Accepted Manuscript

'It makes sense and it works': maternity care providers' perspectives on the feasibility of a group antenatal care model (Pregnancy Circles)

Louise Hunter , Giordana Da Motta , Christine McCourt , Octavia Wiseman , Juliet Rayment , Penny Haora , Meg Wiggins , Angela Harden

PII: S0266-6138(18)30229-8
DOI: https://doi.org/10.1016/j.midw.2018.07.016
Reference: YMIDW 2318

To appear in: *Midwifery*

Received date: 21 December 2017
Revised date: 27 July 2018
Accepted date: 30 July 2018

Please cite this article as: Louise Hunter , Giordana Da Motta , Christine McCourt , Octavia Wiseman , Juliet Rayment , Penny Haora , Meg Wiggins , Angela Harden , 'It makes sense and it works': maternity care providers' perspectives on the feasibility of a group antenatal care model (Pregnancy Circles), *Midwifery* (2018), doi: https://doi.org/10.1016/j.midw.2018.07.016

Highlights

Dissatisfaction with current care provision was reported by commissioners, managers and midwives

Within a system that did not otherwise support this, *Pregnancy Circles* enabled midwives to provide antenatal continuity of carer and build relationships with the women in their care

Midwives in this setting experienced group care as a safe and fulfilling way to provide care

'It makes sense and it works': maternity care providers' perspectives on the feasibility of a group antenatal care model (*Pregnancy Circles)*

'It makes sense and it works': maternity care providers' perspectives on the feasibility of a group antenatal care model (*Pregnancy Circles)*

Louise Hunter[a1], Corresponding author Louise.hunter@city.ac.uk

Giordana Da Motta[a], Giordanamotta@city.ac.uk

Christine McCourt[a], Christine.Mccourt.1@city.ac.uk

Octavia Wiseman[a, b], Octavia.wiseman@city.ac.uk

Juliet Rayment[a], Juliet.Rayment.1@city.ac.uk

Penny Haora[b], p.haora@uel.ac.uk

Meg Wiggins[c], m.wiggins@ucl.ac.uk

Angela Harden[b], a.harden@uel.ac.uk

[a]-Centre for Maternal and Child Health Research, School of Health Sciences, City, University of London, Myddelton Street, London, EC1R 1UW, London, UK.

[b] Institute for Health & Human Development, University of East London, London, UK.

[c] Social Science Research Unit, Institute of Education, University College London, London, UK

1. Conflict of Interest

None declared

2. Ethical Approval

Ethical approval was received from City, University of London School of Health Sciences Ethics Committee and the NHS National Research Ethics Service: Wales REC 6 Proportionate Review Sub Committee (#15/WA/0369).

3. Funding Sources

This is a summary of independent research funded by the National Institute for Health Research (NIHR)'s **Programme Grants for Applied Research Programme** (Grant Reference Number RP-PG-1211-20015). The funder had no role in the design of the study or the collection, analysis and interpretation of data, or in writing the manuscript.

Angela Harden is supported by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care (CLAHRC) North Thames at Bart's Health NHS Trust.

Giordana Da Motta is supported on a *doctoral scholarship by the Brazilian National Council for Scientific and Technological Development (CNPq-Brazil).*

The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health or CNPq-Brazil.

4. Clinical Trial Registry and Registration number

Not applicable

5. Acknowledgements

The authors would like to thank the participating midwives for the time and effort they put into setting up the *Pregnancy Circles.* In particular, Fahima Yusuf, Helliner Robinson and Indie Kaur who set up, recruited to, and oversaw the test groups. Indie Kaur was the local PI for the study and Fahima Yusuf and Helliner Robinson are research midwives.

ABSTRACT:

Aim: To test the feasibility of introducing a group antenatal care initiative (*Pregnancy Circles)* in an area with high levels of social deprivation and cultural diversity by exploring the views and experiences of midwives and other maternity care providers in the locality before and after the implementation of a test run of the group model.

Design: (i) Pre-implementation semi-structured interviews with local stakeholders. (ii) Post-implementation informal and semi-structured interviews and a reflective workshop with facilitating midwives, and semi-structured interviews with maternity managers and commissioners. Data were organised around three core themes of organisational readiness, the acceptability of the model and its impact on midwifery practice, and analyzed thematically.

Setting: A large inner-city National Health Service Trust in the United Kingdom.

Participants: Sixteen stakeholders were interviewed prior to, and ten after, the group model was implemented. Feedback was also obtained from a further nine midwives and one student midwife who facilitated the *Pregnancy Circles*.

Intervention: Four *Pregnancy Circles* in community settings. Women with pregnancies of similar gestation were brought together for antenatal care incorporating information sharing and peer support. Women undertook their own blood pressure and urine checks, and had brief individual midwifery checks in the group space.

Findings: Dissatisfaction with current practice fuelled organisational readiness and the intervention was both possible and acceptable in the host setting. A perceived lack of privacy in a group setting, the ramifications of devolving blood pressure and urine checks to women, and the involvement of partners in sessions were identified as sticking points. Facilitating midwives need to be adequately supported and trained in group facilitation. Midwives derived accomplishment and job satisfaction from working in this way, and considered that it empowered women and enhanced care.

Key conclusions: Participants reported widespread dissatisfaction with current care provision. *Pregnancy Circles* were experienced as a safe environment in which to provide care, and one that enabled midwives to build meaningful relationships with women.

Implications for practice: Pre-registration education inadequately prepared midwives for group care. Addressing sticking points and securing management support for *Pregnancy Circles* is vital to sustain participation in this model of care.

Keywords: feasibility study, group antenatal care, midwives' experiences, safety, relational care, continuity of carer, woman-centred

Midwives need support and a facilitative practice environment in which to develop new ways of working.

