Effects of singing groups on staff well-being: a feasibility study

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Abstract

Aims To determine the feasibility of recruiting and retaining staff ‘singing for well-being’ groups over three months and the acceptability of the proposed intervention and data collection methods, and to explore the potential effects of singing groups on staff well-being.

Method This was a feasibility study that used a two-group wait-list crossover design. Standardised measures of well-being, engagement, burnout and organisational commitment were used, alongside participant feedback. Questionnaires were given to participants at baseline, three months and six months, with the mean group scores for the measures used calculated at each point.

Findings Participant recruitment did not meet the target set, and only half of the participants returned pre-intervention and post-intervention questionnaires. Acceptability of the programme was high and, despite limited data, positive effects emerged in relation to emotional and work-related well-being. Participant comments about the singing programme and facilitator were universally favourable.

Conclusion This feasibility study suggests there may be several benefits of staff singing groups, in terms of improving the well-being of participants. However, proceeding to a full research trial would require additional time and resources to maximise recruitment.
One intervention, not mentioned in the systematic review, is that of singing groups, which have recently attracted attention for their ability to positively affect psychological well-being. There is evidence that singing groups have benefits for older people (Coulton et al 2015, Skingley et al 2016), mental health service users (Clift and Morrison 2011) and people with chronic obstructive pulmonary disease (Morrison et al 2013, Skingley et al 2014). Therefore, it could be suggested that this activity might be beneficial for a range of social groups, including those based in the workplace.

The research described in this article took place in one large acute trust in south east England where the reported levels of work-related stress were higher than the national average (NHS Survey Co-ordination Centre 2017). Thus, the researchers felt that providing an opportunity for employees to join a staff ‘singing for well-being’ group might have positive effects.

**Literature review**

In the NHS, several staff choirs have already been established, notably the Lewisham and Greenwich NHS Choir, which reached the Christmas number one spot in the UK singles charts in 2015 (BBC News 2015), and the NHS Forth Valley Nurses Choir (Trueland 2015), which featured in a BBC One television programme in 2016. Another organisation, Norfolk and Norwich University Hospitals NHS Foundation Trust, gained accreditation for its staff well-being programme, which included a staff choir that aimed to promote mental health (Wray 2013).

There does not appear to be any formal evaluation of the success of these workplace choirs, and no reports on workplace health in the NHS that recommend singing to alleviate stress. However, a limited number of related studies have been published. For example, a Norwegian study by Vaag et al (2013) reported improvement in measures of engagement, decreased burnout and enhanced organisational commitment among healthcare staff who sang in workplace choirs. Although the project sample was large, the research design had weaknesses in that there was no baseline measure, and the intervention and comparison groups were self-selecting, which introduces a risk of bias.

In a randomised controlled trial, Bygren et al (2009) found quality of life scores on the Short Form Health Survey (SF-36) (Sullivan et al 1995) for medical staff who were involved in cultural participation – including singing – improved in the areas of physical health, social function and vitality. However, this study did not focus specifically on the effects of singing.

Davidson and Faulkner (2010) conducted an exploratory study in Western Australia, in which a choir of paid employees, volunteers and clients was formed in a not-for-profit care organisation. They used various evaluative methods, including reflections, feedback and interviews, which demonstrated positive findings in relation to participants’ energy levels, attitudes, social networking and support. However, no validated measures appear to have been used in this research.

The researchers felt that singing to enhance well-being in the workplace was an area that should be explored and evaluated to address staff health and well-being issues. However, in view of the lack of existing evidence, particularly related to the practicalities of setting up workplace choirs in the NHS, they decided to undertake a small feasibility study as a starting point.

**Aims**

To determine the feasibility of recruiting and retaining staff singing for well-being groups over three months and the acceptability of the proposed intervention and data collection methods, and to explore the potential effects of singing groups on staff well-being.

