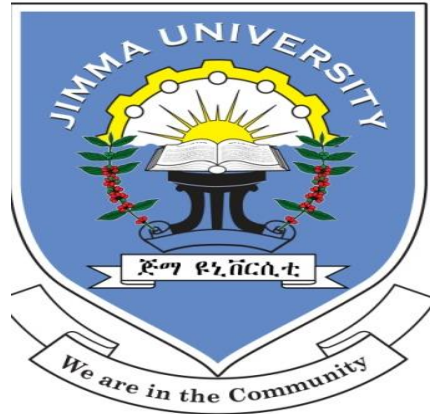


**PELVIC ORGAN PROLAPSE AND ASSOCIATED FACTORS AMONG WOMEN WHO
HAD MAJOR GYNECOLOGICAL SURGERIES IN WOLAYITA SODO UNIVERSITY
TEACHING AND REFERRAL HOSPITAL, SNNPR, ETHIOPIA**



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**A THESIS SUBMITTED TO COLLEGE OF HEALTH SCIENCES, DEPARTMENT OF
POPULATION AND FAMILY HEALTH JIMMA UNIVERSITY; IN PARTIAL
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SEPTEMBER, 2015

JIMMA, ETHIOPIA

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COLLEGE OF HEALTH SCIENCES
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SEPTEMBER, 2015
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Abstract

Background: Pelvic organ prolapse is a common health problem affecting up to 50% of parous women with significant negative influence on their general health and quality of life. It is defined as down ward descent of pelvic organs as a result of weakness or damage to pelvic floor support structures. It is one of the major indications for major gynaecological surgeries.

Objectives: To assess the prevalence of pelvic organ prolapse and associated factors.

Methods: Hospital based cross sectional study was conducted by using both quantitative and qualitative methods of data collection. Data was collected from records of gynaecological cases managed in Wolayita Sodo University teaching and referral hospital from April 1, 2012 to March 31, 2015. A sample of 341 medical cards were included, data collection format containing list of study variables were used during record review and an in-depth interview was conducted with 10 conveniently selected women who were diagnosed with POP and interviewed before the surgical intervention where their card numbers were included in the sampling frame for quantitative study . The data was entered in to EPI-data 3.1, analysed by using SPSS computer software version 20.0. Frequency tables, graphs and descriptive summaries were used to present the result, multivariate logistic regression was done to look for association between dependent and independent variables. Variables were considered as significant where $p < 0.05$ in multivariate logistic regression.

Result: Findings of this study has shown that the prevalence of pelvic organ prolapse was 216(66.9%) out of 323 major gynaecological surgeries. In multivariate analysis; age of women, residence, occupation, parity, place of delivery shows statistically significant association at (P -value < 0.05).

Conclusion and recommendation: This study has shown that majority of women were from rural areas and farmers who spend their time by working hard in farm land and at home, grand multiparous and those who delivered at home without the assistance of skilled birth attendants. Health education on risk factors, prevention of POP and availability of treatment and helping women to get treatment, empowering women in education, decision making on their fertility choices, income generation activities and raising awareness of women on family planning and institutional delivery were strongly recommended.

Key words: - prevalence, risk factors, pelvic organ prolapse.

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Acronyms

AOR	Adjusted Odds Ratio
CAURE	Coloplexy and Urinary Reduction Efforts
CI	Confidence Interval
COR	Crude Odds Ratio
EDH	Ethiopian Demographic and Health Survey
FMOH	Federal Ministry of Health
ICS	International Continence Society
JUSH	Jimma University Specialized Hospital
POP	Pelvic Organ Prolapse
POP-Q	Pelvic Organ Prolapse Quantification
RTIs	Respiratory Tract Infections
RH	Reproductive Health
UNFPA	United Nation Family and Population Association
UN	United Nations
US	United States
UK	United Kingdom
UTI	Urinary Tract Infection
WHI	Women's Health Initiative
WHO	World Health Organization
WSU	Wolayita Sodo University
WSUTRH	Wolayita Sodo University Teaching and Referral Hospital

Chapter one: Introduction

1.1 Background

Pelvic organ prolapse is a condition defined as downward descent or sagging of pelvic structures such as bladder, cervix, uterus, rectum or bowel from its normal anatomical position in to or out of the vagina (1,2).

Pelvic organ prolapse can affect women of all ages although, it is more common in older women; according to WHO report, the global prevalence of POP is estimated to be 2-20% among women below 45 years and 41-50% over the age of 45 years. Mostly it occurs in a women who gave birth vaginally but it can also occur in nulliparous women with estimated prevalence of 2% (3,4).

Prolapse occurs when normal anatomical support of pelvic organs is lost due to weakness and damage to muscles, connective tissues, nerves, and blood vessels of the pelvic structures. Multiple risk factors such as vaginal child births, poor obstetric care practices, normal aging processes or hormonal changes after menopause, increased intra-abdominal pressure or excessive straining from chronic constipation, obesity, chronic and repetitive cough and impact activities like heavy lifting and genetic or connective tissue disorders are among indicated risk factors (5).

Clinically, the definition of POP differs based on anatomical structure that is pushing down into the vagina; there are different types of prolapse:

Cystocele —Tissues between the vagina and bladder weaken and the bladder falls into the vagina.

Rectocele--Tissues between the vagina and rectum weaken and the rectum falls into the vagina.

Enterocele--When small bowel falls through the apex of the vagina, often after hysterectomy

Uterine prolapse--When uterus descends into the vaginal vault, or outside of the vagina. Or POP is classified as prolapse of anterior, middle or posterior compartments.

It is possible for more than one organ to prolapse at the same time (6,7).

Most patients with POP are asymptomatic and symptoms of POP ranges from mild to severe forms and it includes, bulge or mass per vagina, feeling of vaginal fullness and heaviness, pain and discomfort during sexual intercourse, loss of bladder control, recurrent UTIs, difficulty in defecation or loss of bladder control, irregular vaginal bleeding from ulceration of prolapsed organ and with the more serious forms of prolapse, woman's may complain difficulty to walk or to carry out every day duties as a result of external swelling or bulge (8,9) .

The diagnosis of POP generally is clinical and it is graded according to severity or degree of prolapse by a system called Prolapse Quantification System (POP-Q), which is introduced in 1996, by the International Continence Society (ICS) Standardisation Committee as a standard system of terminology for description of pelvic organ prolapse. The descent of the anterior, posterior wall and the apex of the vagina (cervix/vaginal cuff) are measured using the hymen as the point of reference while the patient is straining. Five stages of prolapse are defined in the classification of POP-Q (10,11).

Treatment of POP is made by different mechanisms like lifestyle modification, exercise, pessary use and Surgery. The choice of treatment varies according to the type and severity of prolapse and choice of the patient. Surgical intervention is an effective way of treatment and in some instances reoperation is required. Avoidance or modification of the modifiable risk factors that have significant contribution for the occurrence of POP is preventive (12).

1.2 Statement of the problem

Pelvic organ prolapse is a health concern affecting millions of women globally. It has been on medical records for over 4000 years; unfortunately it has received little acknowledgment until recently. According to WHO report, it is widely accepted that about 50 % of parous women will develop at least one or more types of POP in their life time, but only 10 to 20 % of them seek evaluation for their condition (13,14).

It is difficult to know exactly how many women's are affected by prolapse because many women do not go to seek care for their problems and embarrassed to discuss about their conditions to a doctor and majority of them keep on suffering in silence from the physical, social, emotional and sexual impacts of POP (15,16).

POP is among the major indications for gynecological surgeries and about 1/3 of women with POP require multiple surgeries in their life time. In US alone; over 300,000 surgical repairs are performed for management of POP annually and it is the third indication for hysterectomy. The failure rate of surgery is relatively high: where an estimated 30% of women require re-operation with 25% undergoing reoperations at a total annual direct cost of more than 1 billion dollars, and life time risk of surgery is reported to be 11% in US and 19% in Australia by the age of 80 (13,17).

The prevalence estimates of POP in developing countries vary widely, from 3.4% in south India to as high as 56.3% in Egypt (4). in Africa many Doctors underestimate the impact of POP in a women because the number of women seeking care for these problems are significantly lower than in well-resource areas and studies on POP are scarce in Africa (18).

Prolapse is a debilitating condition which endures symptoms, ranging from physical discomfort, sexual complaints, psychological and emotional suffering to occupational and social limitations which seriously hampers the quality of life of women affected. However, due to potential embarrassment, lack of money to pay for treatment or surgery and opportunistic costs, misinformation, cultural and personal silence concerning the condition, women are often hesitant to seek treatment (19,20).

