

PREVALENCE AND SELF-RECOGNITION OF URINARY INCONTINENCE AMONG TWO DISTANT HEALTHY YOUNG WOMEN GROUPS.

Hypothesis / aims of study

The aim of this study was to set up and compare the prevalence and severity of urinary incontinence (UI) in healthy university women in two groups of population geographically and culturally distant; a previous study determined UI prevalence in one of the groups.(1)

Study design, materials and methods

An observational descriptive study was designed to examine the prevalence of urinary incontinence in healthy young women (nulliparous and nulligravid), among Physical Therapy students from two different Physiotherapy Colleges in two different and distant countries. Participants were asked to sign their informed consent and answer two questionnaires: International Consultation on Incontinence Questionnaire - Short Form (ICIQ-SF)(2) and Incontinence Severity Index (ISI)(3); some additional questions were added to determine the individual recognition of the pathology and individual life habits. Statistic analysis was performed using IBM SPSSv20® applying Chi-squared test, t-distribution and Fisher's exact test to compare the groups on the analyzed variables.

Results

Final sample was 502 women, 81.9% from Group A (n=411) and 18.1% from Group B (n=91). All participants were aged between 18 and 25 years-old and with no associated pathology; mean age was 20.66 years (\pm 2.11): 20.40 years (\pm 2.12) in Group A and 21,89 (\pm 1.53) in Group B. 50.4% of women in Group A and 76.92% in Group B used to practice sports regularly ($p < 0.000$).

From direct question, 21.9% of women in Group A self-recognized to suffer from UI (n=90), while only 4.4% of Group B (n=4) recognized it ($p < 0.000$) (Table 1).

In response to the ICIQ-SF test, average score was 3.09 (\pm 3.919) in Group A, and 1.04 (\pm 2.562) in Group B ($p < 0.000$). Thus, according to ICIQ-SF results, 42.1% (n=173) of Group A participants suffered from UI while only 15.4% (n=14) of Group B had UI ($p < 0.001$).

According to results of ISI test, severity among participants with UI in Group A (Table 2) was 7.77% mild, 84.45% moderate and 7.26% severe; among Group B with UI, 6.25% had mild degree, 75% moderate and 6.25% severe.

Bivariate analysis did not show any significant relationship between UI and sports (sports practice, type of sportive activity, hours per week practicing nor intensity of the exercise), pelvic floor exercises nor persistence of UI for more than 7 years old in childhood.

The results of the direct question as a diagnostic of UI in the total sample (n = 502) showed a sensitivity of 40.10% and a specificity of 96.59%; in comparison with the ICIQ-SF (taken as Gold Standard), the direct question had a positive predictive value (PV+) of 89.25% and a negative predictive value (PV-) of 69.53%.

In Group A (n = 411) the direct question showed a sensitivity of 41.97% and a specificity of 95.87% and, in comparison with the ICIQ-SF, had a PV+ of 90% and a PV- of 65.11%. In Group B (n = 91, 2 lost cases) the direct question showed a sensitivity of 14.29% and a specificity of 98.67%, and compared with ICIQ-SF had a PV+ of 66.67% and a PV- of 86.05%.

Table 1: UI Self Recognition on direct question (p=.000)

		Recognise to suffer from UI		
		No	Yes	Total
Geographic Origin	Group A	Count (%) 321 (78.1%)	90 (21.9%)	411 (100%)
	Group B	Count (%) 87 (95,6%)	4 (4,4%)	91 (100,0%)
Total		Count (%) 408 (81,3%)	94 (18,7%)	502 (100,0%)

Table 2: UI severity (ISI) among those with UI in ICIQ-SF (p=.000)

UI in ICIQ-SF		UI severity (ISI)				Total
		Normal	Mild UI	Moderate UI	Severe UI	
Group A	Count (%)	1 (0.52%)	15 (7.77%)	163 (84.45%)	14 (7.26%)	193 (100%)
Group B	Count (%)	2 (12.5%)	1 (6.25%)	12 (75%)	1 (6.25%)	16 (100%)

Interpretation of results

Despite the size difference among groups, results show a high statistical significance. A higher prevalence of UI was detected among Group A participants according to ICIQ-SF test (42.1% vs. 15.7%, $p < 0.000$).

A poor self-recognition of the pathology in the answer to the direct question (21.9% and 4.4%, respectively) was observed in both groups: only 52% of women from Group A and 28.02% from Group B that suffered from UI according to the results of ICIQ-SF test, recognized experiencing from UI.

The distribution of severity in both groups was similar, with an average of 84.45% - 75% of moderate severity among those who had UI in ICIQ-SF test.

In the total sample, the direct question about UI showed high specificity of UI (96.59%), but its sensitivity appears to be very low (40.10%), so the direct question would not be precise enough for the diagnosis of UI.

The PV+ of this direct question is 89.25%: a high percentage of people who positively answer having UI and are positive in ICIQ-SF results, whereas the PV- is 69.53%, therefore among participants who claim not having UI, there is a 30.47% of people positive in the ICIQ-SF (false negatives).

In Group B, the PV+ is lower than in group A, but the results could be highly influenced by the small number of participants who answered "yes" to the direct question (n = 3).

Concluding message

Many of the participant women tend to underestimate urinary incontinence and do not recognize to suffer from it while their ICIQ-SF response shows their UI.

UI prevalence really seems to vary from one to the other group, observing a much higher prevalence in Group A participants. Reasons of this difference among groups are not due to sports habits, pelvic floor exercises, age or other associated pathologies; maybe racial reasons could be suggested (group A was from Mediterranean area and B from East of the USA).

Direct question about UI seems not to have sensitivity neither PV+ enough to be useful as an UI diagnostic screening test, so more sensitive and specific tests are required, as ICIQ-SF. An early recognition of UI and adopting preventive measures could help to reduce the personal burden and public health care costs associated with this common condition.

References

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