**Method**

The project was a feasibility study, which is a piece of research undertaken before a main study (Arain et al 2010). Feasibility studies are used to estimate important parameters that are required to design the main study, such as sample size, participant recruitment, proposed outcome measures and questionnaire response rates. The researchers’ previous experience in the field of arts and health research suggested that an incremental approach should be taken to determine feasibility ahead of larger-scale research trials.

The research design was an adaption of that used in Vaag et al’s (2013) study, and used a two-group wait-list crossover design. Questionnaires were given to two newly set-up singing groups, one at each of two hospital sites, on three occasions – at baseline, three months and six months. Participants were allocated to either the initial intervention group (Group A) or the wait-list control group (Group B).

At three months, Group B began the singing programme and became the intervention group, while Group A had completed the intervention and became the control group. Participants did not self-select into the first or second intervention groups.

Recruitment of staff to the choirs was undertaken through publicity and word of mouth. In addition to advertising in the trust’s newsletter and producing posters, the researchers visited wards and departments at the two hospital sites in the trust, speaking to staff and handing out flyers about the planned research. Two ‘taster’ singing group sessions were also held. Inclusion criteria were based solely on an individual’s status as trust staff. Based on one of the researcher’s experience with other choirs, it was thought that the total sample size would initially be around 70 participants. Assuming a 20% loss of participants between baseline and three months, it was anticipated that there would be around 55 participants in this study. Because there was a low response from the second site, a second round of publicity and recruitment took place before this group’s intervention.

**Intervention**

The intervention took place between March and May 2016 for Group A and between June and August 2016 for Group B. One experienced facilitator of singing
groups was recruited. One weekly, one-hour programme of singing was designed to run over three months, with 12 sessions in total. The singing programme included warm-up exercises and an initial range of musical styles with varying degrees of complexity to determine the group’s preferences. The facilitation style of the sessions encouraged a relaxed and ‘fun’ time away from work. Handouts were distributed to remind the participants of the lessons they had learned and to encourage home practice. In addition, each week a ‘mission’ was given for participants to work on, with feedback given during the next session. The songs were learned and sung either ‘a cappella’ or accompanied by guitar, with the lyrics written on a flipchart. Venues were booked within the trust for weekly late-afternoon sessions. Attendance records were kept to enable later analysis of changes in participants’ well-being in relation to the number of sessions attended. Data collection and analysis Quantitative data were collected on recruitment, retention, records of participants’ attendance at the singing groups, response rates to questionnaires and the following measures:

» Health-related quality of life measures, using the World Health Organization Quality-of-Life Scale (WHOQOL-BREF) (Skevington et al 2004). This is a 26-item questionnaire that measures four domains of quality of life: physical health, psychological, social relationships and environment.

» Measurement of Engagement and Burnout (Schaufeli et al 2006) – a validated tool that measures staff well-being in terms of engagement (the positive pole of well-being) and burnout (the negative pole of well-being).

» Organizational Commitment Questionnaire (Mowday et al 1979) – a validated tool that measures an individual’s commitment to the organisation in which they work.

» A brief questionnaire capturing demographic data, including participants’ age group, area of work, time in post and previous experience of singing. These measures were combined into one questionnaire and given to all participants electronically at baseline, three months and six months. Qualitative data were also collected, through free comments on the questionnaire and on anonymous ‘post-it’ notes after the final sessions.

As a feasibility study, the data analysis was largely descriptive in terms of identifying adequacy of recruitment, retention and acceptability. Thabane et al (2010) suggested setting targets for decision-making in relation to whether to proceed to a full study, and these were agreed and set as:

» Recruit at least 15 participants to each choir.

» Achieve 80% participant retention and questionnaire completion.

» Determine the acceptability of the intervention, data collection methods and, where relevant, wait-list allocation.

Since previous studies found that benefits from singing were related to frequency of engagement in the group, only those attending for at least half of the singing sessions were included in the analysis. All data were transferred to an Excel spreadsheet, and the mean group scores were calculated for the two groups for each domain of the WHOQOL-BREF (Skevington et al 2004), the Measurement of Engagement and Burnout (Schaufeli et al 2006) and the Organizational Commitment Questionnaire (Mowday et al 1979).

