World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(REVIEW ARTICLE)

Female urinary incontinence: Epidemiology and risk factors (comparison between developed and developing countries: Literature review) Hassan II university hospital, Department of Urology, Fès, Morrocco

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World Journal of Advanced Research and Reviews, 2025, 26(01), 1460-1463

Publication history: Received on 08 January 2025; revised on 05 April 2025; accepted on 08 April 2025

Article DOI: https://doi.org/10.30574/wjarr.2025.26.1.0537

Abstract

Urinary incontinence is a pathology affecting mainly women which is defined by urinary leakage.

3 aspects are to be distinguished: stress urinary incontinence (urinary leakage during physical exertion, cough, etc.), urinary incontinence due to overactive bladder (urinary leakage due to urgency) and mixed urinary incontinence.

UI is a frequent and "underestimated" pathology in women, reaching 48.3% in some studies. This symptom, is only reported if the clinician asks, mainly due to socio-cultural reasons in some countries: the shame of getting one's clothes wet. The UI has an important psychological and social impact on women's quality of life(the limitation of physical activities, anticipation of the bathroom use due to fear of urinary leakage, the use of protection layers etc)

Our study is a literature review. It included studies carried out in different continents: Schreiber's study in Germany – Denmark (Europe), Máyra's study in Brazil (Latin America), Dahamin's study in Morocco (Africa) and also Andy Muller's study (Democratic Republic of Congo).
we will compare the prevalence of UI between different populations of these studies, analyze the results and highlight different risk factors involved in the development of UI.
Patient selection methods differs between these studies, which makes comparison a bit delicate in some situations. Thus, the prevalence varies between 2% (Andy Muller's study) and 48% (Schreiber's study).
stress UI was found to be the most frequent type of incontinence in women (established by all the studies in this article). Obesity, constipation, and multiparity were the most incriminated factors in the development of UI. The diagnosis was made by questioning and clinical examination. Paraclinical exams have their place only in case of diagnostic doubt.
The treatment is initially based on hygiene and dietary measures, associated with kinesiotherapy+/- pharmacological treatment (anticholinergic drugs).

Surgical treatment is only performed as a last resort.

Keywords: Urinary incontinence; Overactive bladder; Urinary leakage; Epidemiology; Developed and developing countries

1. Introduction

Women's health is a priority in every health system. Improving women's health care and investing in it, is not just going to enhance it, but will have social and economic repercussions. Hormonal variation due to age (which is related to the

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decrease secretion of oestrogens by the ovaries) will make some physiological changes which includes some disorders (osteoporosis, menopausal hot flashes, muscle mass drecreasing …) and even some genitourinary disorders such as urinary incontinence and genital prolapses.

- -Urinary incontinence is felt as a subjective symptom, often not reported, sometimes 'underestimated' and described by some patients as a ' shameful feeling'. The generalist doctor has a main role in its diagnosis. He is the first contact with the female patients.He's the pivot in every health care system and plays a role in urinary incontinence screening, building patients confidence and refer them to urologists to resolve the problem.
- -women's urinary symptoms have an important socio psychological impact on their life and are a frequent symptom reported in urology consultation.
- -Urinary incontinence diagnostic is based on a detailed interrogation, completed by a clinical examination and some paraclinical investigations.
- -The studies about female incontinence (prevalence of female urinary incontinence) showed a percentage between 2.5 to 48% in some studies. Risk factors are obesity is the first position, and multiparity are the main risk factors in female incontinence (1).

Our study will compare the urinary incontinence prevalence between some studies, and even the risk factors associated.

2. Materials and methods

Our study is a literature review about urinary incontinence epidemiology, and risk factors. Different informations were collected from several studies by exploiting Medline and Pubmed Database.

3. Results and discussion

In 2002, The International Continence Society (ICS) defined the urinary incontinence as «the unintentional, accidental, loss of urine»(9). We distinguish 3 types

Stress urinary incontinence, urge incontinence, and mixed incontinence.

The prevalence study of this disease is difficult. This symptom is described as 'an embarrassment and a source of shame' by the majority of female patients, It is diagnosed sometimes only if the doctor asks about it (socio cultural particularities in some countries). Several studies are made to study the prevalence, and the urinary incontinence risk factors.