In developing countries, Medical attention is highly needed to treat women with POP ,but this alone will not alleviate the consequences of Socio-cultural and economic realities such as poverty, too early marriage, high parity with frequent births , poor

obstetric practices that women being practice and women being forced to resume heavy works during pregnancy and immediate postnatal period (21).

In Ethiopia like other African countries, the exact magnitude of POP and the effects of morbidity associated with the condition are seldom acknowledged, studies are scarce, and cases are under reported because of women's embarrassment and shyness to discuss about with lack of money and high cost of treatment or surgery. but pelvic floor disorders are among the leading maternal morbidities from pregnancy and child birth related causes in Ethiopian women but the situation of POP lacks due attention and is highly overshadowed by the issue of obstetric fistula (18,22).

Although, significant improvements have been made in the health sector, many women in Ethiopia still lack access to proper obstetric care, there is high magnitude home delivery without the assistance of trained birth attendants along with their poor socio economic status and burden of carrying out strenuous activities increase women's risk of reproductive health complications like POP which remains to be a silent epidemic in Ethiopian women for long (23–25).

There is scarcity of studies and gap of up to date information concerning POP in Ethiopia; as to the best knowledge of the principal investigator; there are no studies except one recent study and two studies that was done long time ago. So that, more research is needed for better evaluation of the burden of POP, for improvement of access to treatment and updating the existing information's. There are many women who suffer in silence, lacking the language and opportunity to describe their conditions, there is limited descriptions of women's experiences of the condition in literatures. Therefore, in this study the magnitude of POP and its associated risk factors were assessed and triangulated with qualitative information from experiences of women diagnosed for POP in the hospital where this study goes beyond the existing literatures.

Chapter two: Literature review and significance of the study

2.1 Literature Review

2.1.1 Prevalence of Pelvic organ prolapse

The exact world-wide prevalence of POP is unknown but according to WHO estimation, 30% of all women who had given birth vaginally are affected by POP globally. It is very common and may occur in up to 50% of parous women (13,26).

According to UNFPA/WHO, report Nepal has surprisingly highest prevalence of POP. It is estimated that more than 600,000 Nepalese women suffer from some form of 'uterine prolapse' with almost 200,000 others are in urgent need of surgery. The problem exists throughout Nepal and the actual number is assumed to be higher because only women in the reproductive age group were included in the study, this translates to 10% of the reproductive-age population; however in some districts the prevalence is as high as 44.5% and 45% of symptomatic POP occurs in women < 24 years of age (27,28).

In UK Prolapse surgery accounts for 20% of patients from waiting list for gynaecological surgery and in Sweden approximately 7,000 surgeries are performed every year due to POP and the prevalence of symptomatic pelvic organ prolapse (POP) is reported to be 5-10% (29).

From women's health initiative (WHI) trial, in US some degrees of Uterine prolapse was found in 14% out of 27342 Women participated in the study (30). One hospital based study in India among 203 women aged 60 to 86 who were attending OPD between 2006 and 2008 indicates that POP was among the most common gynaecological disorders reported which accounts for 28% of the cases (31).

A cross-sectional study from Ilam province, Iran showed that, among 365 women attending two public centres, the prevalence of pelvic organ prolapse was 80.8% (32). Additionally study from Jimma University specialized hospital, south west Ethiopia showed that the prevalence of POP was 40.7% (33).

Community-based study conducted to assess the health status of sampled Jordanian and Egyptian women in Giza Egypt and Ein El-Basha, Jordan, the study result showed that the prevalence of POP in Egypt was 56.3% and 34.1% in Jordan

respectively (34). Similarly, Community based study from rural Lebanon conducted to assess the prevalence of reproduction related illness amongst 575 randomly selected married women aged 15-60 years, the study revealed that the prevalence of genital prolapse was 49.6%, among them 39% had anterior vaginal prolapse, 16% had posterior vaginal prolapse, 15% uterine prolapse and 61.4% had at one site prolapse. 36.3% at two site and 2.4% had at 3 sites. The study showed that unexpectedly high prevalence rate of uterine prolapse in Lebanon (35).

Community based reproductive health survey conducted between January and July 1999 in a rural area near the town of Farafenni, Gambia women aged 15-54 years were participated in the study and 1067 women were examined for genital prolapse UVP was present in 46%. The types of genital prolapse include anterior only (47%), anterior and posterior (20%), posterior only (16%), anterior and uterine (7%), anterior, posterior and uterine (6%), posterior and uterine (4%) and 15% of the women were found to have symptomatic POP warranting surgical intervention (36). The occurrence of POP is multifactorial in its nature. Women's socio demographic and economic factors, obstetric and gynaecological factors, medical condition and life style are among the risk factors found in literatures that contribute for its development.

2.1.2 Socio demographic factors

Cross-sectional study conducted on 8,000 randomly selected 30–79 year old female residents in Stockholm, the prevalence of symptomatic POP indicated to increase with age up to 60 years among women who were (30–39, 40–49, and 50–59) years of age with the prevalence of prolapse (4.1, 6.2, and 11.8%, respectively and age is found to be risk factor for POP that the risk doubled with each decades of life(37). However, a study from Doti district Nepal shows that majority of uterine prolapse was seen among women >35 years of age (38).

A five year retrospective study from Enugu South East Nigeria among 1488 gynaecological admission POP was shown to be commoner among older age group of women with mean age of women 49.9 years with age range of 8-82 years (39).

Three years hospital based cross sectional study from Jimma University specialized hospital, south west Ethiopia showed that the mean age of women with POP was found to be 42.43 ± 10.4 years (range 22-72) and there was statistically significant association between stage of prolapse and age of patients, occupation has shown a significant association between prolapse and occupation where majority of patients were farmers and house wives (68.2%, 25.6%) and 80.6% of the patients came from rural areas (33).

2.1.3 Obstetric and gynaecological factors

Gravidity, multiparity, mode of delivery and menopausal status were indicated to be associated with increasing risk of prolapse. WHO Population Report (1984) suggested that prolapse was up to seven times more common in women who had more than seven children compared to those who had one and more common in women who delivered vaginally when compared with caesarean section delivery (40).

Cross sectional study from Ege University Gynaecology Clinic indicates that 66.0% of the study participants had history of vaginal delivery. Among the women who had only vaginal births (18.0, 43.3, 19.3 and 19.4%) had 1, 2, 3 and ≥ 4 births respectively and POP was diagnosed in (4.7, 8.7, 12.0 and 23%) of these women respectively. And it is indicated that each vaginal birth was associated with an added increase in the risk of POP and mode of delivery was considered as a primary risk factor (41).

Clinical based cross sectional study from rural Gambia, West Africa revealed that high parity to be the strongest risk factor for POP. Women having eight or more deliveries had 15 times the odds of prolapse when compared with nulliparous women (36)

Additionally a five year retrospective hospital based study from Enugu Nigeria revealed that post-menopausal status has association with prolapse where, 66% of participants having prolapse were found being post-menopausal (39).

2.1.4 Women's medical condition and Life style factors

Life style of women like, engagement in heavy activities shows strong association with POP and it is indicated that women who were involved in lifting and carrying heavy loads were found to be at higher risk than those involved in light work (42).

Hospital based descriptive study among 100 purposively selected women whom were diagnosed with utero-vaginal prolapse in Bharatpur hospital, Chitwan revealed that heavy work load, illiteracy, multi parity, home delivery, vaginal delivery were the most important contributing factors for prolapse (43).

Medical conditions like chronic cough or lung disease and chronic constipation contribute for prolapse by increasing intra-abdominal pressure. In a study from Jimma, chronic cough (20.9%), and constipation (30.2%) were found in patients with POP and identified as risk factors (33).

2.1.6 Signs and Symptoms of Pelvic organ prolapse

The Presentation of POP symptom may be varying among individuals and it also depends on the severity of the prolapse. Symptoms include Vaginal, Urinary, Bowel and Sexual symptoms. In addition, backache, recurrent urinary tract infection (UTI) and ulceration can be reported (44).

