

## THE EPIDEMIOLOGY OF URINARY INCONTINENCE IN NULLIPAROUS WOMEN AGED 14 TO 45 AND THE ASSOCIATED RISK FACTORS: A SYSTEMATIC REVIEW

### Hypothesis / aims of study

The aim of this study was to systematically review studies investigating the prevalence of urinary incontinence (UI) in nulliparous women aged 14 to 45, and to provide an overview of risk factors associated with urinary incontinence.

### Study design, materials and methods

This systematic review followed the Systematic Reviews and Meta-analyses (PRISMA) statement. The electronic databases MEDLINE (via PUBMED), EMBASE (via OVID), CINAHL (via EBSCO), and Cochrane library were systematically searched for the identification of eligible studies. Inclusion and exclusion criteria were defined a priori. Logic Boolean functions were used to establish the search algorithm. Finally, a search of Google Scholar was conducted for identification of further papers while the reference lists of the identified primary studies were checked for possible relevant citations. No restrictions on the language applied. The selected studies were reviewed and data extraction was carried out independently by the reviewers, using a predesigned and standardised form to record information and data. Two independent researchers assessed the quality of the included studies and extracted the data in a standardized spreadsheet.

### Results

Based on the set inclusions and exclusions, eighteen studies were included in this systematic review. The age of the nulliparous women ranged from 14 to 45. The quality of the studies considered 3 studies as low, 13 as moderate, and 2 as high. Urinary incontinence prevalence measures varied from 1 % to 42.2 %, and Mean prevalence 21.45 %. From this, 12.5 % to 79 % was referred to stress urinary incontinence, and 15.6 % to 41.6 % to urge urinary incontinence. BMI, childhood enuresis, and high impact exercising were found to be the main associated risk factors.

### Interpretation of results

It is a general belief that UI is associated only with the elderly and women who have given birth. However, our findings provide evidence that adolescent and adult women who are nulliparous also experience UI and the prevalence is high. BMI, childhood enuresis, and high impact exercise are associated with the development of UI in nulliparous women. Understanding the effect of the risk factor mechanisms on the pelvic floor will enable us to implement preventive strategies and advise appropriately on the prevention of UI.

### Concluding message

This is the first systematic review which investigated the prevalence of UI in nulliparous adolescents and adult women, and it demonstrates that the prevalence of UI is high. An early identification of the potential associated risk factors could prevent women from the UI.

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** Systematic Review **Helsinki:** Yes **Informed Consent:** No