TITLE PAGE

A bump start needed: Linking guidelines, policy and practice in promoting physical activity during and beyond pregnancy.

Mills, H., Atkinson, L., Olander, E.K., Smith, D.M., Hayes, L., Currie, S., Newham, J., Foster, C., & De Vivo, M.

AUTHORS

Dr Hayley Mills (corresponding author)

hayley.mills@canterbury.ac.uk

School of Human and Life Sciences

Canterbury Christ Church University

United Kingdom

Hayley.mills@canterbury.ac.uk

01962 923294

ORCID ID: 0000-0001-8895-8894

Dr Lou Atkinson

School of Life and Health Sciences

Aston University

United Kingdom

ORCHID ID: 0000-0003-1613-3791

Dr Ellinor K Olander

Centre for Maternal and Child Health Research

School of Health Sciences

City, University of London

United Kingdom

ORCHID ID: 0000-0001-7792-9895

Dr Debbie Smith

School of Social and Health Sciences

Leeds Trinity University

United Kingdom

ORCHID ID: 0000-0001-7875-1582

Dr Louise Hayes

Institute of Health and Society

Newcastle University

United Kingdom

ORCID ID: 0000-0001-6442-4150

Dr Sinéad Currie

Psychology

Faculty of Natural Sciences

University of Stirling

Scotland

ORCID ID: 0000-0002-7565-4012

Dr James Newham

School of Life Course Sciences

Faculty of Life Sciences and Medicine,

King's College London

United Kingdom

ORCID ID: 0000-0003-3006-2125

Dr Charlie Foster

Centre for Exercise, Nutrition and Health Sciences

School for Policy Studies

University of Bristol

United Kingdom

ORDCID ID: 0000-0002-5041-0601

Dr Marlize De Vivo

School of Human and Life Sciences

Canterbury Christ Church University

United Kingdom

ORCID ID: 0000-0002-7873-5985

Word count :825

ABSTRACT: N/A

Key words: Pregnancy, physical activity, guidelines, policy

EDITORIAL

There is compelling evidence that regular physical activity during pregnancy benefits both mother and baby [1,2]. Notably physical and psychological benefits are evident in the literature such as marked reductions in the development of gestational diabetes and hypertensive disorders, alongside improvements in depressive symptoms and cardiorespiratory fitness [1,2]. The evidence base has been reflected by recent policy initiatives, for example, in 2017 (re-launched in 2019), the United Kingdom's (UK) Chief Medical Officers (CMO) published physical activity (PA) guidelines for pregnant women which made substantial strides in unifying and translating the evidence into recommendations [1]. The CMO guidelines are aimed at supporting health professionals to provide consistent, evidence-based PA messages to women throughout pregnancy.[1] Recently, the Chartered Institute for the Management of Sport and Physical Activity (CIMSPA) have updated their professional standards for working with antenatal and postnatal clients to align with these CMO guidelines.[3] However, not all women have access to professionals with this level of expertise and training, potentially limiting the impact of the CMO guidelines.

Antenatal healthcare professionals, primarily midwives, are the key sources of information for pregnant women in the UK. Although the CMO guidelines are aimed at healthcare professionals, it is unlikely that the guidelines will be integrated into routine practice unless they are adopted by (or consistent with) the relevant National Institute for Health and Care Excellence (NICE) guidelines, because it is these that are routinely used to underpin practice [4].

The most recent UK guidance on antenatal care for uncomplicated pregnancies (NICE Guideline CG62) was issued in March 2008 with a revision due for publication in December 2020.[5] This impending update of NICE guidelines provides an opportunity to increase clarity around the benefits of PA in pregnancy among health professionals, and encourages consistent promotion of PA to women with uncomplicated pregnancies, albeit three and a half years after publication of the CMO's guidelines. Yet, NICE have announced that the scope of CG26 has been amended to remove the topic of PA and that this information is currently available in the guideline pertaining to weight management before, during and after pregnancy (NICE Guideline PH27)[6,7]. Fundamentally, the PA recommendations in PH27 do not currently align with the CMO guidelines nor do they reflect the most recent evidence which informed these. Hence, there is a real risk of pregnant women not receiving the evidence-based PA advice from their most trusted healthcare professionals.

