



'Singing with your baby': an evaluation of group singing sessions for women admitted to a specialist mother-baby unit

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Abstract

This paper reports on the acceptability, experience of participation and the immediate impact on maternal mood state of group singing sessions, introduced as a routine component of a mother-baby unit (MBU) treatment programme. Data was collected from 27 women who participated in the pilot programme. Results showed that implementation of a singing intervention in this setting is positively appraised by women and is associated with positive changes in self-reported mood state from pre- to post-session. Key facilitators and barriers to the success of the programme and directions for future research are discussed.

Keywords Mother-baby unit · Inpatient · Postnatal depression · Music therapy · Singing

Introduction

Music therapy is a systematic intervention that uses music experiences and the relationships that develop through these to promote health (Bruscia 1998). The evidence base supporting the use of music therapy in the treatment of mental health issues is growing, with findings from a small number of randomised trials conducted in hospital and community settings suggesting that music therapy is acceptable to people with depression and associated with improvements in mood (Maratos et al. 2008). In perinatal and parenting settings, existing research has shown that mothers singing lullabies to their newborn can improve maternal-infant bonding, reduce maternal stress and anxiety and reduce the incidence of neonatal crying episodes (Lai et al. 2006; Persico et al. 2017). Studies have also shown that engagement in a community-based weekly singing intervention is associated with high

levels of parent and child engagement, enhanced parent-child relationships, improvements in parent mental health and positive parenting outcomes, including among mothers who are experiencing depression (Nicholson et al. 2008). Similar outcomes have been reported in community studies where mothers sing to their infants daily (Fancourt and Perkins 2017).

Admission of women experiencing moderate to severe perinatal mental illness to an inpatient mother-baby unit (MBU), where these facilities are available and appropriate, is now considered clinical best practice in a number of developed countries, including Australia and the UK (Austin et al. 2017; NICE 2014). These specialist units allow joint admission of women and their infant and provide expert mental health management as well as support for women in caring for and developing a relationship with their baby. However, only one study has examined the impact of music and singing on outcomes for women admitted to an MBU. This study of four mothers with depression and their infants showed that maternal-infant intersubjectivity increased over five weekly sessions and concluded that the dyads benefited from an atmosphere that allowed them to re-experience feelings of liveliness, vitality and joyfulness (Van Puyvelde et al. 2014).

The current paper aims to add to the limited literature relating to the use of singing therapies in MBUs by reporting on the acceptability, experience of participation and immediate impact on maternal mood state of 1-hour group singing sessions, introduced as a routine component of a MBU treatment programme.

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Methods

Setting The pilot site was a 12-bed specialist MBU in New South Wales, Australia.

Singing sessions Informed by existing research, the singing sessions were designed by the musician and members of the clinical team to address the goal areas of the pilot programme, namely to use shared singing to help enhance maternal mood and relaxation and to help mothers connect to their infants.

The pilot programme used a single-session approach, which has been shown to be both practical and feasible in inpatient psychiatric settings (Cassity 2007; Silverman and Rosenow 2013). The 1-hour weekly singing sessions were led by the programme musician and co-facilitated by a MBU nurse and were held on the same day each week over a 12-week pilot period (2 March 2016–1 June 2016). The first 20 minutes involved mothers only, with infants joining for the remaining 40 minutes. Sessions began with a gentle warming up of the voice, followed by shared singing of known and new songs, including rounds and lullabies. No instruments were used, to emphasise simplicity of the process, and lyrics were provided to mothers, to encourage them to sing during the week as well as on their return home.

Participants All women admitted to the MBU during the period of the 12-week pilot programme were encouraged by staff to attend the singing sessions during each week of their stay. All women who attended one or more sessions were eligible for inclusion in the evaluation. Written informed consent was given by all evaluation participants.

Measures Women who took part in the evaluation were asked to complete the 12-item Quick Mood Scale (QMS) (Woodruffe-Peacock et al. 1998) and a visual analogue scale (VAS) shortly before and after each music session. The VAS was used to assess changes in affect by asking women how they felt ‘right now’ on a 7-point face scale that ranged from sad (score of 1) to happy (score of 7) (Davies 2016). A programme-specific feedback survey was also completed at the end of the session. This survey included fixed-choice questions as well as an optional free text question where women could provide additional feedback or comments about the session. Demographic and clinical information was drawn from the medical record of each participant.

Data analysis

Change in mood (as measured by the QMS and VAS) from pre-post-session was analysed using the Wilcoxon matched-pair signed-rank test for non-normally distributed data. Frequencies are also reported for the VAS and for items

measured on one occasion only. Data were analysed using SPSS v23.0 (IBM Corp. 2014).

