

Title: outcome of uterovaginal prolapse prevalence in obese patients

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Abstract

Objective: to examine the frequency and contributing variables of uterovaginal prolapse (UVP) in obese women who arrive to a tertiary care hospital between the ages of 20 and 40.

Methods: From January 1, 2024, to December 31, 2024, a descriptive cross-sectional study was carried out at the Lady Reading Hospital in Peshawar. The study comprised 20–40-year-old obese women. Information was gathered on symptoms, parity, demographics, and other pertinent variables. In order to determine correlations between UVP and the relevant variables, statistical analysis was done.

Results: with the following averages: mean height of 1.563 ± 0.05 meters, mean weight of 78.305 ± 3.51 kg, mean age of 29.049 ± 2.34 years, and mean BMI of 32.078 ± 1.69 kg/m². Significant correlations were found between UVP and pelvic heaviness (36.7% in UVP vs. 5.7% without UVP, $p=0.000$) and pain during sexual activity (42.4% in UVP vs. 7.9% without UVP, $p=0.000$). UVP was substantially correlated with higher parity (>2 children) (50% vs. 16.9% for 0-2 children, $p=0.000$). While smoking status was not a significant effect ($p=0.283$), older age, marital status, and occupation were.

Conclusion: In obese women between the ages of 20 and 40, the study finds a strong correlation between UVP and a number of variables, such as parity, age, marital status, and occupation. Among those with UVP, symptoms such as pelvic heaviness and pain during sexual activity were more common. In order to enhance patient outcomes and quality of life, these findings highlight the significance of tailored prevention and care interventions for at-risk populations, especially those in older age groups and with higher parity.

Keywords: women, bmi, obese, uterovaginal prolapse.

Introduction:

More than 1.9 billion persons worldwide were overweight in 2014, according to the WHO, which indicates that their BMI was between 25 and 30 kg/m². With a BMI of at least 30.0 kg/m², about 600 million, or 15%, of these were obese. The herniation of the uterus into or beyond the vagina due to the breakdown of the ligamentous and fascial supports is known as uterovaginal prolapse. It frequently occurs in conjunction with vaginal wall prolapse, affecting the bladder or the rectum. There are several categories of risk factors for uterovaginal prolapses: lifestyle, comorbidities, social factors, non-modifiable factors (including age), pelvic floor factors, and surgical factors. The best risk factors for uterovaginal prolapse, according to the research, are aging and parity. A greater BMI is the primary lifestyle factor. The development of uterovaginal prolapse in obese women is most likely caused by an increase in intraabdominal pressure, which weakens the pelvic floor muscles and tissue. Numerous studies demonstrated the impact of obesity on a range of lower urinary tract symptoms (LUTSs). Nonetheless, research assessing the correlation between obesity and vaginal prolapse has yielded varying findings. One significant risk factor for a major factor was a higher body mass as a categorical variable. Even so, one study indicated that a higher BMI was marginally protective against primary uterovaginal prolapse. BMI as a continuous variable, however, showed no correlation with the condition. The SWEPOP trial found that for every unit increase in current BMI, there was a 3% increase in symptomatic uterovaginal prolapse (odds ratio 1.03; 95% confidence interval (CI) 1.01–1.05). In this investigation, the effect on an objective assessment of prolapse severity was not found. To enhance patient counseling, a deeper comprehension of the connection between obesity and prolapse is necessary. If weight loss is linked to an improvement in the signs and symptoms of uterovaginal prolapse, obese women may choose to pursue non-surgical treatments like weight loss instead of reconstructive surgeries to relieve their symptoms. Obesity is characterized as simply having too much body weight for one's height. However, this definition obscures the fact that obesity is a complicated etiology that is primarily linked to excess adiposity, or body fatness, which can express metabolically as well as physically. Obesity significantly raises the risk of both morbidity and mortality of chronic diseases, including type 2 diabetes, depression, cardiovascular disease, and several malignancies. Regarding the prevalence of uterovaginal prolapse in obese people in Pakistan, very little is known. I intend to ascertain the prevalence of uterovaginal prolapse in obese women in recognition of the paucity of knowledge regarding this condition in Pakistan.

