. The FGD guideline is as follows:

What is uterine prolapse?

What are the risk factors for uterine prolapse?

What are the preventive measures of uterine prolapse?

Will you take any preventive measures?

What are the reasons for not taking any preventive measures?

FGD revealed that women had knowledge though partial about the risk factors of uterine prolapse but were unable to take preventive measures due to lack of support from family, lack of manpower in the family. Poverty and gender discrimination was found to be the underlying factor for women not being able to practice preventive measures.

Women with uterine prolapse

The interview was conducted amongst women with uterine prolapse and who were above 35 years old. Women less than 20 years old could not be included in the discussion as the discussion was in the morning and women had to go into the forest to collect woods or go to the rice fields.

Uterine prolapse:

The respondents had a fair knowledge as to what is uterine prolapse. Six of the respondents mentioned that uterine prolapse was “falling of the house where baby is

present during pregnancy" while two of them said that" due to load from the baby, the uterus slips down".

Risk factors for uterine prolapse:

Most of them said that carrying heavy load after delivery, not taking enough rest post delivery causes uterine prolapse.

"*Heavy load after pregnancy causes uterine prolapse", "Starting work 7-8 days after delivery", "Having to run after animals when we take them out to graze", "Not eating well after delivery", "If you do the dhiki (foot milling)"*

Women are generally considered impure after delivery and the family members generally do not touch her nor do the traditional birth attendants so women resort to different means to take out the placenta. One of them has been mentioned by the woman during the discussion.

"I took out my placenta by placing a bamboo over it so that it comes out due to the weight".

Preventive measure for uterine prolapse:

Though women cited risk factors for uterine prolapse easily, when it came to mentioning preventive measures, they were a bit skeptical.

"You should get married at the right age"

"Rest for 2-3 months after pregnancy"

"Have right age gap of about 5 years between two children"

"Eat well after delivery"

"Traditional herbs are the best as we can make them ourselves. And if we can't do that much for ourselves, we can't do anything else".

"Use ring pessary"

"Give birth at hospitals, health care centers and that is why health workers like you are present to guide us".

"No sex immediately after delivery"

Practice of preventive measures:

When women were asked whether they were taking any preventive measures in order to prevent it from degrading it further, almost all the women said that though they want to take the measures but circumstances doesn't allow them to do so.

"*Women are weak, no one understands our pain so we have to work and make a living"*

"Women themselves don't care about their body and keep doing everything"

Almost all the women had the same view points when it came to reasons for not adopting preventive measures. Gender discrimination, lack of awareness about maternal health and poverty were seen to be the main cause for lack of practice amongst women. The women said they had to do all the household work by themselves, look after animals and work in the fields which have been mentioned in studies.

"My man had gone to India to work and he came back six months after the birth so I got no help from anywhere"

"People think women are iron made and that they can do anything".

"I thought I was light post delivery so I went to work".

"If we tell our husband that we have this problem, I won't be able to do it, then he'll say- I brought you for this, what else work do you have".

"We already have prolapse, we don't our daughter in laws and daughter to go through the same so it is better we work since we already have it"

Women reported that animals held more importance to men as compared to women since the death of animals would cost them money. This brings to light the under value of a woman's life. The following was mentioned by a 43 year old woman.

"And men think, even if she dies, I can always marry again and I will get money as well".

Women mentioned that they were helpless when it came to intercourse immediately after delivery as men wouldn't listen to them and they were helpless.

"If I don't agree, he will say, I am having an affair"

"Men don't understand we are in pain. The other day I heard that a woman who was using ring pessary had to take it out as her husband had problems with it and would beat her up after he came home drunk".

Only one woman who was 39 years old mentioned that *"My husband is very understanding, he supports me".*

Focus group discussion revealed that women had poor knowledge regarding birthing practices and the importance of delivery by trained birth attendants.

"I had 3 sons without going to health institution, without any checkup. They grew up healthy and fine. So, why should I go for the other 2, i didn't go."

Women without uterine prolapse:

Focus group discussion was carried out amongst 8 women without uterine prolapse and who were less than 35 years. The discussion was for 30-35 minutes as the women were in a hurry to return home and start with the household chores. It was seen that women without prolapse were more aware of it and tried to practice preventive measures in their daily lives.

