Stroke Survivors' experiences and perceptions of engaging, or choosing not to engage, in a virtual choir (VC) during the global pandemic.

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Abstract

Stroke is a public health concern and the emergence of the COVID-19 virus has compounded the situation for social support/ rehabilitation groups for stroke survivors. Many stroke survivors were required to self-isolate for 12 weeks or more according to government rules and regulations. This has led to the use of innovative technological platforms (e.g. Zoom) for delivering rehabilitation activities through 'Life After Stroke Group' sessions, such as choir practice for stroke survivors. The purpose of this study was to explore Stroke Survivors' experiences and perceptions of engaging, or choosing not to engage, in a virtual choir (VC) during the COVID-19 pandemic. Eight participants were recruited from the Stroke Association, 'Strike a Chord' VC. Semi-structured interviews were conducted, and the verbatim transcriptions were analysed using thematic analysis. Three main themes were identified: experience of singing in a choir, VCs and me and yearning to sing face-to-face with respective subthemes. The experience and perceptions presented here are intertwined. Whilst most stroke survivors perceived VC as a positive platform for providing a sense of belonging (community), there was a sense of yearning for face-to-face singing. This research may offer some support for those facilitating social and meaningful virtual group activities to groups in communities that may struggle with communication and digital literacy.

Keywords singing, virtual choir, experiences, perceptions, technology, thematic analysis

Introduction

Stroke is a global public health concern. In the UK stroke strikes every 5 minutes and approximately 100, 000 people have a stroke each year (Stroke Association, 2020a). There are 1.2 million stroke survivors in the UK, with 7, 500 new stroke annually and 70, 000 stroke survivors in Wales (Stroke Hub Wales, 2020). All strokes are different, and some survivors may or may not suffer with the various debilitating effects such as communication, physical, tiredness and fatigue and psychosocial problems. If present, such difficulties impact stroke survivors' daily activities having a significant negative impact on quality of life. As stroke survivors report a diminishing in wellbeing and mental health following a stroke (Stroke Association, 2020b), it is important that stroke survivors are able to engage in meaningful activities that support their wellbeing.

Singing is an activity that can be done solitarily or with others. Singing in a choir may support social networking, friendship making and confidence (Moss, Lynch & O' Donoghue, 2018; Fancourt & Steptoe, 2019), leading to better mental health and wellbeing (Fancourt, Warren, Finn *et al.,* 2019). Moreover, singing modulates mood, stress, cortisol, cytokine and neuropeptide activity amongst cancer patients and carers (Fancourt, Williamon, Carvalho, *et al.,* 2016). In a Cochrane review by van der Steen and colleagues (2018) it was suggested that music therapy in nursing homes and hospitals improved symptoms of depression and behavioural problems amongst dementia patients, however more research is necessary to determine other effects and duration. It has also been indicated that music therapy can help decrease agitation (Livingston, Kelly, Lewis-Holmes *et al.,* 2014) and that both music therapy and behavioural management techniques were effective for reducing behavioural and psychological symptoms in dementia (Abraha, Rimland, Trotta, *et al.,* 2017). In a study that explored the effects of group singing for people with aphasia, three choir members and five care givers completed semi-structured interviews about their experiences of singing in a choir. Mood, (General Health Questionnaire-12; Visual Analogue Mood Scale), communication, cognition and global functioning (Stroke Impact Scale-3) and social functioning (Sense of Belonging Instrument) were measured before, at 12-weeks and 20-weeks after joining the choir (Tamplin, Baker, Jones, *et al.,* 2013). Five common themes were identified amongst this cohort: increased confidence, peer support, enhanced mood, increased motivation, and changes to communication. It is important to note that these findings are limited due to the sample size although benefits of singing in a choir were demonstrated (Tamplin *et al.,* 2013). Fogg-Rogers and colleagues (2016), also suggest that choral singing was perceived by people with stroke and Parkinson Disease (PD) to help in self-management of the following consequences, social isolation, low mood and communication difficulties. It is

encouraged to further investigate the positive benefits and implications of singing in a choir amongst stroke survivors.