Prospective observational study from a total of 43 women with symptomatic POP recruited for pelvic floor reconstructive surgery at Kings College Hospital, the main presenting symptoms indicated were ‘lump’ in the vagina, dragging sensation, difficulty in defecation and discomfort or pain in the vagina (45) . Additionally, a cross sectional study from Doti District of Nepal indicates that Almost all (98.17%) reported that feeling of something coming down or protrusion from vagina as most frequently experienced symptom followed by difficulty in sittings and walking 89.91% (38).

A study conducted in South East Nigeria the most common presenting symptoms were sensation of protrusion down the vagina (76.2%) and urinary symptoms like dysuria, and stress incontinence occurred in 18(42.9%) and 11(26.2%) of the patients respectively while decubitus ulcer occurred in 14 (33.3%) of the patients (46).

2.1.7 Stages of Pelvic organ prolapse

A multi-centre observational study from Umea University, on 1,004 women aged 18–83 years, a routine gynaecological examination shows that, 24% had stage 0 prolapse, 38% had stage I, 35% stage II, and 2% had stage III prolapse according to POP-Q (29). Similarly, a cross-sectional study carried out by evaluation of 1,000 available

Health Information documents in two primary health care centres in Ilam province, Iran of the 365 women examined in this study, 285(80.8%) women were put in the POP group. The overall distribution of POP-Q system stages were: stage 0,19.2%, stage I, 20% and stage II, 60.8%.The study found that stage 2 is most common severity of prolapse(32) .

In a study from South east Nigeria, the most common type of genital prolapse seen in the review was the second degree, 35 (83.3%) of the cases while third degree prolapse occurred in 5 (11.9%) of the patients (46). And also a ten year retrospective review of cases at the university of Ilorin teaching hospital in Nigeria indicates that second degree prolapse was reported as 81(67.0%), 22.3% procedentia, while 10.7% were presented with first degree prolapse (47).

Existing few literatures on POP were about prevalence and tries to assess selected risk factors but factors like previous pelvic surgery and history of chronic diarrhoea were overlooked and the other short comings of the existing studies were lack of qualitative assessment of patient experiences with pelvic organ prolapse. Therefore, this study has included the prevalence and associated factors of POP with qualitative assessment of patient experiences of the condition from gynaecology ward of Wolayita Sodo University teaching and referral hospital.

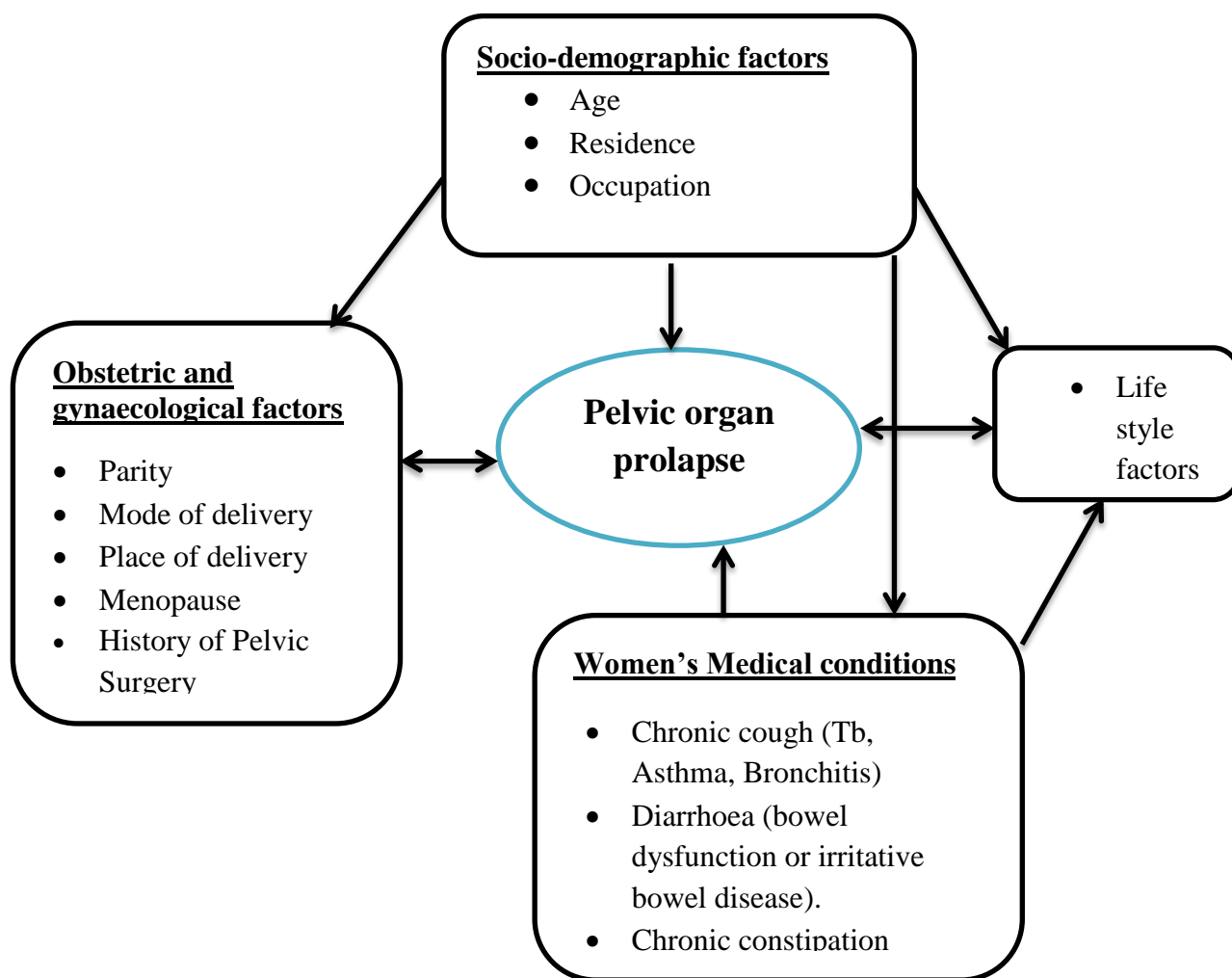


Figure 1 Conceptual frame work: for pelvic organ prolapse and associated risk factors (Source: taken from literatures (adapted from other studies)(48,15).

2.2 Significance of the study

There is information scarcity and dearth of epidemiological studies concerning POP especially in developing countries including Ethiopia; about its incidence and prevalence, risk factors, treatment and preventive measures. As a result there is difficulty in estimation of the exact incidence and prevalence of POP. There needs to be adequate researches and studies to be conducted in the area to upgrade knowledge and level of information concerning the condition.

Since, researches and findings from studies are keys for planning and implementation of care, support and preventive programs, the need for adequate information from studies regarding POP is unquestionable. There are many women who suffer in silence, lacking the language and opportunity to describe their condition, there is limited descriptions of women's experiences about POP in existing literatures.

So that, this study is believed to contribute in narrowing the existing information and knowledge gap in the area, important in increasing awareness among different segments of the community members and also believed to bring pertinent information on patient experiences of living with the problem .

The results of this could be used as an input by health care policy developers and program planners and as a baseline data by those who have similar interest in the area for further studies.

Chapter three: Objectives

3.1 General objective

To assess the prevalence of pelvic organ prolapse and associated factors among patients who had major gynaecological surgery in Wolayita Soddo University teaching and referral hospital, SNNPR, Ethiopia for the last three years (from April, 2012 to March 31, 2015).

3.2. Specific objectives

1. To determine the prevalence of pelvic organ prolapse
2. To identify factors associated with pelvic organ prolapse

Chapter four: Methods and Materials

4.1 Study area and period

This study was conducted in Wolayita Sodo University teaching and referral Hospital (WSUTRH) which is found in SNNPR, Wolayita zone, Sodo town located about 390 Kms far away from Addis Ababa and 167 Kms from Hawassa regional capital city. Based on the 2007 census the total number of population of the zone were 1, 851452 and 50.1% female and 49.9% Male. WSUTRH is one of the three hospitals that are found with in the zone, it is currently giving wide range of health care services and used as main referral center. The total number of populations served in the hospital is around 1.8 million people from the zone and other neighbouring areas. The hospital is organized with different teams of professionals (Specialists, GPs, HOs, etc.) and different service rooms. Obstetrics and gynaecological unit is among the departments in the hospital which comprises of OPD, labour and delivery room, inpatient and surgery room. The hospital also serves as training centre for students of Wolayita Sodo University and Students from other colleges and Universities.

The study period is from March 5, to March 31, 2015.

