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Prevalence of Stress, Anxiety and Depression in Overweight Females with Persistent Urinary Incontinence During gestation (28 Weeks Onward) in Karachi

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Article Details

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ABSTRACT

Urinary incontinence (UI) is a highly prevalent problem among women world widely and is defined by International Incontinence Society as “involuntary leakage of urine” which leads to compromise on hygiene, social discomfort and limits interaction with othersThe aim of this study is to find out the Prevalence of Stress, Anxiety and Depression in Overweight Females with Persistent Urinary Incontinence During gestation (28 Weeks Onward) in Karachi. Cross Sectional Study design was used in this study. Research was conducted at Gynecological and obstetric OPD at Jinnah Postgraduate Medical Centre (JPMC), Rafah-e-Aam Medical Center, Karach, to show the generalizability of data collection. The study design was observational and the calculated sample size was n=154. The Probability Simple Random Sampling technique was used in this study. Initial assessment based on pre- structured proforma. All the participants were taken consent. Every participant was given the right to withdraw any time during the study and data was collected at Rafah E Aam medical ficentre, Brotheran E Allahbad Health Facility, Gyneacology OPD of Jinnah Post Graduate Medical Centre, Karachi. Female participants were according to the inclusion criteria and enrolled with the history of normal vaginal delivery, aged were selected 18-40 years, female participants with no history of trauma and residing in Karachi. Participants were asked to provide their consent. Urinary Incontinence was assessed by Urinary Distress Inventory Short Form (UDI-6) and International Consultation on Incontinence Questionnaire- Urinary Incontinence Short Form (ICIQ-UISF), Depression, Anxiety and Stress was measured by DASS-21

Fisher’s exact test was applied and analyzed the result. The study results showed that 37% mild urine leakage was reported, 51.9% with moderate leakage of urine and 4.5% with severe leakage of urine. In Urinary incontinent patients 21.4% mild stress reported, 39.0% moderate, 22.7% severe and 7.8% extremely severe stress was reported, 1.9% were with mild anxiety, 14.9% moderate, 16.2% severe and 63% were found with extremely severe anxiety levels. There were 7.8% were reported with mild depression, 45.5% moderate, 18.8% severe and 15.6% with extremely severe depression. The P-value less than 0.05 suggested that there was considered statistically significant,

Urinary Incontinence is a highly prevalent problem among pregnant females in Pakistan. UI creates a significant impact on QOL with severe effects in sexual life. The results of this study concluded that the prevalence of UI among third trimester pregnant women was high and almost half of the subjects were having moderate UI. Finding of this research exposed the facts and figures of psychosomatic illness which is related to the UI according to the results there was severe anxiety of 63% and 18.8% of severe depression and 39% with the moderate stress

Introduction

Background

Universally Urinary Incontinence (UI) is a predominant problem1 and it is defined by the International Incontinence Society (ICS) as "involuntary discharge of urine"2 which creates a cleanness issue and hinders exposure with other specific and creates a social embarrassment.3 Urinary incontinence (UI) occurs both in men and women but it is more frequently occurs in women and the burden of UI is greatest in backward nations.4

Universally occurrence of urinary incontinence during gestational is 41.0% (ranges from 9-75).5 Evidence suggested that in 2018, 423 million (21.6%) females suffered from UI making it one of the significant territorial burdens in Asia.6 as per literature, the frequency of urinary incontinence in Pakistan is 11%2 and in Karachi is 45%.4 Another literature reported that in United States (U.S) the frequency of urinary incontinence is 51% with more than 50% females reported that there symptoms of UI are distressing and this results in up to $65 billion major economic load yearly.7

Pregnancy is a natural physiological process in which an ovum implants inside the uterus or elsewhere in the reproductive tract, and the duration of the gestational period is 38 weeks.8 Pregnant women are more prone to urinary incontinence because of functional and anatomical changes that take place during gestation such as expanded abdominal pressure (AP), elevated hormone that is progesterone levels and weak pelvic floor muscles (PFM). Due to these reasons greater than 50% of women suffer from urinary incontinence in gestation period and extreme rise during third trimester.1 Most common risk factors for UI among women are advance age, parity and spontaneous normal delivery (SND) with 7-37% of women age between 20-39 and 30-63% aged greater than 60.9 A study reported that majority of the women suffers from urinary incontinence as the pregnancy progresses lowest in first trimester as it is 9%, in the second trimester it is 19% and in the final trimester 34% prevalence is recorded.6

Following are the main types of urinary incontinence Stress UI, Mixed UI, Urge UI.10, Overflow and Functional incontinence.7 Urge urine incontinence (UUI) is defined as spontaneous or unintentional discharge of urine related to urgency.11 Stress urinary incontinence (SUI) defined as involuntary discharge of urine due to increased pressure in the abdomen during physical exertion activities such as coughing, laughing and sneezing.12 Mixed urinary incontinence (MUI) includes both stress and urgency.13 The most prevalent type of urinary incontinence during pregnancy is Stress UI. In 2020 a study was conducted and the results reported that the incidence and frequency of UTI's most commonly occur during 3rd trimester (70.1%), and extremely frequent type is SUI during pregnancy (76.8%).14

Overweight (OW) is considered as having a Body Mass Index (BMI) between 25-30 kilogram / meter2. Recent literature suggests that worldwide 38% of people will be obese by 2038.15 Overweight (OW) and Obese women are expected to experience UI more frequently than those with normal weight. Excessive body weight is thought to increase pressure on the bladder and pelvic floor (PF).16 Overweight during pregnancy increased the risk of UI 1.5 times more with 95% confidence interval than those with normal weight.6

