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Prevalence of Urinary Incontinence in Village Chaubepur, Kanpur

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Abstract: ***Incontinence (UI) is a common condition among women. UI is defined as an involuntary loss of urine UI is highly prevalent, even in well-functioning older women. UI does not lead to death but causes debility, social seclusion, psychological stress with economic burden.***
Aims: To estimate the prevalence of Urinary incontinence in females in Chaubepur village, Kanpur.
Procedure: An observational study design done by home-to-home survey of Chaubepur village. The houses were randomly allocated, the surveys were done for 100 females from 57 houses. Females were included according to inclusion and exclusion criteria. There was a self-designed questionnaire used which includes MESA and QUID Questionnaires.
Results: According to the statistical data it has been developed that the correlation was very low significant among all the variables and MESA and QUID scores for Stress and Urge Incontinence.
Most of the participants have shown that they are suffering from both type of UI, in simpler terms most of them were having mixed UI. It occurs more with abortions than tubectomy, most often occurred after pregnancy during post-partum period than during pregnancy. It has been noted that those who deliver at hospital develop more UI than home, may be due to more C section which is evident in previous studies. Another result can be depicted those who have 2 children develop more of mild and moderate type of UI but mother of 3 or more children develop more severe form of UI.
Conclusions: Although it has shown a less significant correlation for the given data but it has given some directions and associated risk factors among females who develop UI.
Keywords: Urinary Incontinence, Stress Incontinence, Urge Incontinence, MESA, QUID

I. INTRODUCTION

Urinary Incontinence is a common condition among women[1]. Urinary incontinence (UI) is highly prevalent, even in well-functioning older women, whites particularly[2]. UI does not lead to death but causes debility, social seclusion, psychological stress with economic burden[3]. Symptoms of overactive bladder (frequency and urgency) are also common among young women[4].
It is a one of the commonest health issues especially in women with reported prevalence of 11.4- 73%. It can also lead to psychological distress, fear of incontinence during intercourse, embarrassment due to odour or sexual dysfunction, etc[5].
Urinary Incontinence is defined as an involuntary loss of urine[7]. Urinary Incontinence is a bothersome problem for women[8].Its risk is higher in women who have had caesarean sections and vaginal deliveries[9]. Hysterectomy has been associated with development of urinary incontinence particularly stress incontinence due to damage of muscle of pelvic floor in the hysterectomy[10]. One of the major risk factors for stress incontinence is vaginal child birth[11].
A history of Urinary Tract Infection was significantly associated with risk of UI in women[12]. Pharmacological substances that contribute to incontinence are ACE Inhibitors, Diuretics, alpha blockers[13].
It has been diagnosed objectively and is associated with additional hygienic and social problems and normal age of reproductive system in women is divided into three periods[14].

1) Reproductive (premenopausal)
2) Menopausal transition (perimenopause)
3) Postmenopausal.

The urinary bladder is solely a Reservoir and varies in size, shape, position and relations, according to its content and the state of neighbouring viscera. When empty it is entirely in the lesser pelvis but as it distends it expands anterosuperiorly into the abdominal cavity. Urinary bladder has certain ligaments called as pubic-vesical ligament, puboureteral ligaments in females, the median umbilical ligament, and false ligaments[15].

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Histologically the wall of urinary bladder has three layers: outer adventitial layer of soft connective tissue, non-striated muscle coat (the Detrusor muscle) and an inner layer of mucous membrane. Detrusor muscle is composed of large interlacing bundles of non-striated muscle cells arranged as Complex mesh work. The smooth muscle of this region consists of two distinct layers sometime termed as superior and deep trigonal muscle. The latter is composed of muscle cells which are indistinguishable from the muscle cells of detrusor[15]. The detrusor muscle does not play a part in closing the proximal urethra. Passive elastic resistance offered by urethral wall is most important factor responsible for closure of bladder neck and proximal urethra in the continent woman. In both sexes' urethra contains the external urethral sphincter. This muscle sphincter is morphologically adapted to maintain tone over relatively long periods without fatigue and produces urethral occlusion at rest. The pelvic floor musculature plays important role by providing an additional occlusive force on urethral wall[15].