Materials and method:

After receiving approval from the institution's research department and ethical council, 121 patients who met the study's inclusion requirements from the outside department of obstetrics and gynecology at LRH, Peshawar, were added to the study. Baseline demographic data was collected on patients, including age, parity, height on a scale, weight on a weighing machine, marital status, employment, and whether they had smoked more than five cigarettes a day for the previous year. Every patient gave their informed consent, guaranteeing their privacy and confirming that there is no risk to them by participating in this study. Using an anticipated frequency of uterovaginal prolapse of 27.9% and an (8) confidence interval of 95%, the sample size of 121 was determined. error margin of 8%. random sampling in succession. Women between the ages of 20 and 40 are eligible to apply. According to the operational definition, obesity Presenting with three or more of the subsequent items Involuntary urination after coughing, sneezing, or laughing, or any combination of the three conditions occurring more than five times each month .An unexpected, sudden, and intense urge to urinate (more than eight times per day) Negative dysfunction Dysphasia, characterized by difficult or painful defecation in the past, Pelvic heaviness, or lower abdominal pressure in the past, vaginal discomfort (VAS >3), low back pain (VAS >3), and pain during sexual activity (VAS >3). Exclusive criteria were Refusal to give informed consent; history of vaginal fungal infection on medical record; history of UTI on medical record. A statistical analysis tool (SPSS 24) was used to analyze the data. For quantitative characteristics including age, weight, height, and BMI, mean SD was given. For qualitative factors such as parity, marital status, occupation, smoking status, symptoms, and uterovaginal prolapse, frequency and percentage were calculated. To determine the impact of age, marital status, occupation, smoking status, symptoms, and parity on uterovaginal prolapse, stratification was carried out. Chi-square post-stratification analysis was used, with $p \leq 0.05$ regarded as statistically significant.

Results: This research had a 20–40-year age range, with a mean age of 29.049 ± 2.34 years, a mean weight of 78.305 ± 3.51 kg, a mean height of 1.563 ± 0.05 meters, and a mean BMI of 32.078 ± 1.69 kg/m³.

Table 1: uterovaginal prolapse with their details.

symptoms		Uterovaginal prolapse		total	p-value
		yes	no		
Urinary incontinence	Yes	2(6%)	45(51%)	47(38.8%)	0.000
	No	31(94%)	43(81%)	74(61%)	
Voiding dysfunction	Yes	2(6%)	2(2.3%)	4(3.3%)	0.299
	No	31(94%)	86(97.3%)	117(96.7%)	
dyschezia	Yes	1(3%)	3(3.4%)	4(3.3%)	0.917
	No	32(97%)	85(96.6%)	117(96.7%)	
Pelvic heaviness	Yes	12(36.7%)	5(5.7%)	17(14%)	0.000
	No	21(63.3%)	83(94.3%)	104(86%)	
Vaginal pain	Yes	1(3%)	9(10%)	10(8.3%)	0.200
	No	32(97%)	79(90%)	111(91.7%)	
Low back pain	Yes	1(3%)	17(19%)	18(14.8%)	0.024
	No	32(97%)	71(81%)	103(85.2%)	
Pain at sexual intercourse	Yes	14(42.4%)	7(7.9%)	21(17.3%)	0.000
	no	19(57.6%)	81(92.9%)	100(82.7%)	

Table 2: uterovaginal prolapse with respect to parity.

parity	Uterovaginal prolapse		p-value
	yes	no	
0-2	14(16.9%)	69(83.1%)	0.000
>2	19(50%)	19(50%)	

Table 3: uterovaginal prolapse with respect to different variables

variables		Uterovaginal prolapse		p-value
		Yes	no	
age	20-30	15(17.2%)	72(82.8%)	0.000
	31-40	18(52.9%)	16(47.1%)	
Marital status	Married	33(55%)	27(45%)	0.000
	Un married	0(0%)	61(100%)	
Occupation	Housewife	32(31.1%)	71(68.9%)	0.025
	job	1(5.6%)	17(94.4%)	
smoker	Yes	0(0%)	3(100%)	0.283
	no	33(28%)	85(72%)	

