



## **A cross sectional study to assessment prevalence of urinary incontinence among middle age patients and associated risk factors in primary health care center in Makkah al-Mokarramah in KSA.**

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**Abstract: Background:** Urinary incontinence is a frequent involuntary loss of urine on the bed during sleep or clothes during waking at least two times per week for three consecutive months in the absence of congenital or acquired defects of the urinary tract or central nervous system. There are different strategies in the management of enuresis can be used by using one or combination of interventions including behavioral, motivational intervention, enuresis alarm and medications. Urinary incontinence means a person leaks urine by accident. While it may happen to anyone, urinary incontinence is more common in older people, especially women and also in middle age.

When the muscles in and around the bladder don't work the way they should, urine can leak. Incontinence typically occurs if the muscles relax without warning. The first step in treating incontinence is to see a doctor. In Saudi Arabia, urinary incontinence was experienced by more than 30% of adult women. Aim of the study: The aims of the study to assess prevalence of urinary incontinence among middle age patients and associated risk factors in primary health care center in Makah Al-Mukarramah KSA. Method: A cross-sectional descriptive study was carried out among middle age patients, Makah al-Mokarramah, Saudi Arabia, from 12 March to 12 May 2021. Our total participants were (200). Data was collected using a pre-designed questionnaire that was distributed. **Results:** A total of is 200 patients .The majority of the respondents the degree the Frequency of symptoms the majority (51.0%) answer severely but moderately regarding degree of symptoms and signs of diagnosis of incontinence the majority of proportions (46.0%) answer moderate. but severe and mild their proportions were respectively (44.0%) our study proportions high followed by average and weak were respectively (66.0 %, 26.0%, 8.0%). **Conclusion:** We acknowledge the fact that urinary incontinence is a common and poorly understood problem in our community. Another problem in the among middle group is cognitive impairment, which also contributes to urinary incontinence. Prevalence of urinary incontinence is most likely underestimated. Detection of this problem is essential for preventing complications and improving the quality of life of the among middle age group.

[Fahad Masaud Hammad Al-Masaudi, Wajdi Bashah Khider Alnadwi, Nada Mohammed Saaed Alharbi, Nader Mohammad Alharbi, Ahlam Saleem Almaghoni, Omar Faisal Hasaneen, Hani Faisal Abdulaziz Hassanain, Saeed Ali Safar Alzahrani, Faisal Ahmad Abdullah Alhazmi, Nabil Ibrahim Alhazmi, Abdullah Abdulaziz Alharbi, Abdullah Ahmed Ali Alzahrani. **A cross sectional study to assessment prevalence of urinary incontinence among middle age patients and associated risk factors in primary health care center in Makkah al-Mokarramah in KSA.** *Nat Sci* 2021,19(12):99-112]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). <http://www.sciencepub.net/nature> 13. doi:[10.7537/marsnsj191221.13](https://doi.org/10.7537/marsnsj191221.13).

**Keywords:** Prevalence, urinary incontinence, elderly patients, primary health care centers.

### **1. Introduction:**

Urinary incontinence is one of the most common urological disorders in the middle age population that is presented in the health care centres, commonly referred to as inappropriate and involuntary wetting during sleep with a peak prevalence of women and older (1). It happens at least twice a week, in the absence of congenital or acquired defects of the nervous system and without any other lower urinary tract symptoms or a history of bladder dysfunction (2). While secondary enuresis occurs after at least 6 months of nocturnal dryness (3).

Risk factors of urinary incontinence include a low educational level, low birth weight, family history, cesarean deliveries (4), and psychological or psychiatric factors (5). Researches show that the inheritance of urinary incontinence is in an autosomal dominant pattern with 90% penetrance (6). However, most cases are primary and it is important to demonstrate the problem and reassure patients by educating them that this condition is self-limiting in most patients over time (7)

Urinary incontinence is defined by the International Continence Society and the International Urogynecological Association as any involuntary leakage of urine. (8). Urinary incontinence will have an effect on the patient's life in some ways, some miss the flexibility to follow their favorite sports, some are fazed by having to wear hygienic protection, et al their sex life and intimate relationship are abundant plagued by the negative impact of incontinence (9).

Several studies have indicated that Male urinary incontinence happens most often among women of advanced age and Multiparty (10). The development of feminine urinary incontinence could influence the decision to place an elderly woman into a geriatric home. A selected downside for Muslim ladies with urinary incontinence is that the inability to perform daily prayers (Salat) (11). Distinguishing misconceptions regarding urinary incontinence and reasons for delay in seeking medical recommendation would possibly facilitate to spot areas wherever a desire exists for educating the general public and healthcare employees. Prevalence of enuresis among Saudi ladies. (12) . While incontinence doesn't cause death, it will have a profound impact on quality of life comparable to of stroke, sickness and chronic-obstructive pneumonic disease. additionally, incontinence accounts for over \$20 billion in annual expenditures within the u. s., an amount greater than the annual direct cost of breast, ovarian, cervical, and uterine cancers(13) .

Urinary incontinence is defined as the complaint of involuntary loss of urine. Urinary incontinence are often classified as: enuresis that is that the involuntary loss of excretion on effort or effort, sneezing, or coughing, Urgency incontinence is that the involuntary

loss of urine accompanied by or forthwith preceded by urgency (14). Urinary incontinence additionally referred to as involuntary evacuation urination, is any uncontrolled outpouring of urine. It is a common and distressing problem, which can have an oversized impact on quality of life (15). It has been known as a crucial issue in middle age health care (16).

One of the main risk factors for stress incontinence, is vaginal child birth, it absolutely was according that one third of feminine tough enuresis five years once their initial canal delivery (17). The term Quality of life is employed typically to point 'happiness', except for each patient it's going to have totally different meaning: high financial gain and cash, sensible family life and relationship with others, job satisfaction, sensible physical and psychological state (18).

