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Research Article

**PREVALENCE OF URINARY INCONTINENCE AND ITS
ASSOCIATION WITH OVERWEIGHT AMONG POSTPARTUM
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DPT, University of Lahore**Abstract:**

Objective: To determine the prevalence of urinary incontinence among postpartum patients according to different BMI group.

Method: A cross-sectional study was conducted on 190 postpartum women. Non-probability convenient sampling was used to collect the data. Numerical data was measured in the form of mean and standard deviation, whereas qualitative data was presented in the form of frequency and percentage. The prevalence of urinary incontinence found out in overweight women were assessed by ICIQ-UI questionnaire

Result: Mean age of the subjects was 28.81 ± 5.03 years. Out of 190, 26.9% of the women reported urinary incontinence. 5(2.63%) were underweight women, 79 (41.5%) normal, overweight 105 (55.26%) and 1 obese women (0.61%). Association of urinary incontinence with different BMI groups was determined using chi square test. P-value of 0.05 or less was considered as significant.

Conclusion: Urinary incontinence is a communal problem in overweight women. Urinary incontinence is more as compared of normal and underweight women and the associated factors that are avertible, modifiable and overweight and high BMI may have the greatest impact on the prevalence of urinary incontinence.

Keywords: Urinary incontinence, overweight, postpartum

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INTRODUCTION:

Urinary incontinence is a communal and pricey problematic issue in postpartum after first and multiple gestational surgery in over weighted women.(1)Mostly researches on weight loss in perversely overweight women undergoing bariatric surgery takes publicized a positive conclusion on the symptoms of urinary incontinence. Over weight is a forever-cumulative public health matter and the particular supreme predominant health hazard amid women.(2) Management of the pelvic organ and pelvic muscles prolapse and tension urinary incontinence involves surgical repair of site precise faults in pelvic floor.(3) Risk factors of the progress of stress incontinence consist of progression of age, multiple postpartum , bariatric surgery, gestational diabetes, urinary tract infection , excessive fat on abdominal area. (4)

Although urinary incontinence is common in older women, risk factors are not well defined. It is known that the prevalence of urinary incontinence in older women increases with age.(5) Our investigation also established that the prevalence of urinary incontinence increased with increasing BMI, a finding that has been reported previously.(6) Reductions in urinary incontinence have been observed in morbidly in overweight women who have had theatrical weight loss after bariatric surgery.(7) The risk factors of urinary incontinence such as obesity, hysterectomy, prolonged medical infections, excessive medications, and excessive soft drink, tea and alcohol intake, have been assessed adequately. (8) With the passage of time more researches appraisal of an imperfect number of potential risk factors(9) An extended period of time interval of obesity was concomitant with facial hairs and excessive hairs in the body Additional investigation establish that teenage obesity was greater risk of polycystic ovaries and recommendation s for surgery and after that urinary incontinence s more after first postpartum and moreover women having ovarian surgery for other reasons. It is correspondingly support and connotation of obesity with an ovulatory cycles. These findings showing evidence of abnormality in ovulation, menstrual abnormalities and additional hair growth in obese women may an overtone among obesity and hormonal imbalances.(10)

Advanced disinhibition is strappingly linked with higher adult weight gain and higher ration of BMI, moreover dietary disturbances is play a mainly role in increase rate of BMI. (11)Increasing weight is a common condition among women in developed countries. The body mass index (BMI) is positively associated with the prevalence of urinary incontinence

(UI), (12) Among the different types of UI, stress UI is the type most closely associated with BMI.(13) Overweight women have increased intra-abdominal pressures, which adversely stress the pelvic floor and may contribute to the development of UI. Weight loss may relieve UI, but definitive therapy via operative procedures has been shown to be effective even in obese patients, and can be recommended with confidence.(14) Over weight is rising at an alarming rate situation of worldwide. It stances a major health problem that in turn places an enormous financial burden on health services. Medical conditions such as diabetes mellitus and diseases of heart are commonly associated with obesity but less well documented is the association between overweight and urinary incontinence.(15)

Over weight was deliberated a symbol of social status and wealth in many beliefs. Till recently a moderately infrequent phenomenon, it was also connected with comfort and fertility. Enhanced appreciative of the impression of overweight on health and the alarming rates of increase in its prevalence over the last two eras have raised the issue to a leading public health task. A huge quantity of medical conditions have been related with overweight and obesity. Overweight is a great impact on health is the result of moreover increased fat mass and causes different diseases osteoarthritis, pelvic floor dysfunction or enlarged number of fat cells cause cancer, cardiovascular disease, non-alcoholic fatty liver disease. (16) Low birth weight has been associated with an increased risk of hypertension, and high birth weight has been associated with increased adult body mass index Early life exposures affecting birth weight may be important in the development of hypertension and obesity in adults.(17)

Young, adult women appear to be at increased risk for substantial weight gain. Pregnancy has frequently been cited as a contributor to overweight in women Excessive postpartum weight retention seems to be especially prevalent among minority women. Factors such as pre pregnancy weight and excessive gestational weight gain have the strongest support as risk factors for postpartum weight retention and could guide targeted intervention efforts. However, there are few controlled studies of behavioral interventions to prevent substantial pregnancy-related weight gain or postpartum weight retention. Weight loss methods successful in promoting weight control in other populations would likely also be effective with pregnant or postpartum women, although modifications for the needs of mothers may be required.(18)