Ethics
Confirmation of compliance with the requirements for proportionate ethical review was received from the researchers’ university and the trust’s research and development departments. Participants were provided with an information sheet, which they signed to provide informed consent before participation. Anonymity of questionnaire data was assured. All data were stored either electronically on a password-protected computer or on paper in a locked filing cabinet.

Findings
Recruitment and retention
Initial interest in the project was high and exceeded the target number of participants at pre-intervention. However, after excluding participants who attended for less than half of the sessions, the numbers declined considerably, with a further decline in the number of questionnaires returned. Table 1 shows the participant recruitment, retention and questionnaire completion.

At baseline, there were few differences in the demographics between the participants who completed questionnaires in Groups A and B. Across the two groups, 20 participants completed the questionnaires at baseline.

Key points
● There is evidence that staff well-being affects performance and is linked to patient satisfaction with healthcare services (Maben et al 2012, National Nursing Research Unit 2013), which demonstrates the importance of supporting staff well-being at work to promote the delivery of effective care.

● There is evidence that singing groups have benefits for older people (Coulton et al 2015, Skingley et al 2016), mental health service users (Clift and Morrison 2011) and people with chronic obstructive pulmonary disease (Morrison et al 2013, Skingley et al 2014). Therefore, it could be suggested that this activity might be beneficial for a range of social groups, including those based in the workplace.

● Work well-being increased after the singing programme, both immediately after a session and cumulatively over time. Participants mentioned feeling increasingly enthusiastic, positive and inspired to meet the challenges they experienced at work, and one participant felt that this could lead to improved relationships with colleagues.

● While there is insufficient evidence to strongly recommend singing groups for staff in healthcare organisations, this study suggests that they are likely to be beneficial for those who wish to attend. Where singing groups are to be set up, the experience from this project suggests that attention should be given to recruitment by investing in face-to-face publicity with staff across departments.
TABLE 1. Participant recruitment, retention and questionnaire completion

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of questionnaires sent out and completed</th>
</tr>
</thead>
</table>
| Group A | Baseline pre-intervention questionnaire:  
| | » 18 individuals expressed interest in taking part  
| | » 12 questionnaires completed  
| | Post-intervention questionnaire (at three months):  
| | » 9 participants attended at least half of the sessions  
| | » 6 questionnaires completed  
| | Follow-up questionnaire (at six months):  
| | » 9 questionnaires sent out  
| | » 4 questionnaires completed  
| Group B | Baseline questionnaire:  
| | » 14 individuals expressed interest in taking part  
| | » 8 questionnaires completed  
| | Pre-intervention questionnaire (at three-months):  
| | » 23 individuals expressed interest in taking part  
| | » 11 questionnaires completed  
| | Post-intervention questionnaire (at six-months):  
| | » 7 participants attended at least half of the sessions  
| | » 6 questionnaires completed  

There was general support for the recruitment methods used, although it was noted that some staff did not access their emails regularly. One participant commented that items in the trust’s newsletter were often too embedded and easily missed. Additional suggestions included use of the information ‘hubs’ (dedicated information exchange rooms) to promote the singing groups and recruit participants.

Participants reported that the programme was well-organised and described the facilitator as ’excellent’, a ’good motivator’ and ’professional and inspiring’ (Group A and B post-intervention questionnaires). The song selection was judged to be good and some individuals felt inspired to either join a choir or purchase CDs of songs that the facilitator had introduced them to. A few participants found some of the material to be challenging. Several participants suggested that the song lyrics could be written on the flipchart in larger print or sent via email, while a minority preferred being provided with the musical notation.

The procedures and instructions were regarded as clear, and the questions easy to complete. One participant commented on the prompt response to emails sent to the researchers, although another participant reported that they found responding to some of the questionnaire questions challenging, since she had only been employed in the trust for a short time. No comments were made about the allocation of participants to the initial intervention and control groups.