Uterine prolapse:

Like women with uterine prolapse, most of the women have idea as to what is uterine prolapse. All except one said that *"falling down of the place where baby is kept"*. While one said that "*when you take out the uterus, there is no baby so must be it"*

Reason for uterine prolapse:

As seen from the survey, the women identified the reasons for uterine prolapse correctly. Women reported that "*workload during pregnancy, heavy work in the post natal period and menstruation", "marriage at early age", " pregnancy at early age", "getting pregnant every year", "immediately sex after pregnancy"* and one said mentioned *"having sex at an early age".*

In Nepal, women are considered impure during menstruation period and are restricted from worshipping god and in the western Nepal, the rules are further strict with women forbidden to enter, sleep inside the house and take milk, yoghurt and other dairy products. This was seen in the focus group also where one women ,who was 33 years old said that *"if you touch food or eat food that is not allowed during menstruation".*

Another woman mentioned that lack of nutritious food was the reason behind prolapse.

"*During post natal period, you are not allowed to eat fish, green vegetables but only cumin seeds and ajowan. So we cannot get enough nutrition and our body is weak"*.

As the case with women with prolapse, this group of women also had poor knowledge on maternal health status and delivery practices.

"*I had my own pregnancy. i closed the doors and did it myself "*- a 29 year old woman

"I had my own traditional birth attendant so I did not need to go to the hospital."

Preventive measures:

The reasons cited by the women without prolapse was also fairly the same as women with uterine prolapse such as *"operation", "use ring pessary", "traditional medicines", "exercise", "have babies with 3-4 years age gap, "marry at right age".*

One peculiar preventive measure was mentioned by a woman during the discussion.

"I heard that you cut the male hen, drip the blood on the uterus and then push the uterus inside, it works".

Practice of preventive measures:

It was found that women were practicing preventive measures but still could not do it wholly when it came to doing the household chores or bringing wood from the forest as husbands were generally out of the country for work.

"When lifting heavy loads, I bend down on my knees and lift it".

"I eat well and started working only a month after pregnancy".

"I have not gotten myself pregnant every year and I will make sure that there is a 2-3 years age gap.

"Even though I want to, there is no one at home to do bring wood, cook so I have to do myself".

"Women have to make own self able then only we can do something about it".

"I was lucky in a way because my husband was in India during my delivery so I didn't have to go through it but I have heard that women have had to have sex within 3-7 days of delivery" – a woman who is 24 years old and is involved in farming

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATION

This was a cross sectional study carried out amongst 266 married women of reproductive age in the 8 VDCs of far western Surkhet district of Nepal. The aim of the study was to find out the prevalence of uterine prolapse in the studied area; knowledge about uterine prolapse (risk factors, signs and symptoms and preventive measures) and attitude towards uterine prolapse.

The study also explored the relationship between socio demographic characteristics, maternal health status, knowledge, attitude and stats of uterus prolapse. The results of the baseline study will be used to promote awareness regarding the problem and by the policymakers for women empowerment and establish reproductive health as a women's right.

Socio Demographic characteristics:

In this study, the age group was categorized into seven groups and the majority of the women were distributed in the age group 20-39(70.8%); this finding is consistent with the study done in the eastern region of Nepal where 70% of the respondents were in the same age group (CAED-WRRP,2007) and another community based study carried out in 8 districts of Nepal(Gurung et al., 2007).However, this differed with another hospital based study where the majority of the respondents were in the age group 41-60.But this could be because it was a hospital based study carried out in the capital and old age women are more likely to visit hospitals rather than young women(Darshan,2009).

Education is one of the important factors as it also determines the level of awareness amongst women. The educational status of the women was low as 80.9% of the women had no formal education(47.6%) or only elementary education(33.3%); Similar finding has been replicated in the study in the Siraha, Saptari districts(CAED-

WRRP, 2007) and the hospital based study(Darshan, 2009) where majority of the participants were illiterate followed by elementary education.

In terms of occupation, majority of the women were involved in farming (74.2%) followed by daily wage labor (12.7%). A study in Bhaktapur showed that the prevalence of prolapse was higher in farming women than non farmers.(Gurung et al., 2007) found that the Also the However, it should be noted that Nepal being a patriarchal society, these women(farming and daily wage) perform dual tasks that is fulfill the duties of a housewife too (Adner et al., 2007).

The caste system is prevalent in Nepal and this study had 5 categories to categorize women belonging to different castes. Majority of the women were Janjati (30.0%) followed by Dalit (28.5%).The results of this category does not match with the other studies(CAED-WRRP, 2007;Messerschmidt , 2009).This could be because the studies have been conducted in different regions of the country and the concentration of the social group differs with regions.

Utilization of health services in the past 1 year

It was found that 38.3% of the women visited private hospitals followed by government hospitals at 35.2%.The mode of payment was out of pocket (82.9%).This could be because the government health facilities are short staffed, ill equipped as medicines and supplies rarely reach on time(Earth and Sthapit, 2002).So, it is likely the women preferred private practice. 87.8% of the women did not visit health institution in the past one year as they were not sick; this has been explained in other studies as the reason behind this being women did not perceive a need for it (Dhakal et al., 2007)or had a low value of one's own life(World Bank,2001).

