**Adaptation of a Behavioural Activation intervention manual and booklet intended for delivery by non-mental-health specialists for the treatment of perinatal depression**

**Background**

Depression is a substantial public health concern during pregnancy and in the postpartum period. A meta-analysis showed that the estimated point prevalence of depression is in the range of 9% to 19% in the perinatal period (Woody et al., 2017). Systematic reviews have shown significant association between maternal depression and internalizing and externalising problems and negative affect/behaviour on children (Gentile, 2017; Goodman, 2019; Sanger et al., 2015; Stein et al., 2014). Two meta-analyses found postpartum depression in the mother as the predictor of depression in fathers during the postpartum period (Goodman, 2004; Paulson & Bazemore, 2010). The current policy in England, ‘Better Births’ the National Maternity Review (National Health Service England, 2016), underlines the importance of perinatal depression and recognises that it is an ongoing problem that affects not only the women themselves but also their families and the economy of the wider society (Bauer et al., 2016). Although perinatal depression is a recognised problem, the provision of perinatal mental health services is insufficient across a large part of the country (Royal College of Midwives, 2017a). Improving the provision of perinatal depression treatments is in the Governmental agenda and this is one of the action plans of the National Maternity Review (National Health Service England, 2016).

The stepped-care model of service delivery suggests “offering or referring for the least intrusive, most effective intervention first” (National Institute for Health and Care Excellence, 2018) (p.16). It is suggested that the available Improving Access to Psychological Therapies (IAPT) services for the treatment of mild to moderate perinatal depression do not provide specialist training on perinatal mental health for IAPT providers (Hogg, 2013). A survey conducted in Primary Care Trusts in England showed that women typically experience delays in accessing psychological treatments (4Children, 2011). These delays may have potential outcomes for women and their families. On the other hand, evidence shows the success of training health visitors to deliver psychological-based listening visits (Morrell et al., 2009) and the cost-effectiveness of training non-mental-health specialists in the delivery of brief psychological interventions (Ekers et al., 2011).

Maternity services, community services and health visiting services comprise a diverse workforce in England; however, there are challenges to capacity in terms of allocating the role of delivering a brief psychological intervention to support perinatal women. The role of maternity support workers (MSW) includes supporting women and providing complex care. MSWs are an essential part of the maternity team and they can contribute to fulfilling the goals of the National Maternity Review (National Health Service, 2019). They can lessen role demands and pressures on midwives by working and with them (Royal College of Midwives, 2017b). MSWs could also decrease the demand for specialist mental health workers by delivering a brief low-intensity psychological intervention to women who demonstrate mild to moderate depression symptoms during pregnancy or afterwards.

In the perinatal period, the mental health needs of women should be met by the provision of the most effective and low-cost treatments. BA is a structured, brief and effective psychotherapeutic approach that relies on changing behaviour through adaptive activities in the treatment of depression (Cuijpers et al., 2007; Dimidjian et al., 2011; Ekers et al., 2008; Martell et al., 2010). BA is as effective as other psychological interventions (Cuijpers et al., 2007; Ekers et al., 2008; Mazzucchelli et al., 2009). It also offers the possibility of being more cost-effective because its simplicity means it can be delivered by NMHSs (Ekers et al., 2011; Richards et al., 2016). BA is, therefore, a good candidate for the treatment of perinatal depression as a simple intervention that can be delivered by trained NMHSs (Veale, 2008). There is also some evidence that low-intensity forms of BA are effective for adults (Chartier & Provencher, 2013), though its effectiveness in the perinatal setting is inconclusive.

Two randomised controlled trials were found which trained a mixed group of specialists and non-specialists to deliver a 10-session BA therapy during pregnancy in the USA (Beck et al., 2014; Dimidjian et al., 2017). Both studies concluded that BA is an effective and feasible intervention for the treatment of depression during pregnancy and three-month postpartum. There is at present an evidence gap for the effectiveness of low-intensity BA delivered by NMHSs for women experiencing depression in the perinatal period in a UK-setting. These studies (Beck et al., 2014; Dimidjian et al., 2017) also did not provide information on how the BA treatment was adapted for the specific needs of perinatal women. The aim of this study was to adapt a BA intervention manual and guided self-help booklet suitable for delivery in a perinatal setting to women by NMHSs, for example, MSWs.