INTRODUCTION/BACKGROUND

In the UK, pregnant women from minority ethnic and socially deprived backgrounds have poorer outcomes, and are less likely to attend antenatal care appointments, compared to white British women in more prosperous circumstances (Cresswell et al., 2013; Knight et al., 2009; MBRRACE-UK, 2016). Group antenatal care (gANC) has been successfully implemented in a number of countries, including Australia (Teate et al., 2011), the United States (Ickovics et al., 2007), and Iran (Jafari et al., 2010). It associated with higher attendance rates and improved health outcomes for women and babies such as reduced incidences of pre-term birth, low birth-weight and caesarean birth (Carter et al., 2017; Catling et al., 2015; Ickovics et al., 2007; Jafari et al., 2010; Tanner-Smith et al., 2014). As part of the Research for Equitable Antenatal Care and Health (REACH) Pregnancy Programme, which aims to improve access to, and experiences of, antenatal care for women from marginalised and disadvantaged groups, we aimed to test the feasibility of implementing a gANC model prior to conducting a pilot and full randomised controlled trial comparing gANC with standard one to one antenatal care. Our focus is on maternity services in areas of high socio-economic, cultural, ethnic and linguistic diversity. Services within these areas face a number of financial and administrative challenges which can pose particular barriers for introducing change and innovation due to, for example, staff shortages and burnout. It was therefore appropriate to assess the feasibility of gANC by exploring the views of commissioners, managers and midwives both before and after implementing a test run of gANC, in order to be able to introduce any necessary adaptations and support before the model was piloted on a larger scale.

Although a number of different models exist, gANC generally combines conventional aspects of antenatal assessment with a more woman-led focus including self-checks, group discussion and learning, and the opportunity for social support. Groups typically comprise 8-12 women with similar expected due dates and are facilitated by the same health professionals at each meeting. Their aim is to improve pregnancy care experiences and outcomes by increasing social support and facilitating empowerment (Rising, 1998).

Evaluations of gANC indicate that women attend for appointments more regularly and report higher levels of satisfaction compared to conventional care (Craswell et al., 2016; Risisky et al., 2013; Teate et al., 2011; Trudnak et al., 2013; Wedin et al., 2010). Women appreciate the companionship and peer discussion, which normalises their pregnancy symptoms and experiences (Andersson et al 2013, Kennedy et al 2009, McNeil et al 2012, Teate et al 2011). Continuity of carer allows women to develop a personal relationship with their carer enabling them to ask questions and accrue knowledge (Gaudion et al 2011, Kennedy et al 2009, McNeil et al 2012, Teate et al 2011). Less

favourable evaluations occur in settings where a more didactic approach is employed and/or if there is insufficient time in the sessions for discussion (Allen et al 2015, Andersson et al 2013).

Providing antenatal care to groups of women is often a novel experience for caregivers, utilising an unfamiliar skill set. For example, discussion and learning between women are encouraged, rather than the care provider being the sole expert (Andersson et al 2014, Baldwin and Phillips 2011). In some models, clinical checks, such as blood pressure and urine testing, are devolved to women, and palpations and fetal heart auscultations are carried out in the group setting (Baldwin and Phillips 2011, Gaudion et al 2011). Groups are typically held in community venues, removing care providers from the familiar environments of hospitals and doctors' surgeries.

A small number of studies have solicited the views of midwives involved in providing group care. Midwives setting up the Centering Pregnancy™ group model in the USA were initially worried about their ability to facilitate groups, but over time, gained confidence and found the experience extremely rewarding (Baldwin and Phillips, 2011). This sense of fulfilment is mirrored in midwifery evaluations of Centering Pregnancy™ in the UK and Australia (Gaudion et al 2010, Teate et al 2013). Similarly, physicians who took part in Centering Pregnancy™ in the USA described increased satisfaction with this mode of care provision, believing it enabled them to provide richer care (Mcneil et al., 2013). Whilst agreeing with the benefits, Australian midwives also described facilitating gANC as mentally exhausting (Craswell et al., 2016).

We are developing a bespoke model of gANC called *Pregnancy Circles*, tailored to the local community and services in an inner City National Health Service (NHS) Trust in England. This paper reports a feasibility study aiming to ascertain the 'organisational readiness' of, and acceptability of *Pregnancy Circles* to, the host Trust, and their impact on midwifery practice, in order to inform future model development and wider implementation. The Medical Research Council recommends adequate feasibility testing prior to implementing and testing large-scale complex interventions, including consideration of whether the intervention can be implemented as intended (Medical Research Council, 2006).

METHODS

Setting

An inner-city NHS Trust serving an area of high socio-economic, cultural, ethnic and linguistic diversity. The Trust incorporates three separate tertiary maternity services with around 16,500 births a year.

Intervention

Four *Pregnancy Circle* groups were implemented. The Circle concept was developed following consultation with local stakeholders including maternity service users, managers and practitioners, discussion with midwives with expertise in group facilitation and a review of the literature. Each group comprised up to 12 women living in a specific geographical locality who were due to give birth within a pre-specified three-week period. Groups were held in community venues (e.g. libraries, Children's Centres) and each session was facilitated by two midwives, with support from a third coordinating midwife. *Circle* sessions ran for two hours and followed the timeline and content outlined by the National Institute for Health and Care Excellence (NICE) for standard antenatal care

in the UK (NICE, 2017), with the addition of a postnatal reunion. Each group included seven core elements, outlined in Table One below. Any women who missed a session were contacted by one of the midwives and offered an alternative slot in a standard clinic. Partners were invited to some sessions, depending on the wishes of each particular group, but children were not encouraged to attend due to a lack of crèche facilities. Midwives were given a bespoke manual with suggested content and activities for each session, and training in group facilitation skills was offered via a two-day workshop and/or an accredited Masters level module at a local University. Midwives were able to select the level of training they preferred but all were asked to attend at least one of these. Eligible women were invited to opt in to joining a *Pregnancy Circle* at their booking appointment. Circles could include women categorised as having both 'high' and 'low' risk pregnancies. No attempt was made to separate women according to parity, ethnicity or first language. The only exclusions were women under 16 years of age or those with significant social problems assigned to an existing 'vulnerable women's' team.