Those pregnant females who experience urinary incontinence repeatedly go to the toilet throughout the night times which causes disturbance in sleep and ultimately results in stress which directly influence the quality of life (QOL).6 In women UI directly influence physical health (PH) and also alter the mental, emotional and socioeconomic status which results in decreased quality of life17, recurrent UTIs and skin infections (SIs), increased incidence of anxiety and depression.7Urinary incontinence causes a severe influence on women health related quality of life (QOL), social gatherings, exercise and sexual intimacy.18 The discomfort that caused by urinary incontinence including awkwardness, being uncomfortable, pressurize the women to be alone and eventually depression.1

Presently there are limited studies that have been conducted in Pakistan to find out the frequency and incidence of UI among third trimester females that are overweight and the psychosocial impact of UI. We

aimed to determine the psychosomatic illness associated with continuous UI among pregnant females so that we can guide women to prevent and treat their symptoms during and after pregnancy. This research will help to improve the quality of life (QOL), reduce the burden of disease and reduce health care cost associated with the condition.

Rationale of the Study

According to earlier research, UI is quite common both locally and globally. Numerous researches on the frequency of UI and the risk factors that are linked to it were carried out in Pakistan, and these studies had a significant influence on the association among pregnant women.

Literature research was conducted locally, but no studies relating to stress, anxiety, or depression and persistent UI During gestation (28 Weeks Onward) pregnant women were found. To the best of the author's knowledge, no research has been done in Pakistan to determine the prevalence of UI and the relationship between anxiety, stress, and depression in overweight pregnant women in their gestation (28 Weeks Onward). In addition to assessing, evaluating, and lowering psychosomatic sickness linked to UI, this study will aid in raising awareness of UI.

Objective of the Study

This study aims to find out the Prevalence of Stress, Anxiety and Depression in Overweight Females with Persistent Urinary Incontinence During gestation (28 Weeks Onward) in Karachi.

Operational Definitions

Urinary Incontinence (Ui)

Globally, Urinary incontinence (UI) is a widespread illness that affects women and can contribute to the developed physical, emotional and mental burden of individuals. Many women may encounter their first urine incontinence in pregnancy1 and UI is defined as “Involuntary loss of urine”19. Urinary incontinence (UI) can be classified into following types such as Stress urinary incontinence, Urgency incontinence, Mix incontinence.20

Pregnancy

Pregnancy is defined as a state in which fetus or embryo developing inside the uterus of a female. According to World Health Organization (WHO) average pregnancy lasts between 37-40 weeks.21

Third Trimester (Tt)

The term “3rd trimester” is conventionally referred as the antenatal period of pregnancy between 28-42 weeks.22

Overweight (Ow)

Overweight (OW) is defined as a Metabolic Disorder (MD) as a result of excessive fat buildup in the body.23 According to World Health Organization (WHO) body mass index BMI= 25-24.9 kg/m2 considered as overweight.

Depression

Depression, actually known as melancholia, has been classified as a mental disorder (MD). To be called as depression patient must have five or more of the following symptoms, despondent, decrease interest or happiness in activities, alteration in body weight (greater than 5% in a month), sleeplessness, restlessness and anxiety, tiredness, feelings of insignificance or intemperate guilt, reduced ability to focus or repeated and destructive thoughts of death.25

Anxiety

Globally anxiety is the most prevalent psychiatric medical condition (PMC).26 Anxiety is a psychosomatic or psychophysiological process that results in changes at the intellectual, emotional or perceptual, physical, and developmental level, and it is considered as a alarming sign of an impending danger or hazard.27

Stress

The term stress refers to a situation in which hemodynamic equilibrium (HE) is disturbed by a broad variety of stressors that might be intrinsic, extrinsic, actual or imagined difficulties or stimuli.28

Urinary Distress Inventory Short Form (Udi-6)

Urinary Distress Inventory short form (UDI-6) evaluates the individual health related quality of life1 and the existence of urinary incontinence (UI) along with level damage it can induce.29 UDI- 6 evaluates the individual health related quality of life (QOL) comprising of six questions. Complete score ranges from 0 to 100 with higher score indicates lesser health related quality of life.1 Three areas assess through this questionnaire comprises of 6 questions in total.30

Depression, Anxiety And Stress Scale-21 Items (Dass-21)

The Depression, Anxiety and Stress Scale-21 Items (DASS-21) is a self assessment questionnaire that consists of 21 items; 7 items for each of the three depression, anxiety and stress subscales.

DASS-21 was assesses and evaluate the depression, anxiety, and stress symptoms. This scale was frequently used in diverse communities and DASS-21 it is essential to denote the symptoms present over a recent week.31

International Consultation On Incontinence Questionnaire

Urinary Incontinence Short Form (Iciq-Uisf):

The International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form (ICIQ-UI SF) assesses the incidence, intensity, and type of urinary incontinence1 with symptoms and influence on health-related quality of life (QOL).

ICIQ-UI SF is comprised of three questions with a total score on a scale from 0–21.

Zero indicated no urine leakage with no impact on quality of life. Question no 1 specifies the recurrence of leakage of urine and question no 2 assesses the quantity of urine leakage and question no 3 measures to which extent urinary incontinence influences daily life.32

Intensity of urinary incontinence is classified into four categories, slight (0–5), moderate (6–12), severe (13–18) and very severe (19–21).

