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Objective

To systematically review and evaluate postpartum health and wellbeing patient reported outcome measures (PROMs) across all domains of postpartum health using the Consensus-based standards for the selection of health Measurement instruments (COSMIN) guidelines.

Methods

Based on a pre-prepared published protocol, a systematic search of PubMed, EMBASE and CINAHL was undertaken identifying patient reported outcome tools. The protocol was registered with PROSPERO (CRD42021283472) and this work follows COSMIN guidelines for systematic reviews. Studies eligible for inclusion assessed a PROM examining postpartum women’s health and wellbeing with no limitation on domain. The aim of the included studies was to evaluate one or more measurement properties of the PROM. Data extraction and the methodological assessment of the quality of the PROM were assessed by two reviewers independently based on content validity, structural validity, internal consistency, cross-cultural validity/measurement invariance, reliability, measurement error, hypotheses testing for construct validity, and responsiveness, as defined by COSMIN. The standard used for content validity were the domains of importance to women in postpartum health and wellbeing proposed by the international consortium for health outcome measurements (ICHOM). These outcome domains for patient reported health status are; mental health, health related quality of life (HRQoL), incontinence, pain with intercourse, breastfeeding, and motherhood role transition. The quality of the methods was rated an overall rating of results was awarded level of evidence was assessed using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) assessment tool; and a level of recommendation was awarded for each tool.

Results

There were 10,324 studies identified in the initial search, of which 29 tools identified from 41 eligible studies included in the review. Twenty one tools were awarded an ‘A’ grading of recommendation for use as a PROM in postpartum women set out by COSMIN standards. Of these ‘A’ rated tools 80% (17) examined the domain of mental health, five examined HRQoL, four examined breastfeeding, role transition was represented in six. No ‘A’ recommended tools examined postpartum incontinence or pain with intercourse. Three tools did not cover domains as recommended by ICHOM, 5 tools were awarded a ‘B’ rating requiring more research prior to their recommendation for use. The majority of tools were awarded very low-moderate GRADE level of evidence. The highest quality tool that covered multiple domains of postpartum health and wellbeing found was the postpartum women’s quality of Life Questionnaire (PQOL).

Table 1. Summary of findings

		Content Validity		Structural Validity				Internal Consistency				Cross cultural validity				Reliability				Measurement Error				Hypothesis Testing				Responsiveness				Recomm endation		
				Methods		Results		Grade		Methods		Results		Grade		Methods		Results		Grade		Methods		Results		Grade		Methods		Results			Grade	
MMCL	+	Very good	+	Low	Very good	+	Low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	Low	Not assessed	+	Very low	a											
WHO-5	+	Very good	+	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	+	Moderate	a											
CBTS	+	Very good	+	Very Low	Very good	+	High	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very Good	+	High	Not Assessed	?	Very low	a											
EPDS	+	Very good	+	Moderate	Very Good	+	Moderate	Not assessed	?	Very Low	Very good	+	Moderate	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very Low	a											
PQOL	+	Very good	+	High	Very good	+	High	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	a											
PROMIS GSF	+	Very good	+	High	Very good	+	High	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	a											
PDSS	+	Very good	-	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	Very good	?	Moderate	Very good	+	Moderate	a											
EQ 5D	+	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Inadequate	?	Very low	Not assessed	?	Very low	Very good	+	High	Very good	+	High	b											
SF-36	+	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Inadequate	?	Very low	Not assessed	?	Very low	Very good	+	High	Very good	+	High	a											
PDPSI	+	Very good	+	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Adequate	-	Moderate	Not assessed	?	Very low	Adequate	+	Moderate	Not assessed	?	Very low	a											
FAS	?	Very good	+	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Inadequate	-	Moderate	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	c											
Barkin	+	Very good	+	Moderate	very good	+	Moderate	Not assessed	?	Very low	Very good	+	Very low	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	a											
PPQ	+	Very good	-	Low	Very good	+	Low	Not assessed	?	Very low	Inadequate	?	Low	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	a											
WhoQoL-BREF	+	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	Very good	?	Moderate	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	a											
PASS	+	Inadequate	?	Very low	Very good	+	Low	Not assessed	?	Very low	Inadequate	+	Low	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	a											
NHP	+	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	a											
TES-B	+	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	-	Low	Not assessed	?	Very low	a											
PSS-SR	+	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	-	Low	Not assessed	?	Very low	a											
PDS	+	Very good	?	Low	Very good	+	Low	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	Very good	+	Low	Very good	+	Moderate	a											
MOS SSS	?	Very good	+	Very low	Very good	+	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Inadequate	-	Very low	Not assessed	?	Very low	c											
MSPSS	+	Very good	-	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Inadequate	-	Moderate	Not assessed	?	Very low	Adequate	+	Moderate	Doubtful	?	Very low	a											
PPSS-S	+	Very good	+	Moderate	Very good	+	Moderate	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Adequate	+	Moderate	Not assessed	?	Very low	a											
IFSAC	+	Not assessed	?	Very low	Very good	-	Very low	Not assessed	?	Very low	Very good	-	Moderate	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	b											
Ob QOR 10	+	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Very good	-	Very low	Very good	+	High	a											
PBQ	+	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Very low	Very good	+	Moderate	Not assessed	?	Very low	Very good	+	Low	Not assessed	?	Moderate	a											
MIB	+	Not assessed	?	Very low	Very good	-	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	Very low	Not assessed	-	High	b											
ICIQ-UI SF	+	Inadequate	?	Very low	Inadequate	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	High	Very good	-	High	b											
13-PAFS	+	Very good	+	Moderate	Very good	-	Moderate	Not assessed	?	Very low	Not assessed	?	Very low	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	b											
MFI	?	Not assessed	?	Very low	Very good	+	High	Not assessed	?	Very low	Inadequate	?	Very low	Inadequate	?	Very low	Very good	+	High	Very good	+	High	c											