Weight gained during pregnancy and not lost postpartum may contribute to obesity in women of childbearing age. Breastfeeding was associated with lower PPWR in all categories of pre pregnancy BMI. These results suggest that, when combined with GWG values in kg, breastfeeding as recommended could eliminate weight retention by 6 month postpartum in many women.(19) Overweight causes significant complications for the mother and fetus. Interventions directed towards weight loss and prevention of excessive weight gain must begin in the pre-conception period. Obstetrical care providers must counsel their obese patients regarding the risks and complications conferred by obesity and the importance of weight loss. Maternal and fetal surveillance may need to be heightened during pregnancy; a multidisciplinary approach is useful. Women need to be informed about both maternal and fetal complications and about the measures that are necessary to optimize outcome, but the most important measure is to address the issue of weight prior to pregnancy.(20)

Although women should begin pregnancy at a healthy weight and gain reasonably during gestation, not all will. Pediatricians can help overweight women to succeed at breastfeeding by targeting them for contact with a lactation consultant before discharge from the hospital to be sure that they have received optimal advice on breastfeeding techniques. In addition, early contact with the mother after discharge by calling her at home to offer her support and counseling for breastfeeding, by scheduling the first pediatric visit earlier than for other patients, or by enlisting the assistance of public health nurses for a home visit if this is possible would help overweight women to continue to breastfeed. Being overweight or obese is negatively associated with the prolactin response to suckling in the first week postpartum and, thus, may contribute to early lactation failure.(21) The greatest variation in rates of weight gain is seen in the first 1-2 years of life when infants may show significant "catch-up" or "catch-down" growth. These variable growth rates often compensate for intrauterine restraint or enhancement of fetal growth, and by two years of age growth usually follows the genetic trajectory.(22) Excess weight gain and failure to lose weight after pregnancy are important and identifiable predictors of long-term obesity. Breast-feeding and exercise may be beneficial to control long-term weight.(23)

Weight gain that is optimal for the mother and the baby differs according to the mother's pre pregnancy weight. Pregnancy weight gain exceeding current recommendations is associated with increases in

maternal fat gain, pregnancy complications, and delivery problems and should be discouraged. Postpartum weight loss is essential to prevent permanent weight increase. Smoking cessation during pregnancy, reduced postpartum physical activity, and other lifestyle changes can contribute to increased postpartum weight. Health care providers can help to reduce obesity risk by regularly monitoring women's weight; promoting appropriate pre pregnancy weight, pregnancy weight gain, and postpartum weight less; and explicitly encouraging maintenance of an active postpartum lifestyle. Weight gain during pregnancy may contribute to obesity development. Concerns about possible adverse effects of pregnancy weight gain on later maternal weight and on labor and delivery must be rigorously evaluated in light of possible benefits for fetal growth and development. Birth-weight rises with increased pregnancy weight gain, and perinatal and neonatal mortality fall as birthweight increases in both preterm and term infants.(24)

Previous studies have found that weight gain during pregnancy is often associated with postpartum weight retention and the subsequent development of long-term obesity and obesity-related illness. Relative to women whose weight changed by less than 10 pounds between pregnancies, women who gained at least 10 pounds had a 1.5-fold increased risk of gestational diabetes in their next pregnancy, and women who lost at least 10 pounds between pregnancies had a 40% decreased risk. Weight gain above the Institute of Medicine Recommendations for pregnancy results in greater retained postpartum weight. Unfortunately, heavier women who gain excessive weight are more likely to retain it postpartum compared with lighter women. We sought to estimate the incremental effect of gestational weight gain above the Institute of Medicine recommendation for overweight women on postpartum weight retention at 1 year.(25)

Once a low-risk pregnancy has been established, walking in combination with nutritional control may be effective in preventing excessive weight gain in overweight and obese women. Maternal exercise prescription should use the Frequency, Intensity, Time spent and Type of exercise principle, with a frequency of three to four sessions per week as ideal. Intensity based on a target heart-rate zone of 110 to 131 beats per minute for women 20 to 29 years of age and 108 to 127 beats per minute for women 30 to 39 years of age, coupled with use of the rating of perceived exertion scale and the "Talk Test" is suggested. Dieting and exercise together are most effective in reducing weight retention after childbirth and compliance may be improved by incorporating child-care and children

into the exercise routine. After medical consultation, postpartum women should begin exercise slowly, starting from 15 minutes, and building to at least 150 minutes of aerobic activity per week, with this activity spread throughout the week.(26)

LITERATURE REVIEW

P.L.DWYER *et al* discussed in the study, 368 incontinent women participated for assessment. The conclusion of the study was 232 (63%) were diagnosed who have genuine stress incontinence and 136 (27%) as having detrusor instability. Obesity is knowingly more communal in women with genuine stress incontinence and detrusor instability than in the normal population. In those with detrusor instability the body mass index was found to increase with age and parity. In women with genuine stress incontinence the body mass index increased with age and the number of previous incontinence operations. It was higher in nulliparous than in parous women. There was no significant difference between obese and non-obese women in any of the urodynamic variables measured in the two incontinence groups (27) J. M. Cummings C. B. Rodning *et al* obesity is a common disorder among women in urbanized countries and has a major impact on stress urinary incontinence. Women misery from obesity manifest increased intra-abdominal pressures, which adversely stress the pelvic floor and may contribute to the development of urinary incontinence. In addition, obesity may affect the neuromuscular function of the genitourinary tract, thereby also contributing to incontinence. Consequently, thorough evaluation of obese women must be performed prior to the institution of treatment. Weight loss may relieve urinary incontinence, but definitive therapy via operative procedures is actual even in obese patients and should be suggested with confidence.(14)Steinar Hunskar *et al* to appraisal epidemiological literature of urinary incontinence with respect to overweight and obesity as a risk factor, and how the findings eventually fulfill general criteria for being a causal factor for the condition. Likewise to review all interventional studies assessing the effect of weight reduction on incontinence. The author used the methodology of this study is Systematic searches until June 2008 for publications of community based prevalence studies with bivariate or multivariate analyses of the association between urinary incontinence in women and overweight/obesity. In addition an attempt was made to identify and assess all relevant longitudinal studies, prospective case series, and trials, whatever design. The results of the study was there is evidence 3 and some evidence 2 level data to support that in addition to BMI, waist-hip ratio and thus abdominal obesity may be an independent risk

factor for incontinence in women. Only a few interventional studies have been carried out to assess the effect of weight reduction on incontinence. Five studies report effect on incontinence after surgical weight reduction procedures, and one study after a weight reduction program, thus giving some level 2 documentation. There are three RCTs which all show reducing incontinence by weight loss. The Conclusions of the study was epidemiological studies document overweight and obesity as an important risk factor for urinary incontinence. There is now valid documentation for weight reduction as a treatment for urinary incontinence in women.(28)