Literature Review

Urinary incontinence is a vast problem all over the world and the burden of disease increased day by day. A study was conducted in Pakistan the estimated prevalence of Urinary Incontinence reported as 32.1%. Almost 1/3 women was experiencing UI during pregnancy and highest prevalence was reported with stress UI as 56%.33 In Pakistan results concluded that ,there are so many risk factors that contribute to developed UI such as was aged above 45 years (48.24%), obesity (89.41%), normal vaginal delivery (71.76%), removed uterus (28.24%), episiotomy(48.24%), baby weight more than 4 kg (50.59%), menopause (25.88%), smoking (32.94%), diabetes mellitus (DM) (21.18%) and urinary tract infection(UTI) (61.18%).34

Another study was conducted by Ambreen Mumtaz and her Colleagues results suggested that the prevalence

of UI was 13.8% in 198 women and most prevalent type was stress urinary incontinence (SUI) 64.1% in 127 women. UI was associated with age above 40 (69.7%), low socioeconomic status in 179 women with (90.04%) and normal vaginal delivery (85.4%). According to the results UI was significantly affecting quality of life (QOL) 35.9% reduced going out from home and 19.2% had severely affected sexual life with partner.35

In Pakistan (Islamabad) literature suggested that the 64.5% prevalence of stress urinary incontinence (SUI) was reported among women. SUI frequency was high in the last trimester as 35.5% with QOL affected moderately. Few participants were only referred to physiotherapy department ratio was 6.2%.36 A research was conducted in between July-October at Federal Polyclinic Hospital reported UI AS 64.7% but 4 % was reported in first 3 months of pregnancy, 20% in next 3 months and 76% in final trimester. Frequency of UI was high rate among multi parous.37

After reveiwing the literature Incontinence of urine in pregnant women was 11% in this literature. Various research results concluded that the high UI prevalence was reportedly in 3rd trimester. The commonest type was Mixed Urinary Incontinence (MUI) 41% followed by Urge Urinary Incontinence (UUI) 34% and Stress Urinary Incontinence (SUI) 24%.38 Evidence was suggested that reported prevalence of UI was 31.7% and frequency of Stress UI 64%, Urge UI 56% and Mixed UI 73% was reported respectively.39

Another study was conducted in Pakistan (Mardan) the reported prevalence was depression and anxiety were very high among 3rd trimester pregnant women and most women was illiterate, housewives and was having a strong desire for a male child. Mild depression was present in 68 participants out of 212, moderate depression in 64, severe in 24 and very severe among 20.40 Hamdard Medical University (HMU) conducted a study result suggested that the almost one third of the women were having depression during pregnancy. Out of 150 participants depression was positive in 93.41

A study was conducted at Karachi in Pakistan the results reported that the incidence of depression was high during pregnancy and associated risk factors were reported such as increased age and weight, multiple pregnancies, history of spontaneous abortion and pregnancy was not planned. 40.4% women were overweight out of 1000 participants, 20.5% were obese, 59.8% first time pregnancy, 32.6% multigravida, 24.8% were not having a planned pregnancy. Depression was minimal in 411, mild in 332, moderate intensity symptoms in 214 and severe symptoms in 43 women.42

Another literature suggested that 964 women were enrolled and analyzed Urinary Incontinence (UI) was positive in 295 participants and commonest type was Mixed Urinary Incontinence (MUI) 56.9%, 72 participants were having fecal incontinence (FI) and 24 participants were positive for both UI and Fecal incontinence (FI).9

In Iran a study result reported that the frequency of Urinary Incontinence (UI) was 63% and the risk factors that increases the prevalence of UI was increasing age and weight, pregnancy, anxiety, depression and diabetes mellitus (DM).43 A published literature reported that out of 350 participants 263 showed no symptoms related to UI, 33 had severe symptoms, 44 was suffering from moderate symptoms and 11 had mild symptoms. UI influenced the QOL by 6 on scale from 1-10.44

Another research reported that pelvic floor muscle rehabilitation (PFMR) was suggested to improve QOL, reduce the incidence of urine leakage and improve sexual life.45 In Saudi Arabia reported incidence of urinary incontinence was 44.2% and most prevalent type of UI was Urge UI. 257 (25.6%) women was suffering from Urge UI, Stress UI was positive among 155 (15.4%) and Mixed UI was in 102 (10.15%) women.46

Tao Chen and Colleagues conducted a study that out of 9204 women incidence of Urgency UI was reported among 31% and UUI was more common in women with short 7 hour and long 9 hour sleep then those with normal 7 to 9 hour sleep.47 Retrospective Cohort study was conducted the most prevalent type was Stress UI as 53% and with Mixed UI as 36%. The most commonly used treatment approach was Biofeedback (BF) and kinesitherapy that showed a great improvement when combined with BF and electrical stimulation of

posterior tibial nerve (PTN).48

A research was conducted at Danish National Birth Cohort reported that the prevalence of UI was 32.1%. Incidence of UI was increased with higher Body Mass Index (BMI), Circumference Waist (WC).49 Prevalence of Depression among pregnant women in Kenya was reported as 43.1%. 50

Cross Sectional Study was conducted at Jeddah, Depression, Anxiety and Stress was assessed and evaluated by validated scale (Depression, Anxiety and Stress scale (DASS-21) reported that incidence was 37.5%, 54.0%, 25.0% and 29.5%. According to Perinatal Anxiety Screening Scale (PASS) 44.5% women was having mild-to-moderate and 26.0% with symptoms of severe anxiety.51

Anna Rajavuori and Co-Researchers conducted a study reported result was UI 39.5% during gestation and 16.1% during postpartum.52

Pathophysiology Of Urinary Incontinece (Ui)

