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Results: The majority of the study participants (40.76%) aged between 18-30 years, 48.46% were Brahmin, 91.53% were married, 46.15% had a primary level of education, and 83.07% resided in central Nepal. Seventy percent had heard about UP. More than half of the participants (75; 57.69%) had a satisfactory level of knowledge and 55 (42.30%) had a good level of knowledge of uterine prolapse. Age (p=0.014), education (p=0.008), occupation (p=0.03), and ethnic group (0.024) were found significantly associated with the level of knowledge among women.

Conclusion: Our study showed that the level of knowledge on UP among women of reproductive age group is satisfactory, and is attributed to factors such as age, education, occupation, and ethnic group.

Keywords: Associated factors, Gynecology, Knowledge, Tertiary care teaching hospital, Uterine prolapse, Women.

I. Introduction

Uterine prolapse (UP), a reproductive health problem, is characterized by obtrusion of the uterus partially or wholly into the vagina, which occurs when pelvic floor muscles and ligaments become weak and no longer can support the uterus [1]. It is the most often reported cause of poor health among women of reproductive age (15-49) and postmenopausal women (45-49 years) around the globe [2]. Its global prevalence ranges from 2-20%, whereas that in Nepal varies according to ecological zones such as 20 to 37% in the Terai (plain) region, 27.4% in the central and eastern hilly region, and 25% in the far western hilly region [3, 4]. Despite the fact that it is preventable and curable, it holds the major global burden of morbidity and mortality among women [5]. In Nepal, more than 1 million women suffer from uterine prolapse, and most belong to the reproductive age group [6]. Nepalese women have more workload than men, since the traditional gender division of labor encourages women to concentrate more on their reproductive role and household activities, wherein men are free to move to different places for work [4, 7]. Early marriage, high parity, heavy lifting during and after pregnancy, early return to work after parturition, older age at last birth, postmenopausal status, and lack of sufficient rest and nutritious food contribute to high rates of UP [8, 9]. More than 85% of Nepalese women reports vaginal lump, difficulty working, sitting, walking, urinary incontinence, vaginal discharge, loss of libido, and painful intercourse as common symptoms of UP [10]. UP affects many aspects of the quality of life of women, ranging from physical discomfort to psychological, social, and sexual lifestyle limitations. Supplementary to these, Nepalese women with UP faces family and societal discrimination, which further deteriorates their quality of life [3, 11].

Despite the high prevalence of UP in Nepal, it has not been addressed satisfactorily. Most women hide UP problems being conscious of the embarrassment, lack of family support, unsuccessful treatment, and high

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cost of treatment [12]. In Nepal, family planning services and maternal health care are providing regular services for public health promotion. Although various national, international, and non-governmental organizations have conducted specific awareness programs since 2005, to reduce the problem through outreach camps, health institutions, female community health volunteers, and mass media, a knowledge gap remains among women about UP [10, 13]. Even women who are aware of UP, its treatment, and access to healthcare often lag to seek it because of shyness of genital exposure, fear of abandonment by their husbands, and traditional beliefs that surgery will make them weaker [14]. It has been reported that 52.9% of Nepalese women are lacking knowledge on UP, and only 37.5% have thorough knowledge about this condition [2, 10]. A lack of appropriate and adequate knowledge regarding UP and its prevention often results in delayed care and safety measures [11]. The current study therefore aimed to explore the factors associated with knowledge regarding uterine prolapse among women attending the gynecology outpatient department of Chitwan Medical College Teaching Hospital. Our study is timely and relevant, and the findings will be helpful for understanding symptoms and knowledge among women with UP. Moreover, it will aid in the development of evidence-based health promotion programs for the prevention of UP in its early stage among the general population of women in Nepal.

II. Methodology

a) Ethics

Ethical approval of this study was obtained from the Chitwan Medical College- Institutional Review Committee (CMC-IRC) (Ref no: CMC-IRC-43) and written informed consent was obtained from each participant. Additionally, the study protocol presented no risk or harm to the participants and the method of consenting was approved by the IRC. Personal details of the participant were kept confidential, and anonymity was maintained.

b) Design

This was a hospital-based cross-sectional study.

c) Population

Participants aged ≥18 years visiting the gynaecology outpatient department of Chitwan Medical College (Chitwan, Nepal) between July and September 2016 were included in the study. Pregnant or lactating mothers, participants with a psychiatric disorder, from other departments, and those unable to communicate and understand the Nepali language were excluded.

d) Sample size

A sample size of 130 was taken to study the factors associated with knowledge regarding UP using a purposive sampling method.

e) Data collection

The data on pre-existing knowledge of 130 participants were collected using a pre-validated questionnaire [2] through an interview method. A standard data collection form was built for collecting data on sociodemographic information. There were 20 questions for assessing knowledge. The English form of the questionnaire was translated into Nepali and pilot tested on 10% of the sample size of a similar setting who met our inclusion and exclusion criteria, and the reliability using Cronbach's alpha test was $\alpha=0.8$. Participants involved in the pilot were not included in the main study. Answer for each question regarding knowledge on UP was scored one for correct and zero for incorrect.