The term enuresis is usually used to consult with incontinence primarily in kids, like nocturnal incontinence (bed wetting). (19). Pelvic surgery, pregnancy, childbirth, and menopause are major risk factors (20). Urinary incontinence is usually a result of AN underlying medical condition however is under-reported to medical practitioners. There are four main types of incontinence. Urge incontinence, stress incontinence, Over flow incontinence, Functional incontinence (21).

### Literature Review

In Kingdom of Saudi Arabia, incontinence was experienced by more than 30% of adult women, and Stress urinary incontinence alone accounts for up to half of all cases; typically the prevalence of urinary incontinence thought-about to be from 20% to 50% with the height to be within the childbearing age bracket (up to 40%) and so the prevalence increasing in old to succeed in to 50% . In a local study done out 2008 at a medical aid center in Jeddah found that the prevalence of urinary incontinence was 41.4 % (22). This local research studied the prevalence of urinary incontinence, the chance factors and also the barriers to seek health advices however not relating urinary incontinence to quality of life. incontinence remains a silent downside as a major variety of ladies don't ask for treatment, even once their symptoms cause major distress and hinder their daily activities (23).

In a study in Qatar found that, twenty first of ladies have urinary incontinence; however asthma was a major risk issue influencing the incidence of urinary incontinence. Social and religious factors have a major impact on the QoL of leaky ladies. (24)

A study in Kuwait, 54.5% of ladies and twenty-two.4% of men according having involuntary loss of urine. Age on top of forty five years ( $p < 0.001$ ) four or additional youngsters ( $p = 0.006$ ), vaginal delivery ( $p = 0.015$ ), BMI bigger than 25kg/m<sup>2</sup> ( $p = 0.001$ ),

drinking over one-cup of a caffeinated drink per day ( $p=0.041$ ), and a history of diabetes ( $p=0.002$ ) were associated with UI in girls. A history of diabetes ( $p=0.044$ ), and BMI bigger than thirty  $\text{kg/m}^2$  ( $p=0.041$ ) were associated with urinary incontinence in men. Obesity was the foremost governable risk issue for urinary incontinence (25). Urinary incontinence may be a common condition and affects the social, physical and psychological aspects of the many people worldwide and most typically affects patients of advanced age as well as multiparous ladies. (26). Surprisingly, but less than half patients with urinary incontinence report the matter to a health care professional (27).

In another study in Kingdom of Saudi Arabia, to estimate the prevalence of incontinence among girls of childbearing age at Maternity and Children's Hospital (MCH), Jeddah, 2012. Out of 1200 patients attending the gynaecology clinic within the MCH, 412 (34.3%) were diagnosed as having urinary incontinence. Their age ranged between fifteen and fifty years with a mean of  $34.3 \pm 7.2$  years. Almost 50% indicated that urinary incontinence affected them badly as wife, mother, their emotions, and their physical and social activities. The most commonly occurring problems were frequent micturition (88.3%), nocturnal enuresis (87.9%). The least occurring, were kidney problems (38.6%) and dripping during sexual activities (40.8%). Increasing age and higher parity were significantly associated with limitations in different life domains. Urinary incontinence is common and often disturbing for Saudi women. It adversely impaired their quality of life. (28)

In a clinic-based cross-sectional survey in Kingdom of Saudi Arabia by Altaweel W, Alharbi M. 2012. 6,600 women aged twenty years and older were hand-picked. The bother of urinary incontinence symptoms was assessed using the Arabic version of the short kind of system Distress Inventory (UDI-6) form. The authors measured the impact of incontinence on HRQL mistreatment the Incontinence Impact form (IIQ-7). They found that: the general prevalence of incontinence in study was 29%. The prevalence of incontinence consistent with its kind was 50% stress urinary incontinence, twenty eighth urgency incontinence, and twenty second mixed incontinence. Older age, obesity, massive baby birth weight, high parity, caesarean, duct delivery, and polygenic disorder were important risk factors. But 100 percent of the ladies during this study reported a big impact of incontinence on their HRQL(26)

A cross-sectional study of ladies attending Ministry of Health primary healthcare centers in Saudi Arabia, the stress UI, urgency UI, and mixed UI were reported by 36.4% (95% CI, 31.7–41.4), 27.4% (95% CI, 23.2–32.1), and 22.2% (95% CI, 18.3–26.6), severally. Urinary leakage was reported daily by

17.2%, and 25.5% experienced leakage more than once a week. Risk factors for UI enclosed increased age ( $P < 0.001$ ); parity greater than five ( $P < 0.001$ ); biological time ( $P = 0.004$ ); and history of epithelial duct medicine surgery, chronic cough, or constipation ( $P \leq 0.001$ ). Medical recommendation wasn't wanted by eighty five.5% of ladies with UI. Several of the ladies with UI reported adverse effects on their daily activities. (29).

### Rationale

Because the Urinary incontinence is one of the common problems in the middle age group patients and prevalence is high according to previous studies. From the researcher's point of view, this problem affects the most important individuals in the family (the child and the mother) hence the whole family will be affected. Furthermore, there is lack of knowledge in the society about therapy. Urinary incontinence remains a silent problem as a significant number of patients do not seek treatment, even when their symptoms cause major distress and hinder their daily activities hence there is a lake of enough information and studies about the exact prevalence of UI and its risk factors among middle age patients attending primary health care centers in Makah Al-Mukaramah, KSA. The researcher is interested in urinary incontinence because it is a common problem among middle age and the researcher has a family history of urinary incontinence so I felt this is the right topic.

### Aim of the study

To assess prevalence of urinary incontinence among middle age patients and associated risk factors in primary health care center in Makah Al-Mukarramah KSA.