K. Mukherjee *et al* discussed in the study to determine the effectiveness of the tension-free vaginal tape in obese women with genuine stress incontinence, in whom obesity is often considered a relative contraindication to surgical treatment by traditional approaches, e.g. Burch suspension and slings or injectable. Methodology used for this study is data on 242 consecutive women with uro dynamically proven GSI were collected prospectively. The women were subdivided into three groups with a body mass index (BMI) of < 25, 25–29 and ≥ 30 ; obesity was defined as a BMI of ≥ 30 . All procedures were performed under spinal anesthesia. The King's validated quality of life questionnaires (version 7) were completed before and 6 months after surgery. The subjective results were defined as a cure, significant improvement or failure. The result of the study was virtually 90% of the obese women with GSI were cured, while the remaining 10% noted a considerable improvement in their symptoms. There was no significant difference in cure rates among the three groups. There was a highly significant ($P < 0.001$) improvement in quality of life in all groups. The conclusion of the study was TVT is at least as effective in obese women as in those with a lower BMI. The TVT is a simple and minimally invasive procedure, with low morbidity even in the obese group. TVT can be offered confidently to all obese women with GSI.(29).

Leslee L. Subak, M.D *et al* discussed in the study obesity is an recognized and adaptable risk factor for urinary incontinence, but conclusive evidence for a beneficial effect of weight loss on urinary incontinence is lacking. The methodology was used in this randomly assigned 338 overweight and obese women with at least 10 urinary-incontinence episodes per week to an intensive 6-month weight-loss program that included diet, exercise, and behavior modification (226 patients) or to a structured education program (112 patients). The result of the study was the mean age of the participants was 53 ± 11 years. The

body-mass index (BMI) (the weight in kilograms divided by the square of the height in meters) and the weekly number of incontinence episodes as recorded in a 7-day diary of voiding were similar in the intervention group and the control group at baseline (BMI, 36 ± 6 and 36 ± 5 , respectively; incontinence episodes, 24 ± 18 and 24 ± 16 , respectively). The women in the intervention group had a mean weight loss of 8.0% (7.8 kg), as compared with 1.6% (1.5 kg) in the control group ($P < 0.001$). After 6 months, the mean weekly number of incontinence episodes decreased by 47% in the intervention group, as compared with 28% in the control group ($P = 0.01$). As compared with the control group, the intervention group had a greater decrease in the frequency of stress-incontinence episodes ($P = 0.02$), but not of urge-incontinence episodes ($P = 0.14$). A higher proportion of the intervention group than of the control group had a clinically relevant reduction of 70% or more in the frequency of all incontinence episodes ($P < 0.001$), stress-incontinence episodes ($P = 0.009$), and urge-incontinence episodes ($P = 0.04$). The conclusion of the study was 6-month behavioral intervention targeting weight loss reduced the frequency of self-reported urinary-incontinence episodes among overweight and obese women as compared with a control group. A decrease in urinary incontinence may be another benefit among the extensive health improvements associated with moderate weight reduction.(30)

Viktrup, Lars MD *et al* discussed the estimation the impact of onset of stress urinary incontinence in first pregnancy or postpartum period, for the risk of symptoms 12 years after the first delivery. The methodology was used longitudinal cohort study, 241 women answered validated questions about stress urinary incontinence after first delivery and 12 years later. The result of the study was twelve years after first delivery the prevalence of stress urinary incontinence was 42% (102 of 241). The 12-year incidence was 30% (44 of 146). The prevalence of stress urinary incontinence 12 years after first pregnancy and delivery was significantly higher ($P < .01$) in women with onset during first pregnancy (56%, 37 of 66) and in women with onset shortly after delivery (78%, 14 of 18) compared with those without initial symptoms (30%, 44 of 146). In 70 women who had onset of symptoms during first pregnancy or shortly after the delivery but remission 3 months postpartum, a total of 40 (57%) had stress urinary incontinence 12 years later. In 11 women with onset of symptoms during the first pregnancy or shortly after delivery but no remission 3 months postpartum, a total of 10 (91%) had stress urinary incontinence 12 years later. Cesarean during first delivery was significantly

associated with a lower risk of incontinence. Other obstetric factors were not significantly associated with the risk of incontinence 12 years later. Patients who were overweight before their first pregnancy were at increased risk. The conclusion of the study was onset of stress urinary incontinence during first pregnancy or puerperal period carries an increased risk of long-lasting symptoms.(31)

Gisele Martins *et al* discussed in the study physiological and anatomical changes of pregnancy are risk factors for lower urinary tract symptoms (LUTS). This study aimed to evaluate the prevalence and risk factors for urinary incontinence (UI) in healthy pregnant women. The methodology was used a cross-sectional study was conducted in pregnant Brazilian women who enrolled in the primary health-care system in Sao Jose do Rio Prato, Brazil. Face-to-face interview and completion of two-part questionnaire were administered and done which evaluated the presence of LUTS pre- and during pregnancy. The data were analyzed by logistic regression. The result of the study was five hundred pregnant women were enrolled ranging from first to third trimester. LUTS present in 63.8% in these women; the main associated risk factors were multiparity and pre -pregnancy LUTS as well as smoking, constipation, and daily coffee intake. The conclusion of the study was the prevalence of UI during pregnancy is high, highlighting the presence of the risk factors associated with UI during pregnancy.(32)

Arnold T. M. Bernards *et al* stress urinary incontinence (SUI) is the most common form of incontinence impacting on quality of life (QOL) and is associated with high financial, social, and emotional costs. The purpose of this study was to provide an update existing Dutch evidence-based clinical practice guidelines (CPGs) for physiotherapy management of patients with stress urinary incontinence (SUI) in order to support physiotherapists in decision making and improving efficacy and uniformity of care.