Effects of the staff singing for well-being group
At the final sessions, all of the participants made positive comments in relation to having taken part in the staff singing group. Remarks related to emotional and psychological well-being, social benefits, work attitude and learning. In terms of emotional well-being, participants reported ‘fun’, ‘enjoyment’, ‘lifting spirits’ and ‘feeling more positive and cheerful’ (Group A and B post-it notes). One participant commented:

‘I have really enjoyed participating in this singing programme and found it has lifted my spirits. I talk about it to my family on a regular basis… Thank you for offering this opportunity to be part of the singing programme. I have had great fun!’ (Group A, post-intervention questionnaire).

Another participant commented that ‘without a doubt these sessions have been the best part of my week’, while other comments related to well-being included ‘feeling alive’, ‘feeling de-stressed after a singing session’ and ‘gaining confidence in singing’ (Groups A and B post-it notes).

There were several comments relating to the social benefits of the group:

‘I have really enjoyed the singing project and the benefits it has brought me in relation to friendships’ (Group A, follow-up questionnaire).

‘I enjoyed taking part in the project and hope that the choir carries on. It was nice to meet staff from other areas’ (Group A, follow-up questionnaire).

These comments indicate that, three months on from the end of the project, there was an enduring feeling of connectivity with staff in other areas of the trust. Similar sentiments were expressed by the participants in terms of ‘a community of people who love to sing’ and a ‘sense of special community’ (Group A post-it notes).

It was also indicated that work well-being increased after the singing programme, both immediately after a session and cumulatively over time. Participants mentioned feeling increasingly enthusiastic, positive and inspired to meet the challenges they experienced at work, and one participant felt that this could lead to improved relationships with colleagues. Feeling ‘de-stressed’ and relaxed could also contribute to this positive work ethic. The mechanism by which participating in a singing group could affect the workplace was rationalised by one participant:
‘I’m sure singing does affect well-being. I always felt cheerful after a session... maybe attending the sessions is confidence-boosting and therefore inspires/motivates us to meet challenges that we have to cope with while at work’ (Group A, post-intervention questionnaire).

One participant’s comment on the post-intervention questionnaire illustrates the general response to taking part in the singing group:

‘It definitely impacts on well-being. On several occasions I had to really push myself to attend because life was being difficult at the time and curling away seemed preferable. I always left feeling much better and more able to put the rest into perspective. I think it has an immediate effect on how you feel but also a longer-term impact on confidence and equilibrium. The experience of having the group begin to form into a community is something else I will also remember and apply elsewhere’ (Group B, post-intervention questionnaire).

**Outcomes for well-being measures**

**World Health Organization Quality-of-Life Scale**

Table 2 shows the mean scores for each group for the WHOQOL-BREF (Skevington et al 2004) domains. It should be noted that the scores at baseline are immediately pre-intervention for Group A and three months before the intervention for Group B. At three months, the scores are immediately post-intervention for Group A and immediately pre-intervention for Group B. At six months, the scores are three months after the intervention for Group A, and immediately post-intervention for Group B.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Group</th>
<th>Baseline</th>
<th>Three months</th>
<th>Six months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical health</td>
<td>Group A</td>
<td>71.5</td>
<td>82.5</td>
<td>82.7</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>69.8</td>
<td>69.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Psychological</td>
<td>Group A</td>
<td>61.0</td>
<td>75.0</td>
<td>72.0</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>55.7</td>
<td>58.6</td>
<td>59.5</td>
</tr>
<tr>
<td>Social relationships</td>
<td>Group A</td>
<td>64.3</td>
<td>77.1</td>
<td>81.2</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>59.3</td>
<td>68.7</td>
<td>63.5</td>
</tr>
<tr>
<td>Environment</td>
<td>Group A</td>
<td>67.1</td>
<td>74.1</td>
<td>73.5</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>66.3</td>
<td>69.9</td>
<td>75.0</td>
</tr>
</tbody>
</table>

In the psychological domain, the intervention group (A) at baseline demonstrated higher well-being scores than the control group (B). Both demonstrated improvement at three months, with greater improvement for the intervention group (A). At six months, the control group (A) scores reduced, while the intervention group (B) scores remained stable (Table 2).