### Objectives

This study objective to:

1. To assess prevalence of urinary incontinence among middle age patients and associated risk factors in Al-Ka'akya primary health care center in Makah Al-Mukarramah KSA.
2. To identify the possible risk factors associated with urinary incontinence among middle age attending Al-Ka'akya primary health care center in Makkah Al-Mukarramah, 2021.

## 2. Methodology

### Study Design

A cross-sectional study has been conducted to assess the prevalence of self-reported urinary incontinence among middle age patients and associated risk factors attend to primary health care centers in Makkah Al-Mukarramah in data collection period.

**Study Population**

Middle age patients (<25 years to >45years) attending Al-Ka'akya primary health care center in Makkah Al-Mukarramah.

**Study Area**

Makkah Al-Mukarramah is the holy city of every Muslim in the world. It is the main place of the pilgrims to perform Umrah and Hajj. Makkah is a modern city and there is a continuous working to improve the infrastructure of Makkah for the sake of both Makkah citizens and pilgrims. Makkah Al-Mukarramah has many schools in every educational level in addition to Umm Al-Qura University which has medical college.

Makkah has many hospitals in addition to King Abdullah Medical city which is tertiary center. Also, it has 85 PHC centers under supervision of Directorate of Health Affairs of Makkah Al-Mukarramah. These centers distributed under 7 health care sectors and each sector contains around 10 – 14 primary health care centers.

Three health care sectors inside Makkah Al-Mukarramah city (urban) with 37 primary health care centers underneath and four sectors are outside Makkah (rural) with 48 primary health care centers. The three healthcare sectors inside Makkah Al-Mukarramah are Al-Ka'akya with 11 primary healthcare centers, Al-Adl with 12 primary healthcare centers and Al-Zahir with 14 primary healthcare centers.

**Eligibility criteria.****Inclusion criteria :**

- All middle age patients (males and females) attending Al-Ka'akya primary health care center in Makkah Al-Mukarramah.
- Patients who can write and read in Arabic Language

**Exclusion criteria**

- Patients who refuse to participate in the study
- Persons who have reported severe mental disabilities.

**Sample size**

The total number of middle age attending Al-Ka'akya primary health care center (under Al-Ka'akya health care sector) in one month is 1910. Based on this information sample size has been calculated using a website (raosoft.com). The resulted estimated sample size is 200 middle age patients including 10% piloting. The confidence interval is 95% and margin of error is 5%. The estimated prevalence used is 50% to calculate maximum sample size.

**Sampling technique**

Regarding health care center selection, there are three health care sectors inside Makkah Al-Mukarramah which are Al-Ka'akya, Al-Zahir and Al-Adl. By using simple random sample technique (by using randomizer.org), Al-Adl health care sector was

selected. There are 12 primary health care centers under Al-Adl health care sector which was enumerated from 1 to 12. Again, by using simple random sample technique Ka'akya primary health care center was selected (by using randomizer.org website). Regarding patients' selection, the total number visiting Ka'akya PHC is 1910 per month and the sample size is 200. The data collection period is 60 days (8 weeks minus weekends). Every day there is nearly 85 patients attending in Ka'akya PHC in both section (male and female sections). To collect data from sample size, the researcher needs nearly 16 patients per day to collect desired sample size. The researcher has been selecting every four patient to cover the sample size during data collection period.

**Data collection tool (instrument) Questionnaire:**

- The validated international Self Urinary Incontinence , including Medical, Epidemiologic, and Social aspects of middle age questionnaire (MESA, questionnaire), was used in collecting data , categorizing type of urine leakage and perception.
- Associated risk factors and comorbidities inquired about included self-reported diabetes, high blood pressure, prostate problems, kidney problems, stroke, arthritis and parity.....etc was recorded .
- A dichotomous question determined whether respondents had reported Urinary Incontinence to a doctor; open- and closed-ended questions explored their reasons was added .

**Data Collection technique**

The researcher has been used Arabic version of the questionnaire since the target population are Saudi middle age (30). The questionnaire has been distributed to all patients attending Ka'akya primary health care center during the data collection period (which is 60 days initially). The questionnaire was distributed equally between male and female section because it is separate departments. The researcher has been trained 2 nurses on how to fulfill the questionnaire in order to optimize the interpreter reliability. The researcher has been distributed the questionnaire in the waiting area in male section while in female section, has been trained nurse to be distributed the questionnaire in female waiting area. After that, the researcher was being collected the paper daily from the nurse for data entry and analysis after thanking the participants for their precious time and effort.

The services: the researcher has been providing the participants with a simple gift as an appreciation for their participation in the study, after collecting questionnaire from them.

**Study variables:**

- Dependent variables: Prevalence of depression among middle age patients

- Independent variable:

Age, Gender, Marital status , Educational level , Monthly income , Occupation , Presence of chronic disease , Presence of disabilities (cognitive, motor).

### Data entry and analysis

Statistical analysis has be performed using SPSS software program (Statistical Package for Social Sciences), version 24.0. descriptive using listing and frequency and analytic statistics using chi-square test to analyses the association and the difference between two qualitative categorical variables or t test for two quantitative categorical variables or using other statistical tests if needed.

Significance: P value less than 0.05 is considered statistically significant

### Pilot study/pretesting

A pilot study on 35 participants representing 10% of study sample size (out of study area) has be conducted to explore applicability, acceptance and obstacles and plan to overcome these problems.

### Ethical Considerations:

- Permission from research committee in the joint program of family medicine in Makkah Al-Mukarramah has be obtained
- Permission from the Makkah joint program of family medicine has be obtained.
- Permission from the Directorate of Health Affairs of the Holy Capital Primary Health Care has been obtained.
- Permission from administration of public health in Makkah Al-Mukarramah has been obtained.
- Permission from health care sectors administrator has be obtained.
- Permission from health care center administrator has been obtained.
- Written consents from all participants in have are obtained.
- All information will be confidential, and a result has been submitted to the department.