Materials and methodology was used in this study was a computerized literature search of relevant databases was performed to search for information regarding etiology, prognosis, and physiotherapy assessment and management in patients with SUI. Where no evidence was available, recommendations were based on consensus. Clinical application of CPGs and feasibility were reviewed. The diagnostic process consists of systematic history taking and physical examination supported by reliable and valid assessment tools to determine physiological potential for recovery. Therapy is related to different problem categories. SUI treatment is generally based on pelvic

floor muscle exercises combined with patient education and counseling. An important strategy is to reduce prevalent SUI by reducing influencing risk factors(21)

OBJECTIVES

To determine the prevalence of urinary incontinence among postpartum patients according to different BMI group.

4. Operational definition

Urinary incontinence

The loss of bladder control — is a common and often embarrassing problem. The severity ranges from occasionally leaking urine when you cough or sneeze to having an urge to urinate that's so sudden and strong you don't get to a toilet in time

BMI

BMI is a person's weight in kilograms (kg) divided by his or her height in meters squared. The National Institutes of Health (NIH) now defines normal weight, overweight, and obesity according to BMI rather than the traditional height/weight charts. Overweight is a BMI of 27.3 or more for women and 27.8 or more for men.

Postpartum

A postpartum (or postnatal) period begins immediately after the birth of a child and extends for about six weeks,^[1] as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state. Less frequently used are the terms puerperium or puerperal period.

Overweight

Being overweight or fat is having more body fat than is optimally healthy. Being overweight is especially common where food supplies are plentiful

RESULTS:

and lifestyles are sedentary.

MATERIALS AND METHODS

Study Design: Cross sectional

Setting Data was collected from different hospitals of Lahore

Duration of study was completed within 6 months after the approval of synopsis

Sample size: One hundred Ninety individuals

Sample Technique: Non-probability convenient sampling

Sample selection criteria

Inclusion Criteria:

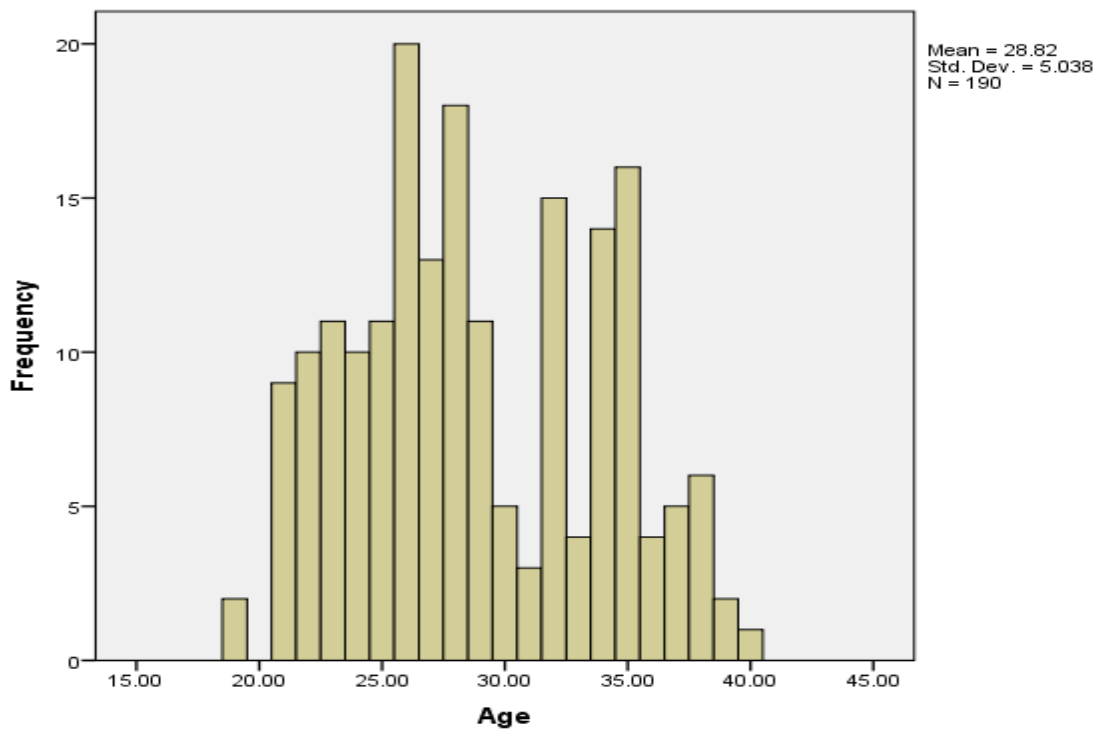
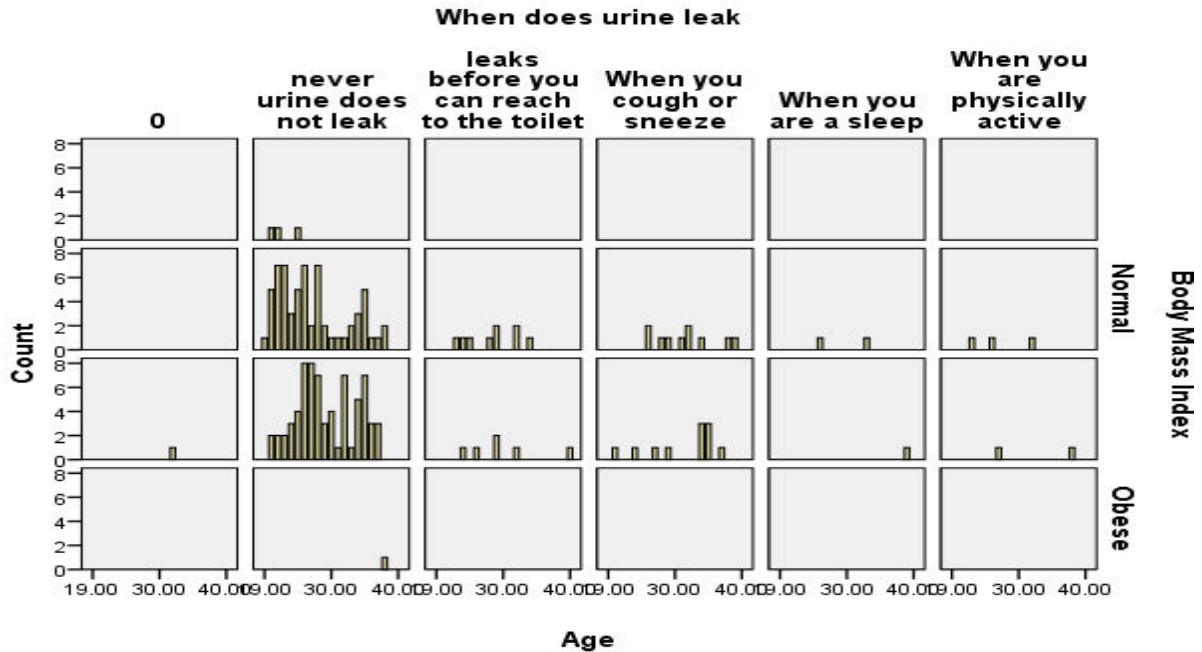
- Pre menopause
- Postpartum

