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RESEARCH ARTICLE

RISK FACTORS OF URINARY INCONTINENCE AMONG HEALTH PATIENTS IN KSA

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Abstract

Urinary Incontinence affects people of all ages and genders, its frequency increases with age, and a number of physiological, behavioral, and demographic issues can greatly increase its prevalence. Urinary incontinence is still disregarded despite its great frequency and pervasive impact on quality of life because of cultural and social stigma and the belief that it is an inevitable part of aging. This present study will evaluate the scenario using a systematic review research design. The findings of the study may be useful of the future researchers and policy makers in terms of taking necessary steps.

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Introduction:-

The International Continence Society (ICS) defines urinary incontinence (UI) as an objectively demonstrable involuntary pee release that causes a social or sanitary issue. [3], [5] All around the world, UI is a prevalent but frequently unreported illness that has a major influence on social, psychological, and physical health. Although UI affects people of all ages and genders, its frequency increases with age, and a number of physiological, behavioral, and demographic issues can greatly increase its prevalence. Urinary incontinence is still disregarded despite its great frequency and pervasive impact on quality of life because of cultural and social stigma and the belief that it is an inevitable part of aging. [7]With prevalence rates estimated to be between 25 and 45 percent for adult women and 5 to 15 percent for adult males over the course of their lifetimes, UI is recognized as a major public health concern on

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a global scale. [1], [13] Although studies suggest that prevalence statistics are probably being understated due to cultural customs, a lack of public health awareness, and a fear of addressing urinary symptoms, the true prevalence of urine incontinence in Saudi Arabia has not yet been thoroughly examined. Saudi culture, like that of much of the Middle East, views UI as a private and taboo topic that should not be discussed. [11] This prevents candid conversations and timely medical response. This may lead to a delayed diagnosis, inadequate treatment, and preventable declines in health-related quality of life.

Types and Pathophysiology:-

The general classifications of urine incontinence are overflow incontinence, urge urinary incontinence (UUI), mixed urinary incontinence (MUI), stress urinary incontinence (SUI), and functional incontinence. These are all linked to certain risk factors and pathophysiological processes. [6] For instance, SUI, which manifests as coughing or leakage during activity, is typically linked to hormone fluctuations, obstetric trauma, and weak pelvic muscles. The overactivity of the detrusor that produces UUI can be linked to idiopathic reasons, neurogenic disorders, or obstruction of the bladder outlet. In order to create unique preventative and management programs, it is vital to understand the risk factors associated with each type. [8]

Risk Factors in the Saudi Context:-

International research has revealed several risk factors for UI, including age, gender, parity, obesity, smoking, pelvic surgery, neurologic disease, and chronic medical conditions such as diabetes mellitus and high blood pressure. [14], [21] The epidemiology of UI in Saudi Arabia may also be influenced by certain sociocultural and lifestyle characteristics.

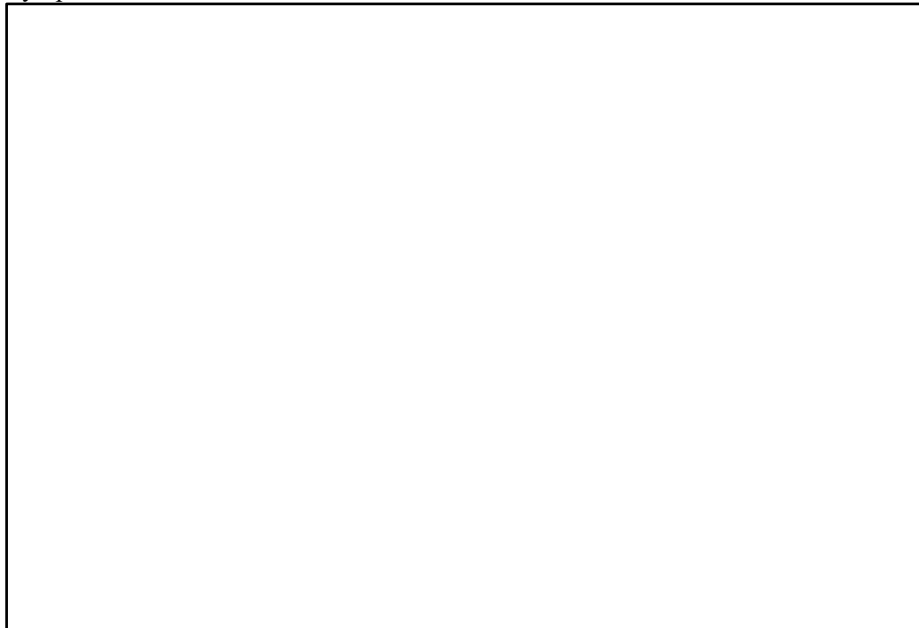
Large Family Size: Saudi Arabian religious and cultural customs encourage large families, which may lead to a higher risk of pelvic floor injuries during pregnancy and labor.