Design

We explored how *Pregnancy Circles* were perceived by care providers, how midwives experienced implementing and running the sessions (including any impact on midwifery practice), and any barriers to implementing the intervention on a larger scale, using an inductive qualitative approach. This approach is appropriate for understanding the meanings attributed to, and the lived experiences of, those involved in new or poorly understood situations or events, and has the necessary sensitivity to detect obstacles to changing behaviour (Pope et al., 2002). Qualitative approaches are increasingly used in feasibility studies aiming to identify and resolve or mitigate issues which could undermine the acceptability and delivery of the intervention (O'Cathain et al., 2015). This paper focuses on the perception of the *Pregnancy Circles*, and the experiences of those facilitating the sessions. Practical issues of implementation, and the views and experiences of women (from whom data was also collected) will be reported separately.

Semi-structured interviews and informal discussions were carried out at two time points: one before and one after the implementation of the *Pregnancy Circles*. Interview questions covered topics including familiarity with and views of the *Pregnancy Circles* concept, perceived strengths and weaknesses of gANC, and perceived or experienced barriers to its implementation. The semi-structured interviews were audio-recorded. The informal discussions aimed to encourage the *Circle* facilitators to reflect on their experiences of the intervention. They were conducted on an ad hoc basis with individual midwives, and in a workshop held after the test *Circles* had finished. A written record of informal discussions was made by the participating researchers shortly after each encounter. Contemporaneous notes were taken by two researchers at the workshop.

The mix of interviews and discussions, and individual and group encounters, was designed to ensure that a range of participants would be able to participate, and that individuals felt able to give honest answers in confidence and have the opportunity to reflect on, and perhaps hone and deepen their interpretations of events in consultation with their peers (Guest et al., 2017).

Recruitment

Participants were recruited purposively to ensure inclusion of a range of professional, service and commissioner perspectives.

Pre Implementation

Local commissioners, maternity managers, family doctors (GPs) and key members of the maternity staff such as consultant midwives and parent education midwives, were emailed with information about the study and an invitation to take part. Members of the research team also attended service staff meetings and invited those present to take part. Potential participants were invited to signal their interest by emailing the research team. They were then interviewed either face to face at a venue of their choosing or by phone, depending on their preference and availability.

Post implementation

Once the *Circles* were completed, local stakeholders were approached via email for a second time, with interviews following the same format as those conducted pre-implementation. Midwives and student midwives involved in facilitating the *Circles* were given the opportunity to provide further feedback in a semi-structured interview, and were invited to a workshop to reflect on their experiences.

Consent and ethical approval

Written consent was taken from all participants in audio-recorded face-to-face encounters. Verbal consent was given for telephone interviews. All facilitating midwives were aware they were taking part in an ongoing research project which would solicit their views and use these to inform future intervention development. Ethical approval for the pre-implementation work was received from City, University of London School of Health Sciences Ethics Committee. Approval for the post-implementation evaluation was received from the NHS National Research Ethics Service: Wales REC 6 Proportionate Review Sub Committee (#15/WA/0369

Data Analysis

The written records of the informal discussions and workshop, and verbatim transcripts of the interview audio recordings were uploaded into NVivo 11. Author one and two independently read and re-read the data before identifying and coding it into themes addressing the study aims of organisational readiness, the acceptability of the model, and its impact on midwifery practice. Any discrepancies in the naming of themes, or the placing of data, were discussed and resolved by mutual agreement. Similar themes were then grouped together, and final themes were agreed through a process of reflection and discussion involving the wider research team.

FINDINGS AND DISCUSSION

Sixteen stakeholders were interviewed prior to implementation and ten after the *Circles* had been completed (see Table 2). Seven of the participants in the post-implementation interviews had also been interviewed in the pre-implementation phase. Although the same people were invited to participate at both time points, some had moved into different posts and declined to be interviewed again. Data were also collected from nine midwives and one student midwife who facilitated the *Circles* (See Table 3). Facilitating midwives included both newly qualified and experienced practitioners. To protect their anonymity, responses from Heads of Midwifery, Midwifery Managers, Consultant Midwives and Parent Education Midwives are all categorised as 'Manager'. Responses

from the two GP participants are incorporated into 'Commissioner', as both had a dual role. The student midwife is categorised as a 'Midwife'. It was not possible to attribute contributions from the workshop discussion to individual participants. Data from the pre and post-implementation phases of the study is presented together by theme, as the same points were sometimes raised in both (for example, post-implementation participants would compare the *Circles* with current care). Changing views before and after the *Circles* are juxtaposed and noted.

Organisational readiness

Dissatisfaction with current care provision

There was a tangible sense of frustration among commissioners, managers and midwives with a system that made it very difficult to provide relational, supportive care. Current antenatal provision was portrayed as rushed one-to-one 15-20 minute appointments, fragmented care and over-subscribed, under-resourced parent education classes described as 'death by powerpoint' (Commissioner 1, pre-implementation). Time pressures dictated care episodes, meaning everything was done for speed and lacked a 'human element' (Manager 2, pre-implementation), both in terms of a meaningful midwife-woman relationship and opportunities for women to ask questions:

I am always told, 'Time, time, time, time, time, got to get them in and out, got to get them in and out…' (Midwife 10).

