

# Risk factors of uterine prolapse in a sample of rural women of central Nepal

Manandhar P,<sup>1</sup>   Rai SK<sup>2</sup> 

<sup>1</sup>Pratima Manandhar, Assistant Professor, Scheer Memorial Adventist Hospital, Medical Institute, College of Nursing, Banepa Kavrepalanchok, Nepal; <sup>2</sup>Sirjana Kumari Rai; Nursing Officer, Scheer Memorial Adventist Hospital, Banepa, Kavrepalanchok, Nepal.

## Abstract

**Background:** In Nepal, 9-35% of Nepali women suffer from uterine prolapse, and 200,000 are in need of immediate surgical treatment.

**Objectives:** To assess risk factors of uterine prolapse among women of Hariharpurgadhi-2, Sindhuli district, Nepal.

**Methods:** This community-based analytical cross-sectional study was conducted among 60 married women of Hariharpurgadhi-2, Sindhuli district, which is central rural area of Nepal. Samples were selected through snowball sampling technique. In the sample, the women who have been diagnosed with uterine prolapse and interested were included. Data were collected during 2020 January 20th to 2020 February 24th, through face-to-face interview method using structured interview schedule questionnaire which included structured and semi-structured questions. Collected data were analysed in SPSS v.16 by using descriptive and inferential statistics.

**Results:** The study found 21 (35%) respondents had first degree uterine prolapse. One-fifth (15, 25%) of them had asthma, 46 (76.7%) had constipation, 26 (43.3%) had chronic cough, 19 (31.7%) had reproductive infection, and 23 (38.3%) of them were smoker. The degree of uterine prolapse was significantly associated with marriage <20 years ( $p = 0.004$ ), first childbirth <20 years ( $p = 0.01$ ), higher the number of pregnancy ( $p = 0.007$ ), and higher the number of childbirth ( $p = 0.007$ )

**Conclusion:** The study findings show that marriage age of below 20 years, first childbirth age of below 20 years, higher number of pregnancy, and higher number of childbirth were the major factors for uterine prolapse. Therefore, public awareness on these factors would be the first step to reduce uterine prolapse.

**Key words:** Risk factors; Uterine prolapse; Women.

## Access this article online

**Website:** [www.jkmc.com.np](http://www.jkmc.com.np)

**DOI:** <https://doi.org/10.3126/jkmc.v11i4.50789>

## HOW TO CITE

Manandhar P, Rai SK. Risk factors of uterine prolapse in a sample of rural women of central Nepal. J Kathmandu Med Coll. 2022;11(4):221-6.

**Submitted:** Nov 09, 2021

**Accepted:** Sep 14, 2022

**Published:** Dec 30, 2022

## Address for correspondence

Ms. Pratima Manandhar  
Assistant Professor,  
Scheer Memorial Adventist Hospital,  
Medical Institute, College of Nursing,  
Banepa, Kavrepalanchok, Nepal.  
E-mail: [manandhar.p2@gmail.com](mailto:manandhar.p2@gmail.com)

## INTRODUCTION

Uterine prolapse (UP) is a condition in which muscle and supporting ligaments holding uterus in place gets too weak to keep the uterus in position.<sup>1</sup> Globally prevalence ranges from 4-40%,<sup>2</sup> whereas in low- and middle-income countries it is 19.7%. At least 2,00,000 women are in need of immediate surgical treatment in Nepal,<sup>3</sup> where 40% women had uterine prolapse.<sup>4,5</sup> It was found 22.7% in Kalikot<sup>6</sup> and 13% in Kaski.<sup>7</sup> Risk factors were early marriage (92%), home delivery (96.3%), heavy work load during pregnancy and postnatal (92%) and smoking (20%).<sup>8,9</sup> In Kathmandu district, risk factors were heavy work load during pregnancy (38.1%), marriage below 20 years (51.2%) and low-income (38.8%).<sup>10</sup> In Lalitpur, risk factors were frequent child-bearing (16.1%),

Copyright © 2022 Journal of Kathmandu Medical College (JKMC)

ISSN: 2019-1785 (Print), 2091-1793 (Online)



This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.

heavy workload during postnatal (69.2%), early childbirth (12.8%), nutritional deficiency during postnatal (5.7%) and frequent abortion (10.9%).<sup>11</sup> In a Dhulikhel Hospital study, risk factors were COPD (35%), hypertension (16%) and heavy workload during postnatal (87%).<sup>12</sup> The degree of uterine prolapse is correlated with the quality of life of women.<sup>13</sup> Thus, making it a complex condition and area where studies should be focussed. So, the main objective of this study was to assess the risk factors of uterine prolapse among rural women of central Nepal.