Obesity: Saudi Arabia has one of the highest rates of obesity in the world, which is closely linked to elevated intra-abdominal pressure and an increased risk of SUI and UUI.

Diabetes Mellitus: Polyuria, peripheral neuropathy, and bladder dysfunction are all consequences of type 2 diabetes, which is very common in the Kingdom and can make UI more difficult.

Physical Inactivity: Sedentary behavior brought on by urbanization and environmental factors may further relax the muscles of the abdomen and glutes, resulting in UI.

Cultural Taboos: Underdiagnosis and end-stage therapy may result from a reluctance to seek medical advice for urine signs and symptoms.



Source: <https://ckbirlahospitals.com/cmri/blog/urinary-incontinence-in-women-causes-and-solutions>

Figure1: Causes of Urinary Incontinence in Women

Public Health and Economic Impact:-

Because of the increasing need for long-term continence devices, [13] diagnostic [15] and treatment costs, and healthcare consumption, [8] UI has a significant impact on health systems. UI is stigmatized by social rejection, depression, distress, decreased sexual performance, and diminished occupational performance, according to psychological perspectives. Although there aren't many research using a population-based approach to guide preventative and treatment techniques, the silent pandemic of UI in Saudi Arabia is significant. [12] Losses in quality of life, caregiver stress, and direct medical costs are greatly outweighed by the financial burden. [19]

Aim of The Review:-

Finding, evaluating, and synthesizing the available data on the risk factors for urine incontinence in Saudi Arabian patients is the aim of this systematic review. Our study will help with evidence-based practice, public health planning, and future research agenda by providing a summary of current information and identifying contextually important variables.

Objective of the Study:-

The study's goal is to assess risk profiles by UI subtype (stress, urge/overactive bladder, mixed), as well as to identify risk variables for UI in Saudi Arabia (KSA) among persons aged 18 and up.

Research Methodology:-

Research Design

This study will employ a systematic review methodology, integrating available research findings to identify and examine UI risk variables in Saudi Arabian patients. The methodology must adhere to the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRISMA 2020) in order to provide thorough reporting that is transparent and repeatable.

Inclusion and Exclusion Criteria:-

Inclusion Criteria:-

Study Type: Observational studies (cross-sectional, case-control, cohort), randomized controlled trials, and related epidemiology reports. Population: Adult patients (≥ 18 years) who reside in Saudi Arabia, irrespective of gender. Outcome of Interest: Recorded risk factors for urinary incontinence, including but not limited to, age, parity, obesity, chronic illness, lifestyle, history of surgery, and medication use. Date of Publication: From January 2010 through December 2025 to obtain the latest and relevant information. Language: English and Arabic (Arabic studies will be translated for inclusion).

Exclusion Criteria:-

Research literature from outside Saudi Arabia. Pediatric patient studies. Case reports, letters to editors, conference abstracts without complete data, and editorials. Articles which do not contain any mention of risk factors or prevalence rates of UI.

Data Collection:-

A comprehensive literature search will be conducted via electronic databases including:

- PubMed/MEDLINE
- Scopus
- Web of Science
- CINAHL
- Google Scholar (for non-indexed studies)

Keywords:-

"Urinary Incontinence", "UI", "involuntary urination", "risk factors", "determinants", "predictors", "Saudi Arabia", "KSA", "patients", "population".

Selection of Studies:-

The final inclusion of full-text publications from possibly qualifying studies will be evaluated. Any disagreements among reviewers will be settled by dialogue or by bringing a reviewer in.

Discussion:-

With an emphasis on the interplay of risk variables linked to demographics, obstetrics, medicine, and lifestyle, this systematic analysis identifies the multimodal etiology of urine incontinence (UI) in Saudi Arabian patients receiving care in medical facilities. In addition to establishing unique tendencies that are influenced by country health variables, medical procedures, and sociocultural traditions, the results also support international literature. [16], [20]

Prevalence and Sociodemographic Factors:-

Age was consistently found to be a substantial non-modifiable risk factor for UI in all of the examined studies. [15], [20] In line with findings from other countries, the prevalence rose significantly in women over 40, most likely as a result of hormonal decline, connective tissue flexibility, and age-related changes in pelvic floor muscle function. [16] However, the future public health cost of UI may be increased due to Saudi Arabia's rapid increase in life expectancy, especially among women. Recurrent factors included parity and marital status; multiparous moms and married women were more likely to develop UI, which is consistent with the substantial correlation between bladder control issues and pelvic trauma during childbirth. Occupation and educational attainment seemed to have indirect effects. Delays in seeking medical attention have occasionally been associated with poorer educational attainment, presumably as a result of a lack of knowledge about pelvic floor health and available treatments. [24] Despite large national investments in healthcare services, health literacy is nevertheless uneven throughout Saudi Arabia's rural and less urbanized areas, making this association more pertinent there. [12]