Midwives described current provision as feeling like an unsafe environment in which to work, and both commissioners and managers acknowledged that radical change was needed:

[Traditional care] just delivers lots of tick boxes and education giving which I think is terrible… I think [women] are kind of just in a sausage machine, really (Commissioner 3, pre-implementation).

Dissatisfaction with current care provision is widely acknowledged in literature emanating from the UK and elsewhere (Mollart et al., 2013; Royal College of Midwives, 2016). It emerged as an important motivator for change in the current study, despite the difficulty for health professionals and services to embrace innovation in an era of staff shortages, financial constraints and continual structural change.

Introducing something new

GANC was seen as an opportunity to break the cycle of 'tick box' care, build relationships with women, raise morale among midwives and meet some local and national service targets including improved continuity of carer:

What would sell it to midwives is the continuity element and just the joys of working with women (Manager 4, pre-implementation).

Respondents considered that simply being part of something new and innovative might raise morale and enable the participating health service to improve its image in the community:

we would quite be pioneers in a way …and we would be testing new waters and advancing knowledge …and I think that is the kind of place where people want to work and women want to be looked after (Manager 4, pre-implementation).

Despite the attractions of gANC, commissioners and managers anticipated challenges around persuading midwives to adopt the initiative, and furnishing them with the requisite skills for group work. *Pregnancy Circles* represented a *'major culture shift'* (Commissioner 2, post-completion), and midwives were perceived to lack group facilitation skills and to '*not [be] comfortable talking to more*

than a couple [of people] at a time' (Manager 3, pre-implementation). Midwives recognised that group facilitation was a very specific skill, necessitating learning; a positive, confident and welcoming demeanour*, ('stiffness is contagious'* (workshop discussion)); and the flexibility to respond to women's needs and manage group dynamics. Participants acknowledged that, although group facilitation is defined by the UK Nursing and Midwifery Council (NMC) as a core midwifery skill (NMC, 2009), it is not something for which they felt prepared by their pre-registration education. Even some of the *Pregnancy Circle* facilitators initially found the experience daunting and uncomfortable:

It was scary because I hate public speaking and I hate all eyes being on you (Midwife 2).

This apparent gap in pre-registration midwifery education indicates that training and support will be fundamental to successful implementation of the *Circles*, also considering that an overly didactic approach has been linked to lower patient satisfaction with gANC (Andersson et al., 2012)

Midwives facilitating *Pregnancy Circles* described how the initiative was treated with suspicion by some of their colleagues, and found that managers had to have a 'light bulb' moment and understand and embrace the concept before it was incorporated within the current service and added to the staff rostering system. Until this occurred, the *Circles* were regarded as an 'extra' to be done in 'over-time', and this could put additional strains on already overworked midwives. A number of facilitating midwives felt that they had invested a significant amount of time and effort into setting up and sustaining the *Circles*, and that *'this is only happening because of us'* (Midwife 5).

This indicates that management support and leadership need to be considered and addressed if *Circles* are to be implemented more widely and integrated into the current workload, with adequate support for midwives. A lack of support and recognition was cited as leading to two of the original facilitating midwives electing to withdraw from the initiative after the test *Circles,* despite giving very positive reports of their experiences facilitating the groups. It is evident that the midwives' enthusiasm and commitment was fundamental to the success of the *Circles*, but that this was not always enough to enable them to sustain this model of care. This finding resonates with other evaluations of gANC (Bloomfield and Rising, 2013; Teate et al., 2013), and highlights the difficulties inherent in situating a new initiative within an entrenched and rigid system (Dixon-Woods et al., 2012).

Acceptability of the model

Sticking Points

Managers and commissioners interviewed before the test *Circles* commenced expressed some concerns over the safety of the initiative and the acceptability of the model to the women taking part, in particular in the areas of privacy, self-testing and the inclusion of partners.

Privacy

Some participants were concerned that women would not talk freely, and would not want to expose their abdomens for palpation in a group setting. One-to-one appointments were seen as central to women's expectations:

Some women specifically come just to have that [one-to-one] time with the midwife (Manager 5, pre-implementation).

One-to-one care was also believed to be key to safety – it was felt women would not disclose information about mental health or relationship difficulties in a group:

I think we must put the safety measures in for those women who do need individual attention, make sure that anyone who wants it can have it and have it properly, … the very big drive now is to recognise that 12% of women have perinatal depression or …mental health problems' (Commissioner 2, pre implementation)

Participating women were in fact informed that they could arrange additional one-to-one discussions with a *Circle* midwife at any time. However, post completion it was acknowledged that the group format appeared to encourage increased sharing and disclosure:

People open up a lot more, they talk about things they wouldn't normally because we have 20 minutes [normally]. What are you going to tell your midwife in 20 minutes? (Manager 3, post-completion).

A disclosure of domestic abuse was reported in one test *Circle*, and the sharing of a personal experience of genital cutting was observed in another. Both these disclosures were made to the whole group. This may be because trust was established in the *Circles* over time, or because some of the women came from cultures where gathering in groups to share experiences is a familiar occurrence. Nevertheless, the perception that women would not feel comfortable asking questions and sharing concerns in a group setting lingered for some midwives even after they had seen the extent to which women did share very personal information:

Some women are very, very private and I can't imagine going through pregnancy, and maybe there are some certain things that I wouldn't imagine I would want to discuss… What would I do in that moment when you are in a group setting? (Midwife 10).

The implicit assumption here that current antenatal provision encourages the disclosure of sensitive and personal information is perhaps misplaced. For example it is known that women are more likely to disclose experiencing domestic abuse to a midwife they have met on several occasions (Bacchus et al., 2004). There is also evidence to suggest that women in routine care are not always heard when they do raise concerns about their safety (Rance et al., 2013).