### Strengths and limitations

Possible limitations: Time limitation.

### Budget:

The research has be self-budgeted

### 3. Result

The majority of the respondents were males (55.0%), female (45.0 %), the age of the respondents ranged from 24-66 years, with a Mean±SD of 38.224±13.455years. Had high education (35%) and intermediate (28%), were working (65.0%), were not working (35.0%) and economic level had average income is (33.0%) but Low income (26.0 %).

The majority of the respondents were get up at night more than 3 times (33.0%), 3 time (31.0%) wile get up tow time (20.0 %). On the anther hand the urinated during the day the majority of the participant

urinated 5 to 10 time were (39.0%) followed by more than 10 time (35.0%), while less than 5 time were (26.0%)

**Table 1:** Distribution of the Socio-demographic characteristics of Urinary Incontinence patients among middle age patients in primary health care center. (n- 200)

	N	%
<b>Gender</b>		
Female	90	45
Male	110	55
<b>Age</b>		
<25	50	25
25-35	66	33
35-45	36	18
>45	48	24
Range	24.-66	
Mean±SD	38.224±13.455	
<b>Level of education</b>		
Primary	30	15
Intermediate	56	28
Secondary	44	22
High education	70	35
<b>Occupation</b>		
Yes	130	65
No	70	35
<b>Economic level</b>		
Low	52	26
Average	66	33
<b>How often do you get up at night to urinate?</b>		
1	32	16
2	40	20
3	62	31
more than 3	66	33
<b>How often do you urinate during the day?</b>		
less than 5	52	26
5-10.	78	39
more than 10	70	35

### Face frequent urination

Face frequent urination more than one time .There was no statistically significant P-value (0.00) ,  $\chi^2$  (90.080)while Weight% (78.75%) . the majority Their proportions (45.0 % ,38.0%)of respondents were reported the (moderately and all of the time were face frequent urination) .while the( reported not at all) Their proportions (6.0% ) , reported (rarely )Their proportions (11.00%).

### Frequency of urine leak.

There was no statistically significant P-value (0.00) ,  $\chi^2$  (36.0 %) while Weight% (73.75%). the majority their proportions (37.0%, 29.0%) of respondents were reported the (all of the time were frequency of urine leak and moderately) .while the(

reported not at all) Their proportions (8.0 % ) , reported (rarely )Their proportions (26.0% ) .

**Table (2)** Distribution of Urinary Incontinence Assessment in patients, among middle age patients in primary health care center.

Do you experience, and if so, how much are you bothered by...			Urinary Incontinence Assessment				Weight%	Chi-square	
			Not at all	Rarely	Moderately	All of the time		X <sup>2</sup>	P-value
1	Do you face frequent urination <sup>g</sup>	N	12	22	90	76	78.75	90.080	0.000
		%	6	11	45	38			
2	Frequency of urine leak	N	16	52	58	74	73.75	36.000	0.000
		%	8	26	29	37			
3	Repeated the Leakage	N	22	40	62	76	74.00	34.080	0.000
		%	11	20	31	38			
4	Small amounts of leakage (drops)	N	30	58	76	36	64.75	26.720	0.000
		%	15	29	38	18			
5	Difficulty emptying bladder	N	14	46	78	62	73.50	44.800	0.000
		%	7	23	39	31			
6	Do you have to rush to the bathroom because you get a sudden, strong need to urinate?	N	16	58	60	66	72.00	31.520	0.000
		%	8	29	30	33			
7	Leakage related to physical activity	N	20	26	58	96	78.75	73.120	0.000
		%	10	13	29	48			
8	Leakage related to physical activity, coughing, or sneezing	N	60	30	44	66	64.50	15.840	0.001
		%	30	15	22	33			
9	Pain or discomfort in lower abdominal or genital area	N	14	52	60	74	74.25	39.520	0.000
		%	7	26	30	37			

#### Repeated the Leakage.

There was no statistically significant P-value (0.00) , X<sup>2</sup> (34.080%) while Weight% (74.00%) . the majority their proportions (38.0%, 31.0% ) of respondents were reported the (all of the time repeated the Leakage and moderately) .while the( reported not at all) Their proportions (11.0% ) , reported (rarely )Their proportions (20.0% )

#### Small amounts of leakage (drops).

There was no statistically significant P-value (0.00) , X<sup>2</sup> (26.720%) while Weight% (64.75%) . the majority their proportions (38.0%, 29.0%) of respondents were reported the (moderately and followed by rarely of the time) .while the( reported all of the time) Their proportions (18.0% ) .

#### Difficulty emptying bladder.

There was no statistically significant P-value (0.00) , X<sup>2</sup> (44.80%) while Weight% (73.50%) . the majority their proportions (39.0%, 31.0%) of

respondents were reported the (moderately and followed by all of the time difficulty emptying bladder) .while the( reported not at all) Their proportions (7.0%) , reported (rarely )Their proportions (23.0 % ) .

#### Do you have to rush to the bathroom because you get a sudden, strong need to urinate?

There was no statistically significant P-value (0.00) , X<sup>2</sup> (31.520%) while Weight% (73.00%) . the majority their proportions (33.0%, 30.0% ) of respondents were reported the (all of the time and moderately) .while the( reported not at all) Their proportions (8.0% ) , reported (rarely )Their proportions (29.0% ) .

