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Measurement properties of musculoskeletal tests used in women with chronic pelvic pain: A Systematic Review

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Background:

Musculoskeletal (MSK) dysfunction is highly prevalent in women with Chronic Pelvic Pain (CPP) [1-3] , with prevalence ranging between 6.4-25.4%[4]. Clinical guidelines recommends assessment should include an attempt to identify factors contributing to the pain[5]. Agreement on assessments in CPP is limited, impacting clinical decision making [4, 6-9].

In order to inform an evidence based approach to assessment the measurement properties of a test need to be established for the intended population. We conducted a systematic review to synthesise available evidence on the measurement properties of MSK tests for women with CPP.

Objectives:

1. To determine
   - which tests are used
   - And the extent to which measurement properties of tests have been assessed

Method:

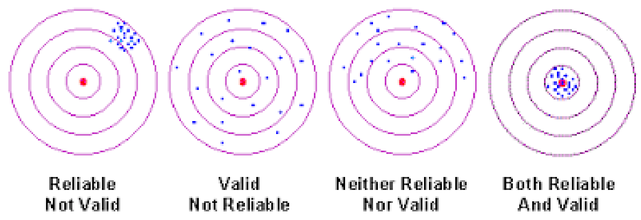
The protocol was prospectively registered in the International Prospective Register of Systematic Reviews (PROSPERO CRD42021285418) and reported considering the Preferred Reporting Items for Systematic Reviews (PRISMA)[10]. A literature search was performed in CINAHL, MEDLINE, EMBASE, EMCARE, and AMED. Two independent reviewers screened the studies against eligibility criteria and extracted data.

Source: Australian Journal of General Practice, 2024

		Validity			Reliability			Sensitivity & specificty			Responsiveness			Utility		
		Studies	Quality	Outcome	Studies	Quality	Outcome	Studies	Quality	Outcome	Studies	Quality	Outcome	Studies	Quality	Outcome
Muscle Function	Pelvic Floor muscles															
	Ultrasound (perineal)	2 1: Dyspareunia n= 33 1: Vulvodynia n=77	2 2: Moderate	2 2: High	Not assessed			Not assessed			Not assessed			Not assessed		
	Ultrasound (trans abdominal)	1 1: Low back pain n= 20	1 1: High	1 1: High	1 1: Low back pain n=20	1 1: High	1 1: Moderate	Not assessed			Not assessed			Not assessed		
	Vaginal balloon catheter	1 1: Pelvic Girdle Pain n=12	1 1: High	1 1: Low	Not assessed			Not assessed			Not assessed			Not assessed		
	Surface EMG	3 2: Vulvodynia n=46 1: BPS n= 15	3 3: Moderate	3 3: High	Not assessed			Not assessed			Not assessed			Not assessed		
	Manometer	1 1: Vulvodynia n=35	1 1: Moderate	1 1: High	Not assessed			Not assessed			Not assessed			Not assessed		
	Dyspareunia etdc speculum & surface EMG	1 1: Vulvodynia n= 56	1 1: Moderate	1 1: High	Not assessed			Not assessed			Not assessed			Not assessed		
	Anal wink reflex	1 1: Vulvodynia n=106	1 1: Moderate	1 1: Low	Not assessed			Not assessed			Not assessed			Not assessed		
	Digital Pelvic Floor (VE)	4 1: BPS n=15 1: dyspareunia n= 87 2: Vulvodynia n=80	4 3: Moderate 1: High	4 5: High	2 CPP n= 46 Vulvodynia n= 29	2 1: High 1: Moderate	2 2: Moderate	Not assessed			Not assessed			1 1: Vulvodynia n=29	1 1: Moderate	1 1: Moderate
	Digital Pelvic Floor (PR)	1 1: Vulvodynia n=29	1 1: Moderate		1 1: Vulvodynia n=29	1 1: Moderate	1 1: Low	Not assessed			Not assessed			1 1: Vulvodynia n=29	1 1: Moderate	1 1: Moderate

Results:

49 studies were included with 64 tests across domains of: Muscle function, Pain provocation, Joint function, Disease severity, Cutaneous sensitivity, and Diagnostic tools. The Straight Leg Raise test was found to be valid and reliable for assessing pelvic joint function, and effective at identifying Chronic Pelvic Girdle Pain. Best evidence supports the use of trans-abdominal ultrasound or digital vaginal examination for pelvic floor function and Digital Pelvic Floor Palpation for pain provocation. Assessment of cutaneous sensitivity via tests for pain thresholds of the vulva mucosa were also supported.



Conclusion:

This review is able to recommend specific MSK tests for the use in the assessment of women with CPP. The review is able to inform current clinical practice. Future clinical guidelines should consider the findings of this review.

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