Exclusion Criteria:

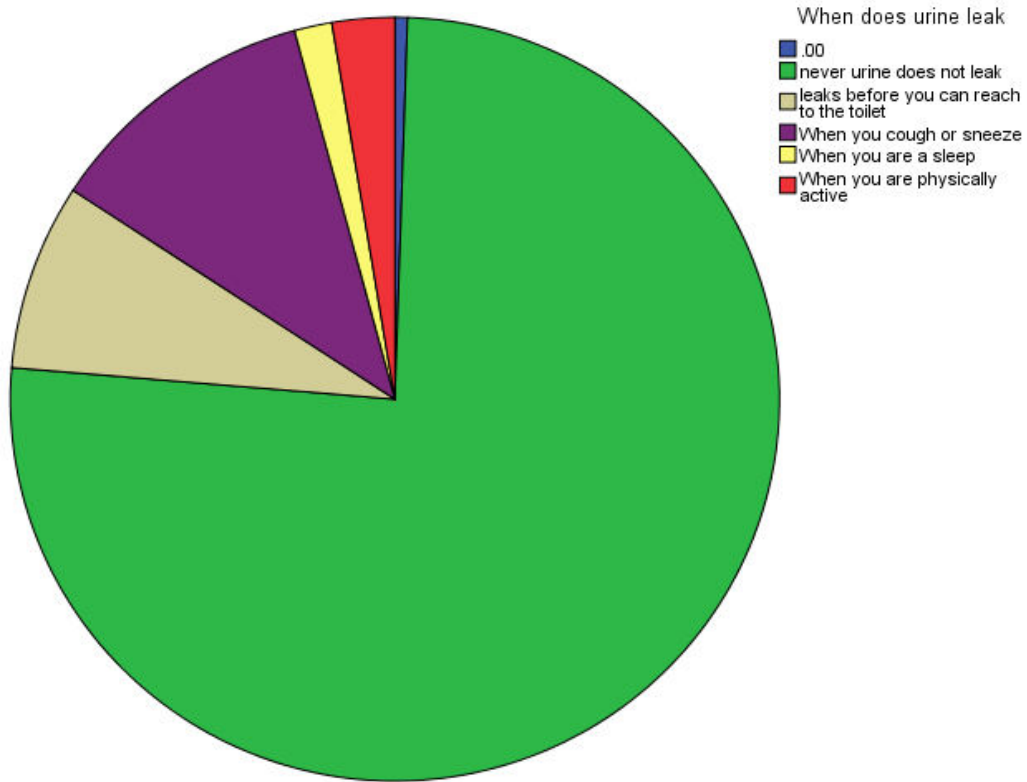
- Hysterectomy
- Tumor
- Vaginal cyst or ovarian cyst

Methodology

A study was conducted in the different hospitals of Lahore. One hundred ninety postpartum women were take part in this study. The women included, postpartum, pre menopause, exclusion criteria is the hysterectomy, tumor, vaginal cyst or ovarian cyst women. In cross sectional study 190 women participated to give data with consent, 5(2.63%) were underweight women, 79 (41.5%) normal, overweight 105 (55.26%). ICIQ-UI standardized questionnaire is used to check the urinary incontinence with demographic data. The BMI data will be taken from the participant's weight in kg and height in feet and after than feet converted into meters. All assessments received ethical approval and all participants gave informed consent. Data was analyzed by SPSS version 21.0