#### Leakage related to physical activity

There was no statistically significant P-value (0.00) , X<sup>2</sup> (73.120%) while Weight% (78.75%) . the majority their proportions (48.0% ) of respondents were reported the (all of the time were leakage related

to physical activity) .while the( reported not at all) Their proportions (10.0% ) , reported (rarely )Their proportions (13.0% ) .

**Leakage related to physical activity, coughing, or sneezing**

There was no statistically significant P-value (0.00) ,  $X^2$  (15.840%) while Weight% (64.50%) . the majority their proportions (33.0% ) of respondents were reported the (all of the time leakage related to coughing, or sneezing) .while the( reported not at all)

Their proportions (33.0% ) , reported (rarely )Their proportions (15.0% ) .

**Pain or discomfort in lower abdominal or genital area**

There was no statistically significant P-value (0.00) ,  $X^2$  (39.520%) while Weight% (74.25%) . the majority their proportions (37.0%) of respondents were reported the (all of the time pain or discomfort in lower abdominal) .while the( reported not at all) Their proportions (7.0%) , reported (rarely )Their proportions (26.0% ) .

**Table (3)** describes the clinical characteristics of the study population with symptoms of urine incontinence among middle age patients in primary health care center.

	Items	Has urine leakage affected your				Weight%	Chi-square	
		Not at all	Slightly	Moderately	Greatly		X <sup>2</sup>	P-value
1	Ability to do household chores (cooking, Housecleaning, laundry)?	N	60	24	56	64.50	18.240	0.000
		%	30	12	28			
2	Physical recreation such as walking, Swimming or other exercise?	N	56	42	24	65.50	31.200	0.000
		%	28	21	12			
3	Ability to travel by car or bus more than 30 minutes from home?	N	32	36	70	70.25	21.280	0.000
		%	16	18	35			
4	Participation in social activities outside Your home?	N	20	30	80	75.00	52.000	0.000
		%	10	15	40			
5	Emotional health (nervousness, Depression, etc.)?	N	18	52	60	72.75	30.560	0.000
		%	9	26	30			

**Effect of clinical characteristics of the study population with symptoms of urine incontinence Perceived to Quality of Life**

**Items 1 and 2 = physical activity**

There was no statistically significant P-value (0.00) ,  $X^2$  (18.240%) while Weight% (64.50%) . the majority their proportions (30.0 % , 30.0% ) of respondents were reported the (not at all and followed by greatly were Ability to do household chores) .while the( reported moderately ability to do household chores) Their proportions (28.0% ) , reported (slightly )Their proportions (12.00% ) while Physical recreation such as walking, Swimming, or other exercise , There was no statistically significant P-value (0.00) ,  $X^2$  (31.200%) while Weight% (65.50%) . the majority their proportions (39.0%) of respondents reported the (greatly Physical recreation) .while the( reported can't not at all) Their

proportions (28.00%) , reported (slightly )Their proportions (21.0%) .

**Items 3 = travel**

There was no statistically significant P-value (0.00) ,  $X^2$  (21.280%) while Weight% (70.25%) . the majority their proportions (35.0% , 31.0% ) of respondents were reported the (moderately and followed by greatly ability to travel by car or bus more than 30 minutes) .while the( reported can't not at all Ability to travel by car or bus) Their proportions (16.0% ) , reported (slightly )Their proportions (18.0% )

**Item 4 = social/ relationships ; Items 5 = emotional health**

There was no statistically significant P-value (0.00) ,  $X^2$  (52.00 %) while Weight% (75.00 %) . the majority their proportions (40.0%,35.0%) of respondents were reported the (moderately and followed by greatly Ability to participation in social

activities) .while the( reported can't not at all participation in social activities) Their proportions (10.0% ) , reported (slightly )Their proportions (15.0% ) . while emotional health P-value (0.00) ,  $X^2$  (30.560%) while Weight% (72.75%) . the majority

their proportions (30.0%) of respondents were reported the (greatly emotional health) .while the( reported can't not at all emotional health) Their proportions (9.0%), reported (slightly) their proportions (26.0 % )

**Table (4) describes of the Signs and symptoms of diagnosis of incontinence**

Urinary Incontinence Questionnaire		Yes		No		Chi-square	
		N	%	N	%	$X^2$	P-value
1	Do you usually have a strong sense of urgency to urinate?	150	75	50	25	50.000	<0.001*
2	Are there times when you don't make it to the bathroom and leak urine?	116	58	84	42	5.120	0.024
3	Does the sight, sound, or feel of running water cause you to lose urine?	92	46	108	54	1.280	0.258
4	Do you ever lose urine when lying down?	118	59	82	41	6.480	0.011
5	When urinating, can you usually stop your stream?	80	40	120	60	8.000	0.005
6	Do you ever accidentally wet the bed while sleeping?	60	30	140	70	32.000	<0.001*
7	Do you dribble urine after voiding?	56	28	144	72	38.720	<0.001*
8	Were you ever catheterized because you were unable to void?	52	26	148	74	46.080	<0.001*
9	Do you ever pass blood in your urine?	114	57	86	43	3.920	0.048
10	Have you ever passed sand, gravel, or stones?	60	30	140	70	32.000	<0.001*
11	<b>for female: When urinary difficulty began</b>						
a	begin During a pregnancy	15	16.67	75	83.33	33.007	<0.001*
b	Following a delivery	26	28.89	64	71.11		
c	Following an abdominal or vaginal operation	9	10.00	81	90.00		
d	After menopause	40	44.44	50	55.56		

Questions 1,2,3,4,5 The testing tool included 5 questions about Signs and symptoms of diagnosis of incontinence the 5 questions had answers limited to Yes, No . These questions were analysed using the Chi square analysis. The most of question addressed the signs and symptoms of diagnosis of incontinence there was high percentage answer “No “ were respectively (Q3-54.0% , Q5-60.0%, Q6-70.0%, Q7-72.0 , Q8-74.0% ,Q10-70.0%)There were a statistically significant in respondents answering .The other tests, which, when combined with the results of Chi square test, were respectively (1.280, 8.000, 32.000, 38.720, 32.000 ) indicate the signs and symptoms of diagnosis of incontinence