Service providers expressed concern that carrying out abdominal palpations in a group environment might be unacceptable in an area with a large Muslim population:

I think particularly in our population of women where they cover up completely, they don't always feel very comfortable (Manager 8, pre-implementation).

However, the facilitating midwives were surprised at how receptive and open the women were to being palpated and having their baby's heart auscultated in the group space:

*All the women loved it, 'Oh, look at your bump, how big is it now?....did you hear the heartbeat? (*Midwife 10).

It is interesting that four different commissioners or managers expressed objections to aspects of group care on behalf of the women from minority ethnic groups in their communities even though, for the most part, they were at least one step removed from providing front line care. This is especially pertinent given that other research has found that women from minority ethnic groups in

the UK feel less involved in decisions about their care than their white British counterparts, and report being given fewer choices (Henderson et al., 2013). It is unclear whether the concerns raised by participants on behalf of 'our women' stemmed from a genuine belief that women would find group care unacceptable (perhaps due to an unconscious bias towards or stereotyping of certain population groups), or were masking the stakeholders' own discomfort with this form of care. Whatever the reasons, it will be important to discuss privacy prior to implementing the initiative on a larger scale. The sharing of findings from this feasibility study may well reassure practitioners that *Circles* will not compromise women's safety and care experience.

Self-checking

A key component of *Pregnancy Circles* is that women check their own urine and blood pressure. This was seen by most as an opportunity to enhance women's experience by encouraging self-care and learning:

I think it's about time people took responsibility for themselves. People are too quick to hand over everything to the professional.... When they are doing it themselves they are taking more notice of what they are looking at… (Manager 3, pre-implementation).

Not everyone was happy with devolving such power to women, however, with some clearly seeing this as a threat to the health professional's role:

You still need somebody …to confirm what the reading is, so I think it is best then left to the professional (Manager 1, pre-implementation).

Again, self-checking was assumed to be inappropriate for the local population by some managers, and a paternalistic, protective tone was evident:

Our population of women here… they see bodily fluids as being dirty… if they are having to read it off a stick I am not sure how they will feel comfortable (Manager 8, pre-implementation).

Evaluations of gANC in other settings have found that self-checking is enthusiastically welcomed by women and acts as an instrument of empowerment (Risisky et al., 2013) and this was also evidenced in the *Circles*. Furthermore, blood pressure self-monitoring has been found to be as effective as professional monitoring (Fletcher et al., 2016). Again, this is an issue needing to be discussed with practitioners to reassure them that patient safety is not being compromised.

Partners/Support people

Whether and how to include partners in the *Circles* was seen as a complex issue. Some professionals described benefits of partners' participation including building family bonds and normalising pregnancy, and thought that it would be unethical to exclude them:

I don't think you can exclude partners, it's the 21st Century, it's about the family unit (Manager 3, pre-implementation).

Others, however, expressed concerns about including partners in groups with teenagers and *'[ethnic] minority clients'* (Manager 1, pre-implementation), again grounding their worries in the particular demographics of the local area:

I know a lot of our Mums would not ask personal questions [if partners were present]... (Manager 1, pre-implementation).

Although the literature highlights some advantages of partners and birth supporters attending gANC, including increased advocacy for women when they are in labour (McNeil et al., 2012; Risisky et al., 2013), evidence also suggests that women feel less able to discuss issues openly when men are present (Andersson et al 2012, McNeil et al 2012). These findings, and the views expressed here, suggested to us that decisions about partner involvement in the *Circles* should be made by the women attending each group, and that the impact of partner presence or absence should be a focus of the evaluation of the wider intervention implementation.

Impact on Midwifery practice

A sense of accomplishment

Pregnancy Circles were seen as an opportunity to '*have a go*' (workshop discussion) at group facilitation in a supportive environment. Support from colleagues in facilitating and reflecting upon each *Circle* session, helped the midwives grow in confidence. They came to enjoy this new approach and prefer it to one-to-one care:

Yeah, it's been thoroughly enjoyable (Midwife 2).

Midwives' initial anxieties dissipated as they realised that, rather than being expected to talk and dispense information in a *Circle*, they could '*hardly get a word in*' (workshop discussion).

Midwives at the workshop described *Pregnancy Circles* as '*comfortable', a 'relief', 'individualised'*, and *'normal'*, even for women categorised as high risk, allowing facilitators to step back and let go of the *'set spiel'* they employed in a one-to-one setting, grow in confidence and experience greater job satisfaction. The atmosphere was experienced as more relaxed and informal than conventional care:

Most times you are chatting, you have a laugh, you are doing the work, you are accomplishing what you would do antenatal [sic] but there is a different sort of atmosphere. I find it is very relaxed (Midwife 1).

Furthermore, continuity of carer was perceived to make the *Circles* a '*safe'* environment in which to provide care (workshop discussion), giving the midwives a sense of control over their workloads, enabling them to keep track of women, get to know their stories and particular circumstances and provide follow-up care. Sandall et al (2016) suggest that community-based models promote safer outcomes by enabling midwives to proactively provide care. There was a consensus among midwives who had followed *Circle* women into the postnatal period that they had experienced 'good outcomes' because of the *Circles*:

It makes sense and it works (workshop discussion).

Moreover, despite the very short one-to-one time at each *Circle* session, facilitating midwives felt that gANC enabled them to be truly 'with woman', building up trust and rapport over multiple encounters and addressing social, emotional, and clinical needs:

It's not one-to-one but honestly, I can remember all of the women's names and you can't really say that for when you are in an antenatal clinic and all the women come in and out, you don't remember them (Midwife 10).