FGD cases also revealed that people generally consider women to be "made of iron" and that they shouldn't really go to a doctor until and unless the woman is seriously ill. It was found that 6.1% of the women could not visit health institution due to geographical inaccessibility and another 4.1% mentioned lack of decision making power.

The finding is consistent with the study carried out in eight districts of Nepal by World Bank (2001).But, the percentage of lack of decision making power in health care for women was found to be very high(72,7%) in the study done in South Asian countries (Senarath and Sepali, 2009) as the study done was country based unlike one 8 VDCs of one district.

Women and Marriage:

Legal age of marriage in Nepal is 18 years. However, the result shows the mean age of marriage for women to be 16.8 years. The result was congruent with the national data for age of women at marriage which is 17.2(HMG, GTZ and UNFPA, 2002) and Nepal Safer Motherhood Project put the age as 16.The young age of marriage can be attributed to the practices of arranged marriages in Nepal (Caltabiano et al., 2008).Also, virginity is given a high priority in Nepal because of which it is perceived that women who are old may not be a virgin thus resulting in girls being married off early.

But the findings does not coincide with studies carried internationally (Samuelsson et al., 1999) as tradition, culture and norms are different. Also the percentage of women (67%) who had their first delivery before the age of 19 was in the similar to study conducted by WRRP-CAED (2007) and another study by Darshan (2009) which puts the figures of pregnancy before teens at 65.16%

Maternal Health Status:

Place of delivery:

Majority of the respondents (73.1%) in the study had their babies delivered without trained assistance. The finding coincides with other studies that have been carried out in Nepal. Messerscmidt (2009) who conducted a study in 8 districts found that more than 80% of the respondents had their babies delivered at home. The study in Achham and Doti by UNFPA, GTZ and HMG (2002) found that more than 90% had delivered their last 55.4% of the women had delivered their last baby at home and at shed(37.3%)

in Achham. The situation in Doti was found to be the same with 79.0% at home and 12.6% at shed.

Delivery assistance:

The study revealed that 37.2% of the women delivered their last baby with the help of relatives and mother in law. TBAs continue to play an important role in providing antenatal care, assistance during labor and delivery, and initial postpartum care in many developing countries. They are easy to access in community settings and cost less than other village or government health workers (Bang et al.,1994;Costello et al., 2004;Kruske and Barclay,2004;Borghi et al.,2006, cited in Thatte N et al.,2009).Darshan et al., 2009 in his government hospital based study found that the majority of the deliveries968.18%) in the rural area were done by mother in law or neighbors. Bhatta (2008) found that 50.4% of the women had their babies delivered with mother in law assistance in Kavre, 30.6% in Dhanusha, 23.6% in Saptari.

Number of antenatal visits:

The study revealed that 34% of the women has not made any antenatal visits prior to delivery and only 19% had visited three times. (Darshan, 2009) found that 78.79% of the women had not made any antenatal visits. Again, the researcher would like to point out that it was a hospital based study.

Number of postnatal visits:

It was found that 82.1% of the women had not visited health institution post delivery. The study is consistent with the study by Pradhan, 1997, cited in Earth and Sthapit (2002) found that only 13% of the mothers had been visited by a trained medical professional within 24 hours of the birth.

Type of work during pregnancy:

Only 2.7% of the women mentioned to having not worked at all during pregnancy. Similar finding has been presented in the study by Bonetti et al., (2002) where 87% of the women mentioned that they had no rest prior to delivery.

Onset of work post delivery:

In this study, immediately has been categorized as less than 15 days and it was found that 68.3% of the women started working immediately. The percentage of women who started light work within 1-7 day of delivery was found to be 31.8%.Somewhat similar finding was reciprocated in the study carried out by UNFPA, GTZ and HMG (2002) where 22.3% of the women started work within 7 days in Achham and 21% in Doti. And Bonetti et al (2002) found that only 21% of the women had rest for 7 days or less after delivery. Study by Darshan (2009) shows that only 45.5% of the women had rested for 7-14 day post delivery.

Similarly, when it came to resumption of heavy work 395 of them started carrying heavy workload after three weeks or so. The result is much less when compared to women in Doti and Achham where 73.7% and 69.2% of the women resumed heavy work in a week of delivery (UNFPA, GTZ and HMG , 2002). The difference could be because a lot of work has been done in the area and women are more aware of it now.

