ABSTRACT

Background: Obesity and Urinary Incontinence (UI) are both common disorders. The prevalence of obesity is on the rise worldwide. Obesity is an independent risk factor for UI as compared to any other factor for daily urinary incontinence. But very few studies have been done in this regard (or context). Aim: To examine the urinary incontinence (UI) and its type among obese women. Method: Thirty-four subjects among age group of 50-60 yrs. The study was done in a Health Care Unit of community center of south Delhi. Type of UI was assessed by using 3 IQ (3 Incontinence Questionnaire). Obesity was measured by calculating Body Mass Index (BMI). Other parameters like parity and lifestyle were also assessed. Result: Mean age of the subjects was 54.11 yrs. The mean BMI was 28.50. 88.23 % subjects were suffering from mixed type of incontinence and 11.76% subjects were suffering from urge incontinence. Conclusion: UI is common in obese women. Factors like obesity are potentially modifiable. Occupational Therapists, by the virtue of their knowledge, can help in management of obesity and UI through behavior modification and changes in Activities of Daily Living.

KEYWORDS: UI, Obesity, Lifestyle, BMI, Parity.

INTRODUCTION

Urinary incontinence is defined as involuntary loss of urine that is a social or hygienic problem and that is objectively demonstrable.[1] Urinary incontinence can leave a patient feeling ashamed, socially isolated, and depressed. According to latest survey in Asia, 53.7% population is bothered to certain degree due to Urinary Incontinence.[2] Urogenital problems
in female population are common and have significant impact on the physical, psychological and socio economic aspects of life. Obesity and urinary incontinence are both common disorders. The prevalence of obesity is on the rise worldwide. Specially in women around menopause, it is very common. Several studies have shown that obesity and overweight is directly associated with UI. Obesity is an independent risk factor for stress related and mixed UI as compared to any other factor. Animal studies shows that each 5 unit increase in Body Mass Index (BMI) is associated with 60-100% increased risk of daily UI. Deposition of fat around abdomen is one of the most important factors associating obesity and UI.[3,4]

Pathology behind Obesity and UI

The exact pathology that connects obesity and UI is not clear. Some studies suggest that excess body weight increases abdominal body pressure this in turn increases bladder pressure and mobility of the urethra.

According to another theory, there is strong correlation between BMI and intra abdominal pressure which is a significant factor in the development of UI. Obese individual are also known to exhibit reduced nerve conduction velocity, potentially impacting upon the time taken for nerve signals controlling bladder functions to relay, which may play a part in overflow incontinence. Diabetes is another condition which is frequently associated with obesity. The elevated level of blood glucose observe with poorly controlled diabetes can lead to increased thrust and urine production while nerve damaged associated with diabetic neuropathy can affect bladder sensations and detruser activity.\[5,6,7,8\]

In animal studies estrogen appears to help control body weight with lower estrogen levels. Animal tend to eat more and be less physically active. Reduced estrogen may also lower metabolic rate, the rate at which the body converts stored energy into working energy.\[9,10,11\] The same thing happens with women when estrogen level drops after menopause. Some evidence suggests that estrogen hormone therapy increases women’s resting metabolic rate.\[12\]

In this study researcher has attempted to find out about the presence and of type of UI in women around menopause. The results of this study can further be used for management of UI according to their type.
AIMS AND OBJECTIVES

- To study the presence and type of urinary incontinence in obese women between 50-60 years.

METHODOLOGY

Thirty four subjects with complaints of Urinary Incontinence (UI) were taken for the study.

Study design: Single center, prospective, cross sectional study.

Inclusion criteria

1. Women between age group of 50-60 years with at least three episodes of urine leakage/week.
2. Subject within age group of 50-60 yrs.

Exclusion criteria

1. Having UI of neurological or functional origin.
2. Medical or surgical treatment for incontinence.
3. Prior medical therapy for incontinence and obesity.

Outcome measures used

1. 3IQ (Three incontinence questionnaire): It is a questionnaire which is shown to be a quick and accurate way of diagnosing stress, urge or mixed type of urinary incontinence.[13]
2. BMI (Body Mass Index): BMI is a measure of body fat based on height and weight that applies to both men and women.[14]

METHOD

This crosssectional study was done in a Health Care Unit of a Community centre of South Delhi. Thirty four subjects within age group of 50-60 were taken for the study. They were explained about intent and content of the study and written consent was taken. Apart from demographic data other parameters like medical history (Diabetes and Hyper Tension), parity, FTND or LSCS and lifestyle (specially use of indian or western toilet) were noted. Data was taken from all subjects and analysed.
RESULTS AND DISCUSSION

The 34 subjects had mean age 54.11 yrs. 97 % subjects were menopausal, rest 3 % were around perimenopause.

![Fig. 1.](image)

The mean BMI was 28.50. The median BMI index for women around 50 years is around 27 (Bump RC et al, 1992). As noted there is slight weight gain around menopause. Most of the subjects were having abdominal adiposity.

When UI was measured it was found that the results of 3IQ showed that 88% subjects were suffering from mixed type of incontinence, 12% subjects were suffering from urge type of UI and no subject reported pure stress type of UI. As it is common that mixed and urge UI is prevalent in older women (Anderson G et al, 2004).

![Fig. 2.](image)
Out of 34 subjects 29% were suffering from Diabetes Mellitus and 12% were from HT (controlled).

94% subjects had Full Term Normal Delivery (FTND) and 6% subjects had Lower Segment Cesarean Section (LSCS). FTND cause pathophysiological changes in the muscles and fascial structures of the pelvic floor (Ceruto MA, 2013).

79% subjects had ≥ 3 children and 21% subject had <= 2 children. As it is known that parity is associated with weaken pelvic musculature.
82% subjects were using Indian toilet seat and did most of their IADL and BADL in floor sitting or squatting position. 18% subjects were using western toilet and did most of their IADL and BADL in standing or chair sitting position.

**Limitations of the study**
1. Sample size was small.
2. Objective measures like ultrasound can be used for measuring abdominal fat thickness.

**Future recommendations**
1. Study can be done on disable women.
2. Correlation of UI with other risk factors like diabetes and hyper tension can be assessed.
3. Effect of weight loss on reduction in UI can be done.
CONCLUSION

Obesity and UI are strongly associated. Since obesity is an potentially modifiable risk factor, measures towards weight reduction should be taken as first line of treatment of UI.

REFERENCES


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