In the social relationships domain, the pattern was similar to the psychological domain initially, with both groups improving their scores at three months, although the intervention group (A) demonstrated greater improvement in their scores. However, at six months, the scores for the control group (A) continued to improve, while those for the intervention group (B) decreased (Table 2).

In the environment domain, the intervention group (A) demonstrated slightly greater improvement than the control group (B) at three months. At six months, the pattern was similar to the physical health domain, but with intervention group (B) scores higher than those of the control group (A) (Table 2).

**Work and well-being**

Data from the Measurement of Engagement and Burnout (Schaufeli et al 2006) demonstrated similar slight improvements for both the intervention A and control B groups at three months, with the difference between the two groups decreasing over this time (Table 3). At six months, both groups had continued to show an improvement in work and well-being scores, with the intervention group (B) showing a greater improvement than the control group (A).

**Organisational commitment**

Data from the Organizational Commitment Questionnaire (Mowday et al 1979) suggested a slight difference to the other patterns (Table 4). The intervention group (A) and control group (B) both registered higher organisational commitment at three months than at baseline, with the control group (B) showing a higher score than the intervention group (A) at both of these points. At six months, the data demonstrated an improvement in the intervention group (B) scores, but some decline in the control group (A) scores.

**Discussion**

This was a limited-scale study, in which the primary aim was to determine the feasibility of progressing to a larger-scale research trial in terms of anticipated recruitment and retention, as well as the acceptability of the intervention and data collection measures to participants. Recruitment did not meet the set target of 15 participants per choir, although interest was considerably higher initially. This suggests there may have been issues with the timing, venue or sustained commitment to attending for those who demonstrated an interest initially but were not recruited. Furthermore, the researchers might have had greater success given additional time and resources to engage in active recruitment methods.

In terms of response rate, 67% of Group A participants completed both the pre-intervention ($n=12/18$) and post-intervention ($n=6/9$) questionnaires, while
48% (n=11/23) of Group B participants completed the pre-intervention and 86% (n=6/7) the post-intervention questionnaires. However, the data analysis does not include those who attended the singing group only occasionally, which was a feature of both groups, possibly as a result of the unpredictable nature of their job roles and hours. Therefore, participant retention may have been better than indicated by the data. The participant feedback demonstrated that the acceptability of the intervention and the data collection methods was high. The time and venue suited most participants well, although this was largely predictable given that participants would not have attended the group had this not been the case. The singing programme and facilitator were universally well-evaluated by participants and the research procedures were also felt to be acceptable. However, the findings suggest that proceeding to a scaled-up version of the research may not be feasible without some changes to maximise recruitment such as additional time and personnel to enable further face-to-face publicity.

Data from the well-being measures are too limited to reach any firm conclusions. However, the general consistency in terms of positive trajectories in most measures after the singing programme should be noted. The six-month findings tended to replicate the three-month findings; that is, improvements in well-being for the intervention group, while the control group plateaued or deteriorated. The changes to the mean group scores on the WHOQOL-BREF (Skevington et al 2004) might indicate a minimal clinically significant difference if scaled up (Den Oudsten et al 2013), which is the pattern that would be expected if singing improves staff well-being. Comments from the participants largely support the quantitative findings, especially in relation to psychological and social well-being. Participants mentioned feeling de-stressed, positive and inspired to meet challenges at work, which could also improve relationships with colleagues. Several research projects on singing for well-being in various patient population groups support the psychological, social and physiological benefits outlined in this study (Clift and Morrison 2011, Morrison et al 2013, Coulton et al 2015, Skingley et al 2016). This research suggests the possibility of similar benefits for a staff singing group, supporting Vaag et al’s (2013) findings. The benefits of singing for well-being among healthcare staff also have the potential to improve patient care, especially in developing meaningful relationships with patients (Maben et al 2012), thus increasing the value of the intervention.

