#32 THE ASSOCIATION BETWEEN CHILDHOOD TRAUMATIC EVENTS AND LOWER URINARY TRACT SYMPTOMS IN COMMUNITY-DWELLING MALES AND FEMALES

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Abstract

Background/aim: Traumatic events are suggested to result in an increased tone of the pelvic floor muscles, which may cause pelvic floor symptoms. There are indications that depressive symptoms might influence the association between traumatic events and lower urinary tract symptoms (LUTS). Therefore, we assessed the association of childhood traumatic events with LUTS and analyzed the subsequent effect of depressive symptoms on this association.
Methods: As part of an observational population-based cohort study (n=1,691, aged ≥16 year), participants completed the ICIQ-male LUTS for males, and the ICIQ-female LUTS for females, the NEMESIS Childhood trauma questionnaire, and the patient health questionnaire (PHQ-9).
Results: In males, childhood trauma related to a higher LUTS score, B=.43 (95% confidence interval [CI]=0.19-0.67), p<.001, depression was a mediator in this relationship. In females the association was not significant.
Conclusion: In males, the association between childhood trauma and LUTS seems to be mediated by depressive symptoms.

Introduction

Estimates about the prevalence of childhood trauma are conventionally high, ranging from 20% to 48% depending on the type of trauma measured.[1] There is growing evidence that traumatic events can result in an increased tone of the pelvic floor muscles. Subsequently, this increased tone may cause pelvic floor symptoms, such as micturition problems and other types of LUTS.[2]
To date, most studies assessing the association between childhood trauma and LUTS have focused on sexual and physical abuse.[3] Moreover, this association was tested in convenience samples of mostly female patients. There are indications that depression and mental health issues might influence the association between traumatic events and LUTS.[4] Therefore, the aim of this study was to assess the association of emotional, psychological, physical and sexual childhood traumatic events with LUTS and to analyze the subsequent effect of depressive symptoms on this association in both community-dwelling males and females.

Methods and Materials

Design

This cross-sectional study is part of a larger prospective observational population-based cohort study, among males and females ≥16 years of a Dutch municipality.

Measurements

Participants filled in questionnaires on LUTS, childhood trauma, and depressive feelings:

- LUTS was measured with the ICIQ-male LUTS for males, and the ICIQ-female LUTS for females. The total LUTS score (0-44 for males and 0-48 for females, with higher scores representing more symptoms) was used in the analyses.
- Childhood trauma was measured using the question: “In your opinion, were you emotionally / psychologically / physically / sexually abused before the age of 16?”. Items were scored between 0=never and 3=regularly. A childhood trauma total score (0-12) was created, with higher scores indicating more exposure to traumatic events. Participants who did not want to answer the trauma questions were excluded from analyses.
- The PHQ-9 was used to screen for the presence and severity of depressive symptoms and the total score ((0-27), higher scores meaning more symptoms) was used in the analyses.

Analyses

The association between childhood traumatic events and (A) LUTS and (B) depression was assessed using multiple linear regression analysis. Models were stratified by sex. The models included: childhood trauma total score, age in years, body mass index (kg/m2), diabetes mellitus (yes/no), current smoking (yes/no), and educational level (higher vs lower), and vaginal delivery (yes/no; in females).
In a second model (B), the total score on PHQ-9 was added as a predictor. LUTS total score was set as the dependent variable in all models.

Results

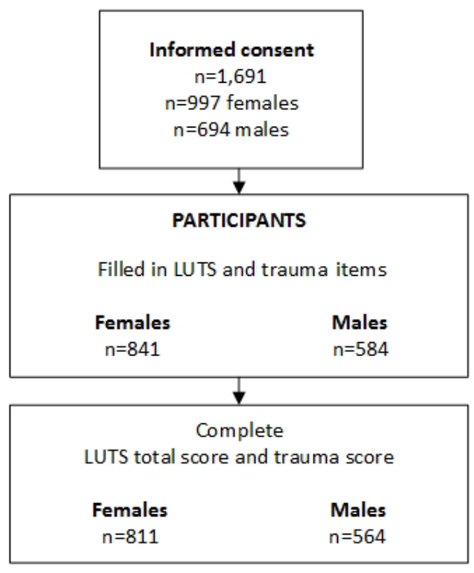

Figure 1. Included participants

After signing informed consent, 584 males and 841 females filled in both the LUTS and childhood trauma questionnaire.

After exclusion of the participants who actively did not want to answer the trauma questions or with missing items, data were available for 564 males (mean age 62.2±13.5 years) and 811 females (mean age 56.7±15.9 years) (Figure 1).

