Association between physical activity and urinary incontinence during pregnancy and postpartum: a systematic review and meta-analysis

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Abstract

Background The impact of physical activity during pregnancy and postpartum on urinary incontinence in women is unclear. Objectives To assess the association of physical activity and urinary incontinence during pregnancy and postpartum in a systematic review of the literature. Search Strategy A search of publications indexed in five major electronic databases (CENTRAL, PubMed, EMBASE, CINAHL and PEDro) was performed from their respective inception dates to the 30 March 2020 with a combination of keywords to identify studies of interest. Google Scholar was used for non-indexed literature. Selection Criteria All studies comparing physical activity with standard care in pregnant and postpartum women were selected. Data collection and Analysis Two reviewers, independently, selected studies, assessed quality and extracted data. Odds ratio with 95% confidence intervals were calculated using fixed effects or random effects meta-analyses (Mantel-Haenszel method), for low and moderate heterogeneity between studies, respectively. Main Results Seven studies (n = 12479) were included. Data of four studies could be pooled for meta-analyses; subgroup and sensitivity analyses were not possible. Physical activity, either during pregnancy or postpartum, is not associated with urinary incontinence, OR 0.90 (95% CI: 0.69–1.18) and OR 1.31 (95% CI: 0.74–2.34), respectively. Conclusions The 'low' quality of evidence (GRADE) does not show that physical activity during pregnancy or postpartum has any impact on urinary incontinence. Moderate physical activities should therefore be encouraged for the evidence-based benefits associated on other obstetrical outcomes. Funding None to declare. Keywords Pregnancy; postpartum; urinary incontinence; physical activity; exercise

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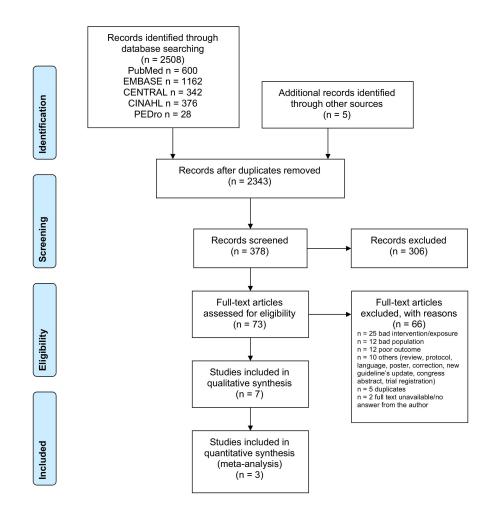
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	Physical a	ctivity	No physical activity			Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% CI
Bo 2018	29	93	48	125	24.4%	0.73 [0.41, 1.28]	-+
Eliasson 2005	194	316	218	349	69.3%	0.96 [0.70, 1.31]	-
Bo and Backe-Hansen 2007	8	31	12	46	6.2%	0.99 [0.35, 2.79]	
Total (95% CI)		440		520	100.0%	0.90 [0.69, 1.18]	•
Total events	231		278				
Heterogeneity: Chi ² = 0.71, d	0%				0.01 0.1 1 10 100		
Test for overall effect: $Z = 0.7$	77 (P = 0.44))					Favours [exposed] Favours [control]

	Physical activity		No physical activity		Odds Ratio			Odds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI		M-H, Random, 95% CI	
Bo and Backe-Hansen 2007	16	31	26	46	28.1%	0.82 [0.33, 2.05]			
Eliasson 2005	243	473	77	192	71.9%	1.58 [1.12, 2.22]		-	
Total (95% CI)		504		238	100.0%	1.31 [0.74, 2.34]		•	
Total events	259		103						
Heterogeneity: $Tau^2 = 0.09$; 0 Test for overall effect: $Z = 0.0$	$P = 0.19$); $I^2 = 429$	6			0.01	0.1 1 Favours [exposed] Favours [co	10 100 ontrol]		