f) Statistical analysis

Data were entered in MS Excel 2013. The entered data were transferred to SPSS version 20 for further analysis. Univariate, bivariate, and multivariate analyses were performed. Bivariate analysis of independent variables with the dependent/outcome variable was performed by cross-tabulation and testing with Pearson Chi-square. Variables found significant in the bivariate analysis were included in a multivariate analysis and fitted using binary logistic regression (enter method) with knowledge as outcome variable. A measure of association was presented as an odds ratio (OR) with a 95.0% confidence interval (CI). $P<0.05$ was considered statistically significant.

III. Results

Table 1: Sociodemographic characteristics of participants (n=130)

Characteristics	Categories	n (%)
Age	18-30 years	53 (40.76)
	31-40 years	42 (32.30)
	41-50 years	29 (26.92)
Marital Status	Married	119 (91.53)
	Divorced	5 (3.84)
	Widowed	6 (4.61)
Education	Illiterate	24 (18.46)
	Primary Level	60 (46.15)
	Secondary Level	27 (20.76)

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	Higher secondary or above	19 (14.61)
Ethnic Group	Brahmin	63 (48.46)
	Chhetri	19 (14.61)
	Janajati	13 (10.0)
	Dalit	35 (26.92)
Development Region	Eastern	4 (3.07)
	Central	108 (83.07)
	Western	18 (13.84)
Occupation	Housewife	97 (74.61)
	Agriculture	49 (37.69)
	Business	11 (8.4)
	Service	16 (12.3)
Monthly Income	< Rs.10,000	23 (17.7)
	< Rs.25,000	59 (45.38)
	>Rs 25,000	21 (16.2)
	≥50,000	27 (20.8)
Source of Information on UP*	Mass Media	84 (66.92)
	Friends/ Relatives	48 (36.92)
	FCHVs	34 (26.15)
	Health Workers	30 (23.07)
Heard of UP	Yes	92 (70.76)
	No	38 (29.23)

**Multiple response*

Abbreviation; UP: Uterine Prolapse, FCHVs: female community health volunteers

Among the 130 subjects, the majority of the study participants (53; 40.76%) aged between18-30 years, where most of them (63; 48.46%) were Brahmin. The study participants were predominantly married (119; 91.53%) and majority of them (60; 46.15%) had a primary level of education. Most of the participants (108; 83.07%) resided in central Nepal. Housewife (97; 74.61%) was the most frequently reported occupation. Most of the participants (59; 45.38%) had monthly income less than Rs 2500. The majority of the participants (66.92%) reported mass media as the main source of information, followed by friends/relatives (36.92%) and FCHVs (26.15%). Seventy percent of the participants reported that they had heard of UP, as depicted in Table 1.

Table 2: Knowledge on Symptoms, Preventive Measures, and Risk Factors of Uterine Prolapse (n=130)

Characteristics	Categories	n (%)
Symptoms*	Difficulty in lifting loads	125 (96.15)
	Lower abdominal pain	101 (77.69)
	Sagging uterus	98 (75.38)
	Pain during sexual activity	92 (70.76)
	Difficulty controlling urine	90 (69.23)
	Odorous discharge	85 (65.38)
Preventive measures*	Not lifting heavy loads during Postnatal period	130 (100)
	Eating nutritious food during pregnancy	125 (96.15)
	Taking adequate rest during postnatal period	126 (96.92)
	Practising family planning and birth spacing	122 (93.84)
	Avoid early pregnancy	118 (90.76)
	Use of institutional delivery	116 (89.23)
	Use of safe abortion services	115 (88.46)
Risk factor*	Many vaginal deliveries	128 (98.46)
	Adolescent pregnancy	127 (97.69)
	Obesity	111 (85.38)
	Increasing age	100 (76.92)
	Malnutrition	95 (73.07)
	Chronic constipation	85 (65.38)
	Prior pelvic surgery	80 (61.53)

**Multiple response*

The majority of the participants (129; 96.15%) reported that difficulty in lifting heavy loads as the main symptom of UP, followed by lower abdominal pain (101; 77.69%), sagging uterus (98; 75.38%), and odorous discharge (85; 65.38%). All participants reported that not lifting heavy loads during the postnatal period, the best method for the prevention of UP, followed by eating nutritious food during pregnancy (125; 96.15%), taking

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adequate rest during the postnatal period (122; 93.84%), and using safe abortion services (115; 88.46%). Almost all participants (128; 98.46%) reported that having many vaginal deliveries were risk factors for UP, followed by adolescent pregnancy (127; 97.69%), obesity (111; 85.38%), prior pelvic surgery (80; 61.53%), as shown in Table 2.