Obstetric and Gynecological History:-

Obstetrical factors were a frequently occurring UI determinant in Saudi Arabian women. [8] Vaginal delivery, especially if followed by prolonged labour, instrumental assistance, or high birth weight, was a dominating risk factor. Multiparity enhanced this risk through progressive stress on the pelvic floor. Trends are in line with Gulf regional studies, suggesting shared obstetrical practices and cultural preference for vaginal in preference to elective caesarean section except where clinically indicated. [9], [14] Menopause was another key factor. Hormonal changes, particularly the decline in estrogen, weaken urethral sphincter function and reduce urethral closure pressure. In the Saudi context, menopausal women may be less likely to seek medical advice for UI due to cultural stigmas surrounding discussions of urinary and reproductive health, further delaying intervention and rehabilitation. [16]

Medical and Lifestyle-Related Factors:

Among this Saudi Arabian group, obesity was a very common and manageable risk factor. High obesity prevalence rates, especially among female participants, are a result of sedentary lifestyles, high-calorie diets, and decreased activity due to cultural and environmental constraints. [22], [23] Being overweight raises intra-abdominal pressure, which exacerbates stress urine incontinence and damages pelvic support structures. UI risk was also linked to chronic conditions such as diabetes mellitus, hypertension, and respiratory disorders (such as a persistent cough brought on by smoking or asthma). [25] Notably, the Kingdom has the highest rate of type 2 diabetes worldwide. Diabetic neuropathy can impair detrusor muscle function and bladder sensation, leading to urge or mixed incontinence. The comorbidities highlight the necessity of managing chronic diseases holistically. [26]

Psychological and Quality-of-Life Implications:-

UI has a significant psychosocial impact in Saudi Arabia. For women in particular, this can lead to feelings of shame, social exclusion, and a diminished ability to fulfill religious obligations such as prayer and pilgrimage (Hajj and Umrah), which require physical chastity. [28] These consequences can exacerbate mental anguish and lead to anxiety and despair. However, underreporting and reluctance to discuss problems openly with male doctors in this context can be caused by cultural customs and modesty. [15] Because of the potential for social stigma to impede diagnosis and exacerbate outcomes, culturally relevant health promotion initiatives and gender-neutral healthcare settings are essential. [9]

Implications for Clinical Practice and Public Health:-

The investigation reveals several areas that require action. First and foremost, awareness campaigns ought to describe UI as a medical disease that may be treated rather than as an unavoidable side effect of age or childbirth. Second, incidents might be avoided if pelvic muscle training is incorporated into routine prenatal and postoperative care. [22], [7] Thirdly, weight-control regimens may greatly reduce the risk of UI, particularly in women of reproductive age. Finally, medical professionals may be able to overcome patient resistance by being trained to deliberately elicit urine symptoms during consultations. Since UI is strongly associated with modifiable factors like obesity, chronic diseases, and obstetric care practices, preventative initiatives ought to be incorporated into larger

programs related to maternal health, noncommunicable diseases (NCDs), and rehabilitation, according to public health perspectives. [15] The literature review found that study design, diagnostic criteria, and population sampling varied, which impacts the generalizability of prevalence estimates in general. Numerous studies were conducted in hospitals, which may have overrepresented instances with more serious conditions. [16] Furthermore, there is a knowledge gap about the prevalence of UI in men, who, like women, may be impacted by neurological disorders, occupational problems, or prostate illnesses, as there is a lack of Saudi Arabian statistics specifically pertaining to men. Future studies should incorporate both genders, use uniform diagnostic definitions (such as the ICS criteria), and examine the efficacy of culturally appropriate preventative and rehabilitation initiatives. [18] In the Saudi population, longitudinal research may potentially shed light on the causal relationships between modifiable risk factors and the start and progression of UI.

Conclusion:-

This comprehensive study emphasizes that a complex interaction of demographic, physiological, obstetric, lifestyle, and medical factors causes urine incontinence (UI), a multifactorial disorder in Saudi Arabia. Obesity, chronic disease, parity, old age, female gender, mode of birth, and lifestyle factors like physical inactivity are often cited in the research as the primary contributors of UI risk. Underdiagnosis and undertreatment are common outcomes, which are exacerbated by cultural norms, help-seeking behavior, and a lack of understanding. Since UI significantly affects one's physical, mental, and social well-being, targeted public health initiatives are desperately needed. These must include early screening programs, lifestyle modification programs, culturally relevant awareness campaigns, and improved access to specialized care. Additionally, UI would be considerably reduced in the Saudi Arabian population if preventive measures were incorporated into routine healthcare facilities, especially in prenatal and women's healthcare programs. In order to properly establish causal relationships and enable precise prevalence estimates, future studies must include longitudinal research and standardized diagnostic criteria. Proactive UI management would lower the Kingdom's long-term healthcare costs and burden while also improving the quality of life for those impacted.

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