**Methods**

**Study Design**

The Medical Research Council recommends researchers to acknowledge and use appropriate methods in the development of interventions (Craig et al., 2013). The experience-based co-design (EBCD) is one of the methods that can be used in the development of health care interventions (O’Cathain, Croot, Duncan, et al., 2019; O’Cathain, Croot, Sworn, et al., 2019). The involvement and collaboration of the women who would receive the treatment, and the HCPs who would deliver it, are key elements of this study; therefore, an EBCD was used (Bate & Robert, 2007). It involved a ‘discovery’ phase within the first study element when the women’s and HCPs’ experiences were explored, and the ‘co-design’ phase within the second study element, when the BA therapy manual and booklet were adapted, as illustrated in detail in Figure 1. The first study phase was reported elsewhere therefore only the second study is the focus in this paper. Individuals’ perspectives and the context of data generated played a key role in this study for the creation of ideas and statements, therefore an inductive qualitative approach was adopted for this study (Barbour, 2014; Creswell & Plano Clark, 2018).

**Study Settings, Sampling and Recruitment**

Women and HCPs were recruited from three areas within Yorkshire and the Humber in 2019. A purposive sampling method (Bowling, 2009) was used to select women so as to ensure diversity across experience of antenatal depression and postpartum depression, received psychological and/or pharmacological treatments for perinatal depression or none, duration of depression and depression severity. Demographics forms were issued to women to inform selection for participation. It was recognised that women who have experienced perinatal depression are potentially vulnerable group; therefore, an ‘assessment and management of risk protocol’ was prepared and all women who consented to be involved in the study were assessed for depression symptoms through Patient Health Questionnare-9 (PHQ-9) (Kroenke et al., 2001). Women who scored 10 or above (clinical depression) or were in the perinatal period were excluded from the study according to this protocol. Women were recruited through advertisement posters placed at three NHS Trusts and online advertisements posted on a number of websites and Facebook accounts related to mothers.

The same purposive sampling method was used to select a variety of HCPs who have experience of providing support or care for women with perinatal depression. They were informed about the study by email sent by the gatekeepers in each NHS Trust.

Exploring HCPs’ experiences of providing support and care for women with perinatal depression

Exploring women’s experiences of perinatal depression

Findings directly specific to shaping the manual and booklet

Findings directly specific to shaping the manual and booklet

Discovery phase (the first phase)

Identifying key themes

Co-design workshops with women and HCPs

4th workshop

3rd workshop

2nd workshop

1st workshop

Co-design phase (the second phase)

Adaptation of the treatment

Adaptation of the treatment

Adaptation of the treatment

Adaptation of the treatment

Integration of findings of all workshops

Final version of the treatment

**Figure 1: Stages of the EBCD approach in this study (Bate and Robert, 2007)**

**Data Collection Methods**

The typical content of a co-design workshop included (Bate & Robert, 2007): (1) giving information about the study (this is revisiting/ reiterating information already provided to secure participation & consent); the aim of the research, why is this relevant to them, why they have been invited to collaborate, expectations of participants in the process, what will be achieved at the end of the workshop; (2) going through the BA booklet and then the proposed BA manual, page by page while explaining the findings from the first phase and asking probing questions to identify, agree and define key points to change; (3) setting priorities for the adaptation of the BA booklet and manual: how it would be modified to make the booklet and manual better for women experiencing perinatal depression and for non-specialists, providing a BA intervention.

Four co-design workshops were held in private, convenient and confidential locations for everyone (i.e., a private room in community centres and a university). The duration of workshops ranged between 110 to 145 minutes, with an average of 123 minutes. In recognition of the women’s time and effort in the study, and as a thank you gift, they were given a One4all gift card worth £20. Travel expenses of women and HCPs were also reimbursed.

*Behavioural Activation guided self-help booklet and manual*

The BA booklet and manual were adapted from documents developed for the CASPER and CHEMIST studies (Gilbody et al., 2017; Littlewood et al., 2019; Pasterfield et al., 2014). The booklet was aimed to be used by women who are pregnant, are first time mothers and have more than one child and in the postpartum period. It was designed to address women’s needs from pregnancy to the end of the first year after childbirth. The content of the booklet is summarised in Table 1.