Table 3: Level of knowledge on UP

Characteristics	Categories	n (%)
Level of Knowledge	Good (≥ 75%)	55 (42.30)
	Satisfactory (50 to < 75%)	75 (57.69)

More than half of the participants (75; 57.69%) had a satisfactory level of knowledge, and 55 (42.30%) had a good level of knowledge on uterine prolapse, while none of them exhibited a poor level of knowledge, as illustrated in Table 3.

Table 4: Factors associated with level of knowledge

Characteristics	Level of Knowledge		odd ratio	95%CI	P-value
	Good	Satisfactory			
Age					
< 40	40	55	0.96	0.55-1.68	0.014*
≥ 40	15	20	1		
Education					
Literate	47	59	1.59	0.78-2.89	0.008*
Illiterate	8	16	1		
Occupation					
Employed	16	11	2.38	1.34-4.25	0.03*
Unemployed	39	64	1		
Ethnic Group					
Advantage	43	39	3.30	1.31-4.22	0.024*
Disadvantage	12	36	1		
Heard of UP					
Yes	45	47	2.60	1.11-3.92	0.017*
No	10	28	1		

Bivariate analysis of the outcome variable was performed with other independent variables. Knowledge scores were used to categorize respondents into a binary variable good and satisfactory. The association was considered significant if the "P" value was less than 0.05. Bivariate analysis of all variables was performed. However, only five independent variables were found to be significantly associated with level of knowledge, which is listed here. Women aged <40 years were found 0.96 times more likely to have a good level of knowledge than women who aged ≥40 years. Literate women were found 1.59 times more likely to have a good level of knowledge than illiterate women and advantaged women were found 3.3 times more likely to have a good level of knowledge than disadvantaged women. Similarly, employed women were found 2.86 times more likely to have a good level of knowledge than unemployed women. Likewise, women who had heard about UP were found 2.6 times more likely to have a good level of knowledge than those who had notheard about UP, as shown in Table 4.

IV. Discussion

The current status of knowledge on UP among women of reproductive age (18 to 50) visiting gynecology OPD of the tertiary care hospital in central Nepal was explored over a period of 3 months among 130 participants. Most of the participants had a primary level of education and were from the central region of the country. Our study showed that 70% of the participants had heard about UP, and more than half of the participants had satisfactory knowledge. The knowledge in our study population contradicts that of study population of a large-scale study conducted in 25 districts of Nepal and Egypt [2, 15].

Our study showed that mass media were the common source of information for gaining knowledge about uterine prolapse, which is consistent with that of other studies [2, 16]. This is because, mass media like radio and television are easily accessible tool and are commonly available in the house of people of every socioeconomic background. Our study showed that age, education, ethnic group, and occupation are significantly associated with the level of knowledge

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about uterine prolapse in women. The 2011 Nepal Demography and Health Survey (NDHS 2011) demonstrated that the class, caste/ethnic group, and education are significantly associated with overall health knowledge and reproductive health care–seeking practices [17]. School, magazines, and female community health workers are the major source for obtaining information on health related matters in low economic country like Nepal. However, it is reported that these source do not provide enough information regarding risk factors for uterine prolapse [18]. Subject course in school do not cover adequate information on sexual and reproductive health, which in fact is the most important learning for life time. Additionally, teachers in Nepal feel embarrassed to discuss about it and its prevention. Magazines do not cover the sensitive health problem like uterine prolapse which is the major female health issue in Nepal. Due to this women cannot have enough knowledge on the prevention of uterine prolapse and when it actually happens they hesitate to open up and hide it within themselves thinking everyone will judge them and they will be stigmatized. Thus, inadequate formal education on sexual and reproductive health, lack of focus on prevention of uterine prolapse in community health programs for women might be the reason for current variation seen in the satisfactory level of knowledge about uterine prolapse among female teenagers and other age groups. Similarly, low education level is the major barrier in the ability to utilize available health care service optimally, and this is usually a strong barrier to the use of antenatal and skilled birth services in women in Nepal [18]. Educated women are involved in many health organization which focus on female health as their major project. During their working duration they got to attend seminars and trainings related to uterine prolapse and other female problems, which directly or indirectly contributes in increasing the knowledge level among women. This might be the reason for high level of knowledge being associated with education and employment status found in our study. Moreover, our study showed the significant association between the knowledge level and ethnic group which is consistent with the large scale study conducted in 25 districts of Nepal [2].

The limitation of this study is that: this was a single-centered study conducted in a single hospital of central Nepal and in a relatively small sample size. Therefore, the generalizability of the findings remains to be explored.

V. Conclusion

Our study showed that the level of knowledge on uterine prolapse among women of reproductive age group is satisfactory, and is attributed to their age, education, occupation, and ethnic group. The findings highlight the need for implementation of uterine prolapse related health promotion programs to target women of all caste/ethnic groups, age groups, and education status nationwide.

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