4.2 Study design

Institution based cross sectional study design was employed

4.3 Population

4.3.1 Source population

All records of patients who had admission and follow up care in gynaecology unit of WSUTRH for the last three years (from April 1, 2012 to March 31, 2015) were used as source population for the study.

4.3.2 Study population

Sampled medical records of women >15 years of age who had major gynaecological surgery in the hospital and found recorded for the last three years (April 1, 2012 to March 31, 2015).

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

All major gynaecological surgeries that were performed for women >15 years of age and found recorded on medical records of women for the last three years (April 1, 2012 to March 31, 2015).

4.4.2 Exclusion criteria

Records of cases missing the required information or incomplete records.

4.5 Sample size and sampling procedures.

4.5.1 Sample size for quantitative data

The required sample was determined by using single population proportion formula

$$n = \frac{\left(\frac{Z^{\alpha}}{2}\right)^2 P(1-P)}{d^2}$$

The following assumptions were made during sample size determination.

Where, n = Sample size

$Z^{\alpha}/2$ = Standard variant (1.96) which corresponds to 95% confidence level

P = Population proportion for POP (40.7%) which is taken from a study conducted in Jimma University specialized hospital south west Ethiopia (33).

d = is margin of error to be tolerated and 5% (0.05) is taken

$$\text{So that, } n = \frac{\left(\frac{Z_{\alpha}}{2}\right)^2 P(1-P)}{d^2} = n = \frac{(1.96)^2 0.407(1-0.407)}{0.05*0.05}$$

$$n = 371$$

Since the study population (major gynecological surgeries) that were performed in the hospital during the study period were below 10,000 which were 1905 so that, finite population correction formula was needed. And to get the final sample size it was calculated as,

$$Nf = \frac{n}{1+n/N}$$

Where, N_f = Actual sample size

n = sample size

N = total number of major gynaecological surgeries that were found recorded in gynaecology ward during the study period in WSTRH. ($N = 1905$)

$$Nf = \frac{n}{1+n/N} = \frac{371}{1+371/1912} = 310$$

And an anticipated 10% of non-retrieval rate was added and 341 was taken as the final sample size for this study.

4.5.2 Sampling technique

A sample of 341 medical cards were selected by using simple random sampling method after preparing a sampling frame containing list of card numbers of major gynaecological surgery cases that were performed from April 1, 2012 to March 31, 2015 and found recorded in the registration book of gynaecology ward. Lottery method was used to select the sampled card numbers from the sampling frame.

For qualitative data 10 patients who were diagnosed with POP and found admitted in gynaecology ward during the study period from (March 5, to March 31, 2015) were selected conveniently from the waiting list for surgery before the surgical intervention and an in-depth interview was conducted and their card numbers were included in the sampling frame for quantitative study.

4.6 Study variables

4.6.1 Dependent variable

- Pelvic organ prolapse

4.6.2 Independent variable

- Socio demographic factors:- Age, residence, occupation
- Obstetric and gynaecological factors: Parity, Mode of delivery , Place of delivery, history of pelvic Surgery, menopausal status
- Women's health condition: Chronic cough (asthma, chronic bronchitis, Tb), chronic diarrhoea (bowel dysfunction or irritative bowel disease) ,chronic constipation
- Life style factors: engagement in activities like heavy lifting and carrying objects or heavy work load.

4.7 Tools, personnel and data collection procedures

Data was collected by using both quantitative and qualitative methods of data collection. Relevant data for the study was retrieved from patient cards by using data collection format or checklist containing list of study variables. Health professionals (B.Sc.in Nursing and public health) from the hospital were used as data collectors and supervisor. Training was given on the required information and how to retrieve and record. Health professionals who can speak and well understand the local language were used as interviewers for an in depth interview and an interviewer guide containing open ended questions was used to collect data during an in-depth interview. Patients who were diagnosed for POP and found admitted and waiting to have surgery in the Hospital during data collection period who were not critically ill and able to communicate were enrolled for an in-depth interview.

4.8 Operational definitions

Chronic cough - persistent cough from respiratory system diseases like asthma, chronic bronchitis and tuberculosis.

Chronic diarrhoea: - history of occurrence of diarrhoea for >1month duration.

Life style factors: – history of women engagement in activities that requires heavy lifting, carrying heavy loads or strenuous activities.

Pelvic organ prolapse: – is an abnormal descent or herniation of pelvic organs such as bladder, vagina, uterus, rectum from its anatomical position into or through out of vagina.

Quality of life- measure of physical, psychological, Sexual and social wellbeing of a woman.

Stages of prolapse - measure of descent of prolapsed organ based on clinical classification.

Stage 0: No prolapse

Stage I: The most distal portion of the prolapse > 1 cm above the level of the hymen.

Stage II: The most distal portion of the prolapse is \leq 1 cm proximal or distal to the hymen.

Stage III: The most distal portion of the prolapse is > 1 cm below the hymen.

Stage IV: Complete eversion of the total length of the lower genital tract or procedentia.

4.9 Data processing and analysis

After collection, the data was cleaned manually, recoded and entered into Epi-data to control data entry error and finally exported in to SPSS version 20.0 for analysis. descriptive statistics, frequency and binary logistic regression was applied to assess the proportions of each variables and the relationship between dependent and independent variables. Association between dependent and independent variables were analyzed by bivariate and multivariate logistic regression analysis and OR, CI and P-values were checked and those variables with P value <0.05 in multivariate analysis were considered as statistically significant.

For Qualitative data- results from an in depth interview was triangulated with significant results from quantitative part. And normality was checked for continuous variables like age and parity; it has shown that there was no skewness and it has shown normal curve on histogram; it is normally distributed. Multicollinerity was checked and there was no strong linear relationship found between predictor variables that all factors were shown with the least value of 0.257 tolerance test and the largest value of variance inflation factor (VIF) of 3.88. Interaction effect were checked and it has shown that there was no significant interaction effect between socio demographic variables like residence, age and occupation and there was significant interaction effect between parity and place of delivery at the level of $P = 0.048$, with partial eta squared =0.019 this indicates that majority of women who were multiparous has history of home delivery. Model fitness was assessed by using Hosmer and Lemeshow test it is reported as $\chi^2 = 8.65$ with significance level of 0.372. and discussion on findings was made by comparing findings from other similar studies by considering it as consistent with result from this study when it was $\pm 5\%$ but it was discussed as greater than and less than when it was found above or below $\pm 5\%$.

4.10 Data quality management

Check list or data collection format was adapted from published studies and training was given for data collectors and supervisor. Data collection and regular follow up was carried out by trained data collectors and supervisor. Medical cards of patients with major gynaecological surgical cases were pre checked by using data collection format and it was modified for necessary conditions. The data was cross checked hand in hand during and after data collection for any missing, repetition and incorrect

recordings. For an in-depth interview interviewer guide, tape recorder and note books were used and adequate time was taken with the patients, limited number of patients was interviewed in a day in order not to miss pertinent information's, discussion was made in detail and the gathered information was checked and organized at the end of each interview. Continuous supervision was made throughout of the study process.

4.11 Ethical consideration

Ethical clearance was obtained from ethical review committee of Jimma University and letter of permission was submitted to WSUTRH, permission and cooperation in order to conduct the study and to get access in to patient records. Informed consent was obtained from patients before an in depth interview (**Annex II.**) and the privacy of study participants and the confidentiality of collected data were assured throughout of the study process and name of the patients was not recorded instead code number was given for each participants.

4.12 Dissemination and Utilization of result

The results of the study is presented and submitted to Jimma University, department of population and family health and recommendation based on the findings of the study will be given for NGOs working on maternal health. Findings of this study will also be presented in different seminars and workshops and finally the result will be sent for different national and international medical journals for publication.

Chapter Five: Result

Out of 341 patient cards the required information were retrieved from 323 which has given 94.7% of retrieval rate. The rest 18 cards were considered as non-retrieval rate because these cards were lost.

5.1 Socio-demographic characteristics of the patients

Majority of women 120(37.2%) were ≤ 35 years of age. The mean age of women who had major gynaecological surgery were 41.28 years with ± 11.55 SD and the mean age of women with POP was 46.09 with ± 10.01 SD. Majority of women 242(74.9%) were married & 189 (58.5%) belong to Wolayita ethnic group. The higher proportions of women 227 (70.3%) were from rural areas and 127(39.3%) were farmers in their occupation.

Table 1 Socio-demographic characteristics of women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia from April 1, 2012 to March 31, 2015.

