

THE PREVALENCE OF URINARY INCONTINENCE IN ADULT NETBALL PLAYERS IN SOUTH AUSTRALIA

Hypothesis / aims of study

This is the first time prevalence of urinary incontinence (UI) has been explored in netball and is an original study. 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. An association between high impact sport and (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, there is limited prevalence data of UI in parous cohorts involved in high impact sports. The primary aim of this study was to establish the prevalence of UI within nulliparous and parous netball players within a rural netball league in South Australia. Secondary aims were to establish prevalence of sub-types of UI, severity and both of UI and self-management strategies in this cohort of mixed-parity netball players.

Study design, materials and methods

An anonymised self-report survey in female netball players (≥ 18 years) was undertaken. A survey specific to symptoms of UI while playing netball was designed and piloted as no validated tool investigating UI in sport was found. 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), a grade A ICI-recommended, patient-administered screening tool was used to diagnose UI and sub-types (2). The QUID stress and urge scores range from 0-15 and a positive response to questions 1-5 indicates UI (recorded as any UI). The survey included ranked scales for severity and both of UI while playing netball. Demographic and obstetric data were also collected.

A power calculation for sample size was carried out based on reported prevalence of UI in a predominantly nulliparous (91%) sample of female athletes (3). Prevalence of UI during sports with similar impact to netball were averaged to inform our estimate of nulliparous prevalence (25%). The estimate of parous prevalence (41%) was calculated by increasing the community data prevalence in parous women by the same amount as the nulliparous estimate exceeded community values of UI prevalence in nulliparous woman. The hypothesized sample included nulliparous and parous women in equal proportions giving a UI prevalence estimate of 33%. To allow a 95% confidence interval (CI) for UI prevalence the estimated sample size was 141. Nine of eleven clubs within the league were contacted and agreed to participate. Study information was sent to all members of participating clubs. The surveys were distributed during training sessions and returned at end of session or postal return. A reminder email was sent 2 weeks post distribution. Statistical analyses were performed using Microsoft Excel and SPSS version 24 for Windows package. Data were analyzed by computing absolute numbers (n), frequencies (%) and 95% confidence intervals.

Results

The response rate was 77% (177 of 229 surveys returned). One survey was excluded (completed by a coach). Fifty percent of the sample was parous, 46% nulliparous and parity information was missing for 4%. Age ranged from 18-50 (mean 31, 95%CI 29.5-32) and BMI ranged from 17-48 (mean 25, 95%CI 24.2-25.6). Prevalence of UI and player self-management strategies are reported in the table below. Reported QUID stress scores ranged from 0-11 (mean 1.8, 95%CI 1.4-2.2) and the QUID urge scores ranged from 0-12 (mean 2, 95%CI 1.6-2.4).

Table: Prevalence of urinary incontinence and player self-management strategies

	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	30.7 (54)	24.3-37.9	45.5 (40)	35.5-55.8	14.8 (12)	8.7- 24.1
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						
	Total UI cohort (n=54)		Parity (n=52) ^b			
			Parous (n=40)		Nulliparous (n=12)	
	% (n)	95% CI	% (n)	95% CI	% (n)	95% CI
Amount of UI						
Small amount	87 (47)	75.6-93.6	85.0 (34)	70.9-92.9	91.7 (11)	64.6-98.5
Moderate amount	11.1 (6)	5.2-22.2	12.5 (5)	5.5-26.1	8.3 (1)	1.5-35.4
Large amount	1.9 (1)	0.3-9.8	2.5 (1)	0.4-12.9	0 (0)	0-24.3
Bother of UI while playing netball^c						
0	5.6 (3)	1.9-15.1	7.5 (3)	2.6-19.9	0 (0)	0-24.3
1	20.4 (11)	11.8-32.9	20.0 (8)	10.5-34.8	25.0 (3)	8.9-53.2
2	14.8 (8)	7.7-26.6	7.5 (3)	2.6-19.9	33.3 (4)	13.8-60.9
3	25.9 (14)	16.1-38.9	27.5 (11)	16.1-42.8	16.7 (2)	4.7-44.8
4	13.0 (7)	6.4-24.4	15.0 (6)	7.1-29.1	8.3 (1)	1.5-35.4
5	16.7 (9)	9.0-28.7	22.5 (9)	12.3-37.5	0 (0)	0-24.3
Player self-management strategies						
Wearing pad	46.3 (25)	33.7-59.4	55 (22)	39.8-69.3	25 (3)	8.9-53.2
Restrict participation ^d	13 (7)	6.4-24.4	12.5 (5)	1.5-35.4	8.3 (1)	5.5-26.1
Disclosure to HP	7.4 (4)	2.9-17.6	10 (4)	4.0-23.1	0(0)	0-24.3
Performing PFM ex	31.5 (17)	20.7-44.7	32.5 (13)	20.1-48.0	25 (3)	8.9-53.2

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

^a Missing data from parity n = 7 (4%); ^b Missing data from parity in symptomatic only n = 2 (3.7%); ^c Missing data n = 2 (3.7%) in total UI cohort; n = 2 (16.7%) in nulliparous; ^d Missing data from parity n=1 (1.9%)

Interpretation of results

The overall prevalence of UI while participating in netball was similar to the estimated prevalence, however the nulliparous prevalence was less than expected. This may be due to the sample representing women participating at club level rather than elite athletes, potentially exercising at a lower impact level than published studies. The parous population had a higher prevalence than estimated but there were no published data to base this estimate on. The prevalence of UI during activities of daily living recorded by the QUID was surprisingly high, however the low mean scores demonstrate that the UI experienced was infrequent. Although severity of UI was reported as a small amount in the majority of the netball players nearly half of these wore pads. Severity and bother scores were both higher in the parous population. Disclosure of UI to a health professional was low, as was the proportion of women doing PFM exercises. These findings suggest that the majority of women experiencing UI while playing netball are self-managing their symptoms but not seeking treatment. This may reflect a lack of awareness of treatment for UI among netball players and lack of awareness of the problem in the sport; future research may investigate these aspects.

Concluding message

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

References

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Disclosures

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