Questions (1, 2, 4, 9) The testing tool included 4 questions about Signs and symptoms of diagnosis of incontinence the 5 questions had answers limited to Yes, No. These questions may contribute to the severity problem of urinary incontinence, These questions were analyzed using the Chi square analysis. The most of question addressed the signs and symptoms of diagnosis of incontinence there was

high percentage answer “Yes “were respectively (75.0, 58.0, 59.0, 57.0) There were no statistically significant P-value (0.00) in respondents answering .The other tests, which, when combined with the results of Chi square test, were respectively (50.000, 5.120, 6.480, 3.920) indicate the signs and symptoms of diagnosis of incontinence.

Question 11 the testing tool included 4 questions about Signs and symptoms of diagnosis of incontinence for female when urinary difficulty began the 4 questions had answers limited to Yes, No. These questions were analyzed using the Chi square analysis. The most of question addressed the signs and symptoms of diagnosis of incontinence for female there was high percentage answer “NO “ were respectively (83.33, 71.11, 90.00, 55.56 ) There were a statistically significant in respondents answering P-value=0.001. The other tests, which, when combined with the results of Chi square test, were respectively (33.007) indicate the signs and symptoms of diagnosis of incontinence for female .



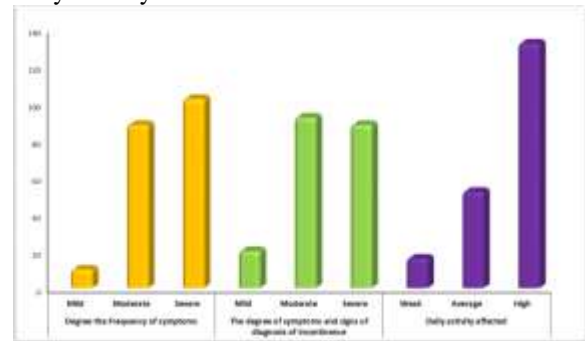
**Table (5)** describes of Symptoms and signs of diagnosis of urinary incontinence and its effect on daily activity.

	N	%	Mean±SD
<b>Degree the Frequency of symptoms</b>			
Mild	10	5	24.98±2.011
Moderate	88	44	
Severe	102	51	
<b>The degree of symptoms and signs of diagnosis of incontinence</b>			
Mild	20	10	6.883±0.7544
Moderate	92	46	
Severe	88	44	
<b>Daily activity affected</b>			
Weak	16	8	14.627±1.54
Average	52	26	
High	132	66	

Regarding the degree the Frequency of symptoms the majority of our study proportions (51.0%) answer severely but moderately and mild

their proportions were respectively (44.0%, 5.0% ) while regarding degree of symptoms and signs of diagnosis of incontinence The majority of our study proportions ( 46.0%) answer moderate . but severe and mild their proportions were respectively (44.0% , 10.0%) but regarding daily activity affected the majority of our study proportions high followed by average and weak were respectively ( 66.0 % , 26.0% , 8.0%).

**Figure (1)** Describes of Symptoms and signs of diagnosis of urinary incontinence and its effect on daily activity.



**Table(6)** Describes of association between socio-demographic data (Gender, age, level of education, occupation, economic level) and degree the frequency of symptoms , the degree of symptoms and signs of diagnosis of incontinence and daily activity affected in study population

		N	Degree the Frequency of symptoms	P-value	The degree of symptoms and signs of diagnosis of incontinence	P-value	Daily activity affected	P-value
			Mean±SD		Mean±SD		Mean±SD	
Gender	Female	90	30.198±2.658	<0.001*	7.833±0.578	<0.001*	16.708±1.178	<0.001*
	Male	110	20.711±1.949		6.105±0.821		12.925±1.907	
Age	<25	50	16.927±1.260	<0.001*	6.773±0.924	<0.001*	11.004±1.591	<0.001*
	25-35	66	21.594±0.332		5.85±0.736		13.536±1.740	
	35-45	36	26.23±1.098		6.761±0.551		15.074±1.358	
	>45	48	32.842±1.291		8.523±0.272		17.76±0.371	
Level of education	Primary	30	26.022±4.683	0.117	7.245±0.919	0.308	14.889±2.241	0.726
	Intermediate	56	25.151±4.745		6.858±0.837		14.671±2.230	
	Secondary	44	25.87±5.282		7.17±0.995		14.895±2.326	
	High education	70	27.133±4.523		7.105±0.895		15.66±1.924	
Occupation	Yes	130	21.762±2.407	<0.001*	6.162±0.737	<0.001*	13.273±1.867	<0.001*
	No	70	31.322±2.099		8.197±0.366		17.241±0.750	
Economic level	Low	52	27.199±4.632	0.044*	7.146±0.896	0.087	15.662±1.961	0.718
	Average	66	25.874±5.390		7.221±0.990		14.969±2.374	
	High	82	25.621±4.555		6.949±0.875		14.792±2.143	

Show that is a significant relation between degree the Frequency of symptoms and gender were

p-value <0.001 and Mean ± SD (30.198 ± 2.658) in female but male (20.711±1.949).

Also in our study show that is a significant relation between the degree of symptoms and signs of diagnosis of incontinence and gender were p-value <0.001 in female Mean ± SD (7.833±0.578) but male (6.105±0.821). In our study show that is a significant relation between the relation between the Daily activity affected and gender were p-value <0.001 in female Mean ± SD (16.708±1.178) but male (16.708±1.178).