Abbreviations: MMCL = Maternal mood checklist. WHO-5 world health organisation -5. EPDS = Edinburgh postpartum depression scale. CBTS = City Birth Trauma Scale. MSPSS = Multidimensional Scale of Perceived Social Support. PQOL = Postpartum quality of life. RMSEA = root mean square error of approximation.13-PAFS = 13-item fatigue scale. PDSS Postpartum depression screening scale ObsQoR-10 = Obstetric Quality of recovery 10. SF-36 =short form -36 PDSI - post-delivery perceived stress inventory. FAS - Fatigue assessment scale. PPQ- Perinatal post-traumatic stress disorder questionnaire. PBQ- Postnatal bonding questionnaire. MIB - Mother and infant bonding scale. WHOQOL-BREF- abbreviated version of WHOQOL -100. NHP- Nottingham Health Profile. TES-B - Traumatic Event Scale-B. PSS-SR- PTSD Symptom Scale-Self Report. ICIQ-UI SF - Incontinence Questionnaire—Urinary Incontinence Short Form. MOS SSS - MOS Social Support Survey. PASS - Perinatal anxiety scale. PPSS-S - Postnatal sense of security scale. MFI- Multidimensional fatigue Inventory

Methods rating: Very good, Adequate, Doubtful, Inadequate or Not assessed. Overall rating presented as: Sufficient (+), Insufficient (-), Inconsistent (+/-) or Indeterminate (?).

Recommendation:

(A) PROMs with evidence for sufficient content validity (any level) AND at least low quality evidence for sufficient internal consistency; (B) PROMs categorized not in A or C. (C) PROMs with high quality evidence for an insufficient measurement property or PROMS with inadequate validity.

Conclusion

This is the first systematic review identifying the best performing PROMs to assess postpartum health and wellbeing. No individual tool covers all six domains of postpartum health and wellbeing. The highest quality tool that covers multiple domains of postpartum health and wellbeing was the PQoL. The PQoL captures four of the six domains of importance to women, with domains of incontinence and sexual health unevaluated. The domain of urinary incontinence was represented by ICIQ-UI SF which requires further psychometric analysis prior to its recommended use. Postpartum sexual health, not represented by any tool, necessitates development of a PROM. A postpartum PROM would be best provided by a combination of high quality tools. Further research is required prior to its implementation.

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