Empowering for women

Participants anticipated that gANC would bring a number of benefits for women and their communities, including an increase in social capital, a greater voice in their care and the normalisation of experiences through sharing with others. These benefits were associated with shifting the balance of power away from health professionals towards lay and experiential knowledge, and, in part, by relocating care into a community setting:

Knowledge is power and it's hard for women … to really ensure that they have control [in conventional care] because they are in our territory (Manager 4, pre-implementation).

The facilitating midwives noted that the women in the *Circles* '*took back their own learning*' and *'[took] charge of their care*' (Midwife 2) in the less medicalised environment of the *Circles,* suggesting that the hospital setting inhibits women from engaging fully in their care, as well as predisposing midwives to working in rule-bound, institutionalised ways (Hunter et al., 2008).

Rather than leading the groups through adopting a didactic, controlling approach, midwives created an environment and held a space which allowed change to happen:

This has such a big public health impact, without even having to do any work! (Midwife 4).

The midwives saw their role in the group as an enabling one, drawing out the women's knowledge and problem-solving abilities, and building their self-esteem through positive feedback. By providing a more informal and comfortable environment they also enabled women to ask more questions:

I feel in a group where women feel less threatened, they are able to ask questions …barriers will be broken down and if [that happens], people… learn from each other (Manager 6, post-completion).

The inclusion of multiparous women was seen to be pivotal to women learning from each other. The *Circles* were also seen as an opportunity to provide better care to multiparous women, who were often excluded from routine parent education:

Multips do say they feel brushed aside a lot of the time (Commissioner 2, pre-implementation).

Through learning together, the midwives felt the groups would mitigate the social isolation some were perceived to experience:

I think the useful thing about [Circles] is that women are not being alone in their pregnancy, ...[currently] they've no concept about how other women feel about being pregnant. Most women feel blooming awful (Manager 9, pre-implementation).

There was a strong feeling that gANC would build peer support, reduce isolation and help recently-arrived migrants and non-English speakers improve their English and better understand the maternity system:

If you are thinking about trying to empower [local] women... to be able to look after their babies and navigate the system, you are kind of wanting to promote their ability to speak more English… a two-for-one where they are learning, and being able to communicate more in the language that will help them (Commissioner 3, pre-implementation).

Building a peer support network was seen to be a principal advantage of attending private antenatal classes, such as those provided by the National Childbirth Trust (NCT) in the UK, and midwives were delighted to be offering what was perceived as a benefit for the privileged, at no charge:

A lot of the women who do opt for [NCT classes] are more middle class woman you know, who are savvy, whereas the Circle offers that type of care to anyone… You can have that exact experience...on the NHS! (Manager 3, post-completion).

Facilitating midwives perceived that gANC provided women with connections, confidence, knowledge and empowerment that was both incredibly rewarding to see and had the potential to ripple out, transforming whole communities over time:

They came to us at 16 weeks very anxious, with no bumps, and have gone away confident mothers! (Midwife 3).

It would be great if it could be looked at… five years..., ten years down the line, because by having Circles I think we can change the face of the population in the area (Manager 8, post-completion).

Despite some initial concerns that women in the local area would find aspects of the Circles unacceptable, these findings show that, particularly post-completion, all stakeholders agreed that group care had the potential to make a positive and lasting impact on women and their families, helping to give them into their local communities and services.

Strengths and limitations

Collecting data both before and after the intervention was implemented helped identify potential issues and establish how these were then lived out in practice. Gathering data from a range of professionals both formally and informally, and at a workshop, at different time points, also enabled triangulation and ensured that a broad range of views along a time continuum were gained. A limitation is that we were not able to interview as many midwives as intended owing to their heavy workloads impacting on availability for formal interviews.

Conclusion

Pregnancy Circles were both possible and acceptable in the host setting. Dissatisfaction with the existing system drove a willingness to innovate in order to provide more women-centred care. Three sticking points – a perceived lack of privacy, self-checks and the involvement of partners - were identified as needing attention before intervention scale-up. The assumptions made by some participants about the acceptability of aspects of care to 'their' women merit further exploration, but appeared largely to dissipate once the test *Circles* were completed. The *Circles* represented a significant change in usual ways of working for midwives, therefore, adequate managerial support alongside capacity-building are crucial for success. These findings have been used to inform the development of a forthcoming pilot trial. Overall, midwives derived a sense of accomplishment and job satisfaction when providing gANC, and considered that it empowered women and enhanced care.

REFERENCES

Allen, J., Kildea, S., Stapleton, H., 2015. How does group antenatal care function within a caseload midwifery model? A critical ethnographic analysis. Midwifery 31, 489–497. https://doi.org/10.1016/j.midw.2015.01.009

Andersson, E., Christensson, K., Hildingsson, I., 2014. Swedish midwives' perspectives of antenatal care focussing on group-based antenatal care. Int. J. Childbirth 4, 240–249.