Further, the decision to solely house the PA recommendations in a **weight management** guideline is limiting. Although PH27 does acknowledge that PA has benefits beyond weight management, it does not explicitly outline the specific benefits of PA for all women regardless of weight status, which are fully outlined in the CMO guidelines. The failure to outline all recognised benefits increases the risk of missed opportunities for offering tailored PA advice for non-weight related issues; especially as previous research has highlighted that healthcare professionals lack the confidence and knowledge to deliver PA advice during routine care.[8]

Whilst recognition of CMO guidelines in NICE recommendations would provide a vital first step, change in practice only happens when there is training, time and resources provided to implement these.[9] It is also important to recognise that antenatal healthcare professionals are not solely responsible for imparting these key evidence-based messages. To fully support PA behaviour during and beyond pregnancy, there is a need to have consistency and co-ordination between a range of professionals. This editorial calls for the UK to embrace a whole systems approach to establish the foundations from which to normalise engagement with PA from pre-conception throughout motherhood.

The challenge remains to integrate PA as part of the maternal care pathway and to break NICE's "siloing "of PA solely within weight management. We call for:

- NICE Guidelines to be rapidly revised to reflect and directly link to the new CMO PA pregnancy and postpartum guidelines; we suggest that there is no need to do a full review of the PA evidence but instead direct reference should be made to the CMO documents (as is the case with alcohol use during pregnancy [5]).
- A review by the Royal Colleges and key professional bodies (e.g. Royal College of General Practitioners, Royal College of Midwives, Institute of Health Visitors etc.) on how best to implement PA into pregnancy and postpartum care, i.e. working with the new CMO PA Communications Committee tasked to support the dissemination of new CMO PA guidelines to health professionals.
- This work to feed into a co-ordinated dissemination plan to be agreed and put in place by stakeholders with the aim of raising awareness and facilitating dissemination of CMO PA guidelines.

With the recent release of the first CMO guidelines for PA for women after childbirth in September 2019, the translation and support of such evidence must remain a priority to enable and reassure women during all stages of motherhood. At present this system's failure to implement PA into routine care for pregnancy lets down not only new mothers, but the next generation.

Competing Interests: Dr Foster is the Chair of the UK Chief Medical Officers (CMO) Expert Committee for Physical Activity. Dr Mills is the Chair for the Expert Working Group for Postpartum UK CMO physical activity guidelines. Dr De Vivo is a member of the Expert Working Group for Postpartum UK CMO physical activity guidelines.

Contribution Statement: Work was initially conceived by Dr Mills and Dr De Vivo. Substantial contributions to the conception of the work were made by all authors. Drafting and revising the work critically was done by all authors. Final approval of the version published was given by all authors. Agreement by all authors to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Acknowledgements: The British Psychological Society (BPS), Division of Sport and Exercise Psychology (DSEP) provided funds to facilitate the travel to allow this research working group to meet. All authors are members of this research working group (SP^4A), apart from C. Foster.

Funding: no direct funding for this submission

Ethical Approval: not applicable

Date Sharing: not applicable

REFERENCES

1. Department of Health and Social Care. Physical activity in pregnancy infographic: guidance. 2017.https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/622623/Physical_activity_pregnancy_infographic_guidance.pdf
2. Mottola MF, Davenport MH, Ruchat S, *et al.* 2019 Canadian guideline for physical activity throughout pregnancy. *BJSM* 2018;52:1339-1346.
3. Chartered Institute for the Management of Sport and Physical Activity (CIMSPA). Working with Antenatal and Postnatal Clients v1.0. 2019. https://www.cimspa.co.uk/standards-home/professional-standards-library?cid=18&d=326
4. National Institute for Health and Care Excellence. Benefits of Implementing NICE guidance. https://www.nice.org.uk/about/what-we-do/into-practice/benefits-of-implementing-nice-guidance
5. National Institute for Health and Care Excellence. Antenatal care for uncomplicated pregnancies. Clinical guideline [CG26]. 2008. https://www.nice.org.uk/guidance/cg62/resources/antenatal-care-for-uncomplicated-pregnancies-pdf-975564597445
6. National Institute for Health and Care Excellence. Guideline scope. Antenatal Care. 2019. https://www.nice.org.uk/guidance/gid-ng10096/documents/final-scope
7. National Institute for Health and Care Excellence. Weight management before, during and after pregnancy. Public health guideline [PH27]. 2010. https://www.nice.org.uk/guidance/ph27/resources/weight-management-before-during-and-after-pregnancy-pdf-1996242046405
8. De Vivo M., Mills H. (In press) “They turn to you first for everything”: insights into midwives’ perspectives of providing physical activity advice and guidance to pregnant women. BMC Pregnancy and Childbirth.
9. Heslehurst N, Newham J, Maniatopoulos G, *et al*. Implementation of pregnancy weight management and obesity guidelines: a meta-synthesis of healthcare professionals' barriers and facilitators using the Theoretical Domains Framework. *Obesity Reviews*. 2014;15(6):462-86.