The BA therapy manual includes three sections: the first section describes the overall principles of the intervention; the second section explains the structure of the sessions; the third section describes the risk protocol. The BA manual was planned to be used by MSWs for the treatment of perinatal depression.

**Table 1: The content and stages of BA therapy guided self-help booklet**

|  |  |
| --- | --- |
| The stages | The content |
| Stage 1: Understanding risk factors and recognising symptoms of low mood | Understanding what low mood is, so that you can start to manage it |
| Stage 2: The value of keeping a diary | Looking at your own activities and recognising how they affect your mood |
| Stage 3: Three types of activity and planning to keep a balance | Planning routine, necessary and pleasurable activities |
| Stage 4: Breaking things down to make them easier to manage | Making the tasks more manageable |
| Stage 5: Keeping up your activities when you become pregnant or have a baby  Finding other ways to be active and improve your mood | What you get out of what you do  …if you can no longer do the things you used to do |
| Stage 6: Making an action plan to stay well | What to do if you notice symptoms of low mood getting worse again in the future and planning to stay well |

**Data Analysis**

The workshops were conducted and audio-recorded by the first author using a password-protected audio recorder. The recordings were transcribed by the same author. Thematic analysis was used to analyse the data (Braun & Clarke, 2006, 2019). In addition to six phases of thematic analysis, the 15-point checklist of criteria for good thematic analysis was also used to increase confirmability (objectivity) of findings (Braun & Clarke, 2006). Highlighters, colourful pens and sticky notes were used to support analysis of data.

The recording transcripts were the main data sources used for the adaptation of the BA manual and booklet, in addition to co-designers’ comments on the documents and the researcher’s notes taken during the workshops with regards to the general direction of the improvements as identified by the group. The decision on whether to amend the documents or not was a consensus decision-making process between women, HCPs and the researcher in the workshops by asking co-designers whether everyone is agreeing on the amendment or not. The adaptation was made according to the majority’s opinion. Every comment made by co-designers was given attention in the coding process, even if the group did not agree on the suggested changes. In the subsequent workshop, unresolved issues were brought to the co-designers’ attention and their comments were compared with the suggestions of the previous workshop contributors.

The identified themes and the relevant context from the first study element ‘discovery phase’ were used in the adaptation process, although not every finding was worthy of implementing changes to the manual and booklet. This decision was made by the researcher, taking into account the context, stages and aim of the BA treatment and their relevance to the findings. These findings were explained to co-designers in the co-design workshops, and probing questions were asked to identify the points to change in the documents. The identified themes from the first study are shown in Figure 2.

**Findings**

In total, 14 women and three HCPs took part in four co-design workshops across the three research sites in 2019 (Table 2). Two of the HCPs were midwives and one of them was a health visitor. Eleven women were white British, three were other Asian backgrounds, and aged 31 – 45 years (mean = 36.8 years). All the women were married or living with a partner. Eight had completed graduate study and seven were working in a part-time job. Eight women reported experiencing *perinatal* depression. Six of them had a diagnosis of it; of these four received only psychological treatment and two received only medication. Two of them did not have a diagnosis of perinatal depression and did not receive any treatment. Five women reported experiencing only *postpartum* depression; one received only psychological treatment and one received only medication while the third one did not receive any treatment (two left it blank). For one woman who experienced depression during pregnancy disappeared after giving birth.

The following five themes were identified from the data: 1) to differentiate what is common and not common to feel in the perinatal period (risk factors and signs of perinatal low mood and depression) and other adaptations to the content; 2) illustration of mood cycles and suggested activities with examples (breaking the low mood cycle, activities for women, planning manageable activities, example action plan, example diary); 3) using narrative quotations from the first phase; 4) highlighting that “BA may not work for you” (other help sources are available); and 5) minor modifications on format or text (using bullet points, highlighting important texts, choosing brighter and natural pictures, reordering some sections, removing repetitions and unnecessary information, improving the clarity of the texts and scale to use for mood, and deciding the size of the manual and booklet). Figure 3 illustrates the thematic map.