Results

Thirty five women were staying on the MBU during the period of the 12-week pilot programme. Of these, 27 (77.1%) attended at least one singing group and completed evaluation measures before and after one or more of the weekly sessions. The mean length of stay for women was 23 days and on average, women had been admitted to the ward 9 days prior to their first singing session. All women attended at least one session, and 18, 7 and 1 women attended two, three or four sessions, respectively. The number of women at each session ranged from 2 to 8 ($M = 4.5$ women). Sociodemographic and clinical characteristics of participants are presented in Table 1.

There were no differences between women who did and did not participate in the evaluation, in terms of maternal age, infant age or gender, length of stay at the time of the first session, primary diagnosis or mean scores on routinely completed mental health and parenting measures.

Impact of the singing sessions on maternal mood state

Immediately following their first 1-hour singing session, women reported feeling significantly more relaxed, more cheerful and more clear-headed than they did just before the session began (as measured by the Quick Mood Scale; see Table 2). These positive and significant improvements in QMS scores were also demonstrated after subsequent sessions attended, with the greatest mean change demonstrated for the relaxed/anxious subscale.

Results also showed a positive mean change in VAS scores after attendance at the first singing session (Table 2). This pictorial measure of mental health also showed that nearly 30% of women felt sad (VAS score of 1–3) immediately prior to their first session—by the end of the session, this had decreased significantly to just 7% of women. Results also showed that after their second weekly session, there was a significant increase in the proportion of women who reported feeling happier (VAS score of 5–7) after the session (61%) compared to before the session began (42%).

Acceptability and experience of participation

The majority of the 27 women who participated in the evaluation felt comfortable singing during their first session (92%), found the session both enjoyable (81.5%) and helpful (74.1%) and made them more aware of their own feelings and sense of wellbeing (72.0%). No women reported finding the sessions uncomfortable, distressing, unenjoyable or unhelpful (the

Table 1 Participant characteristics (*N* = 27)

	<i>N</i> (%)
Maternal age (years)	M = 33.4 (SD = 5.7)
Infant age (weeks)	M = 22.3 (SD = 19.5)
Length of stay (days)	M = 22.9 (SD = 12.5)
Primary diagnosis	
Depressive disorder	25 (92.6%)
Other	2 ^a (7.4%)
Country of birth	
Australia	22 (81.5%)
Other	5 (18.5%)
Marital status	
Partner	24 (88.9%)
No partner	3 (11.1%)
Parity	
One child	16 (57.1%)
More than one child	11 (42.9%)
Infant gender	
Male	12 (44.4%)
Female	15 (55.6%)
Scores on clinical and parenting measures at admission ^b	<i>M</i> (SD)
The Edinburgh Postnatal Depression Scale	20.8 (4.6)
DASS-21-Depression	27.8 (9.7)
DASS-21-Anxiety	19.7 (9.2)
DASS-21-Stress	29.8 (8.7)
Postnatal Risk Questionnaire	44.2 (12.0)
The Karitane Parenting Confidence Scale	33.6 (6.3)
Maternal Postnatal Attachment Scale	64.9 (16.9)

^a Bipolar disorder (*n* = 1); Substance use disorder (*n* = 1)

^b Clinical cut-points: EPDS ≥ 13; DASS-21-Depression ≥ 14 (severity rating of moderate or above); DASS-21-Anxiety ≥ 10 (severity rating of moderate or above); DASS-21-Stress ≥ 19 (severity rating of moderate or above); KPCS ≤ 35 (moderate-severe clinical range); MPAS ≤ 77 (calculated as ≥ 1 SD below community mean score (Condon and Corkindale 1998))

remaining women indicated that they neither agreed nor disagreed with these survey questions). Around half the women who participated (56%) reported that the session made them feel closer to their baby (40% neither agreed nor disagreed), with 48% agreeing that the session made them more aware of how their baby might be feeling (44% neither agreed nor disagreed). Women also reported that they would be more likely to use music or song to play with and soothe their baby in the following week than they did the week before and more likely to use music or song to help them to relax. Over 80% (81.5%) agreed that the singing sessions are an important part of the MBU treatment programme, with all but one woman indicating that, if they were still on the ward, they would be likely to attend the following week.