Lower Urinary Tract (LUT) comprised of urinary bladder (UB), urethra, internal urethral sphincters (IUS) and external urethral sphincters (EUS).53 IUS and Detrusor muscles (DM) are primarily smooth muscles while EUS and pelvic floor muscles (PFM) are striated muscles. LUT function in two different phases: Storage phase (SP) and Voiding phase (VP) 99% of the time UB is in SP. Lumen of UB coated with epithelial cells (EC) called Urothelium (UT) and layer of mucosal cells (MC) called basement membrane (BM) add protection to DM from toxins and allow transmission to neural cells (NC).54

Kidneys generate urine that filled the UB through ureters. Bladder Compliance (BC) is the property of UB in which bladder went into receptive relaxed state without any increase in UB pressure.55 SP was commanded by sympathetic nervous system (SNS) and control continence via paravertebral ganglia (PVG) and along with hypogastric nerve (HN) and plexus (HP). VP was controlled by parasympathetic nervous system (PSN) with the help of sacral plexus and pelvic nerves (PN).54

Urination 7 times a day advised as normal56 with a volume of 250-300ml per time and a normal capacity to store urine is 500ml considered as a healthy UB. Inspite of the fact that the anatomy of LUT was crystal clear the physiology of UI particularly UUI persists contentious. There are many factors that contribute to the pathophysiology of UI such as weakness or any trauma to the PFM during pregnancy or childbirth and Endopelvic fascia (EPF), impaired function of sphincters and nerves that supply muscles around pelvic, alteration in UT, urine composition and in central nervous system (CNS).54

Clinical Presentation

Primary presentation was leakage of urine, greater than 7 times of urination in a day, nocturia, sudden exaggerated urge to pass urine, urine retention (UR), burning sensation during urination, LUT pain, difficulty to start urination and recurrent UTIs.54

Clinical Examination

Physical Examination (PE) must be based on patient's medical history along with pelvic, neurological evaluations (NE), cognitive and functional tests.57 An abdominal exam (AE) must be done to evaluate for abnormal masses or tumors in pelvic, palpable UB and tenderness or pain at costovertebral angle (CVA). Dermatitis due to incontinence and shrinkage of vagina can be reveal by urogenital exam.54

Diagnosis

Diagnostic triage was based on various test and investigation such as Positive Cough Stress Test (CST), in supine or standing position, leakage of urethra aggravated by sneezing, laughing and coughing forcefully.58 CST is highly reliable, sensitive and specific for SUI.

Another test is Urine analysis test which asses and evaluate the UTIs and to rule out blood in urine, excess protein in urine and excess sugar in urine.7

Methodology

Sample Description

Women aged 18 to 40 years was selected and the study was conducted at Rafah E Aam medical centre, Brotheran E Allahbad Health Facility, Gyneacology OPD of Jinnah Post Graduate Medical Centre, Karachi.

Inclusion Criteria

- Subjects were interested
- History of normal vaginal delivery
- Aged between 18 to 40 years
- Female patients living in Karachi
- Only overweight females were enrolled
- No history of trauma or surgery (perineal/ bladder)

Exclusion Criteria

- Any infection in bladder
- Congenital abnormalities of fetus
- Any history of perineal/ bladder trauma or surgery
- Female patients living outside Karachi
- Aged less than 18 and above 40
- History of miscarriage/ spontaneous abortion
- History of bacterial trauma or surgery
- History of cardiac diseases, renal diseases, respiratory diseases, cancer, endocrine disorders etc
- Any neurological conditions that affect central nervous system

Study Design

Cross Sectional Study design was used in this study.

Study Setting

Research was conducted at Gyne OPD at Jinnah Postgraduate Medical Centre (JPMC), Karachi, Rafah E Aam medical centre, Brotheran E Allahbad Health Facility, Karachi. to show the generalizability of data collection.

Study Duration

Duration of study was six months

Sample Size Estimation

The open EPI calculator was utilized to calculate the sample size for this study at 95% Confidence Interval (C.I) at 80% study power and calculated sample size was n= 154.

Sampling Technique

The Probability Simple Random Sampling technique was used in this study.

Study Parameters

Independent Variables

Demographic information such as age, disease as UI are independent variables of this study.

Dependent Variables
Dependent variables of this study are level of depression, anxiety and stress that affects the quality of life.

Data Collection Procedures
The study design was observational and the calculated sample size was n=154. The Probability Simple Random Sampling technique was used in this study. Initial assessment based on pre structured proforma. All the participants were taken consent. Every participant was given the right to withdraw any time during the study and data was collected at Rafah E Aam medical centre, Brotheran E Allahbad Health Facility, Gyneacology OPD of Jinnah Post Graduate Medical Centre, Karachi.
On the basis of inclusion criteria only female participants were enrolled, those who had a history of normal vaginal delivery, aged 18-40 years, female participants living in Karachi, only Overweight women were included as those with BMI 25-30 and no history of trauma or surgery (perineal/bladder). Participants were asked to provide their demographic information. Urinary Incontinence was assessed by Urinary Distress Inventory Short Form (UDI-6) and International Consultation On Incontinence Questionnaire- Urinary Incontinence Short Form (ICIQ-UISF), Depression, Anxiety and Stress was measured by Depression, Anxiety and Stress Scale (DASS- 21).

Statistical Analysis
Data were stored and analyzed using IBM-SPSS version 23.0; mean with standard deviation given on age (years), stress, anxiety, depression scores using DASS-21 and UDI and ICIQ-UI SF scores.
Counts with percentages were reported on outcomes of these studied scales, association of ICIQ- UI SF outcomes was tested with DASS-21 and UDI results using Fisher's Exact test. Descriptive on items of UDI, DASS-21 and ICIQ-UI SF items were also reported.
P-values less than 0.05 were considered statistically significant. Bar diagram and pie charts were also used to give graphical presentation of data.

