



What helps or hinders midwives to implement physical activity guidelines for obese pregnant women? A questionnaire survey using the Theoretical Domains Framework

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ABSTRACT

Objective: to investigate barriers and facilitators to physical activity (PA) guideline implementation for midwives when advising obese pregnant women.

Design: a cross-sectional, self-completion, anonymous questionnaire was designed using the Theoretical Domains Framework. This framework was developed to evaluate the implementation of guidelines by health care professionals. A total of 40 questions were included. These were informed by previous research on pregnant women's and midwives' views, knowledge and attitudes to PA, and supported by national evidence based guidelines. Demographic information and free text comments were also collected.

Setting: three diverse NHS Trusts in the North East of England.

Participants: all midwives employed by two hospital Trusts and the community midwives from the third Trust ($n=375$) were invited to participate.

Measurements: mean domain scores were calculated. Factor and regression analysis were performed to describe which theoretical domains may be influencing practice. Free text comments were analysed thematically.

Findings: 192 (53%) questionnaires were returned. Mean domain scores were highest for social professional role and knowledge, and lowest for skills, beliefs about capabilities and behaviour regulation. Regression analysis indicated that skills and memory/attention/decision domains had a statistically significant influence on midwives discussing PA with obese pregnant women and advising them accordingly. Midwives' comments indicated that they felt it was part of their role to discuss PA with all pregnant women but felt they lacked the skills and resources to do so effectively.

Key conclusions: midwives seem to have the necessary knowledge about the need/importance of PA advice for obese women and believe it is part of their role, but perceive they lack necessary skills and resources, and do not plan or prioritise the discussion regarding PA with obese pregnant woman.

Implications for practice: designing interventions that improve skills, promote routine enquiry regarding PA and provide resources (eg. information, referral pathways) may help improve midwives' PA advice.

Introduction

Women who are obese (body mass index, BMI above 30 kg/m²) at

the beginning of pregnancy are at increased risk of a number of serious pregnancy complications, which can have both short and long term consequences for their health and the health of their offspring

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(Heslehurst et al., 2008; Torloni et al., 2008; Stothard et al., 2009; Poston et al., 2011; Tennant et al., 2011; Turcksin et al., 2014). Once pregnant it is the role of health care professionals to make women aware of increased risks associated with raised BMI and advise them regarding lifestyle changes. Pregnancy has been described as an ideal ‘teachable moment’ (Phelan, 2009); women may be more willing to engage in behaviour change if they feel it will benefit their infant as well as themselves (Lawlor and Chaturvedi, 2006). As midwives have contact with women throughout pregnancy and into the post-natal period, they have the greatest opportunity to advise and influence women accordingly.

Physical activity (PA) is a modifiable lifestyle factor which may help to reduce the risk of some obesity-related pregnancy complications, not only in relation to maintaining energy balance and reducing excessive gestational weight gain (GWG), but also because of the potential to improve pregnancy outcomes for obese mothers and their infants (Sorensen et al., 2003; Dempsey et al., 2004; Oken et al., 2006; Meher and Duley, 2007; Chasan-Taber et al., 2008; Nelson et al., 2010). National guidelines, recommend 30 minutes of moderate PA on all or most days for all pregnant women (NICE, 2010). Despite this, research indicates that women receive little or no advice from health care professionals regarding PA during pregnancy (Smith et al., 2012), and the advice they do receive appears to lack clarity and consistency (Weir et al., 2010). Whilst the maternity experiences of obese pregnant women (Smith and Lavender, 2011) and studies about the interactions between midwives and obese pregnant women have been reported (Merrill and Grassley, 2008; Nyman et al., 2010; Mulherin et al., 2013), there have been no studies specifically examining the discussions midwives may, or may not, have regarding PA. Lack of clarity in the advice given may be a result of lack of knowledge regarding recommendations, inadequate training, concerns regarding appropriate skills or uncertainties about the effectiveness of advice (Cogwell et al., 2001; Lobelo et al., 2009). Therefore more information regarding midwives’ practice focusing on implementation behaviours, and including specific factors influencing these like knowledge, views and attitudes about advising obese pregnant women about PA is essential if the translation of evidence based guidelines into practice is to be addressed.