Andersson, E., Christensson, K., Hildingsson, I., 2013. Mothers' satisfaction with group antenatal care versus individual antenatal care – A clinical trial. Sex. Reprod. Healthc. 4, 113–120. https://doi.org/10.1016/j.srhc.2013.08.002

Andersson, E., Christensson, K., Hildingsson, I., 2012. Parents' experiences and perceptions of group-based antenatal care in four clinics in Sweden. https://doi.org/10.1016/j.midw.2011.07.006

Bacchus, L., Mezey, G., Bewley, S., Haworth, A., 2004. Prevalence of domestic violence when midwives routinely enquire in pregnancy. BJOG An Int. J. Obstet. Gynaecol. 111, 441–445. https://doi.org/10.1111/j.1471-0528.2004.00108.x

Baldwin, K., Phillips, G., 2011. Voices Along the Journey: Midwives' Perceptions of Implementing the CenteringPregnancy Model of Prenatal Care. J. Perinat. Educ. 20, 210–217. https://doi.org/10.1891/1058-1243.20.4.210

Bloomfield, J., Rising, S.S., 2013. CenteringParenting: An Innovative Dyad Model for Group Mother-Infant Care. J. Midwifery Womens. Health 58, 683–689. https://doi.org/10.1111/jmwh.12132

Carter, E.B., Barbier, K., Sarabia, R., Macones, G.A., Cahill, A.G., Tuuli, M.G., 2017. Group versus traditional prenatal care in low-risk women delivering at term: a retrospective cohort study. J. Perinatol. 37, 769–771. https://doi.org/10.1038/jp.2017.33

Catling, C.J., Medley, N., Foureur, M., Ryan, C., Leap, N., Teate, A., Homer, C.S., 2015. Group versus conventional antenatal care for women, in: Catling, C.J. (Ed.), Cochrane Database of Systematic Reviews. John Wiley & Sons, Ltd, Chichester, UK, p. CD007622. https://doi.org/10.1002/14651858.CD007622.pub3

Craswell, A., Kearney, L., Reed, R., 2016. "Expecting and Connecting" Group Pregnancy Care: Evaluation of a collaborative clinic. Women and Birth 29, 416–422. https://doi.org/10.1016/j.wombi.2016.03.002

Cresswell, J.A., Yu, G., Hatherall, B., Morris, J., Jamal, F., Harden, A., Renton, A., 2013. Predictors of the timing of initiation of antenatal care in an ethnically diverse urban cohort in the UK. BMC Pregnancy Childbirth 13, 103. https://doi.org/10.1186/1471-2393-13-103

Dixon-Woods, M., McNicol, S., Martin, G., 2012. Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. BMJ Qual. Saf. 21, 876–84. https://doi.org/10.1136/bmjqs-2011-000760

Fletcher, B.R., Hinton, L., Hartmann-Boyce, J., Roberts, N.W., Bobrovitz, N., McManus, R.J., 2016. Self-monitoring blood pressure in hypertension, patient and provider perspectives: A systematic review and thematic synthesis. Patient Educ. Couns. 99, 210–219. https://doi.org/10.1016/j.pec.2015.08.026

Gaudion, A., Bick, D., Menka, Y., Demilew, J., Walton, C., Yiannouzis, K., Robbins, J., Rising, S.S., 2011. Adapting the CenteringPregnancy® model for a UK feasibility study. Br. J. Midwifery 19, 433–438. https://doi.org/10.12968/bjom.2011.19.7.433

Gaudion, A., Menka, Y., Demilew, J., Walton, C., Yiannouzis, K., Robbins, J., Schindler, S., Bick, D., 2010. Findings from a UK feasibility study of the CenteringPregnancy model. Br. J. Midwifery 19, 796–802.

Guest, G., Namey, E., Taylor, J., Eley, N., McKenna, K., 2017. Comparing focus groups and individual interviews: findings from a randomized study. Int. J. Soc. Res. Methodol. 20, 693–708. https://doi.org/10.1080/13645579.2017.1281601

Henderson, J., Gao, H., Redshaw, M., 2013. Experiencing maternity care: the care received and perceptions of women from different ethnic groups. BMC Pregnancy Childbirth 13. https://doi.org/10.1186/1471-2393-13-196

Hunter, B., Berg, M., Lundgren, I., Ólafsdóttir, Ó.Á., Kirkham, M., 2008. Relationships: The hidden

threads in the tapestry of maternity care. Midwifery 24, 132–137. https://doi.org/10.1016/j.midw.2008.02.003

Ickovics, J.R., Kershaw, T.S., Westdahl, C., Magriples, U., Massey, Z., Reynolds, H., Rising, S.S., 2007. Group Prenatal Care and Perinatal Outcomes. Obstet. Gynecol. 110, 330–339. https://doi.org/10.1097/01.AOG.0000275284.24298.23

Jafari, F., Eftekhar, H., Mohammad, K., Fotouhi, A., 2010. Does group prenatal care affect satisfaction and prenatal care utilization in Iranian pregnant women? Iran. J. Public Health 39, 52–62.

Kennedy, H.P., Farrell, T., Paden, R., Hill, S., Jolivet, R., Willetts, J., Rising, S.S., 2009. "I Wasn't Alone"—A Study of Group Prenatal Care in the Military. J. Midwifery Womens. Health 54, 176–183. https://doi.org/10.1016/j.jmwh.2008.11.004

Knight, M., Kurinczuk, J., Spark, P., Brocklehurst, P., 2009. Inequalities in maternal health: national cohort study of ethnic variation in severe maternal morbidities. BMJ 338. https://doi.org/10.1136/bmj.b542

MBRRACE-UK, 2016. Saving Lives, Improving Mothers' Care. Oxford.

Mcneil, D.A., Vekved, M., Dolan, S.M., Siever, J., Horn, S., Tough, S.C., 2013. A qualitative study of the experience of CenteringPregnancy group prenatal care for physicians. BMC Pregnancy Childbirth 13, S6. https://doi.org/10.1186/1471-2393-13-S1-S6

McNeil, D.A., Vekved, M., Dolan, S.M., Siever, J., Horn, S., Tough, S.C., 2012. Getting more than they realized they needed: a qualitative study of women's experience of group prenatal care. BMC Pregnancy Childbirth 12. https://doi.org/10.1186/1471-2393-12-17

Medical Research Council, 2006. Developing and evaluating complex interventions.