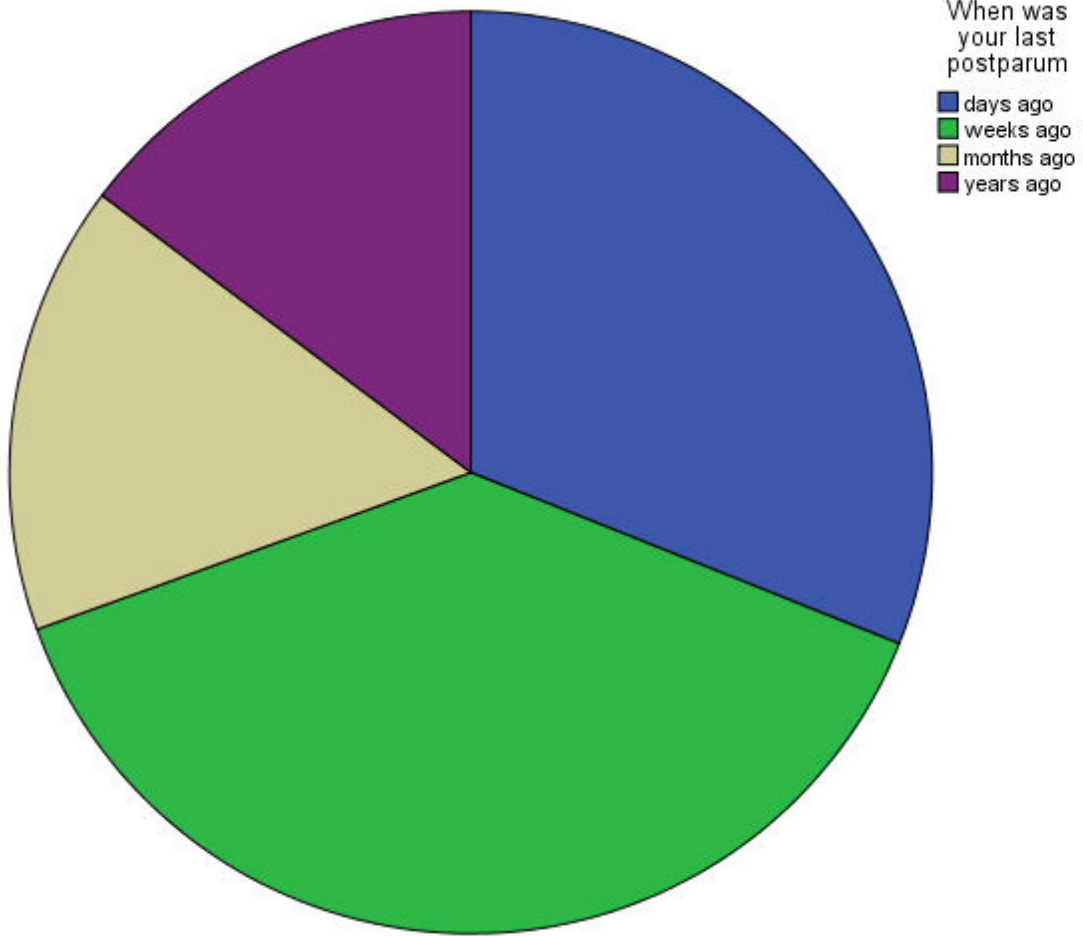


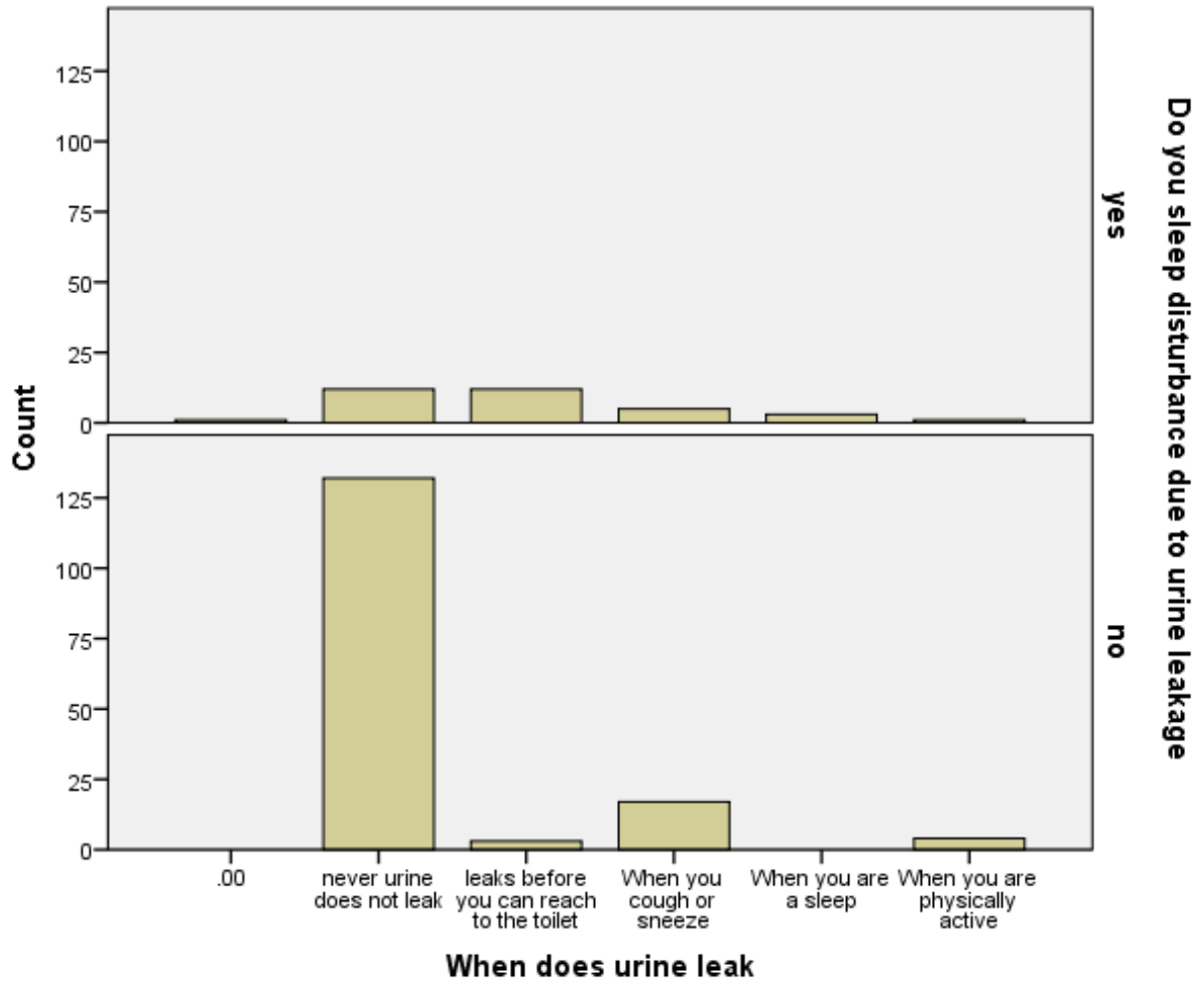
Mean age of the subjects was 28.81 ± 5.03 years. Out of 190, 26.9% of the women reported urinary incontinence. 5 (2.63%) were underweight women, 79 (41.5%) normal, overweight 105 (55.26%) and 1 obese women (0.61%). Association of urinary incontinence with different BMI groups was determined using chi square test. P-value of 0.05 or less was considered as significant.