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Results
TABLE-1 reports the descriptive on age, DASS-21, UDI and ICIQ-UI SF scores, in the present study mean age of studied females was 29.54 (SD=±7.94), using DASS-21 mean stress scores were 22.64 (SD=±8.22), mean Anxiety scores were 20.92 (SD=±7.40), mean Depression scores were 19.01 (SD=±8.55), mean UDI scores were 38.58 (SD=±15.65) and mean ICIQ-UI SF scores were 6.51 (SD=±3.34).

Table 1: Descriptive on Age, DASS-21, UDI and ICIQ- UI SF Scores (n=154)

PARAMETERS	MEAN	±SD
Age (years)	29.54	7.94
Stress	22.64	8.22

Anxiety	20.92	7.40
Depression	19.01	8.55
UDI	38.58	15.65
ICIQ-UI SF	6.51	3.34

TABLE-2 reports the prevalence of stress, Anxiety and Depression in overall studied samples, in the present study 21.4% were found with mild stress, 39.0% were moderate stress, 22.7% were severe stress and 7.8% were found with extremely severe stress, 1.9% were mild anxiety, 14.9% were moderate anxiety, 16.2% were severe anxiety and 63% were found with extremely severe anxiety levels. There were 7.8% were found with mild depression, 45.5% were found with moderate depression, 18.8% were found with severe depression and 15.6% were found with extremely severe depression. Using UDI 68.8% were found symptomatic with scores more than 33.33, whereas using ICIQ-UI SF 37% were found with mild leakage of urine, 51.9% were found with moderate leakage of urine and 4.5% were found with severe leakage of urine.

Table 2: Outcomes on DASS-21, UDI and ICIQ-UI SF

OUTCOMES		**n**	**%**
Stress level	Normal	14	9.1
	Mild	33	21.4
	Moderate	60	39.0
	Severe	35	22.7
	Extremely Severe	12	7.8
Anxiety level	Normal	6	3.9
	Mild	3	1.9
	Moderate	23	14.9
	Severe	25	16.2
	Extremely Severe	97	63.0
Depression Level	Normal	19	12.3
	Mild	12	7.8
	Moderate	70	45.5
	Severe	29	18.8
	Extremely Severe	24	15.6
UDI	Asymptomatic	48	31.2
	Symptomatic	106	68.8
ICIQ UI SF	No Leakage of Urine	10	6.5
	Mild Leakage of Urine	57	37.0
	Moderate Leakage of Urine	80	51.9
	Severe Leakage of Urine	7	4.5

TABLE-3 reports the association of depression, anxiety, stress with persistent urinary incontinence in subject with overweight third trimester young females in Karachi, among samples with no leakage 90% were found normal for stress, 30% were normal for anxiety,90% were normal for depression and 80% were asymptomatic using UDI, among samples with mild leakage of urine 40.4% were found with mild stress, 31.6% were found with moderate anxiety,45.6% were found with moderate depression and 52.6% were symptomatic using UDI, among samples with moderate leakage of urine 47.5% were found with moderate stress, 81.3% were found with extremely sever anxiety levels, 53.8% were found with moderate depression level and 83.3% were symptomatic using UDI, whereas among samples with severe leakage of urine 28.6% were found with moderate stress, all 100% were with extremely severe anxiety, 57.1% were extremely severe depression and all 100% were symptomatic using UDI. Fisher's Exact test did give a significant association of DASS-21 and UDI outcomes with outcomes on ICIQ-UI SF ($p<0.001$).

Table 3: Prevalence of Stress, Anxiety and Depression in Overweight Females with Persistent Urinary Incontinence During gestation (28 Weeks Onward) in Karachi.

PARAMETERS		ICIQ-UI SF								p-value
		NO LEAKAGE OF URINE		MILD LEAKAGE OF URINE		MODERATE LEAKAGE OF URINE		SEVERE LEAKAGE OF URINE		
		N	*%*	*n*	*%*	*n*	*%*	*n*	*%*	
Stress level	Normal	9	90.0	5	8.8	0	0.0	0	0.0	<0.001*
	Mild	1	10.0	23	40.4	9	11.3	0	0.0	
	Moderate	0	0.0	20	35.1	38	47.5	2	28.6	
	Severe	0	0.0	8	14.0	26	32.5	1	14.3	
	Extremely Severe	0	0.0	1	1.8	7	8.8	4	57.1	
	Normal	3	30.0	3	5.3	0	0.0	0	0.0	

Anxiety level	Mild	2	20.0	0	0.0	1	1.3	0	0.0	<0.001*
	Moderate	2	20.0	18	31.6	3	3.8	0	0.0	
	Severe	2	20.0	12	21.1	11	13.8	0	0.0	
	Extremely Severe	1	10.0	24	42.1	65	81.3	7	1000.0	
Depression Level	Normal	9	90.0	10	17.5	0	0.0	0	0.0	<0.001*
	Mild	0	0.0	7	12.3	5	6.3	0	0.0	
	Moderate	1	10.0	26	45.6	43	53.8	0	0.0	
	Severe	0	0.0	8	14.0	18	22.5	3	42.9	
	Extremely Severe	0	0.0	6	10.5	14	17.5	4	57.1	
UDI	Asymptomatic	8	80.0	27	47.4	13	16.3	0	0.0	<0.001*
	Symptomatic	2	20.0	30	52.6	67	83.8	7	1000.0	
*p<0.05 was considered statistically significant using Fisher's Exact test										

TABLE-4 reports the descriptive on UDI scale parameters, 30.5% were reported for moderately frequent

urination, 37% were reported slightly urine leakage related to urgency, 40.9% reported slightly urine leakage related to physical activity, 53.2% reported slightly small amount of urine leakage, 40.9% reported moderately difficulty emptying their bladder and 49.5% reported moderately pain or discomfort in their lower abdominal, pelvic or genital area.