Diagram

Description automatically generated Diagram

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**Figure 2: Thematic map for the first phase (discovery phase of EBCD)**

**Table 2: Characteristics of women and HCPs participated in workshops**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participant number | Research sites | Age | PHQ-9 score | Age of youngest child | Number of children |
| W C 1 | C (first workshop) | 45 | 2 | 2 | 1 |
| W C 3 | 41 | 0 | 3 | 1 |
| W C 6 | 41 | 1 | 2 | 2 |
| H C 18 | Community midwife | | | |
| H C 19 | Health visitor | | | |
| W A 9 | A (second workshop) | 34 | 2 | 4 | 1 |
| W A 13 | 31 | 1 | 3 | 1 |
| W A 14 | 37 | 9 | 1 | 1 |
| W A 15 | 33 | 2 | 1 | 1 |
| W A 16 | 33 | 0 | 1 | 1 |
| W B 10 | B (third workshop) | 40 | 1 | 4 | 1 |
| W B 12 | 36 | 3 | 2 | 1 |
| H B 20 | Midwife | | | |
| W C 4 | C (fourth workshop) | 39 | 2 | 1 | 2 |
| W C 17 | 31 | 3 | 3 | 2 |
| W C 21 | 40 | 4 | 3 | 2 |
| W C 22 | 35 | 8 | 5 | 1 |

Diagram

Description automatically generated

**Figure 3: Thematic map reflecting the findings from the co-design workshops involving women and HCPs**

**1) To differentiate what is common and not common to feel in the perinatal period**

The first main adaptation recommended by co-designers were to differentiate what is common to feel in the perinatal period and what is not common as some symptoms are common when you have depression and are pregnant or have a newborn baby, for example, feeling tired and sleeping problems. As one woman stated, *“It is common to have sleeping problems in pregnancy”*. Therefore, the priority was developing the booklet and the manual in terms of the signs of depression and difference between common and non-common feelings and the ‘baby blues’. For example, in the text below, it is emphasised that it is common for woman to feel emotional around the fourth day after giving birth, however, if it continues for a few weeks or more, it can be more of a sign of depression.

*“Around the 4th day after giving birth, hormonal changes in your body can lead to emotional mood swings commonly known as the ‘baby blues’.*

• *Most mothers become emotional during these days and it might be hard to differentiate it from low mood*

• *If the signs carry on for a few weeks or more, it can be more of a sign of depression*

• *It is important to deal with the symptoms of low mood as early as possible before they get worse”* (Booklet).

Sleeping problems are common during pregnancy and after giving birth regardless of having depression. As one woman stated in the workshop, “*Not being able to sleep when your baby’s asleep*” could be the difference between the common and non-common sleeping pattern. This example was used in the booklet as follows:

*“Changes in sleeping: Some women with low mood sleep much more than usual. Other women find getting to sleep much more difficult or wake up much earlier than normal and struggle to get back to sleep. It is common to have sleep problems in pregnancy due to pregnancy symptoms, so this can make sleep problems worse. A newborn baby’s sleep pattern can be quite erratic. If you are unable to sleep when your baby sleeps, this may be a sign of low mood”* (Booklet).

There were some concerns between the co-designers about the symptoms that not everyone shows the same signs as one woman stated, *“Everyone could show the signs in a different way”*. Therefore, the following statement was added to the booklet.

*“Not everyone will have all of these signs, but some are likely to be there and noticing them is the first step to staying well”* (Booklet).

Another content-related adaptation was made to the booklet and manual about the effect of maternal depression on partners and children. The previous study findings and the literature have shown that perinatal depression can affect partners and children, therefore, this finding was written in the booklet and manual. However, after two workshops, this information was removed because the women were not happy to see the potential negative consequences of depression on their partner and children. They stated that whilst it was hard to take care of themselves how they would take care of the whole family, it might increase the stress on them. As one woman stated, “*it would make more pressure on me… I would think I am a bad mum affecting the whole family*”. As other woman stated, “*I think it would almost make a mum feel like to happen to be a superwoman and pick up the whole family*”. Therefore, this information was removed from the manual but kept in the booklet as follows: *“…Not addressing this aspect of women’s health can affect the general wellbeing of the women and their family*”. The co-designers were happy with this statement.