Variables		Number	Percent
Age	<=35	120	37.2
	36-45	111	34.4
	>45	92	28.4
Residence	Urban	96	29.7
	Rural	227	70.3
Marital status	Single	7	2.2
	Married	242	74.9
	Divorced	24	7.4
	Widowed	50	15.5
Ethnicity	Wolayita	189	58.5
	Gamo	75	23.2
	Amhara	24	7.4
	Hadiya	14	4.3
	Kambata	11	3.4
	Others	10	3.1
Occupation	Farmer	127	39.3
	Unemployed	99	30.7
	Merchant	56	17.3
	Employed	41	12.7

5.2 Women's Obstetric and gynaecological conditions

Among women who had major gynaecological operation 187(57.9%) were grand multi parous,102 (31.6%) had two to five children and 34(10.5%) had only one child respectively with mean parity of 5.75 with SD of ± 2.73 children, and the mean parity of those women with POP was 6.89 with SD of ± 2.299 . Only 110 (34.1 %) women were in menopausal state, 215(66.6%) women were delivered their babies at home and 227(85.8%) women delivered with spontaneous vaginal delivery, 20(6.2%) women had previous history of pelvic surgery.

Table2.Frequency distribution of the obstetrics and gynaecological conditions of women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia from April 1, 2012 to March 31, 2015.

Variables		Number	Percent
Parity	Primi parous	34	10.5
	Two to five	102	(31.6)
	Above five	187	(57.9)
Menopause	Yes	110	(3.4)
	No	213	(65.9)
Place of delivery	Health institution	108	(33.4)
	Home	215	(66.6)
Mode of delivery	Spontaneous vaginal delivery	277	(85.8)
	Instrumental delivery	25	(7.7)
	Caesarean section	21	(6.5)
Previous history of pelvic surgery	Yes	20	(6.2)
	No	303)	(93.8)

5.3. Women's medical condition and life style

About 204 (63.2%) women had history of engagement in heavy activities like carrying and lifting heavy objects and 67(20.7%) women had history of chronic constipation, 46(14.2%), 21(6.5%) had history of chronic cough and diarrhoea respectively.

Table 2.Frequency distribution of medical conditions and life styles of women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia from April1, 2012 to March31, 2015.

Variables		Number	Percent
Engaged in heavy activities	Yes	204	63.2
	No	119	36.8
History of chronic cough from RTIs	Yes	46	14.2
	No	277	85.8
History of constipation	Yes	67	20.7
	No	256	79.3
History of chronic diarrhoea	Yes	21	6.5
	No	302	93.5

5.4 Prevalence, types, stages and Common complained symptoms of POP

Out of 323 major gynaecological surgeries the magnitude of POP was 216(66.9%) from this, the major type of POP was utero vaginal prolapse (UVP) which were 167 (77.3%) followed by uterovaginal prolapse plus cystocele and rectocele 34(15.7%), cystocele 9(4.1%) and rectocele 6 (2.7 %). Third degree or stage III prolapse was the commonest stage of prolapse 106(49.0%), followed by Stage IV or procedentia 97 (44.9%), Stage II 13(6.1%) and protrusion or mass per vagina, dragging sensation on the lower pelvic region, back pain, urinary incontinence, vaginal discharge, UTIs, ulcer or excoriation were the commonest complained symptoms and protrusion or mass per vagina was the commonest complaint of the women at presentation to the study area 206(95.37%).

Table 3 Frequency distribution of types, stages and common complained symptoms of POP among women who had major gynaecological surgeries in WSUTRH SNNPR, Ethiopia from April 1, 2012 to March 31, 2015.

Characteristics		Number	Percent
Diagnosed with POP	Yes	216	66.9
	No	107	33.1
Type of prolapse	Uterovaginal prolapse	167	77.3
	UVP plus cystocele and rectocele	34	15.7
	Cystocele	9	4.1
	Rectocele	6	2.7
Degree (stages) of prolapse	Stage II	13	6.1
	Stage III	106	49.07
	Stage IV	97	44.9
Common complained symptoms	Seeing bulge or mass per vagina	206	95.37
	Dragging sensation on the lower pelvic region	165	76.38
	Back pain	141	65.27
	Urinary incontinence	62	28.7
	Vaginal discharge	129	59.7
	UTIs	68	31.4
	Ulcer or excoriation	15	6.9
	Bleeding	12	5.5
	Others	8	3.7

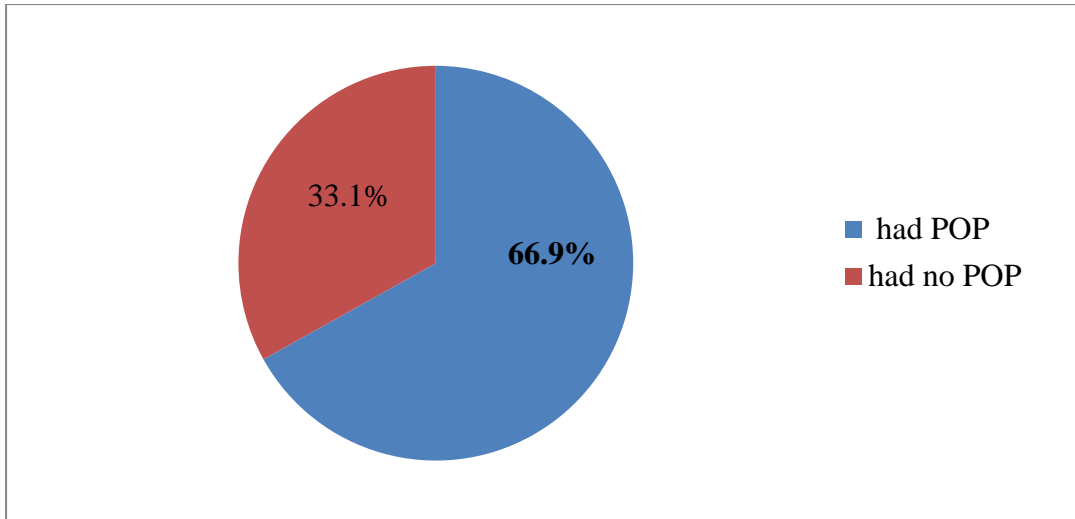


Figure 2 Proportion of women who had POP among women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia from April 1, 2012 to March 31, 2015.

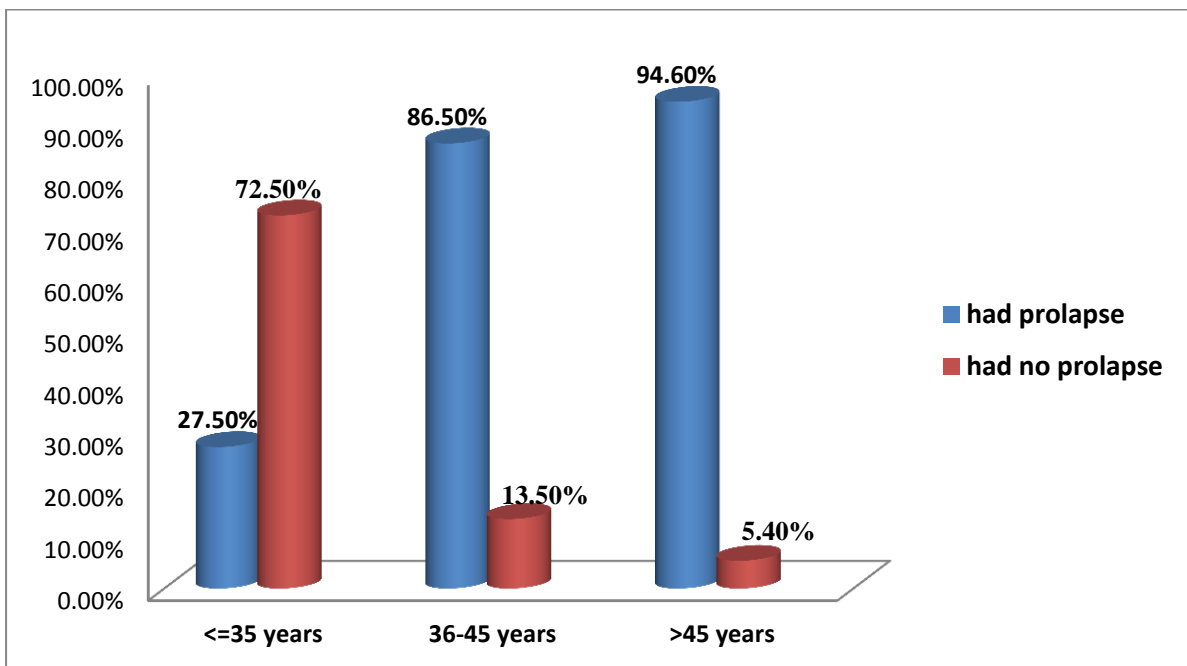


Figure 3 Proportion of POP by age category of women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia, from April 1, 2012 to March 31, 2015.