A. *Statement of Problem*

To find out estimation of urinary incontinence in Chaubepur village, Kanpur.

B. *Aims*

Prevalence of Urinary incontinence in females in Chaubepur village, Kanpur.

C. *Objectives*

To find out the prevalence of Urinary Incontinence in women of Chaubepur Village, Kanpur.
To find out the prevalence of Urge Incontinence in women of Chaubepur Village, Kanpur.
To estimate the prevalence of Stress Incontinence in women of Chaubepur Village, Kanpur.

II. METHODOLOGY

1) *Study Design:* Observational study design.
2) *Study Centre:* Chaubepur Village, Kanpur.
3) *Sample Size:* 100
4) *Sampling:* Convenience Random sampling.
5) *Procedure:* It was a home-to-home survey of Chaubepur village. The houses were randomly allocated, the surveys were done for 100 females from 57 houses which were falling under the inclusion and exclusion criteria.

A. *Inclusion Criteria*

1) Women with at least one child.
2) Women living in Chaubepur Village, Kanpur.

B. *Exclusion Criteria*

1) Recent surgeries within 6 months.
2) Recently diagnosed with UTI.
3) Recent Delivery by C- section.

Instrumentation: Self design Questionnaire including MESA and QUID.

III. DATA ANALYSIS

Data analysis were done by finding Pearson's correlation and chi square test using SPSS version 22.

IV. RESULT

The analysis of the data includes ANOVA of MESA and QUID scores for estimation of Urinary incontinence. The analysis also helped to identify the relationship between various variables with urinary incontinence (UI).
The study shows that out of 100 participants there were 87 participants who had Stress Incontinence as well as Urge Urinary Incontinence according to MESA Questionnaire. According to MESA Stress Incontinence the participants were found that 69 were falling under Mild category and 18 were falling under Moderate. There were no Severe cases of Stress Incontinence were found according to MESA. Whereas while checking the scores of MESA Urge UI it has been found that 58 were having mild symptoms, 28 were moderate and 1 case was reported as falling under severe Category. 13 out of them were reported as presently they have no symptoms for the any type of UI according to MESA.

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Similarly, while checking for the QUID Scores it has been found that 75 participants were having stress UI and 85 were having Urge UI. While dividing them into categories, 62, 10 and 3 were falling under mild, moderate and severe category, respectively, according to QUID Stress UI. However according to QUID Urge UI there were 63, 17 and 5 were falling under the mild, moderate and severe categories, respectively.

According to MESA there were 87 participants, all of them were having Mixed UI, whereas according to QUID 75 were having Mixed UI.

The age of the participants was between 25 to 75 years. Their mean age was 44.35 with standard deviation of 11.327.

A. MESA and QUID Description

	MESA	QUID
Frequency (N)	100	100
Mean	10.35	5.96
Std. Deviation	7.175	5.045
Minimum	0	0
Maximum	31	23

Table 1. Statistical Mean derivation of total MESA and QUID scores.

The table shows the total score of MESA and QUID questionnaire score of the participants participated in the study for finding to prevalence of Urinary Incontinence.

B. MESA and QUID- Stress Urinary Incontinence

According to the frequency pattern, the severity of both scales was found different like for Stress Incontinence the MESA scores were showing that only 13% of participants did not have any symptoms, whereas QUID showed it for 25%.

Measuring scale		MESA		QUID	
Stress Incontinence		Frequency	Mean Score + SD	Frequency	Mean score + SD
SEVERITY	Absent	13	0	25	0
	Mild	69	4.32 + 2.3	62	2.53 + 1.4
	Moderate	18	14.00 + 2.5	10	7.2 + 1.3
	Severe	0	0 + 0	3	13.0 + 2.0

Table 2. Severity of Stress UI through MESA and QUID.

Similarly, mild Stress urinary incontinence were showed in 69%, moderate in 18% with no severe cases registered according to MESA. However, QUID has different results like mild were 62%, moderate found 10% with 3% of severe Stress urinary incontinence were found.

C. MESA and QUID- Urge Urinary Incontinence

Similarly, while measuring the severity of Urge Urinary Incontinence through MESA and QUID scales there have been some discrepancies found. The MESA found 13% with no complaints, 58% with mild symptoms, 28% with moderate symptoms and only 1% with severe Urge UI. However according to the QUID, 15% were having no symptoms, 63% with mild, 17 % with moderate and 5% were having severe Urge UI symptoms.