Lack of support for partners was another finding and this issue was raised in the first workshop. The co-designers were asked if they would like to see text about ‘information for partners struggling with paternal low mood or depression’; however, they expressed their thoughts of not wishing to include information for partners because this is a personal booklet aimed at women. One woman suggested to include information for partners about how to support women with perinatal low mood in a box with bullet points; however, others in the workshop disagreed; therefore, no information on this issue was included in the booklet or manual after the first workshop. In the other workshops, the same issue was proposed to the co-designers, but again their response was negative. As one woman stated, *“I wouldn’t share this with my husband because this is a very personal booklet”* and the other replied as *“yeah, I wouldn’t let him read my notes”*.

**2) Illustration of mood cycles and suggested activities with examples**

The second main adaptation suggested by co-designers was modifying the examples and activities in the booklet and manual by considering and differentiating among three groups of women; pregnant women, first-time mothers and mothers who have more than one child. They also highlighted that activities and examples should be from these women’s daily routines, for example, feeding the baby, changing the baby and bathing the baby.

Other adaptations were made to the examples in *“the cycle of reduced activities and low mood”* in the booklet. According to the suggestions from the co-designers, activities in the “break the cycle” box were modified and written as *“You can break the cycle by setting small goals for yourself, for example, attending a pregnancy class, eating at least one healthy meal in a day and drinking more water”.* The other suggestion on the cycles was writing a note for women that their low mood will not suddenly disappear, but it will get better day by day. According to this suggestion, the following statement was written to the booklet, *“Your mood has gradually deteriorated; therefore, it will gradually get better. It is important to take time for yourself”*.

Another suggestion was providing examples for each of the exercises in the booklet, such as: the cycle of reduced activities and low mood, example diaries for a pregnant woman and a mother, examples of routine, necessary and pleasurable activities, an example diary, examples for breaking things down to make them easier to manage, an example for benefits of activities, examples for finding other ways to be active, examples for spotting symptoms of low mood, and an example action plan. Two examples are explained in detail below.

Examples of three types of activities were modified by co-designers. They interpreted the routine activity as ‘have to do every day’, necessary activity as ‘do not have to do but necessary” and then they reordered the examples in the right places. Their suggestions were listed below.

Routine activity examples: *“…feeding, changing, bathing the baby and the other children, eating healthily, drinking more water…”*

Necessary: *“…attending appointments, classes…”*

Pleasurable: *”…having a nice bath, swimming, reading, watching tv, seeing friends, gardening, cooking, hobbies, spending time with partner, children, family, friends…”*

Including an example diary was one of the suggestions of co-designers and they helped to create the example in the workshops. According to their comments below, the example was created.

*“…walking with the dog for 15 min, ringing a friend, really small and realistic things, to get dress before lunch time, eating, showering, drinking…”*

*“you can add something like this is only an example, you may not be able to do all the things. You can miss an activity and that is absolutely normal for the first a couple of weeks”*

Providing two separate examples; one for a pregnant woman and one for a mother was another recommendation of the co-designers for the *“stage 4 breaking things down to make them easier to manage”* in the booklet. As one woman stated, *“The activities could be different in pregnancy and afterwards so it would be good to give separate examples for both pregnancy-related and postpartum-related”*. An example suggested by a co-designer was listed below.

*“…went to midwifery appointment, you have been in work whole day, you came home, you cooked a healthy tea, eating healthily, you spent time with your family and friends in the evening. People would be realise that it is just the basic staff. Eating properly, drinking properly, having a bottle of water to remind you to drink, have a nap while the baby’s sleeping…”*

After applying changes, the co-designers in the following workshop liked the examples as one woman stated, *“Yeah, really good examples”*.

The co-designers made comments to modify the activities in the “finding other ways to be active and improve your mood” section in the booklet. Some of them suggested other activities to add in the list while others made comments on the usefulness of the list as one woman stated, “I think it’s a really good idea because when you’re feeling low and tired you can’t think... it’s like reminding… the examples are really useful”. The list of strategies is provided in Table 3.