Table 4: Descriptive On UDI Scale

UDI QUESTIONS		N	%
Frequent Urination?	Not at all	9	5.8
	Slightly	34	22.1
	Moderately	47	30.5
	Greatly	64	41.6
Urine leakage related to urgency?	Not at all	24	15.6
	Slightly	57	37.0
	Moderately	49	31.8
	Greatly	24	15.6
Urine leakage related to physical activity?	Not at all	31	20.1
	Slightly	63	40.9
	Moderately	41	26.6
	Greatly	19	12.3
Small amounts of urine leakage? (drops)	Not at all	32	20.8
	Slightly	82	53.2
	Moderately	25	16.2
	Greatly	15	9.7
Difficulty emptying your bladder or difficulty urinating?	Not at all	27	17.5
	Slightly	40	26.0
	Moderately	63	40.9
	Greatly	24	15.6
Pain or discomfort in your lower abdominal, pelvic or genital area?	Not at all	12	7.8
	Slightly	44	28.6
	Moderately	76	49.4
	Greatly	22	14.3

TABLE-5 report the descriptive on DASS-21 items, 37.7% ranked 1 to they found it very hard to wind down, 29.9% ranked 2 to they were aware of dryness of their mouth, 35.7% ranked 2 to couldn't seem to experience any positive feeling at all, 33.1% ranked 2 to it difficult to work up the initiative to do things, 40.3% ranked 2 to tended to over-react to situations, 28.6% ranked 1 to worried about situations in which they might panic and

make a fool of their self, 42.9% ranked 1 to felt that they had nothing to look forward to, 33.8% ranked 2 to found their self getting agitated, 40.3% rank 1 to found it difficult to relax, 41.6% ranked 1 to felt down-hearted and blue, 42.9% ranked 1 to it was intolerant of anything that kept them from getting on with what they was doing, 44.8% ranked 1 to felt close to panic, 42.9% rank 1 to felt I wasn't worth much as a person, 42.9% ranked 1 to felt rather touchy, 48.7% ranked 1 to aware of the action of their heart in the absence of physical exertion, and 56.5% ranked 0 to felt that life was meaningless.

Table 5: Descriptive On DASS-21 Items

DASS-21 ITEMS	**0**	**1**	**2**	**3**
I found it very hard to wind down	15(9.7)	58(37.7)	40(26)	41(26.6)
I was aware of dryness of my mouth	20(13)	44(28.6)	46(29.9)	44(28.6)
I couldn't seem to experience any positive feeling at all	16(10.4)	53(34.4)	55(35.7)	30(19.5)
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	25(16.2)	40(26)	50(32.5)	39(25.3)
I found it difficult to work up the initiative to do things	20(13)	47(30.5)	51(33.1)	36(23.4)
I tended to over-react to situations	8(5.2)	43(27.9)	62(40.3)	41(26.6)
I experienced trembling (e.g. in the hands)	43(27.9)	44(28.6)	40(26)	27(17.5)
I felt that I was using a lot of nervous energy	22(14.3)	51(33.1)	41(26.6)	40(26)
I was worried about situations in which I might panic and make a fool of myself	19(12.3)	44(28.6)	59(38.3)	32(20.8)
I felt that I had nothing to look forward to	25(16.2)	66(42.9)	41(26.6)	22(14.3)
I found myself getting agitated	7(4.5)	52(33.8)	52(33.8)	43(27.9)
I found it difficult to relax	10(6.5)	62(40.3)	52(33.8)	30(19.5)
I felt down-hearted and blue	17(11)	64(41.6)	54(35.1	19(12.3)

			)	
I was intolerant of anything that kept me from getting on with what I was doing	19(12.3)	66(4 2.9)	54(35.1)	15(9.7)
I felt I was close to panic	22(14.3)	69(4 4.8)	42(27.3)	21(13. 6)
I was unable to become enthusiastic about anything	21(13.6)	57(3 7)	43(27.9)	33(21. 4)
I felt I wasn't worth much as a person	43(27.9)	66(4 2.9)	32(20.8)	13(8.4)
I felt that I was rather touchy	39(25.3)	66(4 2.9)	34(22.1)	15(9.7)
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	11(7.1)	75(4 8.7)	52(33.8)	16(10. 4)
I felt scared without any good reason	28(18.2)	81(5 2.6)	36(23.4)	9(5.8)
I felt that life was meaningless	87(56.5)	38(2 4.7)	25(16.2)	4(2.6)
0:Did not apply to meet all 1:Applied to meet some degree, or some of the time 2:Applied to meet a considerable degree or a good part of time 3:Applied to meet very much or most of the time				