Overall Prevalence of Uterine Prolapse:

The prevalence of uterine prolapse in the study was found to be 24.7% amongst a total of 266 women. The finding is consistent with the other studies that have been carried out in the various districts of Nepal. A clinic based study carried out in the districts of Doti, Achham which share borders with Surkhet district, the study location found the prevalence to be 20% (UNFPA, GTZ and HMG, 2002).Another study conducted in Siraha, Saptari districts of eastern Nepal in the age group found the prevalence to be 37% (CAED-WRRP, 2007). But the study was conducted in two districts as compared to one.

A study conducted amongst the women visiting the free women health care clinic in the western region of Nepal found the prevalence to be 25% (Schaaf et al., 2008).The prevalence of 24.7% has been obtained on the basis of self report as well as women who found it diagnostically. But, in the study conducted by Bonetti et al.,(2004) found that of the total women who self reported uterine prolapse in Achham and Doti,95.1% and 98.1% of them were found to be suffering from prolapse on clinical examination.

National Demographic Health Survey of Nepal [NDHS] carried out a country wide population based study and the prevalence was found to be 7% (NDHS, 2006). The number seems to be small as the study was conducted in a larger sample size and the methodology has not been stated in detail.

Similar findings were also presented in studies carried out in Asia, Africa and as well as some parts of Europe. Globally, the prevalence of uterine prolapse is estimated to be 2-20% (Adner et al., 2007).In another study conducted in Iran amongst women 18-68 years of age, the overall rate of prolapse was found to be 53%(Garshsabi et al., 2006).Similarly, another clinic based study carried out in Alexandria, Egypt found the prevalence to be 40%(Gomman et al., 2001). Prevalence rate in a study carried out in Ghana was found to be 12.07% (Wusu-Ansah et al., 2008).

A Swedish study carried out amongst women aged 20-59 years found the prevalence to be 30% (Samuelsson et al., 1999).The reason for the high prevalence of uterine prolapse for the studies carried out in Iran, Egypt, Sweden could be because these were all clinic based studies. It can be said that the prevalence of uterine prolapse wherever studied has been found to be different and varies widely region from region as the age group studied, the research methodology used has been different.

Years of living with prolapse:

The study shows that on average women had been suffering from prolapsed uterus for 10 years (+/- 7.89 years).The minimum years was less than a year and maximum was 33 years. This s consistent with study carried out by WRRP-CAED, 2007. This brings to light the social stigma picture related to prolapsed uterus. Most of the women had been suffering from it silently for the fear of being ridiculed and outcast by the society (Upadhyay, 2002; WRRP-CAED, 2007; Darshan, 2009; Gurung et al., 2007).

Age of Onset of Prolapse:

The minimum age of onset of prolapse in this study was found to be 14.Previous studies have shown the minimum age to be 15(UNFPA and IOM, 2006).This shows that uterine prolapse is prevalent even amongst the younger age groups in Nepal unlike western countries where prolapse has been found to be prevalent amongst the older women (WRRP-CAED, 2007).This could be due to early marriage practices followed by early child bearing and the work burden that comes along with it (Bonetti et al., 2002)

Knowledge regarding uterine prolapse:

More than 50% of the women had moderate level of knowledge (overall) followed by low level of knowledge. Gomman et al., (2001) conducted a study in Alexandria amongst women with prolapse and found that 34% of the women had fair knowledge of uterine prolapse. The number is less as the study in Alexandria was conducted amongst women with uterine prolapse only. Nearly 90% of the women responded saying that doing heavy work during pregnancy causes uterine prolapse. The same was mentioned in the study carried out by Bonetti, 2000 cited in UNFPA, GTZ and HMG (2002).

However, the same study by UNFPA, GTZ and HMG (2002), mentioned that 52.5% of the women identified heavy work load in the post partum period as the reason for uterine prolapse. The reason for an increase in the number could be because the study was conducted nearly a decade ago. Since then, a lot of work has been done on the subject with the government of Nepal even announcing 13,000 free operations to women with prolapse over a period of 5 years. Only 32% of the women said that not having enough food during pregnancy.

The study conducted by WRRP-CAED (2007) found that only 16% women agreed to the same question. Only 32% of the women considered having many children as one of the risk factors for uterine prolapse (Darshan, 2009; WRRP-CAED, 2007; Kumari et al., 2000). Only two women in the study done by UNFPA, GTZ and HMG (2002) mentioned having too many babies as the reason for uterine prolapse. Also 0.4% said that having too many babies was the reason in the study by Bonetti et al., (2004). This indicates that women have a poor knowledge when it came to parity and its relation with uterine prolapse.