Discussion:

The study included women with a mean age of 29.049 ± 2.34 years who were in the 20–40 age group. Average height was 1.563 ± 0.05 meters, average weight was 78.305 ± 3.51 kg, and average BMI was 32.078 ± 1.69 kg/m². The participants' physical attributes are clearly depicted by the demographic data, which mostly shows a young adult population with a somewhat high average BMI and a propensity toward obesity. According to the analysis, POP was linked to low body mass index, having given birth at least twice at home, having a family history of prolapse, having a prior delivery without an episiotomy, being shorter than 150 cm, and giving birth to a macrosomia infant vaginally. Since that obstetrical methods, distinct sociodemographic characteristics, and potential genetic predispositions exist in low-resource settings, it is unclear how different the risk factors for POP are in these situations from those in high-resource settings. Cross-sectional descriptive studies were the previous attempts to address issues in these situations¹¹⁻¹³. Given that obesity is a recognized risk factor for pelvic floor problems, such demographic data is vital for understanding the prevalence and severity of uterovaginal prolapse (UVP). Examining the symptoms linked to UVP, notable distinctions were found. A strong correlation was seen between urinary incontinence (p-value = 0.000) and UVP (6%), with the former group having a much higher rate of urinary incontinence (51%). With p-values of 0.000, the frequency of pelvic heaviness and discomfort during sexual activity was substantially higher in those with UVP (36.7% and 42.4%, respectively) compared to those without (5.7% and 7.9%). Changes in pelvic floor function may arise after a total vaginal hysterectomy due to injury to the pelvic floor innervations and pelvic fibromuscular tissues during the surgical procedure. Most patients in the current study 92.5%—had normal vaginal deliveries, and higher parity has been shown to be a substantial risk factor for pelvic organ prolapse. Similar findings have been reported¹⁴. Furthermore, a significant difference was observed in low back pain, which was reported in 19% of individuals without UVP and 3% of those with (p-value = 0.024). These results illustrate the distinct clinical presentations between patients with and without UVP, with pelvic heaviness and discomfort during sex being important markers of difference. The research showed a substantial correlation between parity and UVP. With a p-value of 0.000, the prevalence of UVP was 50% in women with higher parity (more than two children) and 16.9% in those with two or less children. This robust link is consistent with the body of research indicating that repeated pregnancies and deliveries may weaken the pelvic floor muscles and raise the risk of prolapse. To lower the prevalence of UVP, our research highlights the significance of monitoring and possibly applying preventive interventions in women with higher parity. Significant correlations between UVP and other characteristics like age, marital status, and occupation were also found. Lower socioeconomic class women are more likely to experience pelvic organ prolapse; these women face barriers to healthcare access, including limited transportation options, social stigmas, and ignorance that keeps them from seeking treatment until it becomes seriously debilitating or at an earlier age¹⁵. With a p-value of 0.000, the frequency was higher in women aged 31–40 years (52.9%) than in those aged 20–30 years (17.2%). UVP was 55% more common in married women than in single women (p-value = 0.000). With a p-value of 0.025, housewives were more affected (31.1%) than those who had employment (5.6%). These findings imply that being a housewife, being older, and being married are risk factors for UVP. Smoking, on the other hand, did not significantly correlate with UVP (p-value of 0.283). These results contribute to the

development of focused preventative and intervention strategies by offering a thorough understanding of the lifestyle and demographic factors linked to UVP.

Conclusion: The research shows a strong correlation between uterovaginal prolapse (UVP) and several clinical and demographic characteristics in women between the ages of 20 and 40. The results show that pelvic heaviness and pain during sex are key indicators that set individuals with UVP apart from those who do not. Additionally, there is a substantial correlation between an increased occurrence of UVP and higher parity, age, married status, and housewifery. These findings highlight the value of focused screening and preventative measures, especially for older age groups and women who have given birth more than once. Comprehending these correlations can assist medical professionals in promptly detecting and managing UVP, hence enhancing patient results and quality of life.

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