In males, more exposure to traumatic events during childhood contributed to a higher LUTS score (Model A, Table 1). However, this association disappeared when depressive symptoms (total score on the PHQ-9) was introduced into the model (Model B, Table 1).

In females, the probability of childhood trauma to predict LUTS was non-significant in both models. In the final model for females, depressive symptoms remained as a significant predictor, next to age, BMI, vaginal delivery and lower educational level, for higher LUTS scores (Model B, Table 1).

Table 1. Results multiple linear regression model

	Model A			Model B		
Independent factors	**B (95% Confidence interval)**	**Beta**	**p-value**	**B (95% Confidence interval)**	**Beta**	**p-value**
MALES						
Childhood trauma total score (0-12)	0.43 (0.19 – 0.67)	0.15	**<.001**	0.23 (-0.01 – 0.47)	0.08	.06
Diabetes (yes/no)	0.71 (-0.93 – 2.36)	0.04	.40	0.71 (-0.91 – 2.32)	0.04	.39
Age (years)	0.13 (0.09 – 0.17)	0.28	**<.001**	0.15 (0.11 – 0.19)	0.33	**<.001**
Body mass index (kg/m^2)	0.05 (-0.08 – 0.19)	0.03	.46	0.01 (-0.12 – 0.15)	0.01	.84
Current smoking (yes/no)	0.03 (-1.58 – 1.65)	0.00	.97	-0.23 (-1.80 – 1.34)	-0.01	.77
Educational level (higher vs lower)	-0.63 (-1.69 – 0.43)	-0.05	.24	-0.66 (-1.70 – 0.38)	-0.05	.21
PHQ-9 total score (0-27)				0.49 (0.33– 0.66)	0.26	**<.001**
FEMALES						
Childhood trauma total score (0-12)	0.17 (-0.01 – 0.35)	0.08	.06	0.01 (-0.17 – 0.19)	0.01	.94
Diabetes (yes/no)	0.98 (-0.59 – 2.54)	0.05	.22	0.73 (-0.79 – 2.24)	0.04	.35
Age (years)	0.03 (-0.00 – 0.06)	0.08	.07	0.04 (0.01 – 0.07)	0.11	**<.05**
Body mass index (kg/m^2)	0.19 (0.09 – 0.29)	0.16	**<.001**	0.16 (0.07 – 0.26)	0.14	**<.01**
Current smoking (yes/no)	0.54 (-0.85 – 1.94)	0.03	.45	0.56 (-0.79 – 1.91)	0.03	.42
Educational level (higher vs lower)	1.48 (0.51 – 2.45)	0.12	**<.01**	1.29 (0.36 – 2.23)	0.11	**<.01**
Vaginal delivery (yes/no)	1.70 (-0.08 – 3.49)	0.08	.06	2.17 (0.42 – 3.93)	0.10	**.02**
PHQ-9 total score (0-27)				0.40 (0.28 – 0.52)	0.28	**<.001**

Males: dependent variable: ICIQ-MLUTS total score
Model A: R^2= .12, F= 10.97, p<.001, Model B: R^2= .17, F= 14.50, p<.001
Females: dependent variable: ICIQ-FLUTS total score
Model A: R^2= .09, F= 8.40, p<.001, Model B: R^2= .16, F= 13.67, p<.001
PHQ= patient health questionnaire

Discussion

In this population-based study assessing the association between childhood traumatic events and LUTS we showed that there was a difference between males and females in above-mentioned association, i.e. childhood trauma was a predictor for higher LUTS scores in males.
However, childhood trauma was no longer a significant predictor when depressive symptoms was entered as a mediator. This finding is in agreement with the results found by Geynisman-Tan and colleagues, [4] who were unable to demonstrate a significant association between the total number of all childhood traumas with overall LUTS severity in males and females. However, Geynisman-Tan and colleagues [4] did find that sexual trauma was significantly associated with severity of urinary incontinence. Therefore, it would be interesting to explore the contribution of the different types of trauma on LUTS further in the future.

Conclusions

- The association between childhood trauma and LUTS in males seems to be mediated by depressive symptoms.
- However, more research is needed to assess the association between childhood trauma and LUTS as our results, and that of other studies, are based on cross-sectional data.
- Therefore, these outcomes do not automatically contradict that traumatic events during childhood might be a trigger to develop both depressive symptoms and LUTS.
- Furthermore, it would be interesting to explore the influence of the different types of trauma on LUTS separately.

References

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