The women had good knowledge level regarding the signs and symptoms of uterine prolapse as majority had a high knowledge level (39.5%). Of the questions for signs and symptoms, only 38% of the women said women with uterine prolapse urinate often. This is surprising considering it is one of the important signs of uterine prolapse and has been found to be significant with uterine prolapse (Gurung et al., 2007).But it has to be kept it mind that this survey was carried out amongst women who have and who do not have prolapse. So it is likely that women without prolapse do not have any knowledge about it.

As compared to risk factors and signs and symptoms, the knowledge level regarding preventive measures was very low (90.6%). Only 2.6% of the women had high level of knowledge. Perhaps, this could explain the high prevalence of uterine prolapse in the area. Only 16.5% of the women mentioned that post partum rest for 45 days prevents uterine prolapse which is one of the important preventive measures for prolapse (Earth

and Sthapit, 2002). The percentage does not coincide with the study carried out by WRRP-CAED,2007 where 39% of the women mentioned that taking rest for 39 days can prevent prolapse. Only one woman mentioned Kegals exercise as one of the preventive measures. This was a totally unexpected result as 24.7% of the women had uterine prolapse.

Vanamala (2006) carried out a study on knowledge of prevention of uterine prolapse amongst postnatal mothers and found that the participants had a poor level of knowledge (30.67%) regarding pelvic floor exercise. And a strikingly contradicting result was obtained when it came to delivery by trained birth attendants. Although 80% of the women said that delivery by untrained birth attendants causes uterine prolapse, only 4.1% of them considered it to be a preventive measure. This shows that there is a wide gap in knowledge level amongst women and a lot has to be done by the organizations working in the area along with the female community health volunteers. The study carried out by UNFPA, GTZ and HMG (2002) found that only 22 women cited lack of trained assistance during delivery as the reason for prolapse. Drinking herbs as a measure or preventing prolapse which was a negative question resulted in only 17.2% of the women answering it correctly. This could be because taking/drinking traditional herbs seems to be quite popular amongst the women although there is no scientific evidence to the fact that it really helps.

Economic status of the women and educational level plays an important role when it comes to intake of traditional herbs as it is normally cheap and easily available than seeking health institution. Bonetti et al., (2004) found that one in four women resorted to using traditional remedies such as taking traditional herbs, putting herbs soaked cloth into the vagina or hanging upside down.

Attitude towards uterine prolapse:

More than 80% (82.7%) of the women in the study had a moderate attitude towards uterine prolapse. Rumors blaming women for uterine prolapse is quite

widespread because of which women have been subjected to derogatory treatment(Messerschmidt ,2009).However, the positive results of this study shows that women are coming to terms with the fact that uterine prolapse is normal and they are opening up and talking about the disease. Literature review reveals otherwise in earlier studies. A Swedish study revealed that women felt shy to talk about uterine prolapse as it was an intimate issue (Pakbaz et al., 2010).

Nepal is dominantly a patriarchal society and women tend to be looked down upon since birth. The lower socio economic status of women prevents them from fighting back and their pleas are usually subsided down or overlooked by the family members including husband and society (Messerschmidt, 2009;Darshan, 2009;UNFPA, 2008;CAED-WRRP, 2007).This could be the reason that only 41.7% of the women thought that uterine prolapse was as a result of injustice to women. Another 60% felt comfortable talking about prolapse with their friends and parents as compared to talking about prolapse with their husband or mother in law (91.0%) since uterus prolapse is considered a taboo and often results in women being ridiculed by the society(Upadhyay, 2010)

Association between knowledge level, parity and uterine prolapse:

Stepwise logistic regression revealed that only knowledge level and parity was found to be significant with uterine prolapse. Knowledge level had a p value of <0.01.It should be noted that very few studies have been done on the subject and the researcher found no study that discusses the significance of knowledge level with uterine prolapse.

Almost 41% of the women with prolapse had 4 babies. This is in line with the national data as the total fertility rate of Nepal is 3.1(UNFPA, 2008). The fertility rate in Nepal is high because the children are considered blessings and the longing for a male child results in women being pregnant number of times (Schaaf et al., 2008 and Nepal safer motherhood project [NSMP], 2010). Parity, which is considered to be one of the

risk factors was found to be significant with uterine prolapse (p value=<0.045). The same has been replicated in some other studies (Samuelsson et al., 1999; Wusu-Ansah et al., 2008; Duong TH., 2009).

Studies have shown that lack of trained assistance, parity, heavy workload, and resumption of workload after pregnancy as factors associated with uterine prolapse (Bodner et al., 2007; CAED-WRRP, 2007; Samuelsson et al., 1999; Wusu-Ansah et al., 2008; Duong TH., 2009; Gomman et al., 2001).But, the result of this study shows otherwise. Age, parity and delivery practice were found to be significant at the bivariate analysis level but on doing regression analysis, knowledge level, parity and attitude level were found to be significant. This shows that though the variables, delivery practice and age have an effect on the status of uterine prolapse but do not necessarily cause uterine prolapse.