**3) Using narrative quotations from the first study**

The findings from the previous study phase: “*Women’s experiences of perinatal low mood or depression and HCPs’ experiences of providing support and care for those women”* were used in the adaptation of the BA manual and booklet; however, their quotations were not used directly in any documents. In the first workshop, the co-designers suggested using experiences of real people in the booklet to make it more meaningful and attractive for the readers; therefore, a couple of narrative quotations were placed to the relevant places in the booklet. In the second workshop, the co-designers found them really useful, as one woman stated, *“I do think these quotes work very well. I do like that”*. They requested to use more quotations almost on every page of the booklet.

In the last two workshops, the researcher observed two co-designers who were reading only quotations in the booklet until the end instead of reading the booklet page by page as requested by them. When they were asked if they liked the quotations, their answers were very positive.

**Table 3: List of strategies to improve mood**

|  |  |
| --- | --- |
| * Joining antenatal classes, mother and baby groups * Exercise, walking or getting fresh air * Yoga, mindfulness or meditation * Personal time * Working in a job and not bringing work home * Asking people to look after the baby * Asking people to help in housework * Delivery home or going for shopping * Having a shower * Drinking water, eating healthily * Sleeping or taking naps * Reading or watching TV * Inviting a friend to home * Going out of the house for whatever reason * Meeting with friends in a café | * Moving baby to her or his own room after 6 months * Putting less pressure on yourself * Using social media sensibly, finding other mums experiencing low mood and sharing experiences * Telephone, email or use social media to chat with friends and family * Getting support from family, friends and healthcare professionals * Baking cake and cooking * Hobbies specific to the person; for example, gardening, painting,crafts, playing a musical instrument, colouring, jigsaws * Watching movies, TV series, or listening to music * Praying or religious activities |

The quotations were chosen on the basis of their relevance to the content and stages in the booklet. At the beginning of the interviews, women were asked for choosing a false name for themselves and these false names have been used in the quotations. For example, one of the risk factors for postnatal depression was delivery complications, therefore, a quotation matching with this risk factor was chosen to use in the booklet as follows.

*“…I was taken back into surgery … for bleeding … and because I didn’t have the close time with her during those early days, I felt like the bond was lost immediately and I just started feeling very, very depressed. I didn’t know it was postnatal depression until several months later. I just thought it was normal to feel that way after such a medical crisis.…”* (Booklet)

At the end of the booklet, women’s and HCPs’ messages for women were shared within quotations. One example is shared below.

*“…I would like to say that not to be ashamed and not to feel on your own because you are absolutely not on your own and that postnatal depression doesn’t stereotype. It can happen to anybody, it doesn’t matter who you are or what your job is, it can happen to anybody so I think it’s really important that we keep talking about it and it’s not a taboo subject that people feel awkward about because it’s really really prevalent and it’s happening all the time so I think the more we talk about it and the more we realize we should all support each other and try and get that community feel back…”(a HCP) (Booklet)*

**4) Highlighting that “BA may not work for you”**

Another common suggestion about the adaptation of the booklet and manual was although it seems like the majority of women with perinatal depression have limited activities and prefer to stay home because of feeling low, tired or overwhelmed, there are many other women who continue their daily routines and activities as usual but still feel depressed. The co-designers suggested the need to highlight this point in the manual and booklet; therefore, the following statement was added to the manual “*There is always other help available if this booklet does not work for women and there are a variety of things that can be tried, as written on the last page of the manual and booklet”.*

Similar, relevant information was added to the booklet as follows: *“Working with you and tailoring the guidance in this booklet to your specific situation, is one of several tools available to help you. There is other help available if this booklet does not work for you and there are a variety of things that can be tried. You can find contact details for a few of these support sources in the last page of this booklet. For locally available sources please ask your support worker”.*

**5) Minor modifications on format/ text**

The fifth adaptation suggested by co-designers was improvements on the design of the BA booklet and manual pages, for example, using bullet points, highlighting important texts, choosing brighter and natural pictures (for the booklet), removing unnecessary repetitions or information, improving clarity of the texts and scale to use for mood, and deciding on the size of the manual and booklet. Some of these points are discussed and illustrated in detail below.