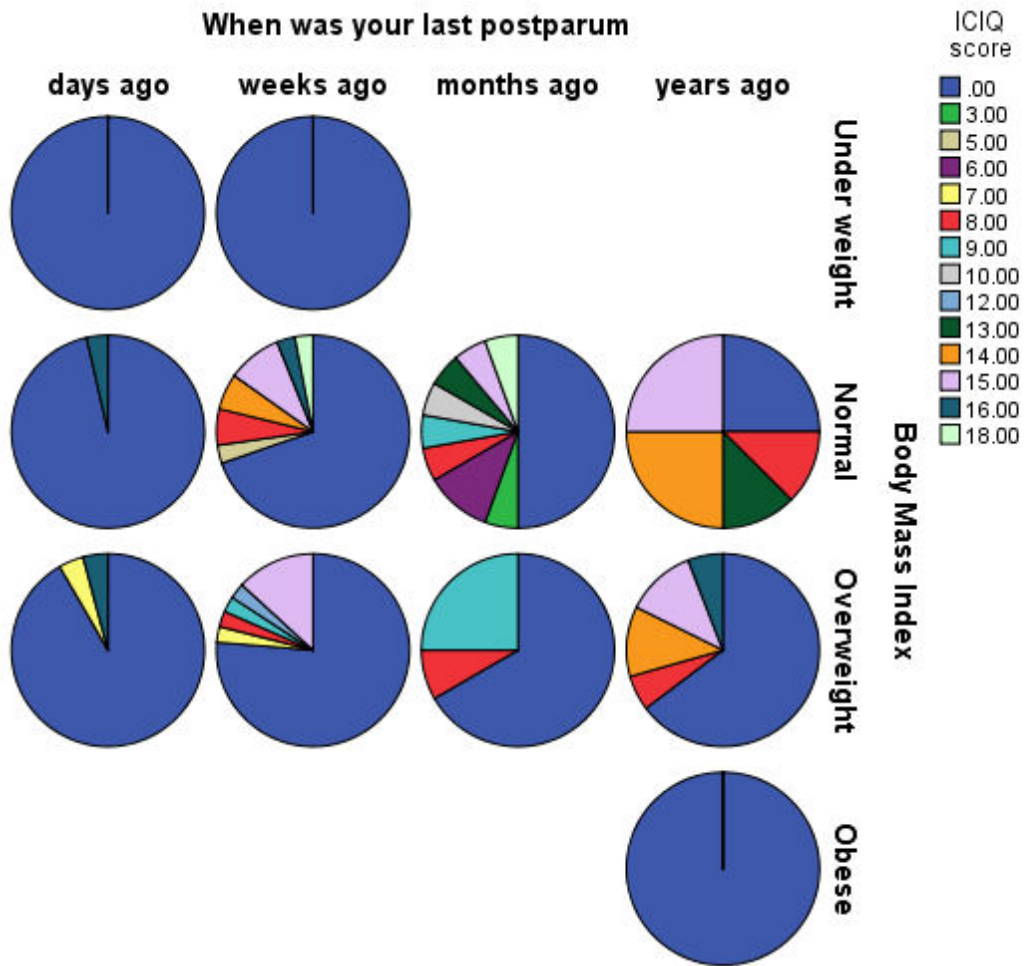


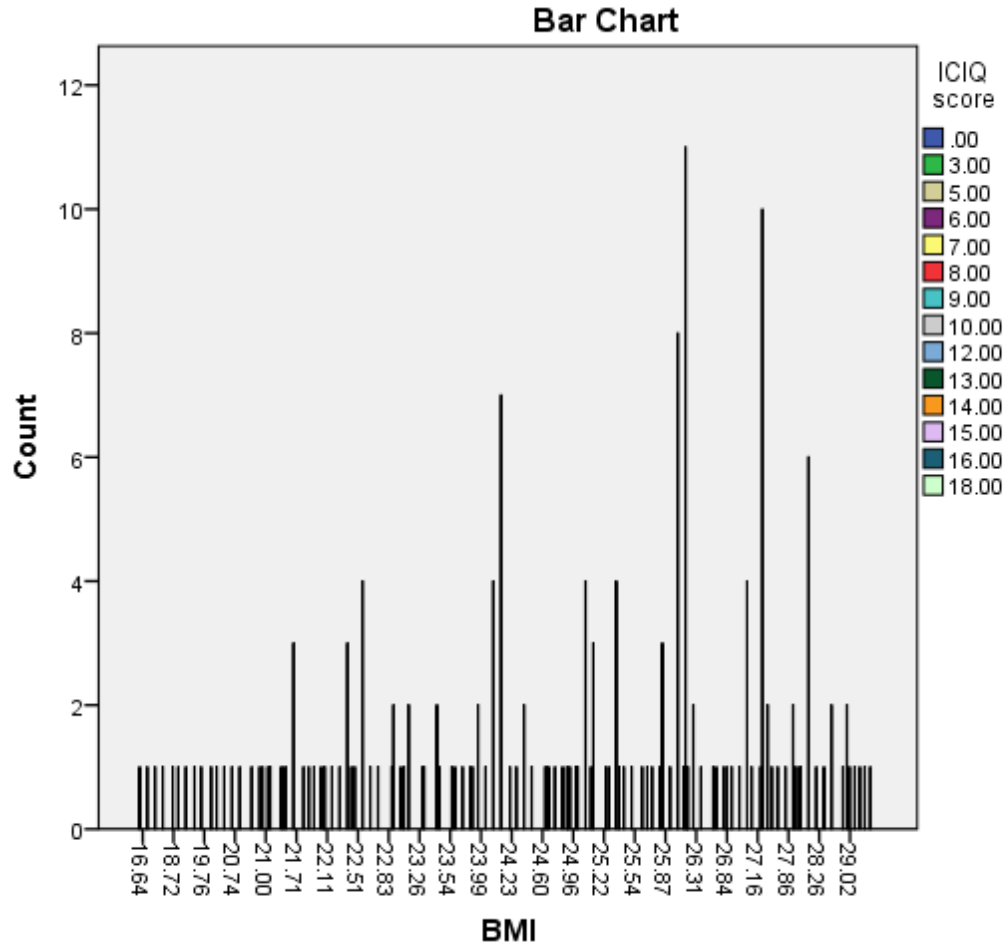
Body Mass Index * do you have Urinary Incontinence Crosstabulation

			do you have Urinary Incontinence		Total
			no	yes	
Body Mass Index	Under Weight	Count	4	1	5
		% within Body Mass Index	80.0%	20.0%	100.0%
	Normal	Count	55	24	79
		% within Body Mass Index	69.6%	30.4%	100.0%
	Over Weight	Count	77	28	105
		% within Body Mass Index	73.3%	26.7%	100.0%
	Obese	Count	1	0	1
		% within Body Mass Index	100.0%	0.0%	100.0%
	Total	Count	137	53	190
		% within Body Mass Index	72.1%	27.9%	100.0%









Body Mass Index

<i>How often do you leak urine</i>	Under weight	Normal	Overweight	Obese
<i>never</i>	3(2.30%)	59(45.00%)	68(51.90%)	1(0.80%)
<i>About once a week or less a week</i>	0(0.00%)	2(66.70%)	1(33.30%)	0(0.00%)
<i>Two or three times a week</i>	0(0.00%)	5(71.40%)	2(28.60%)	0(0.00%)
<i>Once a day</i>	0(0.00%)	5(33.30%)	10(66.70%)	0(0.00%)
<i>Several times a day</i>	0(0.00%)	16(61.50%)	10(38.50%)	0(0.00%)
Total	3(1.60%)	87(47.80%)	91(50.00%)	1(0.50%)

In this study leakage of urine also discussed the total percentage of underweight is (1.60%), (2.3%) normal (47.80%), in overweight (50%) and in obese (0.50%). Fisher's exisure test is apply for this check to leaking of urine frequency and maximum frequency found in overweight women

DISCUSSION:

In this study our population is postpartum women, we assessed the prevalence of urinary incontinence and, association among postpartum women. We found that urinary incontinence was very common in overweight women due to excessive fat on the belly portion causes exert pressure on the urinary bladder. Daily routine of

postpartum women is disturb and irritating. Fusilier et al discussed was obesity is very prevalent and is associated with stress urinary incontinence. The determinations of this review are to assess the pathophysiology of stress urinary incontinence in the obese female and review the outcomes of weight loss and anti-incontinence surgery in this population. The