**Limitations**

As a piece of conventional research, this study was limited in its ability to measure the effects of group singing on staff well-being. However, this was not its purpose as a feasibility study. Even so, the sample size was small and participant retention was challenging, which limits any firm conclusions regarding the recommendation to proceed to a full research trial, if the same research design and procedures were followed. In addition, further recruitment to Group B took place ahead of that group’s intervention, which meant that this group’s participants changed between baseline and the pre-intervention measure, potentially affecting these findings. Furthermore, a crossover design is arguably not suitable for this type of intervention, where the effects of singing may be long-lasting. Another limitation was that the research design did not enable follow-up of specific individuals, since the data were fully anonymised.

**Recommendations for future practice and research**

While there is insufficient evidence to strongly recommend singing groups for staff in healthcare organisations, this study suggests that they are likely to be beneficial for those who wish to attend. Where singing groups are to be set up, the experience from this project suggests that attention should be given to recruitment by investing in face-to-face publicity with staff across departments. Furthermore, this study shows that the implementation of staff singing for well-being groups should be preceded by a survey to identify the best time and venue for staff, followed by an evaluation of the benefits of the singing group for participants.

More broadly, greater resourcing of occupational health departments could ensure that staff well-being gains greater prominence in NHS trusts (National Nursing Research Unit 2013, Sprinks 2013). Singing for health could be signposted as one option within a staff well-being strategy. Where lack of time to attend a singing group is an issue, consideration should be given to integrating singing and music into care practices, which can be mutually beneficial to staff and patients (Vella-Burrows 2009, Sonke et al 2017).

Regarding further research, a larger trial would identify with greater certainty whether singing could contribute to staff well-being. Guaranteeing participants’ confidentiality rather than full anonymity would enable any differential outcomes for those already engaged in singing groups to be identified, as well as the tracking of individuals through the data collection phases, follow-up of less frequent attendees and greater ability to compare variables across the two groups. In addition, looking to a future where there may be wider acceptance of social prescribing – which enables

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**TABLE 3. Mean group scores for the Measurement of Engagement and Burnout (Schaufeli et al 2006)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Baseline</th>
<th>Three months</th>
<th>Six months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>32.1</td>
<td>35.7</td>
<td>36.5</td>
</tr>
<tr>
<td>Group B</td>
<td>30.2</td>
<td>35.0</td>
<td>37.3</td>
</tr>
</tbody>
</table>

**TABLE 4. Mean group scores for the Organisational Commitment Questionnaire (Mowday et al 1979)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Baseline</th>
<th>Three months</th>
<th>Six months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>59.4</td>
<td>72.3</td>
<td>71.0</td>
</tr>
<tr>
<td>Group B</td>
<td>62.5</td>
<td>75.5</td>
<td>78.5</td>
</tr>
</tbody>
</table>
Conclusion
This feasibility study has provided information about the procedures that could be followed in undertaking a larger research trial of staff singing for well-being groups in healthcare. While feedback from participants was positive, meeting the targets for participant recruitment and retention was challenging, meaning that the primary research aim was only partially met. Standardised well-being measures demonstrated potentially positive results in terms of improving staff well-being. Therefore, proceeding to a larger research trial may be possible with certain changes, particularly in relation to the recruitment methods used.

IMPLICATIONS FOR PRACTICE
» Singing in a group has the potential to contribute to improving the well-being of healthcare staff
» Where setting up staff singing groups is being considered, time and resources should be allocated for publicity and recruitment
» Evaluating the effects of singing groups for staff presents challenges in the current NHS climate, where time pressures and competing priorities make innovations in practice and research challenging to implement
» A larger research trial is required to confirm the findings of this study

References