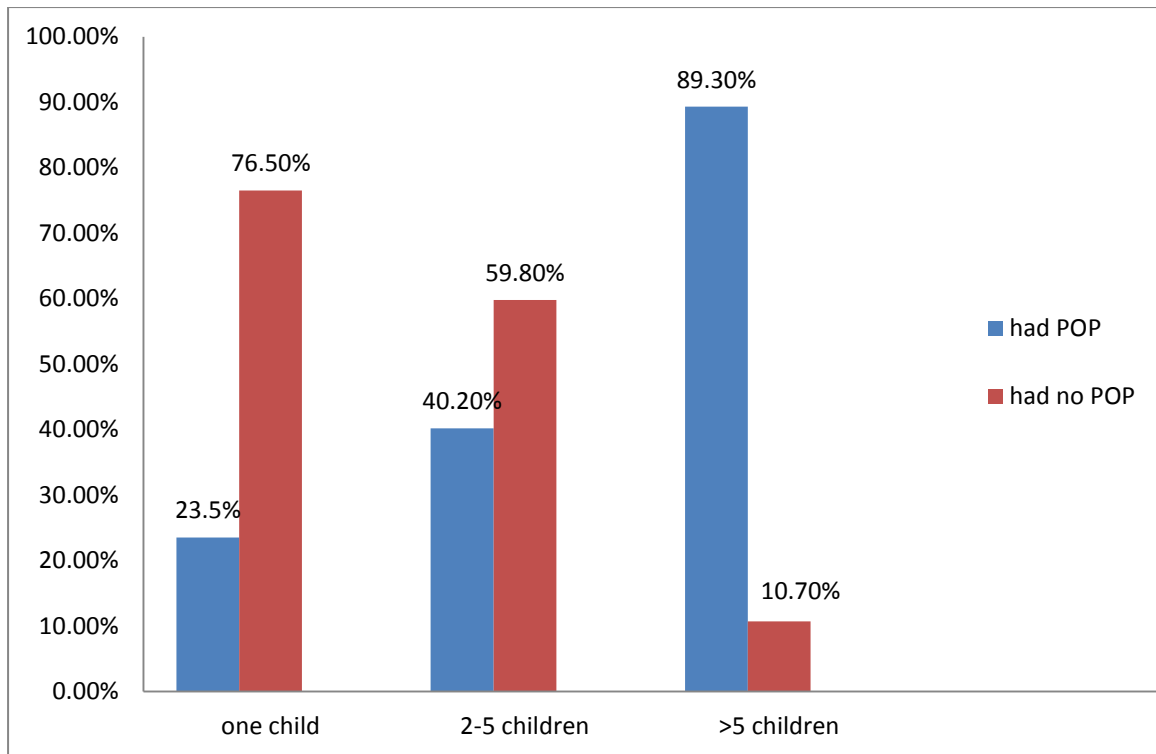


Figure 4 Proportion of POP by the number of children among women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia from April 1, 2012 to March 31, 2015.

5.5. Factors associated with pelvic organ prolapse

The bivariate analysis of this study has shown that Women's age, residence, occupation, parity, menopausal status, place of delivery, mode of delivery, engagement in heavy activities, history of constipation and chronic cough has shown statistically significant association with the outcome variable (POP) (Table 5). After entering the above candidate variables in to multivariate analysis; women's age, residence, occupation, parity, place of delivery and history of chronic cough has shown statistically significant association with the outcome variable.

Women's age has shown strong association with POP that age group of 36-45 years were 5.04 times ((AOR=5.04,95% CI:(1.91-13.28)) more likely to develop POP than the age group of ≤ 35 years of age. Residence of women has shown association that women from rural areas were 4.14 times (AOR=4.14, 95% CI: (1.56-10.96)) more likely to develop POP than women living in urban areas.

And also occupation of women has shown strong association that farmers were 5.24 times (AOR=5.24, 95% CI :(1.099-24.65)) more likely to develop POP than women who were employed.

Parity has statically significant association that grand multiparous women (women who gave birth more than five times) were 9.46 times (AOR= 9.46, 95% CI: (2.79-32.09)) more likely to develop POP than Primi parous and Place of delivery has also shown strong association that women who gave birth at home were 3.37times (AOR =3.37, 95%CI: (1.30-8.71)) more likely to develop POP than women who gave birth at health institution.

Women having history of chronic cough were 10.91 (AOR =10.91, 95%CI: ((1.87-63.45)) more likely to develop POP than women who have no history of chronic cough.

Table 4 Factors associated with POP among women who had major gynaecological surgery in WSUTRH, SNNPR, Ethiopia, from April 1, 2012 to March 31, 2015.

Characteristics		Diagnosed with POP		COR (95% CI)	AOR(95% CI)
		Yes No (%)	No No (%)		
Age	<=35	33(27.5)	87(72.5)	1.00	1.00
	36-45	96(86.5)	15(13.5)	.022(.022-.058)*	5.04(1.91-13.28)**
	>45	87(94.6)	5(5.4)	.368(.128-1.05)	11.90(.95-148.64)
Residence	Urban	30(31.2)	66(68.8)	1.00	1.00
	Rural	186(81.9)	41 (18.1)	9.98(5.77-17.27)*	4.141 (1.56-10.96)**
Occupation	unemployed	61(61.6)	38(38.4)	3.88 (1.8-8.51)*	.565 (.161-1.985)
	Farmer	121(95.3)	6(4.7)	48.74(16.9-140.7)*	5.24(1.099-24.65)**
	Merchant	33(60.0)	22(40.0)	1.56(.661-3.69)	.696(.198-2.446)
	Employed	29(70.7)	12(29.3)	1.00	1.00
Parity	Primi parous	8(23.5)	26 (76.5)	1.00	1.00
	2-5 children	41(40.2)	61 (59.8)	2.18(.901-5.29)	1.35(.418-4.39)
	>5	167(89.3)	20 (10.7)	27.14(10.83-67.97)*	9.46(2.79-32.09)**
Menopause	Yes	104(52.6)	6(5.5)	15.63(6.57-37.15)*	.865(.091-8.246)
	No	112(52.6)	101(47.4)	1.00	1.00
Place of delivery	Health institution	42(38.9)	66(61.1)	1.00	1.00
	Home	174(80.9)	41(19.1)	6.67(3.98-11.16)*	3.37(1.30-8.71)**
Mode of	SVD	194(70.0)	83(30.0)	5.84(2.19-15.58)*	.818(.207-3.22)

delivery	Instrumental delivery	16(64.0)	9(36.0)	4.44(1.27-15.58)*	2.12(.403-11.11)
	C/S	6(28.6)	15(71.4)	1.00	1.00
Engaged in heavy activities	Yes	162(79.4)	42(20.6)	4.36(2.66- 7.13)*	1.025(.43-2.39)
	No	55(46.2)	64(53.8)	1.00	1.00
History of cough	Yes	42(91.3)	4(8.7)	6.22(2.12-17.83)*	10.91(1.87-63.45)**
	No	175(63.2)	102(36.8)	1.00	1.00
History of constipation	Yes	57(85.1)	10(14.9)	3.48 (1.69-7.13)*	1.307(.430-3.97)
	No	160(62.5)	96(37.5)	1.00	1.00

* Significant at p-value <0.25, significant at p value <0.05, Reference= 1.00

Chapter six: Discussion

This study has shown that the prevalence of POP was 216(66.9%). This finding is higher than study from Jimma, (40.7%) (33) but it is lower than study from Ilam province Iran which was 80.8% (32).

This difference might be due to a campaign program for POP surgery that was performed within the two years of the study period that might increase patient flow to the study area which was not mentioned in other studies and the other difference might be due to the difference in the study situation and choice of POP staging method used during diagnosis that POP-Q staging method was employed and asymptomatic stages of POP were included in study from Iran but Clinical staging was used in this study.