The first point suggested by co-designers was on using bullet points and highlighting important texts. As one woman stated, *“there is a lot of text there, is it possible to highlight the bottom ‘don’t wait to feel better to do things, do things to make you feel better’?”* According to the feedback received from the co-designers, an attempt was made to write important tips in colour other than black to emphasise the critical points and to write texts in bullet points where possible.

The second adaptation was on the pictures to use more natural, brighter and mood-boosting ones. As one woman stated, *“I want to see pictures of real women not models because models are not real life”*. After changing pictures, the co-designers’ feedback was more positive. As one HCP stated in the other workshop, *“I did like the picture with a coffee*”, and other woman stated, “*the pictures are fine*”.

Another adaptation was made to the scale to score mood daily on the booklet. The scale was for the aim of scoring mood to recognise how women feel by doing or not doing things during the day. The original scale was from 1 to 10 and the co-designers suggested to change it to a 1 to 5 scale and using emojis to describe the numbers’ meaning. As one woman stated, *“The mood score is quite long 1 to 10. The scale could be smaller like 1 to 5 or 0 to 5”*. As one HCP stated, *“ What would 4 mean or 3 mean? I can’t see the difference between 2 and 3 or 6 and 7”*. The scale was changed afterwards, and a 1 to 5 scale was developed using emojis to describe the meaning of the numbers.

The co-designers were asked in the workshops about the size of the booklet and the manual whether they prefer a smaller or bigger size. Women described preferring the same size of the booklet provided them which was 21 x 21cm. As one woman stated, *“Definitely not bigger.. the size is good”*. As other woman stated, *“The size is okay. People may not want to disclose the booklet, having this size would be good”*. The HCPs expressed their preference for the size of the manual as A4, which seems like a formal document for the MSWs.

At the end of the workshops, co-designers were asked about their thoughts on the booklet and manual and their feedback was really positive about the content and usefulness of the documents.

*“I’d really like to see booklet when it’s finished. I want to give it to mums”*

*“it’s fantastic and it’s been done and I’m pleased to be able to help a little bit in the process”*

Some co-designers suggested giving this booklet to every pregnant woman within their maternity packs. As one woman stated*, “I think it should be in the maternity pack because knowledge is power and also it highlights that there could be an issue and if there is you can start to read through it and I think it also helps starting conversation with the midwife as well if I had all these I probably would have talked to my midwife about it”.* Other woman suggested the same as follows*, “I am thinking whether all women should have this”.*

**Discussion**

In total, 14 women and three HCPs informants were involved in four co-design workshops in three different research sites within the second (co-design) phase of the EBCD study. All women were older than 31 years and the majority of them (n = 11) were white British. There was a reasonable spread of women in the other categories (i.e., the experience of low mood or with a diagnosis of depression antenatally or perinatally, received psychological treatment or not, received pharmacological treatment or not, duration of depression and depression severity).

A previous qualitative study conducted in the USA aimed at modifying the cognitive behavioural therapy for perinatal depression (O’Mahen et al., 2012). The authors conducted qualitative interviews with 23 perinatal women, and they modified the CBT manual according to the themes generated from the interviews. The decrease in women’s activities, their struggles in managing their daily routines and isolating themselves from the social activities were found related to behavioural component of the CBT (O’Mahen et al., 2012) and these findings were consistent with the first phase of the study that published elsewhere. This study differs from O’Mahen et al.’s study methodologically. Uniquely, in this study co-design workshops were conducted with the involvement of women and HCPs who shared equal power with the researcher in the adaptation process for the BA manual and booklet instead of CBT as in the O’Mahen et al.’s (2012) study.

Two randomised controlled trials reported outcomes of BA treatment delivered by a mixture of specialists and non-specialists during pregnancy and at three-month postpartum (Beck et al., 2014; Dimidjian et al., 2017). However, these studies did not provide information on how the BA treatment was adapted for the specific needs of perinatal women. The Medical Research Council recommends researchers to acknowledge and use appropriate methods in the development of health care interventions (Craig et al., 2013). The EBCD is one of the methods that can be used for this purpose (O’Cathain, Croot, Duncan, et al., 2019). Choosing a co-design approach for the adaptation of the BA manual and booklet empowered the relationship between the researcher and the women and HCPs, established an opportunity to work and produce valid material collaboratively, and created a respectful environment to value their knowledge, views and expertise in perinatal low mood and depression. Therefore, this study has critical importance in using appropriate methods in the adaptation process for the BA intervention manual and booklet to meet the specific needs of perinatal women.