While show that is a significant relation between degree the Frequency of symptoms and age were p-value <0.001 while age > 45 Mean ± SD (32.842±1.291) in age 35-45 (26.23 ± 1.098) in age 25-35 Mean ± SD (21.594±0.332) in age <25 Mean ± SD (16.927±1.260) , while show that is a significant relation between the degree of symptoms and signs of diagnosis of incontinence and age were p-value <0.000 while age > 45 Mean ± SD (8.523±0.272) in age 35-45 (8.523±0.272) in age <25 Mean ± SD (6.773±0.924) , while show that is a significant relation between relation between the Daily activity affected and age were p-value <0.001 while age > 45 Mean ± SD (17.76±0.371) in age 35-45 (15.074±1.358) in age <25 Mean ± SD (11.004±1.591).

While level of education show that is no significant relation between degree the Frequency of symptoms and level of education were p-value = 0.117 and in High education Mean ± SD (27.133±4.523) in Primary education (26.022±4.683) and Intermediate (25.151±4.745). While level of education show that is no significant relation between degree of symptoms and signs of diagnosis of incontinence and level of education were p-value = 0.308 and in High education Mean ± SD (7.105±0.895) in Primary education (7.245±0.919) and Secondary (7.17±0.995) .

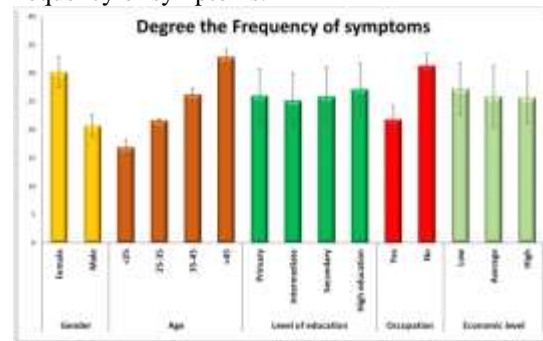
While level of education show that is no significant relation between relation between the Daily activity affected and level of education were p-value 0.726 and in high education Mean ± SD (15.66±1.924) in Primary education (14.889 ± 2.241) while Secondary Mean ± SD (14.895 ± 2.326)

While occupation show that is a significant relation between degree the Frequency of symptoms and occupation were p-value=0.001 and YES we work Mean ± SD (21.762 ± 2.407) and No not work Mean ± SD (31.322 ± 2.099). While occupation show that is no significant relation between degree of symptoms and signs of diagnosis of incontinence and occupation were p-value <0.001 YES we work Mean ± SD (6.162±0.737) and No not work Mean ± SD (8.197±0.366). While occupation show that is a significant relation between the Daily activity affected and occupation were p-value = 0.001 YES

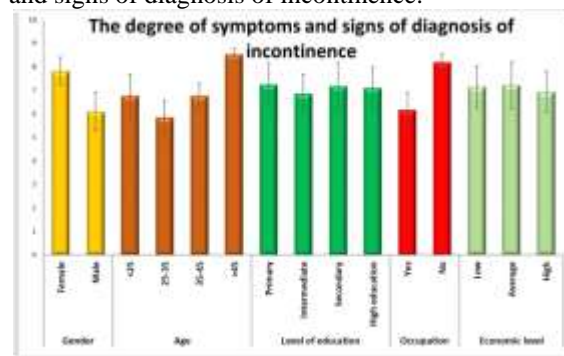
we work Mean ± SD (13.273±1.867) and No not work Mean ± SD (17.241±0.750).

But in the economic level show that is a significant relation between degree the Frequency of symptoms and economic level were p-value =0.044 and low level of economic Mean ± SD (27.199±4.632) and average Mean ± SD (25.874±5.390) but high level of economic Mean ± SD (25.621±4.555), also in the economic level show that is no significant relation between degree of symptoms and signs of diagnosis of incontinence and economic level were p-value =0.087 and low level of economic Mean ± SD (7.146± 0.896) and average Mean ± SD (7.221 ± 0.990) but high level of economic Mean ± SD (6.949 ± 0.875), in the economic level show that is no significant relation between the Daily activity affected and economic level were p-value =0.718 and low level of economic Mean ± SD (15.662±1.961) and average Mean ± SD (14.969±2.374) but high level of economic Mean ± SD (14.792±2.143).

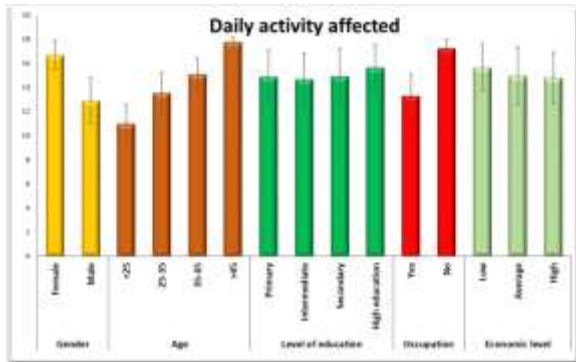
**Figure (2)** describes of association between socio-demographic data (Gender, age, level of education, occupation, economic level) and degree the frequency of symptoms.



**Figure (3)** describes of association between socio-demographic data (Gender, age, level of education, occupation, economic level) and degree of symptoms and signs of diagnosis of incontinence.



**Figure (4)** describes of association between socio-demographic data (Gender, age, level of education, occupation, economic level) and Daily activity affected.



**Table (7)** Correlations analysis between degree of symptoms and signs of diagnosis of incontinence, Daily activity affected and Degree the Frequency of symptoms and Correlations analysis between Daily activity affected and degree of symptoms and signs of diagnosis of incontinence.