Age of women has shown significant association with POP; as the age of women increases the chance of having POP increases and it is indicated to be less likely to occur in younger age groups of women.

The mean age of women with POP was 46.09 with $SD \pm 10.01$ (range 20-70) and it is comparable with study from Enugu South East Nigeria that the mean age women with POP was 49.9 years with (range 8-82 years) (39). and also it is also in line with study from Nepal, where it has shown that majority of POP cases were among women >35 years of age (38). But there was difference in mean age of women with finding of a study from Gondar; the mean age of women with POP was found to be 53.5 with $SD \pm 11.2$ (range 13-75 years) (49)

This could be justified as the age of women is an important risk factor for the occurrence of POP that it occurs in older age women but when it is seen in this study setup it is occurring with significant number in reproductive age group. This could be justified as the age of women is an important factor for the occurrence of POP, it occurs in older age groups due to hormonal changes during menopause and advancing age causes weakness and changes in the arrangements of pelvic structures due to low levels of estrogen but it occurs with significant numbers in younger age group (1,49).

In this study residence of women has shown significant association with POP where Rural residents were 4.14 times more likely to develop POP than women from urban areas. This finding is comparable with study from Jimma where majority of the patients were from rural areas and indicated to be a risk factor for POP (33).

Evidence from an in-depth interview revealed that;

“... I live in rural area as a house wife I have many duties; I spend my day by working home activities, I fetch water, go to market places and bring commodities by carrying on my back from far distance, additionally I assist my husband in agricultural activities and also the responsibilities of rearing our children is mine ...” (40 years Old women from wolayita zone, damota gale woreda).

Occupation of the women has shown significant association with POP where majority of women were farmers and it is 5.24 times more likely to occur in farmers than the employed women this finding is in line with study from Jimma and study from South east Nigeria (33,39).

Evidence from an in-depth interview revealed that;

“... my husband was a farmer we don't have another source of income so that, we have to work hard together to make our living but I become fully involved on farming activities after my husband was died five years back; from that time on I started to work hard in the farm land to raise my children...”(35 years old women from shone Hadiya zone).

Grand multiparity has shown strong association with POP, it shows increment as the number of vaginal delivery increases. Grand multiparous women were 9.46 times more likely to develop POP than primi parous women. The mean parity of women having POP was 6.89 with SD of ± 2.299 and this finding is comparable with study from Jimma and Gondar (33,49) where the mean parity of women were 6.5 ± 2.64 and it is also in line with study from Gambia West Africa it has shown that grand multiparous women had 15 times odds of prolapse when compared to nulliparous women (36). Evidence from an in-depth interview revealed that;

“... I had given birth for nine times all of them were delivered at home and I had experienced this problem after my seventh delivery; the two deliveries were after having this problem. I was suffering for the last six years, I didn't told to anybody about my condition because I thought this is happening only on me and if anybody hears they will victimize me, initially my uterus returns back when I slept on my back and I kept silent, continue to suffer a lot from the

pain and discomfort during sex because my husband didn't know what was happened to me ...” (38 years old women from Silte zone).

Place of delivery has shown significant association with POP that women who gave birth at home were 3.37 times more likely to develop POP than those who delivered at health institution this is supported by study from Jimma(33).The possible explanation could be home delivery which increases the risk of development of POP from difficult vaginal delivery, obstructed labor, prolonged labor, miss management of labor and unskilled assistance during labor and delivery (50). This is evidenced from an in-depth interview;

“... I have eight children all of them were delivered at home, i didn't go to anywhere because at that time there was no nearby health institution, i had no money to go other places, my husband and families had no idea to took me there, i had no choice rather than delivering at home with the assistance of my neighbours. I was in labor for long time during my last delivery it was 'more than two markets' (48hrs) and very difficult. My uterus starts to come out after some days later ...” (a 45 years old woman from humbo woreda).

Women having history of chronic cough from chronic RTDs were 10.91 times more likely to develop POP than women who have no history of chronic cough.This result is in line with study from Jimma that cough was identified as risk factor for POP (33).The possible explanation for this is that chronic cough increases intra-abdominal pressure and it pushes pelvic organs down ward and leads them to protrude out (51).

This study has also shown that the mean duration of symptoms before treatment was 2.74 ± 1.37 years which is less than Jimma study where it was 3.11 ± 3.02 years and (33).And the commonly complained symptoms were seeing mass per vagina which is followed by dragging sensation on the lower pelvic region and about 20.8% of women had additional urinary incontinence and the commonest degree of prolapse were third degree or stage III prolapse followed by fourth degree or procedentia. Which is comparable with study from Jimma and study from south-east Nigeria (46). But in a study from Nepal the commonest complaint was backache followed by feeling of heaviness or something coming down per vagina and pain around the waist region (38). This indicates that POP cases that came to the study were more advanced stages of prolapse.

Evidence from an in-depth interview revealed that;

(... This problem has started to happen 15 years back after my 2nd delivery, previously my uterus goes back when I tried to replace it with my fingers. I haven't told this to anybody because I thought this is shame and people will discriminate me and I didn't seek treatment because of financial problems. But two years back I face difficulties to replace my uterus as before and the symptoms got worse that my uterus become cracked and itchy.it becomes difficult to move, walk long distance and go to social and religious places and also I got additional problem of controlling urine, it leaks out without my control, my clothing smells bad and this makes me to be isolated from peoples. One day unspecified organization workers picked me, examined and discussed with me, finally they brought me to this hospital for operation..." (52 years old women from Sodo zuria woreda gulgula kebele).

Strengths of the study

Supplementation of quantitative data with qualitative findings or triangulation.

Limitation of the study

In this study secondary data was taken for quantitative part which limits the study from further assessment of other risk factors which can be obtained only from primary data and variables were deleted due to incomplete recordings.

Seven: Conclusion and Recommendations

7.1 Conclusion

Findings from this study has shown that the prevalence of POP was (66.9%) which is higher and affecting women of advancing age but also occurring in younger age groups with significant numbers and majority of women were from rural areas and farmers who spend their time by working hard at home and in farm land, they go to market places carry commodities, fetch water and bring them by carrying on their back from long distance and work other physically demanding activities in their day to day life in addition with their duties of caring for their children where these activities were traditionally believed to be performed by the women even in their pregnancy time and after delivery. heavy workloads demanding carrying and lifting heavy loads increases intra-abdominal pressure which leads to weakening of the pelvic floor support structures which are important for keeping pelvic organs in their proper places where as disruption of these structures leads pelvic organs to protrude out from their anatomical position. And also grand multiparity and home delivery without skilled assistance were identified as the major risk factors associated with POP in this study.

7.2 Recommendation

For FMOH, policy makers and health care planners and women affairs; it is better if it works on:

- Empowering women in decision making at home, to decide on their fertility choices, education and income generating activities which enables women to combat socio cultural burdens
- Providing adequate obstetric care services; Skilled birth attendance at health institution in order to prevent difficult labour and poor management of labour and providing contraceptives , giving due attention about the problem in health strategies

For Health professionals; they should:

- Give health education about POP and its risk factor; that encourages early identification and treatment, institutional delivery, family planning use etc.

For NGO's working on maternal health; it is better to:

- Provide screening programs for women with POP, health education about the problem in health care services, public places and through media about the problem helps to break the silence about the condition, financial support or free treatment services for poor women or helping them to get early treatment. Because this mechanism helps to reduce their suffering time and prevents further complication where, majority of them keep silent because they are unable to afford money for treatment or surgery. So that, these measures can reduce the burden of POP on women's physical, psychological, emotional and sexual health, and it avoids their grief from their fallen womb and additional bowel and bladder symptoms. And also it can improve their quality of life and increases their active participation and productivity.

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Annex I- Informed Consent

A. English version

Greeting: - Good morning/afternoon .I am_____

This interview is aimed at getting pertinent information concerning your experiences of pelvic organ prolapse. Your participation in this interview will have paramount importance for increasing awareness and improves service delivery. You can refuse to participate or withdraw from the interview at any stage whenever you like. Your refusal to participate will not have any effect on your treatment. The information you give will be used for writing a master's thesis for graduate student in Reproductive health at Jimma University. Here, I want to assure you that any information obtained from you will remain confidential and even there is no need of writing your names or any personally identifiable information.

Do you agree to Participate?

