

to which trials of these interventions consider inequalities. We conducted a systematic review synthesising evidence on how different measures of inequality impact the uptake of, adherence to and effectiveness of behavioural weight management interventions in adults with overweight and obesity.

Methods We updated a systematic review from the US Preventive Services Taskforce to identify (cluster-) randomised controlled trials of primary care applicable behavioural weight management interventions in adults with overweight and obesity published prior to 5th March 2020. Two investigators independently screened articles for eligibility and conducted risk of bias assessment. We curated publication families for each trial. The PROGRESS-Plus framework (place of residence, race/ethnicity, occupation, gender, religion, education, socioeconomic status, social capital, plus other discriminating factors) was used to consider a comprehensive range of health inequalities. Data on trial uptake, intervention adherence or attendance, and weight change outcomes by PROGRESS-Plus criteria were extracted. Data were synthesised narratively, and Harvest plots were produced to summarise the impact of each criterion on uptake, adherence, and effectiveness.

Results One hundred and three studies (89 from previous review; 14 from updated search) were identified. The majority ($n=91$) are trials of behavioural weight loss interventions; 12 are trials of behavioural weight maintenance interventions. At baseline, all studies reported age ($n=103$) and 101 (98%) reported gender/sex; 67 (65%) studies reported race/ethnicity and 57 (55%) education. The least reported criteria were place of residence ($n=3$, 2%) and religion ($n=1$, 1%). Ten studies (10%) examined the impact of at least one PROGRESS-Plus criteria on uptake, 10 (10%) on intervention adherence or attendance, 31 (30%) on trial attrition, and 30 (29%) on weight change. Due to heterogeneity in intervention type and measures used to assess PROGRESS-Plus criteria, a meta-analysis was not conducted. Further results will be synthesised by August 2021, including Harvest plots summarising inequalities at each stage by different PROGRESS-Plus criteria.

Conclusion We identified a lack of consideration of inequalities in trials of behavioural weight management interventions for adults, especially in relation to trial uptake and adherence, and substantial heterogeneity in measures used to assess PROGRESS-Plus criteria. Current evidence does not align with public health policy which prioritises health inequalities. Researchers should consider health inequities in the design, conduct and targeting of interventions to best inform policy decisions and practice.

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WHAT IS THE EVIDENCE BASE SURROUNDING PARENTAL PHYSICAL ACTIVITY? A SYSTEMATIC SCOPING REVIEW OF THE LITERATURE

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Background Despite the known benefits of physical activity (PA) to physical and mental health, many people fail to achieve recommended PA levels. Given parents are less active than non-parent contemporaries, they constitute a large potential intervention population. Interventions should be based upon in-depth understanding of the target behaviour and its

determinants. This scoping review (based on Arksey and O'Malley's guidelines (2005)) therefore aimed to provide an overview of the current evidence base for parental PA.

Methods Four databases (Medline, Embase, PsychInfo, Scopus) were systematically searched to identify peer-reviewed articles focusing on parental PA from 2005 onwards, including interventional, observational or qualitative study designs. Title and abstract screening was followed by duplicate full-text screening. Data extracted for all articles (100% checked by a second reviewer) included study design, proportion of fathers in sample, and ages of children. For quantitative studies, PA assessment method and factors examined based on the Socio-Ecological Model were extracted, as were intervention target and approach for interventional studies, and questions addressed in qualitative studies. Narrative methods, tabulations and graphs were used to summarise results.

Results Of 14,913 unique records retrieved, 213 articles were included; 27 reported on multiple study designs. 173 articles reported on quantitative data (81 cross-sectional, 26 longitudinal, 76 interventional) and 58 qualitative. The majority of articles originated from North America (62%); 53% included only mothers, whilst 2% included only fathers. Articles most frequently represented parents of infants (55% of articles), toddlers (51%), preschoolers (50%), and primary-school aged children (49%). Parents of young and older adolescents were only represented in 28% and 18% of the articles respectively. The majority of quantitative articles only included self-reported PA (69%). Observational articles focused on individual correlates/determinants (90%) and to a lesser extent on interpersonal and environmental factors (27% and 25% respectively). The majority of interventional articles related to full trials (71%), rather than pilot or feasibility studies, and involved parents alone (59%). Qualitative articles predominantly obtained information from focus groups or group interviews (47%) or individual interviews (45%), and most explored PA barriers and facilitators (57%).

Conclusion A range of quantitative and qualitative research has been conducted on parental PA. This review highlights areas for conducting systematic reviews of related articles, such as those focused on the PA of parents of specific groups of children. It also identifies gaps in the literature, for example around paternal PA, to inform intervention development.

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A SYSTEMATIC REVIEW OF THE EFFECTIVENESS OF PERSONAL LETTERS TO HEALTHCARE PROFESSIONALS IN CHANGING PROFESSIONAL BEHAVIOURS

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Background Letters are regularly sent by healthcare organisations to healthcare professionals to encourage them to take action, change practice or implement guidance (e.g., regarding immunisation, blood pressure measurement, prescription, referral). However, whether letters are an effective tool in delivering a change in healthcare professional behaviour is currently uncertain. A systematic review was conducted to identify what information and behaviour change techniques (BCTs) within letters have the potential to optimise behaviour change in healthcare professionals.