Figure 1

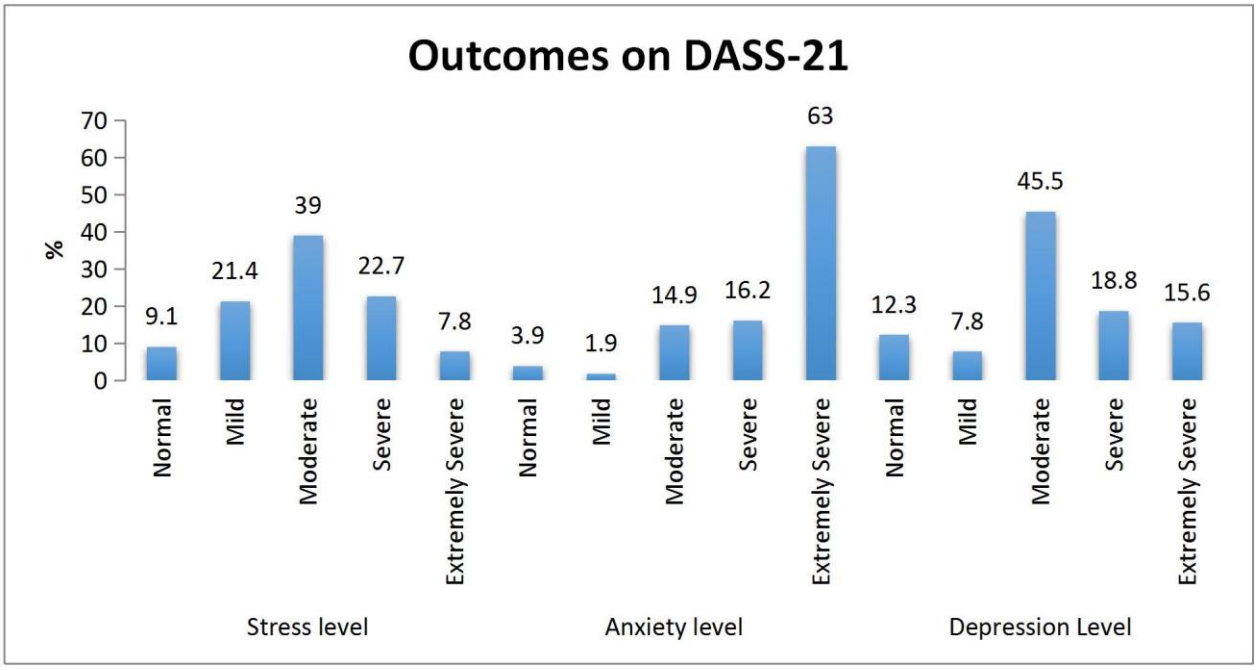


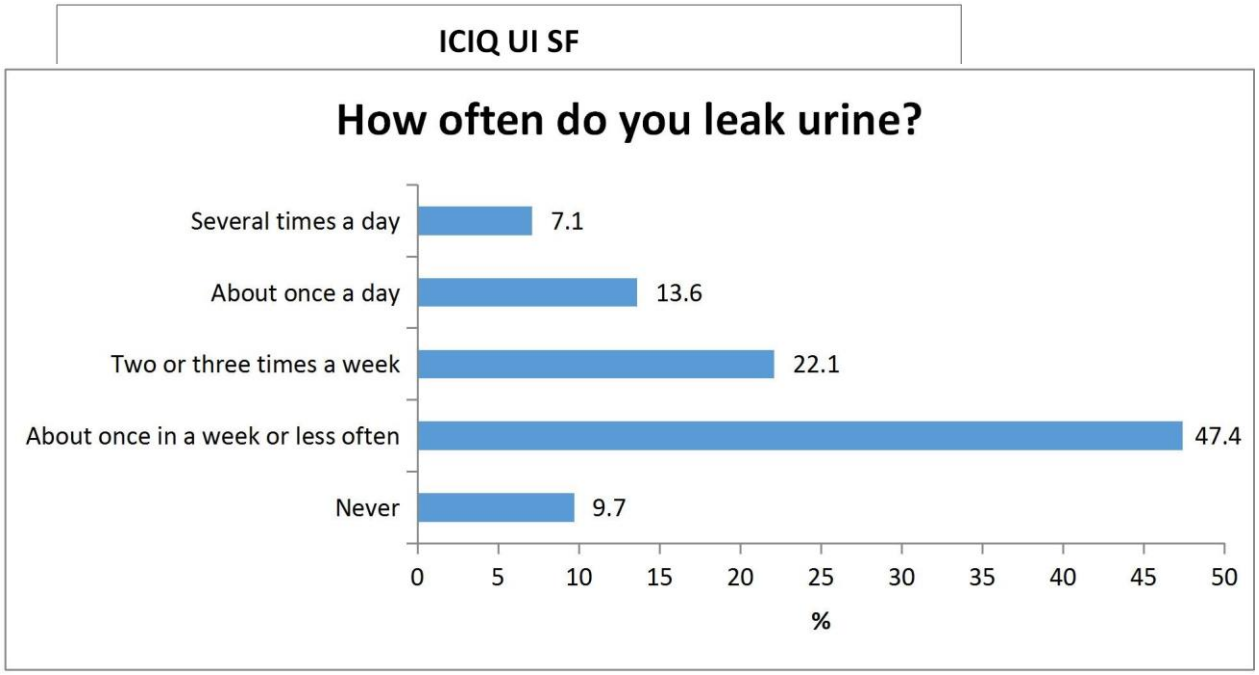
TABLE-6 reports the descriptive in ICIQ-UI SF items, 47.4% said about once in a week or less often for leak urine, 72.1% reported for a small amount of urine they think leaks, 38.2% were rank 5 or more for interfere of urine leaking in everyday life.