Mollart, L., Skinner, V.M., Newing, C., Foureur, M., 2013. Factors that may influence midwives work-related stress and burnout. Women and Birth 26, 26–32. https://doi.org/10.1016/j.wombi.2011.08.002

NICE, 2017. Antenatal care for uncomplicated pregnancies | Guidance and guidelines | NICE. NICE.

NMC, 2009. Standards for pre-registration midwifery education [WWW Document]. URL https://www.nmc.org.uk/globalassets/sitedocuments/standards/nmc-standards-for-preregistration-midwifery-education.pdf (accessed 9.21.17).

O'Cathain, A., Hoddinott, P., Lewin, S., Thomas, K.J., Young, B., Adamson, J., Jansen, Y.J., Mills, N., Moore, G., Donovan, J.L., 2015. Maximising the impact of qualitative research in feasibility studies for randomised controlled trials: guidance for researchers. Pilot Feasibility Stud. 1, 32. https://doi.org/10.1186/s40814-015-0026-y

Pope, C., van Royen, P., Baker, R., 2002. Qualitative methods in research on healthcare quality. Qual. Saf. Health Care 11, 148–52. https://doi.org/10.1136/QHC.11.2.148

Rance, S., McCourt, C., Rayment, J., Mackintosh, N., Carter, W., Watson, K., Sandall, J., 2013. Women's safety alerts in maternity care: is speaking up enough? BMJ Qual. Saf. 22, 348–55. https://doi.org/10.1136/bmjqs-2012-001295

Rising, S.S., 1998. Centering pregnancy. An interdisciplinary model of empowerment. J. Nurse. Midwifery. 43, 46–54.

Risisky, D., Asghar, S.M., Chaffee, M., DeGennaro, N., 2013. Women's Perceptions Using the CenteringPregnancy Model of Group Prenatal Care. J. Perinat. Educ. 22, 136–144. https://doi.org/10.1891/1058-1243.22.3.136

Royal College of Midwives, 2016. Caring for You Campaign : Survey Results RCM campaign for healthy workplaces delivering high quality care. London.

Sandall, J., Soltani, H., Gates, S., Shennan, A., Devane, D., 2016. Midwife-led continuity models versus other models of care for childbearing women, in: Sandall, J. (Ed.), Cochrane Database of Systematic Reviews. John Wiley & Sons, Ltd, Chichester, UK. https://doi.org/10.1002/14651858.CD004667.pub5

Tanner-Smith, E.E., Steinka-Fry, K.T., Lipsey, M.W., 2014. The Effects of CenteringPregnancy Group Prenatal Care on Gestational Age, Birth Weight, and Fetal Demise. Matern. Child Health J. 18, 801–809. https://doi.org/10.1007/s10995-013-1304-z

Teate, A., Leap, N., Homer, C.S.E., 2013. Midwives' experiences of becoming CenteringPregnancy facilitators: A pilot study in Sydney, Australia. Women and Birth 26, e31–e36. https://doi.org/10.1016/j.wombi.2012.08.002

Teate, A., Leap, N., Rising, S.S., Homer, C.S.E., 2011. Women's experiences of group antenatal care in Australia—the CenteringPregnancy Pilot Study. Midwifery 27, 138–145. https://doi.org/10.1016/j.midw.2009.03.001

Trudnak, T.E., Arboleda, E., Kirby, R.S., Perrin, K., 2013. Outcomes of Latina Women in CenteringPregnancy Group Prenatal Care Compared With Individual Prenatal Care. J. Midwifery Womens. Health 58, 396–403. https://doi.org/10.1111/jmwh.12000

Wedin, K., Molin, J., Crang Svalenius, E.L., 2010. Group antenatal care: new pedagogic method for antenatal care—a pilot study. Midwifery 26, 389–393. https://doi.org/10.1016/j.midw.2008.10.010

Table 1. Core elements of Pregnancy Circles

	Concept	**Explanation/Rationale**
1.	**Partnership model**	Foster non-hierarchical relationships among women and between women and midwives, facilitating informed decision-making
2.	**Continuity of carer**	Each session to include the same group of women and named midwives, to encourage peer friendships and high quality, relational care
3.	**Women's participation/self-check**	Women encouraged to calculate their gestation, check their own blood pressure and urine, and report on fetal movements at each session, recording findings in their hand-held notes. To foster autonomy and self-efficacy
4.	**Brief one-to-one clinical check (3-5 minutes)**	Conducted on a mat or couch in the same room as the group in order to maintain group involvement and encourage peer support and sharing
5.	**Woman-centred care & environment**	Sessions held in a community location to foster a non-medicalised, interactive approach
6.	**Importance of discussion**	A woman-led, non-didactic approach encouraging information sharing among women and midwives, facilitating informed

		decision-making
7.	**Responsive to local needs**	To maximise inclusivity and make best use of local resources, local decisions to be made regarding make up of group, venue arrangements and the inclusion of other lay or professional groups such as interpreters, student midwives, Health Visitors or service users

Table 2. Participating stakeholders (some had dual roles so are included more than once)

	Pre-implementation (n= 16)	Post-completion (n=10)	Number of individuals interviewed at both time points
Head of Midwifery	3	2	2
Midwifery Manager	5	2	1
Consultant Midwife	4	3	2
Parent Education Midwife	2	1	1
GP	2	1	1
Commissioner	3	2	1

Table 3. Data gathered from facilitating midwives

	Formal interview	Informal interview	Workshop discussion
Midwife 1	✓	✓	
Midwife 2	✓	✓	✓
Midwife 3		✓	
Midwife 4		✓	
Midwife 5		✓	✓
Midwife 6		✓	✓
Midwife 7			✓
Midwife 8			✓
Midwife 9			✓
Midwife 10	✓		