In March 2020, due to the COIVD-19 pandemic, the UK government introduced a national 'lock down'; with the closure of schools, restaurants and most retail outlets. Individuals from different households could not meet in person, inside or outside. Only key workers or those supporting and caring for the vulnerable were allowed to continue with normal working conditions (The Health Protection, Coronavirus Restrictions, Wales) Regulations, 2020). The rules have changed over time with various rules and guidelines per lockdown, specific to each UK devolved nation.

In a recent report released by the Stroke Association (2020c) it was suggested that stroke survivors in Wales found it difficult to access rehabilitation and ongoing support, impacting the survivors' journey on rebuilding their life after stroke. The report also highlighted stroke survivors feeling more anxious and concerned about their future; and leaving them and their carers receiving less care support during the pandemic (Stroke Association, 2020c). Stroke communities were required to cease meeting in person, leading to the use of innovative technological platforms for delivering rehabilitation, life after stroke groups and choir practice (Stroke Association, 2020c). In these sessions, choir members are able to meet and socialise for the first 10 minutes before singing. The host mutes all choir members except the pianist who sings and plays the songs. The pianist also invites choir members to sing solos if they wish. The soloist and pianist perform for the choir members although there is a sound delay. Most Virtual Choir (VC) sessions work in a similar fashion.

Virtual choirs poise many challenges however, notably reduced sensory information from others that would otherwise be available 'live' (shared acoustics, awareness of other's breathing, emotional states and expression; Datta, 2020). Fancourt and Steptoe (2019), suggest "virtual musical experiences may still have a role to play in supporting those who cannot engage in live experiences such as people who are socially isolated. While the 'ensemble alignment' of a choir might not be optimal if delivered virtually, it may still promote other benefits that feature in traditional choirs, such as the sense of being part of a collective/group, meeting friends, combating isolation and providing a meaningful activity.

Current study

The current study aimed to explore and understand the transition of moving from a 'live choir' to a 'virtual choir' among stroke survivors during the COVID-19 pandemic, exploring their reasons for level of engagement and the barriers and facilitators impacting engagement.

Methodology

This qualitative study consisted of a semi-structured virtual focus group delivered via the online platform Zoom and two telephone interviews. A convenience sample of participants were recruited from the Stroke Association Wales 'Strike a Chord' choir. Participants consisted of stroke survivors who met weekly for choir sessions before the COVID-19 lockdown. Stroke survivors age 18 years and older who had taken part in up to six VC sessions were eligible to participate

Telephone interviews with two participants of the choir members, but who had not engaged with the VC weekly sessions on Zoom, were conducted to explore their thoughts and beliefs surrounding choosing not to participate in VC sessions. The telephone interviews were one-to-one and audio recorded.

Questions were carefully considered in light of participant's situation due to aphasia. Ethical approval for the study was granted from Cardiff School of Sport and Health Sciences under the Cardiff Metropolitan University Ethics Framework (Sta- 2885).

Procedure:

All Stroke Association Wales 'Strike a Chord 'choir members were approached via email by the Musical Director (MD) and organizer of the VC sessions with an invitation to participate in this study. Once choir members expressed their interest in taking part, they were emailed participant information sheets and consent forms to all interested participants (via email and post). An invitation to a private Zoom meeting (with a secure passcode and a waiting room was set up to grant access to the interview) to partake in a 1.5-hour semi-structured focus group was sent to interested participants. At the very start of the session the chat function and ability for participants to 'raise their hand' was enabled and explained for participants who might like to ask a question. Prior to the start of the focus group, the lead author went over study information, consent form and audio and visually recorded consent from every participant. Participants were reminded that if they would like to withdraw from the study that they could do this at any time without giving a reason by simply exiting the chat room. Interview schedules for the focus group explored experiences of engagement with the virtual choir, and barrier and facilitators to engagement. Pseudonyms were assigned to each participant with any identifiable information removed, and interviews were transcribed verbatim.