Focus Group Discussion:

The focus group discussion provided insights into the quality of women's life and explained the quantitative results. The focus group discussion revealed that though women had knowledge on risk factors but could not practice preventive measures thus explaining the alarming prevalence of uterine prolapse. Also the poor delivery practices and a low value of one's life explained the low maternal health status of the women such as delivery at home by untrained assistance and lack of antenatal, postnatal visits. This is consistent with a study carried out by Bonetti et al (2004).

Also it was seen that women who had uterine prolapse did not take any measures as to prevent it from degrading it further as they preferred doing the chores themselves so that their future generations did not have to go through the same suffering. On the other hand, discussion with women without uterine prolapse revealed that they were taking certain measures like birth spacing, taking rest after pregnancy.

5.2 Discussion

In conclusion we can say that the majority o the women have a poor maternal health status. The women have a moderate level of knowledge regarding the risk factors but very poor knowledge about the preventive measures which could mean poor practice thus resulting in alarming prevalence of uterine prolapse and moderate attitude towards it.

In terms of bivariate analysis, the result showed that

Socio Demographic Characteristics: Only age was significant with the status of uterine prolapse (p value=<.016) and the rest of the variables such as marital status, occupation, education and caste was not found to be significant.

Knowledge level with uterine prolapse was highly significant (p value=<0.001) though attitude level was not found to be significant (p value=0.122)

In terms of relationship between maternal health status and uterine prolapse, total live children was found to be nearly significant(p value=0.057), total pregnancies(p value= .008),delivery practice(p value=.037), number of antenatal visits(p value=.046) was found to be significant with uterine prolapse.

Multivariate analysis:

For logistic regression, all the variables that were considered to be important risk factors for uterine prolapse from the literature review studies were kept as independent variables. However it should be noted that it may not be the same in the real world as dependent variables could be independent and vice versa.

The result from logistics showed that only knowledge level(p-value<0.001) and total number of pregnancies(.045) was significant with uterine prolapse.

All in all it can be said that education which is one of the key factors that drives one's attitude and behavior was found to be significant. Though the effect was seen in the opposite way, it could be because prolapsed women have high knowledge about uterine prolapse. Also though women have knowledge but the practice is poor due to poverty,

lack of help from husband or family entails them to keep on working normally without seeking any help.

5.3 Recommendation

The study found that the prevalence of uterine prolapse is alarming and there is a wide gap in the knowledge level. The maternal health status of the women is quite poor and it is one of the underlying factors for uterine prolapse. This shows that there is a lack of awareness amongst women about their health in general.

At the policy level, uterine prolapse should be included as women's reproductive right. Strong empowerment is required amongst the family members for maternal health during pregnancy and delivery at each stage. Antenatal and Postnatal visits should be encouraged through capacity building of the female community health volunteers. Increase family planning awareness amongst the males as women seem to have no say in the matter.

Gender discrimination issues such a social, cultural and economical should be addressed. Accessibility to quality health services should be provided and the traditional birth attendants could be trained in order to have safe delivery at home. Increase proportion of women among health care providers so that women feel comfortable visiting health centers. A PAR would be better for such a sensitive topic.

The government should include uterine prolapse in school education for higher grades. Though, the government of Nepal has provided incentives to women who deliver their baby at health institution but the figures are still low. So, the government should increase access to health care services by building strong coordination between the government and the various NGO and INGOS working in the field. The health workers should be provided with training so that they can detect uterine prolapse in the earlier stages. The government and the various organizations should involve mass media in order to spread.

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APPENDICES

APPENDIX A

The questionnaire has 6 components:

I. Socio Demographic characteristics

II. Utilization of Health services.

III. Maternal Health Status of the studied population.

IV. Knowledge level regarding uterine prolapse amongst women suffering from uterine prolapse and those without it.

V. Attitude towards uterine prolapse amongst women suffering from uterine prolapse and attitude of women without uterine prolapse towards women with uterine prolapse.