## METHODOLOGY

The community-based analytical cross-sectional study was conducted in the year of 2020 to assess the risk factors of uterine prolapse among women of Hariharpurgadhi-2, Sindhuli district, Nepal. A total 60 women were selected through snowball sampling technique with the help of female community health volunteers (FCHVs). Those women who were diagnosed with UP and who agreed to participate were included in this study. Data were collected through face-to-face interview technique using Structured Interview schedule questionnaire (Nepali version) for data collection. This questionnaire contained structured and semi-structured questions. Duration of data collection was five weeks from 2020 January 20<sup>th</sup> to 2020 February 24<sup>th</sup>. Ethical approval was taken from the Institutional Review Committee of Scheer Memorial Adventist Hospital (Ref. 32/20). Written permission was taken from the concerned authority of Hariharpurgadhi municipality of Sindhuli district. Written informed consent was taken from each respondent before data collection. Confidentiality and anonymity of the respondents were strictly maintained. To confirm the diagnosis, medical records were observed. Data were analysed by using SPSS Statistics for Windows, version 16.0 (SPSS Inc., Chicago, Ill., USA) by using descriptive statistics like percent, mean, and standard deviation. For inferential statistics, Chi-square test was used to find out the association between degree of uterine prolapse and selected variables.

## RESULTS

Among total 60 respondents, the mean age  $50.8 \pm 13.81$  years with the range of 28-76 years. More than half (34, 56.7%) respondents were religious minorities. Three-fifths (36, 60%) of them were Hindu. Majority of them

(36, 60%) were illiterate. Among literate, only 23 (38.3%) could read and write. All of them were married, 36 (60%) and had nuclear family. Most (55, 91.7%) of their occupation was agriculture. Majority (37, 61.7%) of them were married at and below the age of 20 years, 36 (60%) of them had their first childbirth below 20 years.

Most (48, 80%) of them were diagnosed with UP at hospital. Thirty-one (35%) of them had first degree UP. The duration of uterine prolapse was 5-19 years in 22 (36.7%), 20-34 years in 16 (26.6%) and 35-50 years in 22 (36.7%). Three-fourths (45, 75%) of them had UP while carrying heavy load after childbirth (Table 1).

Most of respondents (59, 98.3%) delivered child at home with vaginal tear, 44 (73.3% of them had mother-in-law as the birth attendant. Majority of them had difficulty in placenta delivery: 26 (43.3%) with fundal pressure and 21 (35%) with insertion of hand. All respondents had prolonged labour of about 20-48 hours at first childbirth. More than half (33, 55%) of respondents resumed work within one week of childbirth (Table 2).

Only 32 (53.3%) respondents had adequate food during postnatal period. Only one (1.7%) respondent had done Kegel exercise after childbirth. Regarding abdominal support (patuka), 25 (41.7%) tied tightly from lower to upper abdomen. More than half (31, 51.7%) resumed sexual intercourse at fourth week. For majority of them (44, 66.7%) the birth space was <2 years (Table 3).

More than half (32, 53.3%) of respondents had chronic disease among them. Majority 46 (76.7%) of them had constipation, 19 (31.7%) had reproductive tract infection, and 23 (38.3%) of them were smoker (Table 4).

The degree of uterine prolapse was significantly associated with below 20 years age of marriage ( $p=0.004$ ). Similarly, degree of UP and delivery of first childbirth below 20 years of age was statistically significant ( $p = 0.01$ ). Higher number of pregnancy was associated with higher degree of uterine prolapse ( $p = 0.007$ ). Similarly, higher number of childbirth, higher degree of UP ( $p = 0.007$ ) and there is significant association between degree of uterine prolapse and unskilled birth attendant ( $p = 0.01$ ).