For the two participants wishing to participate in the telephone interviews, the lead author arranged a convenient time for the interviews to take place. At the start of the telephone interview, the participant was asked to provide audio consent. The interview schedules for the telephone interviews were similar, although focused on thoughts and beliefs related to not participating with the virtual

choir. Data was stored on Microsoft OneDrive password protected computer and only accessible to the research team.

Analysis

Thematic analysis according to Braun and Clarke (2006), was undertaken to evaluate choir members experiences, perspectives, views, impact of and identify themes in relation to partaking in VC sessions. Familiarisation with the data by reading the re-reading the transcripts was carried out by lead author. Whilst reading the initial codes were generated relating to the research question in a systematic fashion across the entire data set, collating data relevant to each code. Searching for themes collating potential themes with representative examples followed. A thematic map was devised to check if the themes worked in relation to the coded extracts. Further analysis to refine the themes with respective subthemes was created. This process was checked by the co-authors. A final report was then written considering examples and quotes from choir members in conjunction with the research question and literature.

Findings

Three males (Collin, Jacob and James) and three females (Dorothy, Linda and Patricia) took part in the focus group interview and two males (Angus and Fred) took part in the telephone interview. Participant ages ranged from 41 -80 years of age. Three themes with respective subthemes (Table 1) were identified and are presented in this article to illustrate choir members' experiences and perceptions of singing, or choosing not to sing, in a VC during the global pandemic, and are detailed below.

Table 1 Main themes with sub themes
Theme 1 - Experience of singing in a choir
Subtheme 1.1 - Nature of experience
Theme 2 - Virtual Choirs (VCs) and me
Subtheme 2.1 – The VC platform in relation to community
Subtheme 2.2 – VCs provide a sense of belonging (community)
Theme 3 - Yearning to sing face-to-face

Theme 1 – Experience of singing in a choir

All VC members commented on their experiences of singing in the Strike a Chord choir prior to online sessions. The choir was perceived as a place where members met, interact and sing together as friends (a place of joy). As Fred explains

'I love the choir very much like you know. All my friends are like there you know… very happy, whenever I go … I really feel happy when I seen the people laugh like very much yes…' (Fred).

For Linda seeing choir members brought her joy, as she explains,

'I really enjoy it. I really like seeing everybody, saying hello and having a laugh and stuff like that…' (Linda).

Subtheme 1.1 The nature of the experience

The nature of the singing experience was perceived as being:

'…free…being able to learn…to improve health…to help with mental wellbeing and to help with aphasia…' (Collin, Jacob, Fred, Dorothy, Linda and Patricia)

amongst the choir members

As James comments,

'it gives me a sense of release... I just feel like singing…' (James).

Other illustrations from Patricia and Linda include:

'Freedom and for me it's like an exercise as well. It helps me with my breathing because I have asthma and because I used to do a lot of sport before, so it's like an exercise because I am tired after an hour of singing, it feels like I've been working out so I really enjoy it. It helps my mental health as well' (Patricia).

'Health and mental when I come on....and definitely works helps aphasia' (Linda).

Patricia also commented on the pandemic being '*hard*' and '*feeling isolated*' as she lives alone. Therefore, singing is something that *'raises her happiness'* and makes her '*feel good*'. All in all singing provided her with a sense of comfort and for the other choir members. Conversely, Angus's story overlaps with the VC members. Although Angus did not take part in the VC, being a choir member is as important to him as it is for those who currently sing in the VC. For Angus he enjoyed being a part of the choir because it brings him a sense of belonging *'it's part of a larger family'*. He explains that being part of the 'Strike a Chord' choir is important for stroke survivors, especially for those with aphasia. He however, feels VC does not encapsulate the face-to-face choir experience as he explains below:

'…it was nice to see people…but I find it rather strange because you not really singing with everybody' (Angus).