VI. Preventive measures adopted by uterine prolapse women and those without prolapse.

I. Socio demographic characteristics

Instruction: The following questions from 1-4 are about demographic information. Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. How old are you?.....years old.
2. what is your occupation?
   - ( ) 1. Housewife
   - ( ) 2. Farming
   - ( ) 3. Construction laborer
   - ( ) 4.fishery
   - ( ) 5. others
3. What is your marital status?
   - ( ) 1. Married
   - ( ) 2. Widow
   - ( ) 3. Divorcee
4. What is the level of education that you attained?
   - ( ) 1.College

( ) 2. High school.
( ) 3. Secondary school.
( ) 4. Elementary school
( ) 5. No school

5. which caste do you belong to?
( ) 1. Brahmin
( ) 2. chettri
( ) 3. dalit
( ) 4. Jan jati
( ) 5. others

II. Utilization of health services

Instruction: The following questions from 1-4 are about utilization of health services. Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. Where did you go for health services in the last 12 months?
( ) 1. government hospital
( ) 2. private clinics/hospital
( ) 3. Primary health care center.
( ) 4. Traditional healers.
( ) 5. Relatives
( ) 6. Others

If the answer is 4 , 5, 6, move to question 2
If the answer is 1, 2, 3, skip to question 3

2. What are the reasons for not going to a health institution?
( ) 1.Geographical inaccessibility
( ) 2. Lack of time
( ) 3. Financial constraints
( ) 4. Lack of decision making power
( ) 5. Others

3. How do you finance for your health care?

( ) 1.out of pocket
( ) 2. Free government service at the primary health care level
( ) 3.Others

4. Where did you obtain the information regarding the various health problems?
   ( ) 1. Radio
   ( ) 2. Newspaper
   ( ) 3.pamphlet, miking
   ( ) 4. T.V
   ( ) 5.health workers
   ( ) 6.others

III. Maternal Health Status

Instruction: The following questions are about maternal health of women. Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. At what age did you get married? ……. years old.

2. At what age did you have your first child? ……. years old.

3. How many children do you have in total?
   ( ) 1. none
   ( ) 2. 1
   ( ) 3. 2
   ( ) 4. 3
   ( ) 5. 4
   ( ) 6. >4

4. how many pregnancies have you had in total(still births/ abortion/deaths)?
   ( ) 1.1
   ( ) 2. 2
   ( ) 3.3
   ( ) 4. 4
   ( ) 5.>4

5. What is the age of your children?
   ( ) 1. .....

( ) 2. .....
( ) 3. .....
( ) 4. .....
( ) 5. Others.....

6. Do you have uterine prolapse?
   ( ) 1.Yes
   ( ) 2. No
   ( ) 3. I don't know

7. Do you feel/touch something coming out of your vagina?
   ( ) 1. Yes
   ( ) 2. No
   ( ) 3. Not sure
8. Do you have difficulty urinating?
   ( ) 1. Yes
   ( ) 2. No
9. Do you have any foul smelling discharge from the vagina?
   ( ) 1. Yes
   ( ) 2. No
10. If you have uterine prolapse, How long have you had the prolapse for? …… months/ years.
11. How many babies did you have after the prolapse?
   ( ) 1. None
   ( ) 2. 1
   ( ) 3. 2
   ( ) 4. 3
   ( ) 5. > 3

12. How did you deliver your last baby?
   ( ) 1. own self
   ( ) 2. TBA(traditional birth attendants)
   ( ) 3. Relatives or mother in law.
   ( ) 4. SBA (skilled birth attendants)
   ( ) 5. Others.....

13. Where did you deliver your last baby?
   ( ) 1. Home
   ( ) 2. Health institution

( ) 3. Others.....

14. How many times did you visit the health institution during your pregnancy of the last baby?

( ) 1.> 4 times
( ) 2. 4 times
( ) 3. 3 times
( ) 4. 2 times
( ) 5. Once
( ) 6. None

16. How many times did you visit the health institution right after the delivery of your last baby?

( ) 1. None
( ) 2. Once
( ) 3. Twice
( ) 4. > 2 times

17. What kind of work did you do during your pregnancy?

( ) 1. daily activities, cooking and washing the dishes
( ) 2. cleaning the house, feeding the animals, cleaning the animal farm
( ) 3. agricultural work, bringing wood from the forest, bring water by travelling for more than 30 minutes on foot
( ) 4. Others……..

18. When did you start working after the delivery of your child?

( ) 1. immediately
( ) 2. 1 month
( ) 3. Others……

IV. Knowledge about uterine prolapse:

Instruction: The following questions 1-18 are about knowledge on uterine prolapse amongst **women whom <u>have</u> uterine prolapse** and those who **<u>do not have</u> uterine prolapse.** Please mark √ in the column for the one best answer only.

Yes means they have knowledge. No means they don't have knowledge.