Table 6: Descriptive On ICIQ-UI SF Items

ICIQ-UI SF ITEMS		**n**	**%**
How often do you leak urine	Never	15	9.7
	About once in a week or less often	73	47.4
	Two or three times a week	34	22.1
	About once a day	21	13.6
	Several times a day	11	7.1
	All the time	0	0.0
We would like to know how much urine you think leaks.	None	12	7.8
	A Small amount	111	72.1
	A Moderate amount	29	18.8
	A Large amount	2	1.3
Overall how much does leaking urine interfere with your everyday life?	.00	11	7.1
	1.00	19	12.3
	2.00	20	13.0
	3.00	31	20.1
	4.00	14	9.1

5.00	20	13.0
6.00	15	9.7
7.00	13	8.4
8.00	8	5.2
9.00	3	1.9

Figure 2



Bar Diagram

47.4% samples responded about once in a week or less often they leak urine

DISCUSSION

This study analyzed and comprehensively investigated the Urinary Incontinence and associated psychosomatic illness among gestation (28 Weeks Onward) women with internationally approved questionnaires in a relatively good sample, its effects on quality of life and on health which could help the healthcare providers to understand the incidence and effects of UI to prevent and better treat the symptoms.

UI is a common distressing problem globally among men and women. More commonly occurs in pregnant women during their first trimester and greatest in third trimester. A literature reported that the prevalence of UI among women was 64.7%.37 In contrast to our study the reported prevalence of UI was 72.1%.

Another literature suggested as UI was increased in pregnant women as major types was stress UI and prevalence as 12.5%59 in this study reported prevalence of UI among pregnant women was 40.9%.

A study was conducted in Multan by Iqbal and colleagues reported 21.8% prevalence of UI among females.60 According to my study results reported that 37% women were found with mild UI, 51.9% with moderate leakage of urine and 4.5% with severe UI.

A literature in UAE suggested that 21.2% UI prevalence was reported among 24 weeks pregnant women61, results of current research suggested that frequency of UI among third trimester pregnant women was 4.5% with severe UI, 51.9% with moderate leakage of urine.

According to previously conducted study bother associated with UI was minimal, 13.1% seek help for their symptoms and many women was not aware about the severity62 in contrast to this study 38.2% rated 5 on a scale of 1-10 that UI interfere with their daily life activities and bother them.
In 2023 study reported that prevalence of UI was 29.38% among women who never gave birth before63 as in our study prevalence reported 51.9 % among multiparous women with moderate leakage of urine, 37% with mild UI and 4.5% with severe leakage of urine.
Another literature by Elbiss Hm reported as during postpartum the prevalence of UI was 13.7%64, as far as authors knowledge is concerned our study reported prevalence of UI was greater in third trimester as 51.9%.
In September 2023 a study was conducted on one year postpartum, UI was reported as 21.9% affecting almost one fifth women65 the results of our study reported current prevalence of UI as 37% with mild UI.
Postpartum frequency of UI was 26% reported in a study by Sidi Dai66, results of current study reported that UI was greater among third trimester pregnant females reported prevalence of UI was 51.9% with moderate UI.
Research published in December 2023 reported that the prevalence of depression was 10.91% associated with UI67, as in my study prevalence reported was 7.8% with mild depression, 45.5% were found with moderate depression, 18.8% were found with severe depression and 15.6% were found with extremely severe depression.
A recent literature reported that severity of anxiety and depression increases as with the incidence of UI68, same as in our study the frequency of depression, anxiety and stress was increased associated with UI.
A study by Kiran Mushtaq and colleagues results reported as the incidence of UI was 71% among postmenopausal women69, as in this study prevalence of UI was 51.9% in premenopausal pregnant women.
A correlational study in Pakistan suggested as the frequency of UI was 72.5% and every seventh female was suffering from UI symptoms70 in contrast to our study prevalence of UI was 37% with mild UI and 4.5% with severe UI.
In Pakistan a survey was conducted results as prevalence of mild UI was 22%, moderate 40% and severe UI was 38%71 in this study reported prevalence of UI was 37% mild UI, 51.9% moderate UI and 4.5% with severe UI.
This observational study provides evidence based knowledge about Urinary Incontinence related depression, anxiety and stress among overweight young females. The results of this study provide awareness regarding psychosomatic illness among general population in Pakistan.

Limitations Of Study

- The outcome measures used in this research was a subjective tool.
- The subjects were selected from Karachi.
- Study was limited to pregnant women only.
- Only gestation (28 Weeks Onward) women were selected for this research.

Strength And Weakness Of Study

Strength

- A scientifically designed and approved questionnaire was used in this study.
- Validated, sensitive and reliable tools were used in this study.
- Subjects were referred by doctors but researcher clinically screened the patients on the basis of

- interview.
- Probability simple random sampling technique was used in this study.
- UDI-6 has a good sensitivity and specificity which is used to asses and evaluate the subjective information regarding urinary incontinence.

Weakness

- Data were collected only from Karachi.
- The validated outcome measures used in this study was a subjective tool.

Recommendations

- In this research small sample size was used in future similar studies can be conducted with large sample.
- Another study should be conducted on non pregnant women.
- Both under and normal weight women can be selected in future studies.
- The patients were selected from Karachi and further studies should select population from all over the Pakistan.
- Data should be collected from all over the Karachi for further research.
- Inclusion criteria should be expanded for further research in future.
- In future recommendations underweight and normal weight women should be combine and further more, to assess, evaluate and associated risk factor in subjects with UI patients and also find out the level of psychosomatic illness which is related to depression, anxiety and stress.

Conclusion

Urinary Incontinence is a highly prevalent problem among pregnant females in Pakistan. UI creates a significant impact on QOL with severe effects in sexual life. The results of this study concluded that the prevalence of UI among gestation (28 Weeks Onward) women was high and almost half of the subjects were having moderate UI. Finding of this research exposed the facts and figures of psychosomatic illness which is related to the UI according to the results there was severe anxiety of 63% and 18.8% of severe depression and 39% with the moderate stress.

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