**Table 1: Distribution of respondents according to their uterine prolapse (N = 60)**

Variables	Frequency (percent)
<b>Place of diagnosis:</b>	
Hospital	48 (80)
Health clinic	12 (20)
<b>Degree of prolapse:</b>	
First degree	21 (35)
Second degree	15 (25)
Third degree	6 (10)
Fourth degree	18 (30)
<b>Duration of prolapse (in years):</b>	
5-19	22 (36.7)
20-34	16 (26.6)
35-50	22 (36.7)
<b>Prolapse occurred:</b>	
During postnatal	15 (25)
Carrying heavy load after childbirth	45 (75)

**Table 2: Distribution of respondents according to their delivery (N = 60)**

Variables	Frequency (percent)
Home delivery	59 (98.3)
Institutional	1 (1.7)
<b>Birth attendant at home:</b>	
Trained sudeni	15 (25)
Mother-in-law (unskilled)	44 (73.3)
Vaginal delivery	4 (6.7)
Vaginal delivery with tear	55 (98.3)
<b>Placenta delivery:</b>	
Without extra force	13 (21.7)
With fundal pressure	26 (43.3)
Remove by insertion of hand	21 (35)
20-48 hours	60 (100)
<b>Duration of subsequent labour pain:</b>	
6-14 hours	58 (96.7)
15-24 hours	2 (3.3)
<b>Resuming work after childbirth:</b>	
Within one week	33 (55)
After one week	20 (33.3)
After one month	7 (11.7)
<b>Nature of work after childbirth:*</b>	
Agriculture	14 (23.3)
Carry firewood, water, crops from distant	33 (55)
Normal household work	1 (1.7)

Washing clothes	36 (60)
Business	3 (5)

**Position of washing cloth:**

Squatting position	27 (45)
Sitting position with support	9 (15)

**Nature of work during pregnancy:\***

Agriculture	26 (43.3)
Carry firewood, water, crops from distant	56 (93.3)
Washing clothes	48 (80)

Note:\*(MR) Multiple response

**Table 3: Distribution of respondents according to their practice of delivery care (N = 60)**

Variables	Frequency (percent)
Adequate food during postnatal	32 (53.3)
Kegel exercise	1 (1.7)
<b>Tie patuka:</b>	
Tightly from upper to lower abdomen	24 (40)
Tightly from lower to upper abdomen	25 (41.7)
Loosely from upper to lower abdomen	5 (8.3)
<b>Resume sexual intercourse:</b>	
At first week	10 (16.7)
At second week	19 (31.7)
At fourth week	31 (51.7)
<b>Birth space:</b>	
<2 years	40 (66.7)
≥2 years (2-3 years)	15 (33.3)

**Table 4: Distribution of respondents according to their comorbidity N = 60)**

Variables	Frequency (percent)
<b>Chronic Disease*:</b>	
Asthma	15 (25)
Tuberculosis	6 (10)
Hypertension	7 (11.7)
Diabetes	6 (10)
Constipation	46 (76.7)
Chronic cough	26 (43.3)
Reproductive tract infection	19 (31.7)
Sex hormone imbalance	3 (5)
Cigarette smoking	23 (38.3)

Note: \*Multiple Response (MR)

**Table 5: Association between degree of uterine prolapse and selected variables (N =60)**

Variables	Degree of uterine prolapse			$\lambda^2$ p-value
	first	second	third and fourth	
<b>Age at marriage:</b>				
<20 years	11 (29.7)	13 (35.14)	13 (35.14)	0.004
≥20 years	10 (43.48)	7 (30.43)	6 (26.08)	
<b>Age at 1<sup>st</sup> childbirth:</b>				
<20 years	11 (30.56)	13 (36.11)	12 (33.33)	0.01
≥20 years	10 (41.67)	7 (29.17)	7 (29.17)	
<b>Number of pregnancy:</b>				
3-4	13 (46.43)	12 (42.86)	3 (10.71)	0.007
4-11	8 (25)	8 (25)	16 (50)	
<b>Number of childbirth:</b>				
3-4	13 (44.83)	12 (41.38)	4 (13.79)	0.007
5-11	8 (25.80)	8 (25.80)	15 (48.39)	
<b>Birth attendant:</b>				
Skilled sudeni	8 (53.33)	7 (46.67)	-	0.01
Mother-in-law	13 (28.89)	14 (31.11)	18 (40)	

## DISCUSSION

In the present study, most of 48 (80%) respondents were diagnosed as UP at Hospital. The finding in Teaching hospital, Chitwan, Nepal shows 100% respondents were diagnosed in Hospital.<sup>9</sup>