Current maternity and health policy in England strongly emphasises the need for more investment in perinatal mental health services, psychological therapies and new workforces to support implementing the five-year forward plans for better births and five-year forward view for mental health within the current ambition of the government (Health Education England, 2019; National Health Service, 2015, 2019; National Health Service England, 2016, 2019). Therefore, the adaptation of the BA therapy manual and booklet directly addresses the government’s targets and fills a gap in the evidence base of this psychological therapy, thereby helping to extend its reach and application. Additionally, using MSWs in the delivery of treatment addresses the Government’s other target which is to transform the workforce (National Health Service England, 2019).

Finally, member validation and triangulation of sources were used to increase the credibility of the data informing the intervention adaptation. The outcome of the workshops was discussed after each workshop in meetings with co-authors and the content of the next workshop was informed. The manual and booklet were also adapted after each workshop and shared with co-authors. This approach provided a rich and diverse analysis and strengthened confidence in the conclusions that were drawn (Silverman, 2014). Triangulation of sources was also used in sharing and confirming with participants the key points generated from the first study and again, after the first workshop, in comparing the outcomes of each workshop.

**Limitations**

A small number of women (n = 3) were from other Asian backgrounds. Some inference may be made therefore regarding the utility of BA support for ethnic minorities in England, though this is, of course, very limited. The recruitment criteria excluded women under 18 years because it was felt that the experiences of adolescents might be different because of their younger age. According to Lieberman et al., (Lieberman et al., 2014) psychological interventions need to be adapted for specific populations. Therefore, a separate adaptation process would be needed for adolescent groups.

With regards to the recruitment of HCPs for co-design phase, using gatekeepers might have limitations as well as advantages. The gatekeepers might be selective in informing their colleagues about the study and only sent emails to specific staff (Ritchie et al., 2014). Although in this research using gatekeepers was advantageous in reaching community midwifery teams and health visiting services who are not based in hospitals, only three HCPs from three different job roles participated in the workshops. Some of the HCPs needed to know the date at least one month before the meeting so that they could arrange their working times. Although the date of the workshops was decided in advance, informing the gatekeepers and then the HCPs delayed the process.

Although co-design has strengths in the modification of the BA manual and booklet, it has constraints of being tokenistic by researchers who continue holding power and not valuing co-designers’ experiences in the development process (Boylan et al., 2019; Ritchie et al., 2014). During the workshops, the co-designers were encouraged to share their ideas about how to improve the BA manual and booklet, in order to develop them and make them useful for other women who may share similar experiences to theirs. The researcher conveyed that this was an opportunity for them to help other women by using their experiences, allowing everyone to share their thoughts, and was mindful not to take over the conversation by talking more than others, thereby balancing the researcher’s power in the process.

**Conclusion**

The aim of this study phase was to inform the adaptation of the BA manual and booklet, intended for delivery by MSWs for the treatment of perinatal depression. The documents were modified through co-design workshops with the involvement of women who have experience of perinatal low mood or depression and HCPs who have experience of providing support and care for those women. This study comprised the ‘co-design phase’ of the EBCD approach. Previous study ‘discovery phase’ included exploring women and HCPs’ experiences of perinatal depression which informed the co-design phase of the EBCD study.

**Ethical statements**

Ethical approval for this study was granted by Yorkshire and the Humber – Leeds West Research Ethics Committee (IRAS ID:237021; REC reference:19/YH/0004).

All potential participants were sent an information pack (including participant information sheets, two consent forms, a demographics form, a contact details sheet and a pre-paid stamped-addressed return envelope) by mail. They were able to read the participant information sheets before informed consent was sought and obtained. Only those who returned their signed consent form by mail were considered. Data made publicly available was anonymised in accordance with the General Data Protection Regulation 2018. The participants have consented to the submission of quotations to the journal.

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