The prevalence of urinary incontinence in adult netball players in South Australia

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Introduction

Known: An association between high impact sport and urinary incontinence (UI) has been documented, with sports involving running and jumping reporting higher prevalence of UI (1). The majority of studies have included predominantly nulliparous athletes.
Gap: There is limited prevalence data of UI in parous women involved in high impact sports.

Known: Netball is a fast-paced high impact sport involving running, jumping and quick directional changes with repeated accelerations and decelerations. It is the most popular sport played by females in Australia with an estimated one in seven adult females playing on a regular basis, mainly at club level.
Gap: There are no prevalence data of UI in netball players.

Aims

- Primary aim: to establish prevalence of UI within nulliparous and parous netball players within a rural netball league in South Australia.
- Secondary aims: to establish prevalence of sub-types of UI, severity and bother of UI and self-management strategies in a cohort of mixed-parity netball players.

Methods

- **Design**: An anonymised self-report survey.
- **Participants**: Female netball players (≥18 years) within the Tatiara Netball League. Nine of eleven clubs within the league participated (2 clubs excluded as outside the 100km inclusion zone).
- **Procedure:** A survey specific to symptoms of UI while playing netball was designed and piloted.

➢ Survey: Urinary incontinence while playing netball was assessed with the question "Do you ever leak urine while training or playing netball?". The Questionnaire for Urinary Incontinence Diagnosis (QUID) (2), a grade A ICI-recommended screening tool was used to diagnose UI and sub-types. Higher scores represent more frequent UI.

➢ The survey included ranked scales for severity and bother of UI while playing netball.

➢ Based on a recruitment pool of 240 players and a hypothesized prevalence of UI of 33% (95% CI 28%-38%) with nulliparous:parous proportion of 50:50, the sample size estimated was 141.

➢ Hypothesized prevalence based on prevalence of UI in sports similar to netball (2) and community data of UI prevalence.

➢ Study information was sent to all members of participating clubs.

➢ Surveys distributed during training sessions and returned at end of session or postal return.

➢ A reminder email was sent 2 weeks post-distribution.

➢ Microsoft Excel and SPSS version 24 for Windows package were used for statistical analyses.

Results

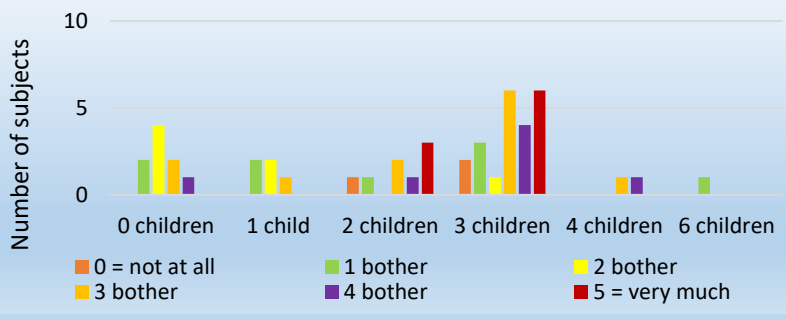
- Response rate: 77% (177 of 229 surveys returned). One survey was excluded (completed by a coach).
- Parity: 50% parous, 46% nulliparous, 4% missing information.
- Age: range 18-50 (mean 31, 95%CI 29.5-32), BMI range:17-48 (mean 25, 95%CI 24.2-25.6).
- Prevalence of UI and player self-management strategies are reported in the table below.
- Figures 1& 2 show bother and severity of UI while playing netball by parity.
- QUID stress scores: range 0-11 (mean 1.8, 95% CI 1.4-2.2).
- QUID urge scores: range 0-12 (mean 2, 95% CI 1.6-2.4).

Table: Prevalence of urinary incontinence*

	Total survey cohort (n=176)		Parity (n=169)[a]			
			Parous (n=88)		Nulliparous (n=81)	
	% (n)	95% CI	% (n)	95% CI	% (n)	95% CI
Leakage netball*	29 (51)	22.8-36.1	43.2 (38)	33.3-53.6	13.6 (11)	7.8- 22.7
QUID						
Any UI	60.8(107)	53.4-67.7	68.2 (60)	57.9-77.0	54.3 (44)	43.5-64.7
Sub-type:SUI	46 (81)	38.8-53.4	59.1 (52)	48.7-68.8	33.3 (27)	24.0-44.2
Sub-type:UUI	43.2 (76)	36.1-50.6	43.2 (38)	33.3-53.6	44.4 (36)	34.1-55.3
Leakage during netball cohort: player self-management strategies						
	Total UI cohort (n=51)		Parity (n=49)[b]			
			Parous (n=38)		Nulliparous (n=11)	
	% (n)	95% CI	% (n)	95% CI	% (n)	95% CI
Wearing pad*	47.1 (24)	34.1-60.5	55.3 (21)	39.7-69.9	27.3 (3)	9.8-56.6
Restrict participation[c]*	13.7 (7)	6.8-25.7	13.2 (5)	5.8-27.3	9.1 (1)	1.6-37.7
Disclosure to HP*	7.8 (4)	3.1-18.5	10.5 (4)	4.2-24.1	0(0)	0-25.9
Performing PFM ex*	31.4 (16)	20.3-45.0	31.6 (12)	19.1-47.5	27.3 (3)	9.8-56.6

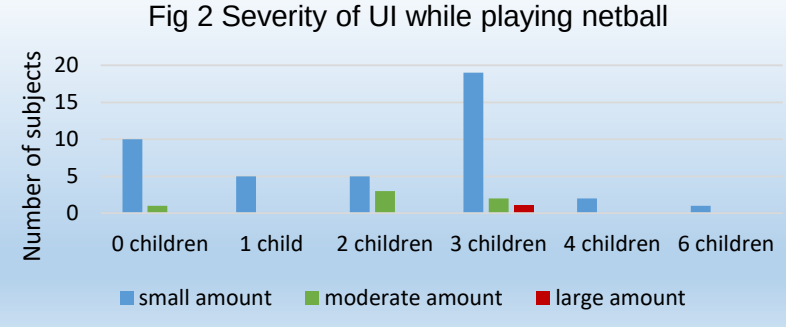
Legend: Leakage netball=leakage of urine which occurs while training or playing netball; QUID= Questionnaire for Urinary Incontinence Diagnosis; PFM=pelvic floor muscle; ex=exercises; HP= health professional.
* Prevalence values revised by statistician post abstract submission, slight variation to those reported in abstract however no impact on interpretation.
[a] Missing data from parity: n = 7 (4%); [b] Missing data from parity in symptomatic only: n = 2 (3.9%); [c] Missing data from parity: n=1 (1.9%).

Fig 1 Bother of UI while playing netball



Missing data parity n = 2 (3.7%) in total UI while playing netball cohort.

Fig 2 Severity of UI while playing netball



Missing data parity n = 2 (3.7%) in total UI while playing netball cohort.

Conclusions

The prevalence of UI while participating in netball (29%) was similar to other high impact sports reported in the literature. Nearly half of parous netballers experienced UI while playing. Screening for UI within netball clubs may assist symptomatic women to receive effective treatment.

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