

INTRODUCING PELVIC FLOOR MUSCLE TRAINING IN WEEKLY TRAINING SESSIONS OF YOUNG ADULT FEMALE ATHLETES: A PILOT STUDY.

Hypothesis / aims of study

Urinary incontinence (UI) is not a life threatening condition but it does have a negative impact on many aspects of a woman's quality of life such as social, physical, psychological and sexual aspects.

Current evidence has shown that stress urinary incontinence (SUI) does not occur exclusively in the postnatal period or in elderly women but also in young athletes. Several studies indicate a high prevalence in high-impact sports such as trampolining, tumbling and gymnastics [1]. ICS guidelines recommend pelvic floor training as the first-line treatment of SUI.

Previous research has revealed that young nulliparous women lack knowledge about the pelvic floor and possible pelvic floor dysfunction [2]. Despite its high prevalence, SUI still remains a taboo to talk about. It can even cause refrainment or limitation of sports participation; certainly in a population of ambitious and competitive young females [3].

To the best of our knowledge the effectiveness of integrating pelvic floor education and exercises in the training of young adult athletes has not yet been studied.

Thus, the objectives of this pilot study are to estimate the prevalence of UI in young adult female athletes; to introduce basic education about the pelvic floor and pelvic floor exercises in their training program; and to evaluate how this study is perceived by the participants and its influence on UI.

Study design, materials and methods

This pilot study applied a pre-post test design. Twenty-eight subjects between 14 and 25 years old (mean age 16.9, SD 2.5) were recruited in local sports clubs; inclusion criteria were nulliparous women, performing (at least 3h/week) high risk sports, being able to perform an analytic pelvic floor muscle contraction (PFMC). All participants signed an informed consent form and minors required permission from their parents. Subjects received an explanation on the anatomy and functions of the pelvic floor, the prevalence and mechanics of SUI and the procedure for the intervention. The pre-assessment consisted of a PAD-test, an individual evaluation by external palpation of the PFMC and multiple reliable and valid questionnaires (PRAFAB, ICIQUI, IIQ). The trainers were instructed how to include PFME in their training program and were encouraged to repeat this during eight weeks. The given exercises focused on training strength and endurance of the pelvic floor muscles and also included the knack. After eight weeks, the post-assessment was performed. All participants completed a qualitative questionnaire to evaluate the benefit and the importance of this study. To analyse the results descriptive statistics, Wilcoxon signed rank test, Kruskal-Wallis test, Monte Carlo Chi-Squared and Spearman correlation were used.

Results

Only 18 of the initially 28 participants also enrolled in the post assessment and finished their participation as intended. Subjective report of urinary leakage was established in 67.8% (n=19) of the participants. According to the ICS guideline (>1.4g) UI was observed in 7.1 % (n=2). Only 10.7% (n=3) of the participants ever talked about urinary leakage with a peer, their parents or a health professional. 89.3% (n=25) declared to be interested to learn the pelvic floor exercises.

There was no significant difference in objective urinary leakage after the pelvic floor exercise intervention (p= 0.5). When comparing the objective UI to the questionnaires (PRAFAB, ICIQ-UI) no significant differences were found (p=0,392 and p=0,719 respectively).

Only one participant perceived the individual control as being unpleasant, no other participants experienced this as a problem. All participants (100%) were convinced of the importance of this research and emphasized the benefit of the education. Five (29%) declared that this topic was difficult to talk about in group, while the remaining 71% were eager to discuss this theme in group and break all taboos about it.

Interpretation of results

Contradictory to the hypothesis that UI is highly prevalent in nulliparous female athletes; the objective test results reveal a prevalence of UI of 7.1%; but 42.9% (n=12) of the participants declared to experience urinary leakage on a regular basis. This raises the question whether 1.4g as the cut-off for UI in young adult athletes may be overestimated and unrealistic. The statistical tests indicate at most a weak correlation between the objective and subjective measurement of urinary leakage (r=0.417).

When questioned, only a few participants declared to have talked about the problem with peers, their parents or a health professional indicating that there is a taboo around the subject. Despite this lack of communication about the issue, 89.3% of the girls showed a keen interest in the pelvic floor exercises and the majority of them wanted to discuss this topic in group.

There was no significant difference concerning pre and post measurements of the PAD-test. This may be due to a lack of participants or the fact that only a few subjects suffered from UI. Additionally, there were several subjects who did not participate in all trainings due to the exam period. Also, there was no control on how well the pelvic floor exercises were performed and whether they were performed during every training.

Concluding message

This pilot study is the first study to try and gauge the efficacy of pelvic floor exercises integrated in the training of young female athletes in high risk sports. No significant results were found in this trial however the education about pelvic floor function and

dysfunction is clearly appreciated and could break the taboo of incontinence in female athletes. Further studies might want to focus on implementing the exercises more thoroughly and over a longer period.

References

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Disclosures

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