If answers cannot be decided whether yes or no, choose "Don't know

STATEMENT	YES	N0	DON'T KNOW
1.Does delivery by untrained birth attendants cause uterine prolapse?			
2. Does carrying heavy load during your pregnancy affect uterine prolapse			
3. Does undergoing labor for long period cause uterine prolapse??			
4.Do you think doing heavy work during pre and post natal period causes uterine prolapse?			
5. Do you think having not enough food during pregnancy causes uterine prolapse?			
6.Can having many children reduce the risk factor for uterine prolapse?			
7.Does the woman with uterine prolapse experience something coming out of her vagina?			
8. Does the woman with uterine prolapse have difficulty in standing, walking?			
9.Does the woman with uterine prolapse has problem while urinating?			
10.Does the woman with uterine prolapse urinate very often?			
11. Does the woman with uterine prolapse have any back pain?			
12.Is uterine prolapse preventable?			
13.Is uterine prolapse prevented by reducing workload?			
14.Does exercise(Kegals exercise)prevent the uterin prolapse from degrading it further?			
15.Can delivery by trained birth attendants minimize the chances of having uterine prolapse or prevent it			

STATEMENT	YES	N0	DON'T KNOW
from degrading it further ?			
16.Can adequate birth spacing reduce uterine prolapse?			
17.Can drinking some herb prevent uterine prolapse or prevent it from degrading further?			
18.Can having nutritious food during pregnancy prevent uterine prolapse?			
19.Does proper rest for 45 days post pregnancy prevent uterine prolapse?			

V. Attitude towards uterine prolapse:

Instruction: The following questions 1-12 are about attitude **towards uterine prolapse** amongst women suffering from uterine prolapse and those who do not have uterine prolapse. Please mark √ in the column for the one best answer only.

Agree means the statement is correct.

Disagree means the statement is not correct.

If answers cannot be decided whether agree or disagree, choose "Uncertain"

STATEMENT	AGREE	UNCERTAIN	DISAGREE
1. Uterine prolapse is responsible for death of women.			
2. Uterine prolapse is an embarrassing disease.			
3. Do you feel shy to talk about uterine prolapse with your husband or mother in law?			
4. Do you feel free to talk about uterine prolapse with your close friend or parents?			
5. Is it alright for a husband to take second wife if his wife has uterine prolapse?			

6. Will you take your relative/near ones to the health center for treatment if they suffer from uterine prolapse?			
7.Do you think uterine prolapse is a result of the injustic towards women?			
8. Should women with uterine prolapse be invited to community functions?			
9. If there is a woman with uterine prolapse, would you want to be friends with the woman?			
10. Do you think uterine prolapse is a result of bad karma?			
11. Do you think uterine prolapse lowers the quality of life of women?			

VI. Preventive Measures towards uterine prolapse:

Instruction: The following questions are about preventive measures towards uterine prolapse amongst women who **have uterine prolapse**.Please mark √ in the parenthesis ( ). Please also write down in the blank space where provided.

1. How did you gain information about the preventive measures of uterine prolapse? Can answer more than 1.

    ( ) 1. Family and friends

    ( ) 2. Health institution

    ( )3. Radio

    ( )4. Pamphlets

( ) 5. Gynecological camp

( ) 6. Others

The following questions 1-3 are for women who <u>have</u> uterine prolapse:

1. As you have uterine prolapse,have you undergone any treatment?

   ( ) 1.Yes

   ( ) 2. No

   If the answer is Yes, move to question 2.

2. Where did you go for treatment after you found out you had uterine prolapse? Answer more than 1.

   ( ) 1. Self.

   ( ) 2.relatives

   ( ) 3.traditional healer/local healer

   ( ) 4.health institution

   ( ) 5.others…….

3. What is the treatment that you had for uterine prolapse?answer more than 1.

   ( ) 1 .self care

   ( ) 2.traditional herbs

   ( )3.other traditional care .....

   ( ) 4. .hysterectomy

   ( ) 5. Vaginal pessary

   ( )6. Others……..

APPENDIX B

1. What is uterine prolapse?

2. What are the preventive measures of uterine prolapse?

3. Will you take any preventive measures?

4. How did you gain information about uterine prolapse?

5. What are the reasons for not taking any preventive measures?

APPENDIX C

Research process/ activities	2010					2011				
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Research question formulation and literature review										
Proposal writing										
Formatting of measurement tools (questionnaire)										
Ethical approval										
Field work: data collection (mid- march)										
Data analysis										
Report writing and presentation										

APPENDIX D

S.NO	ITEMS	BUDGET (BHT)
1	Airfare	12000
2.	Printing questionnaire, documents.	3000
3.	Local transportation	5000
4.	Fooding and lodging	8000
5.	Incentives	15000
6.	Ethical clearance	2500
7.	Miscellaneous	3000
	TOTAL	48,500

VITAE

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