In present study, first degree of uterine prolapse found in 21 (35%) of respondents followed by 15 (25%) of respondents had second degree, six (10%) of respondents had third degree and 18 (30%) of respondents had fourth degree which is consistent with finding of study done in Gorkha district, Nepal, two (28.6%) respondents had first degree of UP followed by two (28.6%) of them had second degree and three (42.9%) had third and fourth degree of UP.<sup>8</sup> The study is consistent with the finding of the study done in Teaching Hospital, which shows that 28.8% first degree UP followed by 24.2% second degree and 47% third degree UP.<sup>14</sup>

In present study, 37 (61.7%) respondents were married below the age of 20 years, 36 (60%) of them had first child at age of below 20 years, 32 (53.3%) respondents had 5-11 times pregnant and childbirth respectively which is consistent with the study done in Lekhnath, Kaski, Nepal that found 58 (58%) respondents were married at age of below 20 years, 41 (41%) of respondents had first childbirth at age of below 20 years.<sup>7</sup>

In present study, most 59 (98.3%) of respondents had home delivery, 44 (73.3%) of them had mother-in-law as a birth attendant which is consistent with the result

of study conducted in Teaching Hospital that 89.39% of respondents had home delivery and 68.18% of them had mother-in-law as a birth attendant.<sup>14</sup>

Most of 56 (93.3%) respondents had heavy work like carry firewood, water, crops from distant during pregnancy which was supported by the result of the study done in Bharatpur Hospital, Chitwan, Nepal that was 92% of respondents had similar work.<sup>9</sup>

In present study, more than half 33 (55%) respondents had resumed their work within first week after childbirth and 31 (51.7%) respondents had resumed sexual intercourse at fourth week. Two-thirds (40, 66.7%) of respondents had less than two years birth space which was consistent with the findings of study done in Bharatpur Hospital, Chitwan, Nepal that was 66% of respondents resumed work two weeks and 46% of respondents had resumed sexual intercourse within fourth week and 59% of respondents had less than two years birth space.<sup>15</sup>

In present study, 32 (53.3%) of respondents had adequate food after childbirth which was consistent with the finding that was 70% of respondents had adequate food after childbirth which was consistent with study done in Bharatpur, Chitwan. The study done in Kalikot district, Nepal found that was 39.7% of respondents.<sup>6,9</sup>

In present study, minority (1, 1.7%) respondent had done Kegel exercise after childbirth and most of 54 (90%) respondents had tied patuka after childbirth which was

consistent with the finding of study done in Bharatpur Hospital, Chitwan where none of respondents had done Kegel exercise and 75 (75%) of respondents had tie patuka after childbirth.<sup>9</sup>

In present study, more than half 32 (53.3%) of respondents had chronic disease, 15 (25%) of respondents had asthma, 7 (11.7%) hypertension, more than three fourth 46 (76.7%) of respondents had constipation, 26 (43.3%) of them had chronic cough. Study done in semi-urban area of Kathmandu found 53.1% of respondents had chronic lungs disease, 5% of them had hypertension, and 22.78% of respondents had constipation problem.<sup>10</sup>

In present study, 23 (38.3%) of respondents had smoking history which was similar to study done in Bharatpur, Chitwan, Nepal that was 38.7% of respondents had smoking habit.<sup>15</sup> Similar study done in Manma, Kalikot district showed that 30.4% of respondents had history of smoking.<sup>6</sup>

In present study, the association between degree of uterine prolapse and marriage at age of below 20 years where  $p = 0.004$ , first childbirth age below 20 years where  $p = 0.01$ , higher the number of pregnancy and childbirth is significant association since  $p = 0.007$  respectively, and degree of UP is significantly associated with birth attendant since ( $p=0.01$ ) which was consistent in finding with study done in Gorkha district, Nepal that showed

significant association between degree of UP and birth attendant ( $p = 0.03$ ).

The limitation of this study can be single centre and small sample size.

## CONCLUSION

This study can be concluded that there were the various factors for uterine prolapse like early marriage before age of 20 years, first childbirth before age of below 20 years, higher number of pregnancy and childbirth and unskilled birth attendant like mother-in-law. Therefore, awareness on those factors and proper institutional delivery should be encouraged to prevent and reduce uterine prolapse in Hariharpurghadi-2, Sindhuli, Nepal.