The Theoretical Domains Framework (TDF) facilitates the acquisition of specific intelligence on general theoretical domains (e.g. knowledge, skills, beliefs about consequences) associated with implementation, or the lack thereof, of specific evidence-based interventions and/or guidelines. The initial aim of the TDF was to aggregate a set of constructs across different behavioural theories, via an expert consensus approach, under specific umbrella terms that would be easy to communicate to an interdisciplinary audience (Michie et al., 2005). These were originally grouped into 12 domains and later into 14 (Cane et al., 2012).

The TDF can also support the gathering of evidence on the key domains associated with behaviour. As such, this framework has been used by research teams across several healthcare settings to explain

health care practitioner guideline implementation behaviour and subsequently to inform the design of interventions aimed at overcoming guideline implementation difficulties (Michie et al., 2004, 2005). Originally used in qualitative research, it has subsequently been used in a questionnaire format, using a set of questions developed to target each of the domains within the TDF (Amemori et al., 2011; Beenstock et al., 2012). Application of this domain list enhances the understanding of the behaviour change processes inherent in implementation of evidence-based practice and aids understanding of the key domains associated with behaviour implementation.

The aim of this study was to understand the factors associated with the implementation of national guidelines for PA in obese pregnant woman by midwives. More specifically:

- Use mean domain scores to identify which constructs (or factors) may be acting as barriers or facilitators to midwives implementing PA guidelines.
- Assess whether place of work or any personal characteristics are associated with domain scores.
- Evaluate, using a theoretical model, whether a change in the domain scores which appear to be significantly associated with implementation of guidelines could potentially impact on midwives’ behaviour.
- Appraise midwives thoughts and feelings about giving PA advice to obese pregnant women in order to provide insight into implementation behaviour.

Methods

A cross sectional, quantitative, paper based, anonymous, self-completion questionnaire with additional sections for free text comments was administered in three maternity services in the North East of England. These comprised tertiary referral centre (Newcastle upon Tyne Hospital NHS Foundation Trust), a district general hospital (South Tyneside District General Hospital) and North Tyneside community midwives (Northumbria Health Care Trust), thus ensuring a range of staff views, and practices would be obtained. All employed midwives were invited to participate and a total of 375 questionnaires were administered between June 2011 and September 2012. E-mails were sent to staff with internet access to initially alert and then remind them about the questionnaire one month after posting. A second questionnaire was posted out two months after the first to act as a reminder or in case the first was lost. Completion and return of the questionnaire was taken as consent to participate in the study. Add here statement about sample size calculation.

Questionnaire development

The questionnaire was developed by the research team using the TDF, as outlined in the previous section. Table 1 lists the 12 domains and describes them in the context of recommended midwifery beha-

Table 1
Description of the domains in the context of this research.

Domain	Description
Knowledge	Do midwives know what to advise obese pregnant women with regard to PA
Skills	Do midwives feel able and have the correct training to advise obese pregnant women about PA
Social Professional Role	Do midwives feel that advising obese pregnant women about PA is part of their professional responsibility
Beliefs about Capabilities	Do midwives feel capable, confident and comfortable to advise obese pregnant women about PA
Beliefs about consequences	What do midwives think will be the result if they advise obese pregnant women about PA
Motivation and Goals	How much do midwives aim to, or want to, discuss and advise obese pregnant women about PA
Memory, attention, decision	Do midwives remember to discuss, or remember that they should discuss, PA with obese pregnant women
Social Influences	Do other health professionals or individuals influence whether or not midwives discuss and advise obese pregnant women about PA
Emotion	Do emotions/feelings influence whether or not midwives discuss and advise obese pregnant women about PA
Behaviour Regulation	Are there guidelines or is there a care pathway in place to support midwives when they discuss PA with obese pregnant women
Environment, Context, Resources	Do midwives have enough resources, such as time, leaflets and referral options, to discuss PA with obese pregnant women
Nature of the Behaviour	Do midwives discuss PA with obese pregnant women and advise them in accordance with national guidelines

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