Table 2 Impact of MBU singing sessions on Quick Mood Scale and visual analogue scale scores: first session attended

Outcome measure	Pre-session		Post-session		<i>p</i> value	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>		<i>SD</i>
Quick Mood Scale ^a						
Wide awake/drowsy	27	4.19	2.37	4.33	2.25	<i>p</i> = .653
Relaxed/anxious	27	3.74	1.93	5.19	1.52	<i>p</i> < .001
Cheerful/depressed	27	4.44	1.99	5.00	1.82	<i>p</i> = .022
Friendly/aggressive	27	5.93	1.07	6.07	1.21	<i>p</i> = .474
Clear-headed/confused	27	4.56	1.83	5.48	1.25	<i>p</i> = .001
Well-coordinated/clumsy	26	4.62	1.65	4.96	1.75	<i>p</i> = .166
Visual analogue scale ^b	27	4.44	1.67	5.11	1.37	<i>p</i> = .002

M mean score, *SD* standard deviation

^a Score range = 0–8; higher scores represent more optimal mood states

^b Score range = 0–7; higher scores represent more positive affect

The free text responses of women who provided additional feedback about the singing sessions provide further insight into their experience of shared singing as a component of the MBU group programme. As explained by one participant: ‘...singing in unison helped me to relax and helps the mood...’ (Participant 4), while another commented that she enjoyed ‘...sharing time with other patients in a positive way..’ (Participant 28). Additional feedback included that the sessions gave women ‘...an opportunity to relax with song..’ (Participant 5), to ‘...sing and let go of any inhibitions..’ (Participant 25) and to ‘...be[ing] free to not be perfect..’ (Participant 13).

Discussion

This paper is the first to report on the acceptability and immediate impact on maternal mood state of a singing intervention for mothers admitted to a specialist inpatient MBU. Women who participated in the singing programme reported high levels of comfort and enjoyment in the sessions and strong support for the role of singing as a continuing feature of the MBU programme. After just a 1-hour singing session, women reported feeling significantly more relaxed, more cheerful and more clear-headed than they did before the session began. Around half the women also reported feeling more connected to their infant during the singing sessions.

Several key facilitators and barriers to the success of the programme were identified during the pilot phase and should be considered by MBUs planning to introduce singing sessions as part of their treatment programme. First, it is important that the role of music and singing in supporting the health of individuals is reiterated to women, so that the sessions are seen as something for women themselves, rather than for their

baby alone. The ‘mothers only’ time at the start of each session can help reinforce this and can help bring a focus to the present. Second, song choice is important: for example, the inclusion of ‘rounds’ in the sessions can help build a sense of community and can help bring the group into harmony. Lullabies were experienced as soothing for babies and encouraged reflection among the women. Third, scheduling of the sessions needs to be considered in the context of the full MBU group programme, including the number of other group sessions scheduled on the same day. Fourth, consideration needs to be given to adequate resourcing, rostering and the availability of clinical staff to be with the babies for the initial component of the session and to bring babies into the session. Finally, it is important to allow time for facilitator debriefing after each session, so that they have an opportunity to reflect on the session, raise any clinical or other concerns and discuss whether there is a need to refine or adjust the session for the same patient group the following week.

Recent reviews have shown that, overall, admission to an MBU positively impacts on maternal mental health and the mother-infant relationship, with significant improvements across a range of clinical and parenting outcome measures from admission to discharge (Connellan et al. 2017; Gillham and Wittkowski 2015; Glangeaud-Freudenthal et al. 2011; Hammond and Lipsedge 2015). However, many existing studies have included only limited descriptions of the model of care and the wide range psychosocial interventions provided in their MBU inpatient programme, making it difficult to explore relationships between specific interventions and maternal mental health and parenting outcomes (Gillham and Wittkowski 2015). A key strength of this study was its isolation of the time parameters around women’s participation in the singing intervention, which allowed measurement of the immediate impact of the sessions on maternal mood state. Limitations of the study include its small sample size, almost only with depressive disorders and not other disorders, lack of inclusion of a standardised pre-post measure of the mother-infant relationship and lack of feedback from the seven women who did not join a singing group during their admission to the MBU. Although participation rates were high, it will be important for future qualitative studies to more fully examine the reasons why some women choose not to attend singing groups and how this compares to inpatient engagement with group-based talking therapies.

Conclusion

The average 3-week length of stay for women who participated in this inpatient singing programme evaluation is in keeping with the duration of admissions both at the pilot site (Christl et al. 2015) and other MBUs (Nair et al. 2010; Yelland et al. 2015). While the short period of inpatient stay

is acknowledged as a unique challenge to implementation of music therapy in this context, this evaluation has shown that, overall, implementation of a singing intervention in an inpatient MBU was positively appraised by women and was associated with positive changes in self-reported mood state from pre- to post-session. Future studies should further explore women’s personal reflections of singing in this context, as well as the potential for shared singing to positively impact on the mother-infant bond in this particularly vulnerable clinical population in the longer term.

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Compliance with ethical standards

The study was approved by the Human Research Ethics Committees of St John of God Health Care (HREC Approval #910). Informed consent was obtained from all individual participants included in the study.

Conflict of interest The authors declare that they have no conflict of interest.

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