Scrhreiber Pedersen's study was about 2 populations (a quiz was delivered to Danish and German women). This study included a female population which age was above 18 years old. In germany 1849 women responded to this quiz and in Denmark 2666 responded to it.

48.3% of german women (who were included in this study) reported that they have some urinary incontinence episodes in the last month, which was approximately the same in Denmark (46.4 %) [odds ratio (OR) 0.9;95% CI 0.8–1; p = 0.188]

In Maya's Study (which was a Brazilian study which included Brazilian women) The prevalence of urinary incontinence was about 20.4%(1)(2)

The difference of the percentage between the two studies was explained by the fact that Maya's study Included a population which age limit was 75 years old, unlike Schreiber's study where there was no limited age (a 98 years old woman was included in this study age is recognized as an urinary incontinence risk factor).

Andy Muller's study(Congolese study) which concerned about 1813 patients (who consulted at the urological department of Kinshasa for an urological problem). The urinary incontinence prevalence was about 1.3 % (3)

This low percentage is explained by the fact that it was a retrospective study and included only women who consulted for urinary incontinence symptoms (contrary to other studies where there was quizzes delivered to women for urinary incontinence screening).

Dahami's study (Moroccan study), concerned a female population (there age was between 20 -40 years old), there was 338 patients. 14.2% of the women reported that they presented an urinary incontinence during the last 2 months. This low percentage is explained by this population's age limit (40 years old).

Stress urinary incontinence is the most common subtype in the populations studied in germany (24.4%) and Denmark (21.4%).

Young women suffer more from stress urinary incontinence, unlike elderly women (more than 80 years old) who suffer from mixed incontinence.

The same data are found in Maya's study where the mixed incontinence was predominant (19.2%), followed by stress incontinence (15.9%), Then urg incontinence (14.6%)

In Dahami's Study, stress urinary incontinence concerned 54.2 % of the patients, 27.1% suffered from urge incontinence and 14.5 suffered from mixed incontinence (1-3-4)

Most of studies confirm that stress urinary incontinence is the most frequent subtype especially among the elder women.This is explained by the fact that pelvic floor muscles hypotrophy is induced by the menopause and the age (which will induce pelvic floor disorder) and neurogenic bladder (diabete or neurological disease), which will impact the physiology of urination(5-6)

3.1. Risk factor analysis:

In Schreiber Pedersen's study the subgroup who's BMI ≥35 got 67.3% urinary incontinence (1)

Màyra's study showed a significant association between pregnancy and urinary incontinence (p=0.000), post partum (p=0.000), 3 pregnancies or more (p=0.001), fetal macrosomia (p=0.015), urinary incontinence in family (0.017), recurrent urinary tract infections (p=0.000), gynecological surgery (p=0.002) are all associated to urinary incontinence

Other risk factors are found like genital prolapse (p=0.000), stress (p=0.000), obesity (p=0.008), anxiety (p=0.000) and depression (p=0.000) (2)

Bahamin found that obesity, multiparity, chronic constipation and recurrent urinary tract infections got a significant association with urinary incontinence (1-2-4)

Risk factors identification will help us to make a plan and prevent the urinary incontinence and treating it.

The first line of treating urinary incontinence is hygieno-dietetic measures and pelviperineal kinesitherapy (pelvic floor muscles strengthening) to have better urinary control.

In the second line, overactive bladder can be treated by medicines (anticholinergic drugs), tibial and sacral nerve modulation. Surgery is the last option if we fail with the other treatments. (6)

Urinary incontinence screening is an option that we should include in our healthcare system. The generalist doctor will play a main role as he's the first contact with patients. Primary prevention will consist on some hygieno-dietetic measures (limit the pregnancies number, treatment of chronic constipation, decrease body weight) (7-8)

4. Conclusion

The aim of this article is to compare the urinary incontinence prevalence between different populations and different studies. the identification of risk factors help us to understand the physiopathology of urinary leakage and a better care.This disease has an important socio-economic impact. The investment in this case, will improve the women's life quality, and consequently, will impact their daily yield.Women should be sensitized about this pathology, and programming some screening strategies can be discussed. More studies should be done to show us the importance of screening programs and awareness.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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