Measuring scale		MESA		QUID	
Urge Incontinence		Frequency	Mean Score + SD	Frequency	Mean Score + SD
SEVERITY	Absent	13	0	15	0
	Mild	58	3.98 + 1.6	63	2.11 + 0.969
	Moderate	28	8.54 + 1.4	17	8.00 + 1.2
	Severe	1	15 + 0	5	11.80 + 1.7

Table 3. Severity of Urge UI through MESA and QUID.

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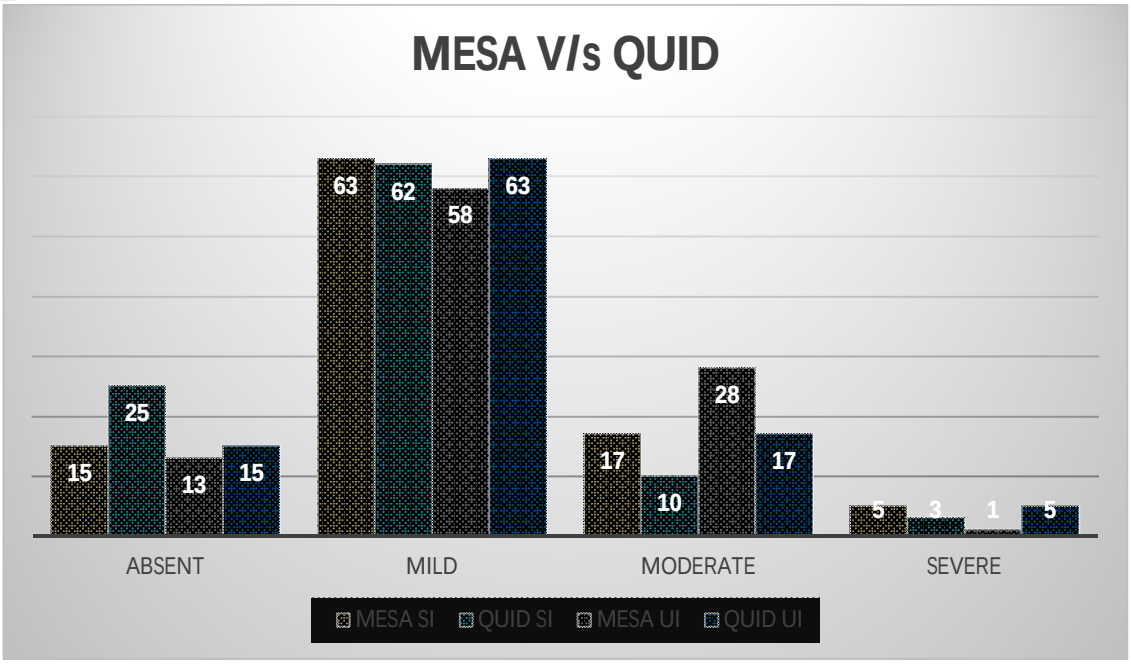

Graph 1. Individual representation of Stress and Urge UI through MESA and QUID

V. CONCLUSION

According to the statistical data it has been developed that the correlation was very low significant among all the variables and MESA and QUID scores for Stress and Urge Incontinence, hence not mentioned. There may be several reasons behind this less significant correlation, for instance; sample of the population being small for the successful survey. Another explanation could be that as UI is being thought as taboo and especially in rural area of India people don't even discuss it with their friends, this might have been concealing the information while filling the questionnaire. Another reason could also be as they don't want to disclose about their problem as they were feeling shy about it, or they have never noticed their voiding carefully before ever. While interrogating, some of the females were thinking like it is the normal thing which happens either in old age or after delivery, which must have been happening to all.

Although it has not shown a definitive data but it has given some directions of UI with these subjects. For instance, most of the women develops Mixed UI. It occurs more with abortions than tubectomy, most often occurred after pregnancy during post-partum period than during pregnancy. It has been noted that those who deliver at hospital develop more UI than home, may be due to more C section which is evident in previous studies. Another result can be depicted those who have 2 children develop more of mild and moderate type of UI but mother of 3 or more children develop more severe form of UI.