Correlation	Degree the Frequency of symptoms		The degree of symptoms and signs of diagnosis of incontinence	
	r	P-value	r	P-value
The degree of symptoms and signs of diagnosis of incontinence	0.666	<0.001*		
Daily activity affected	0.7513	<0.001*	0.601	<0.001*

Showed positive correlations between degree of symptoms and signs of diagnosis of incontinence and degree the Frequency of symptoms Where (r = 0.666) and have a statistical significant relation where  $p < 0.001$ . And also in our study positive correlations between Daily activity affected and degree the Frequency of symptoms Where (r = 0.7513) and have a statistical significant relation where  $p < 0.001$ .

On another hand Showed positive correlations between Daily activity affected and degree of symptoms and signs of diagnosis of incontinence Where (r = 0.601) and have a statistical significant relation where  $p < 0.001$ .

**4. Discussion**

Worldwide literature presents that middle-aged and middle women (> 40 years) and three-fourth of

men of the same age increases the risk of developing Urinary incontinence visiting their GP had the symptoms of Urinary incontinence. Gender differences in our study were also found in the distribution of Urinary incontinence , more than a half of women had SUI, followed by one quarter having UII; two third of men had pure UII and one-fifth MUI. These results are in accordance with other researchers, who determined a dominance of UII type in men and SUI type in women.(31)

Urinary incontinence can affect the patient’s life in many ways, the aim of this study was to assess prevalence of urinary incontinence among middle age patients and associated risk factors in primary health care center in Makah Al-Mukarramah KSA. This study focused on only incontinent in the primary health care centers in Makkah Al-Mukarramah, among middle age patients with. The findings of study that urinary incontinence was more common among females (45.0% ), as compared to males (55.0 % ) . in other study found that males had a higher risk of urinary incontinence compared to females This contrasted with our studies (32). see Table (1)

Age was to be associated with urinary incontinence. The odds of the middle-aged 35 - >45 years and above having urinary incontinence were The age of the respondents ranged from 24-66 years, with a Mean± SD of 38.224±13.455years see Table (1).

In this study, urinary incontinence may be related also with difficulty in mobility and transferring and ability to do household chores (cooking, Housecleaning, laundry) see Table (3)

Many studies have shown very high prevalence rates of urinary incontinence in those aged 35 - >45 and older other Studies have shown that in addition to changes of normal middle-aged, diseases such as dementia and cognitive impairment, which are commonly experienced by the elderly, may contribute to the problem of urinary incontinence. Urinary tract infections, diabetes mellitus, benign prostatic hyperplasia, and immobility are also typical examples of conditions that may impact urinary incontinence . Higher middle-aged age group being a risk factor for developing incontinence was reported by many researchers. (33)

Sinclair and Ramsey reported emotional impact of incontinence to include emotional health (nervousness, Depression, etc)social and recreational isolation from anxiety and fear of being incontinent in public. in our study were P-value (0.00) , X<sup>2</sup> (57.06%) while Weight% (73.50 %) (34), the majority their proportions of respondents were reported the (moderately and followed by greatly emotional health). The findings of an earlier study in

Kuwait, were comparable with our study as 75% of their female participants said they did not perceive their urinary incontinence as a health challenge and therefore did not seek medical care. Reports from other Arab countries were contradictory to the Kuwaiti findings; the Qatari study reported that 79% of his Qatari women participants reported moderate to severe negative impact on their lives(35)

The Jordanian women felt it had a negative impact on their psychosocial well-being, and the Emirati women felt urinary incontinence was cumbersome, disrupting their social and religious activities. The Saudi women in both Jeddah and Riyadh reported adverse effect on their lives yet majority of them did not seek medical care.(29)

Woman had both during a pregnancy, a delivery, an abdominal or vaginal operation but after menopause increased the percentage the testing tool included 4 questions about Signs and symptoms of diagnosis of incontinence for female when urinary difficulty began the 4 questions had answers limited to Yes, No. These questions were analyzed using the Chi square analysis. The most of question addressed the signs and symptoms of diagnosis of incontinence for female there was high percentage answer "NO". There were not statistically significant in respondents answering P-value (0.000). The other tests, which, when combined with the results of Chi square test, were respectively (200.000) indicate the signs and symptoms of diagnosis of incontinence for female. See Table (4)

In the present study, Regarding the degree the Frequency of symptoms the majority of our study proportions (52.6%) answer severely degree. regarding daily activity affected the majority of our study proportions high affected negative on the daily lives of those affected Important social activities such as work, driving a car and shopping can be interrupted see Table ( 5,6 )

### Conclusion

We acknowledge the fact that urinary incontinence is a common and poorly understood problem in our community. Another problem among middle age patients group is cognitive impairment, which also contributes to urinary incontinence. Prevalence of urinary incontinence is most likely underestimated. Detection of this problem is essential for preventing complications and improving the quality of life of the middle age. The prevalence of urinary incontinence in this study is most likely underestimated due to the study's limitation in determining the presence of urinary incontinence by a self-report method. It is possible that mobility problems contributed to the presence of urinary

incontinence among the respondents in this study. Urinary incontinence was common among middle-aged women visiting GP, urinary incontinence affected more women of the same age range. The frequency of urinary incontinence was higher than previously assessed because this condition is neither recognized nor diagnosed. This study should encourage GPs to become increasingly aware on the recognition of urinary incontinence among primary care patients.

### Limitations & Recommendations

Time limitation very important also must be Presence a multi-disciplinary team approach involving diabetic team, dieticians, the physiotherapist, psychologist and urology nurses should be introduced as part of the management of incontinent women. Despite the limitations of this study, we acknowledge the fact that urinary incontinence is a common and poorly understood problem in our community. Based on the self-reported evidence in this study, a larger and more in-depth study might reveal a much higher prevalence. Detection of this problem is essential for preventing complications and improving the quality of life of the middle age.

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12/25/2021