## ACKNOWLEDGEMENTS

The authors express great thanks to the Mayor of Hariharpurghadi Municipality Mr. Devendra Sapkota and female health volunteers for helping to identify the uterine prolapse case and providing their record. Especially, the authors would like to express gratitude and special thanks to all the respondents of the study who had not only given their time but also provided valuable information for the study with their kind cooperation and participation.

**Conflict of interest:** None

**Source(s) of support:** None

## REFERENCES

1. Broms I, Ingvarsson AK. Nepalese women suffering from uterine prolapsed: A participant observational study in a maternity hospital in Nepal [internet]. Sahlgrenska akademien, Gothenburg University Library; 2012 Jun 29. [Full Text]
2. Pradhan A, Suvedi BK, Barnett S, Puri M, Poudel P, Chitrakar SR, et al. Nepal maternal mortality and morbidity study, summary of preliminary findings. Kathmandu Nepal: Family Health division, Department of health and Services, Ministry of Health, Government of Nepal; 2008/2009. [Full Text]
3. Walker GJA, Gunasekera P. Pelvic organ prolapse and incontinence in developing countries: review of prevalence and risk factors. *Int Urogynecology J*. 2011 Feb;22(2):127-35. [PubMed | Full Text | DOI]
4. Khatri RB. Situation of uterine prolapse in salyan, mugu and, bajhang districts of Nepal: A clinic based study. *Health Prospect*. 2011;10:10-3. [Full Text | DOI]
5. Shrestha B, Devkota B, Khadka BB, Choulagai B, Pahari DP, Onta S, et al. Knowledge on uterine prolapse among married women of reproductive age in Nepal. *Int J Womens Health*. 2014 Aug 14;6:771-9. [PubMed | Full Text | DOI]
6. Puri R. Prevalence, risk factors and traditional treatments of genital prolapsed in Manma, Kalikot district, Nepal: A community based population study (thesis of Master Public health): The Arctic University of Norway; 2011. [Full Text]
7. Silwal M, Gurung G, Shrestha N, Gurung A, Ojha S. Prevalence and factors affecting women with uterine prolapse in lekhnath, kaski, nepal. *Journal of Gandaki Medical College-Nepal*. 2016; 9(2):52-7. [Full Text | DOI]
8. Pathak K, Khanal S. Factors associated with uterine prolapse among married women of reproductive age group of Gorkha district. *International Journal of New Technology and Research*. 2018;4(3):72-7. [Full Text]

9. Thapa B, Rana G, Gurung S. Contributing factors of utero-vaginal prolapse among women attending in bharatpur hospital. *Journal of Chitwan Medical College*.2014;4(9):38-42. [[Full Text](#)]
10. Panta PP. Factors affecting uterine prolapse among female of 20-35 years on semi-urban area of kathmandu district, nepal. *Journal of Karnali Academy of Health Sciences*. 2018;1(3):13-9. [[Full Text](#)]
11. Singh DR, Lama S, Maharjan S. Knowledge on risk factors of uterine prolapse among reproductive age group women of bajrabarahi municipality of lalitpur, nepal. *International Journal of Reproduction Contraception Obstetrics and Gynaecology*. 2016 Oct;5(10):3343-48. [[Full Text](#)] [[DOI](#)]
12. Gautam S, Adhikari RK, Dangol A. Associated factors for uterine prolapse. *J Nepal Health Res Counc*. 2012 Jan;10(20):1-4. [[PubMed](#)] [[Full Text](#)]
13. Shrestha B, Onta S, Choulagai B, Paudel R, Petzold M, Krettek A. Uterine prolapse and its impact on quality of life in the jhaukhel-duwakot health demographic surveillance site, bhaktapur, nepal. *Glob Health Action*. 2015 Aug;8:28771. [[PubMed](#)] [[Full Text](#)] [[DOI](#)]
14. Shrestha AD, Lakhey B, Sharma J, Singh M, Shrestha B, Singh S. Prevalence of uterine prolapse amongst gynecology opd patients in tribhuvan university teaching hospital in nepal and its socio-cultural determinants. 2016;1-21. [[Full Text](#)]
15. Pant U, Pradhan R, Aryal B. Risk profile of uterovaginal prolapse. *Journal of Karnali Academy of Health Sciences*. 2018;2(2):42-6. [[Full Text](#)] [[DOI](#)]