Finally, most of the women don't take professional advice for UI in rural area. No one has visited any Physiotherapist for the treatment of UI to learn exercises for muscle training as they did not know that they can help or the disease can get cured.

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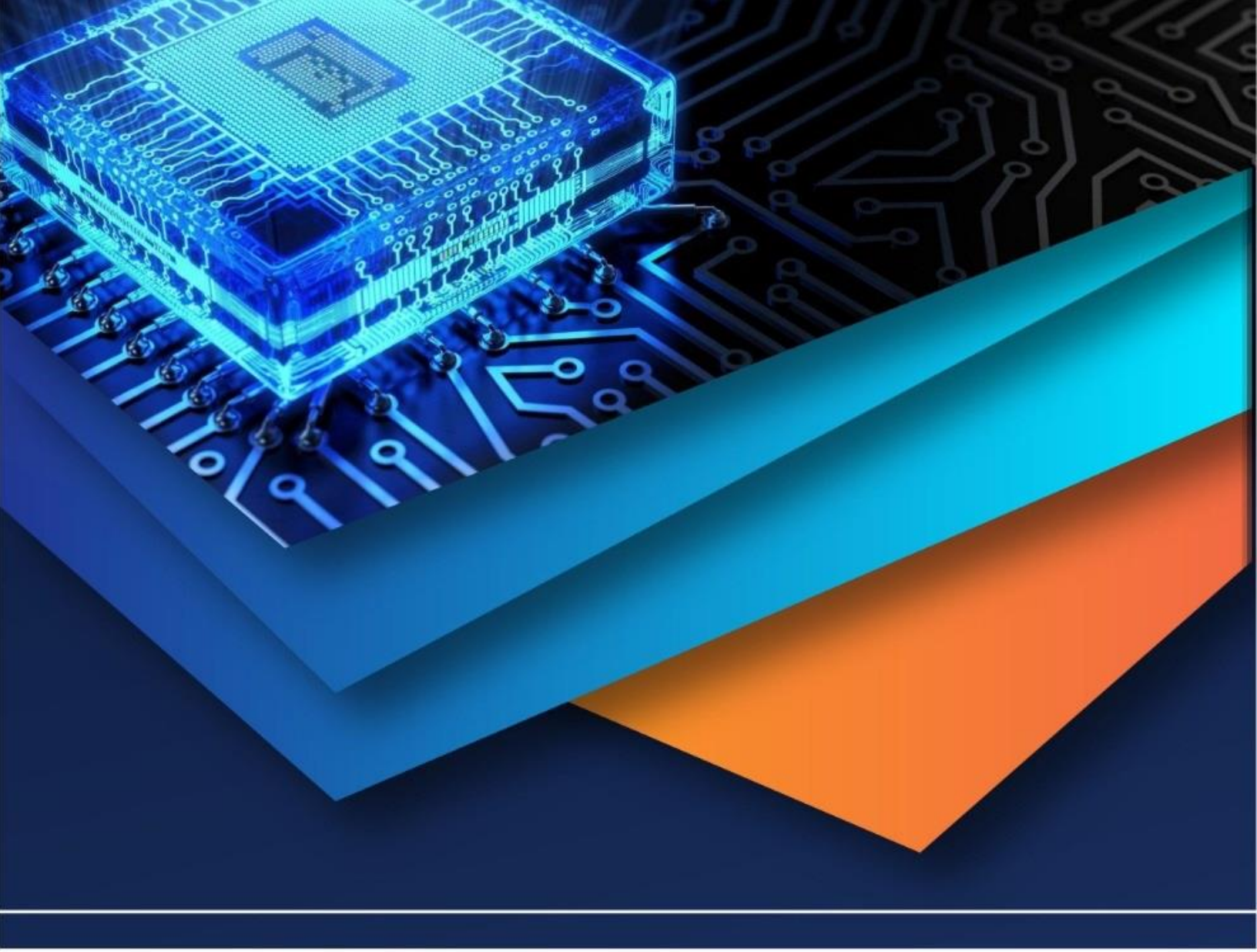

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