assumptions of the study was increased intra-abdominal pressure appears to be the common pathophysiologic link between obesity and stress urinary incontinence, neurogenic and metabolic pathways. Both surgical and non-surgical weight loss continue to have supportive effects on however, long-term outcomes are largely absent. But in our study we discussed the urinary incontinence in women and its association between with high BMI postpartum women and overweight women and urinary incontinence is increased in overweight is more than underweight and normal postpartum women .(33)

DeFoor WR Jr et al was debated obesity has been associated with daytime urinary incontinence, likely due to enlarged intra-abdominal pressure. The author assess symptoms of urinary incontinence in severely obese adolescents before and 3 years after bariatric surgery. The result of in females than in males. Incontinence status significantly improved by 6 months and was durable to 3 years after surgery, signifying that bariatric surgery constructively affects anatomic or physiologic mechanisms of bladder control in both males and females. in this study author check urinary incontinence in both gender male and female and check association between urinary incontinence after 3 years of surgery while in our study we assess the postpartum women from recent to 6 years and above and check association between urinary incontinence in overweight women .(34)

CONCLUSION:

The firmness of the study was to determine urinary incontinence. It is a communal problem in overweight women. Urinary incontinence is more as compared of normal and underweight women and the associated factors that are avertible, modifiable and overweight and high BMI may have the greatest impact on the prevalence of urinary incontinence. Urinary incontinence is more due to intra-abdominal pressure and pelvic floor muscle weakness.

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