1. Yes --Proceed with interview
2. No...Thank the client and stop

B. Wolayitigna version

Sarotaa; Lo'o aqidetii /peidetii. Ta Sunttay_____

Ha Oyshaassi halchchoy hargganchchaa harggiyaabaa xeelliyaagan maddiyaa qonccisota demmanaassa.

Ha oyshaa gidдон ne allale sohay ha harggiyaa xeelliyaagan akeekaa gujjanaassinna imettiya maaduwwa dichchanassi keehippe maaddiyaaba demisesi oyshaa kaaluwan neyyo giigenabay de'ikko zaarenan agganawu dandalaasa. Ne zaaruwaa digiyoogee nena maddiyo baggaara ayba xibanne ehenna. Ne immiyo gofaa qashoti Jimma yunburssiyaan mastreete timitiyau koshshida macca asaa yelo bolla heera payyatettaa pilggetta xuupiyaassi go'an peeoosona. Ne xuura naganassinne nesunttaanne nena qonccissiyaaba aybakka genttanawu maacaysi.

Hagaa maayada oyshaa zoarutee?

1. E-oyshaa domma
2. Okay- galatada oyshaa essaaga

Annex II- Interviewer guide for in-depth interview of patient

A. English version

Name of interviewer _____

Date ____/____/____

Interview code no _____

Interviewee Profile:

Patient ID.No. _____

Diagnosis _____

Date of admission _____

Age _____

Marital status _____

Address (rural/urban) _____

Educational status _____

Job/occupation _____

Husband's educational status _____

Husband's occupation _____

Monthly income _____

Source of income _____

Patient Experiences of prolapse

1. Do you ever been pregnant? If yes, for how many times? What was the outcome of your pregnancies?
2. Could you tell me about your previous deliveries? Where did you gave birth and who assisted you? Is there any complication that occurs during your delivery?
3. Could you tell me that when did this symptoms start to happen to you? What types of symptoms are you experiencing? Could you list them all?
4. In your opinion why do you think this happened to you? When did it appear first?
5. Did you talk with anyone else about this condition? If so, with whom? If no, why not?
6. If you talk to someone else, did they suggest any treatment or explain why this was happening? Did you seek treatment? Why/why not?
7. How long after you noticed the symptoms did you seek treatment? What amount of time passed?
8. How did you first come to understand that you had prolapse and how did you get information about it?
9. After you knew what was happening to you did you discuss this with anyone else? Why did or didn't you talk about with them?
10. Did/Does the condition impact any part of your life or social, physical, emotional, sexual life could you tell me about it in detail?
11. Tell me about your previous history of any illness before this condition occurred. If any when and how long?
12. Do you remember for how long you were in labour during your last delivery? If yes please tell me?
13. What activities are you doing routinely? Could you list the activities you perform in detail?
14. Is there anything else that we didn't touch on that you think we should have?

Thank you!

Wolayitigna version

Hargganchchaabaa assidi Oychchiyogaassi Kaalatuwaa.

Oychchiyaagaa Sunntaa _____

Gallassaa _____

Xuura payduwaa _____

Oyshettiyaagaa qonccisota

1. Hargganchchaa erissiyo payduwaa _____

2. Sahuwaa _____

3. Gelido gallassaa

Haraachchaa layttaa _____

Azinaa gelada deay? _____

De'iyoo heeraa (Goshshanchcha manttiyaa/katamaa)

Timirtte xekka _____

Oosuwaa _____

Azina timirtte xekkaa _____

Azina oosuwaa

Aginan demiyoo mishshaa _____

Miishshaa bettiyoo kaniya _____

Hargganchchaa sahuwara gayttida meezata

1. Kase shaaray attidi erri? Dgidikko apputo? Shaara wursettay aymalee?
2. Kase yeluwaabaa tayo yoototee? Awan yeladii? Oone nena maddiday? Yeluwaara gayttidi meretida metoti de'iyoo naa?
3. Sahay siyttiyoogaa dommidoy awudee? Neyoo siyettida sahuwaa qoncettati aybe aybe?
4. Ne qopan hagee ayssi hanidabaa milatii? Koyro doometay awudee?
5. Ha hanitaabaa kase hara asaara haasaya eray? Gidikko Oonaara? Gidanaxaykko ayssi?
6. Kase haasaysidabaa kidikko xalettiyo ogiyaa waykko ayba gaasuwan yiidakko haasayidetii? Xalettiyo ogiyaa koyyadai/gidana xayikko ayssi?

7. Sahay siyrttiyoogaa dommoosappe appun wodiyan xalettana koyyadii? Aykeena wade adhdhidee?
8. Ha saho y nenan de'iyooaanne abaa qonccetta akeekenewu kase waanada dandayadi?
9. Akeekidoogappe guyiyan asaara ha harggiyaabaa tobbaa eray? Ayssi haasyidetii/haasayibeyketii?
10. Ha hanotay ne de'iuwaa bolli woykko dereasaara de'iyaaabaa, ne bollaara gaytidaban, nena kayoyissiyobaara, matumatetta gaytotettaa baggaara gattido metoy de'ii? Oasada qonccisa na dandayay?
11. Ha sahuwaappe kareera kase nena sakkidabe de'ii? Awude? Aykeena wodiyaassi?
12. Kase maareratuppe wursettaagan a keena wodiya ekkidakko akeekay? Eriko ane yoota?
13. Dallasa peeshaton neni ootiyootati aybe aybe? Issuwaa issuwaa qonccissana danda'ay?
14. Nu haasaya qarssan neeni beshettibeynna gaada wottiyo qopi de'ii?

Galatays!!

Annex III - Data Collection Format

Data collection format for collection of data from patient records of WSUTRH on major gynaecological surgery cases from gynaecology unit.

Code	No.	_____	
Part I-Socio-demographic variables			
1.	Age in years	_____	
2.	Residence	1. Urban 2. Rural	
3.	Marital status	1. Single 2. Married 3. Divorced 4. Widowed	
4	Occupation	1. Unemployed 2. Farmer 3. Merchant 4. Employed	
5.	Ethnicity	1. Wolayita 2. Gamo 3. Amhara 4. Hadiya 5. Kambata 6. Others	
Part II. Obstetric and gynaecological variables			
6.	Parity	In No_____	

7.	Menopausal	1. Yes 2. No	
8.	Place of delivery	1. Home 2. Health institution	
9.	Mode of delivery	1. Vaginal delivery 2. Instrumental delivery 3. Caesarean section delivery	
10.	Previous history of pelvic surgery?	1. Yes. 2. No.	
11.	Diagnosed with POP	1. Yes 2. No	If No Skip to the Next
12.	If yes for Q11. what is the type of prolapse?	1. Uterovaginal prolapse 2. UVP+cystocele +rectocele 3. Cystocele 4. Rectocele	
13.	What was the duration of symptom?	_____	
14.	What is the stage or degree of prolapse?	1. First degree 2. Second degree 3. Third degree 4. Fourth degree	
15.	If No for Q12. What was the diagnosis?	1. Myoma 2. Cervical cancer 3. Ovarian cyst 4. Ovarian cancer 5. others	
III. Life style and medical condition related variables.			

16.	Engaged in activities requiring excessive straining of pelvic muscles.	1. Yes 2. No.	If No Skip to the Next
17.	If Yes for Q.16 what types?	1. Heavy lifting 2. Carrying heavy objects 3. Others specify-----	If No Skip to the Next
18.	Cough from chronic RTIs.	1. Yes 2. No	If No Skip to the Next.
19.	If Yes for Q.18 what was the cause?	1. Asthma 2. Bronchitis 3. Tuberculosis.	
20.	History of Constipation	1. Yes 2. No.	If No Skip to the Next.
21.	If yes for Q.20 what was its duration?	1. < 1month 2. > 1month	
22.	History of Diarrhoea	1. Yes 2. No	
23.	If yes for Q.22 what was its duration?	1. < 1month 2. > 1month	
IV. POP related symptoms.			
24.1	Seeing bulge or mass per vagina	1. Yes 2. No	
24.2	Dragging sensation on the lower pelvic region.	1. Yes 2. No	
24.3	Back pain	1. Yes 2. No	
24.4	Urinary incontinence	1. Yes 2. No	
24.5	Increased vaginal discharge	1. Yes 2. No	
		1. Yes	

24.6	Bleeding	2. No	
24.7	Ulcer or excoriation	1. Yes 2. No	
24.8	UTIs	1. Yes 2. No	
24.9	Others	1. Yes 2. No	
25	Type of surgery done for prolapse	-----	