This theme, highlights the importance of singing and being a choir member and Angus sets the scene for theme two below.

Theme 2 - Virtual Choirs and me

This theme encompasses how the VC platform was introduced to choir members and how the platform provided as sense of belonging (community) amongst this cohort. The platform allowed choir members to meet and check up on one another. As described below the MD would also inform choir members about how those who have not embraced or not able to join the VC.

Subtheme 2.1 -The VC platform in relation to community

Initially, VC members including Angus were introduced to the Zoom platform by the MD of the 'Strike A Chord' choir or via personal correspondence amongst one another. It is important to mention that those who participated in VC sessions (including Angus) used several platforms to communicate and interact with family and friends before the Zoom platform was introduced. Technologies included, Facebook, FaceTime, WhatsApp, Teams and Skype were used, therefore, adapting to Zoom to participate in VC sessions was easy for most participants. As the pandemic had implications for meeting face-to- face, choir members embraced the Zoom platform and continued with choir through this virtual platform. For one participant (Fred) who did not engage in VC sessions; adapting to the various platforms was difficult as he did not own a computer or understand the various platforms, however, he was willing to learn. Participants embraced the technology as observed in Linda's account,

> *'…and the technology didn't scare me and I do other Zooms for other Neuro areas… yeah…good'* (Linda).

Patricia comments on the ease of using Zoom,

> *'Zoom has been the easiest out of all of them for me to use…'* (Patricia).

Subtheme 2.2 VC provides a sense of belonging (community)

In detail VC sessions were perceived as providing a sense of belonging and maintaining contact with the 'Strike A Chord' choir community. As Dorothy, Patricia and Linda explain,

> *'I find them very useful for me because I see everyone again. Yeah and the singing of course and to see everybody, it's great even though you might not get the chance to talk to everybody at least you see their faces and everybody is alright yeah..'* (Dorothy).

> *'I like them because you can see everyone… and that's quite nice..'* (Patricia).

'Brilliant…when I attend it is all fantastic you know…I feel good' (Linda).

Collin, Jacob and James further commented on partaking in VCs sessions,

'Yeah…Zoom is good….for choir.. aphasia..' (Collin).

'Yes…good' (Jacob) agrees.

'It's a good thing…for most participants singing in the VC' (James).

In addition, Angus comments on VC session being important to 'see people' however does not join these sessions, as he is muted. Agnus narrates

'…it was nice to see people you hadn't seen in a while...but I find it strange now because you not really singing with everybody...because we're all muted…' (Angus).

Angus also continues to discuss the importance of the VC platform via Zoom bringing people together and helping with those who are socially isolated,

'I mean to say it has got people together and it has got other choirs involved. I think it has been very useful for getting people together. So people know they are not alone…' (Angus).

Conversely, as described in theme 1 above, Fred's comments on seeing his friends during the face to face choirs sessions and loving to sing also supports the other participants comments. However, during the pandemic this is not possible thus impacting negatively on Fred's 'sense of community' as he is not being able to join VC sessions due to the lack of a computer and/ or understanding this newly introduced technology (Zoom). This raises ethical concerns about not including those already isolated older individuals within stroke communities who would benefit from such platforms.

VC choir members embraced the technology and the platform has provided a sense of belonging bringing the choir community together. Participants described these experiences and feelings as,

'Positive' (Linda, Collin, Jacob).

'Uplifted… Empowered' (Patricia).

'I feel happy…it's positive' (James).

Theme 3 – Yearning to sing face-to-face

The current pandemic has negative implications on meeting face-to-face. Whilst stroke survivors have exercised shielding measures, their accounts highlight their acknowledgment of government recommendations, however, choir members still yearn to sing face-to-face and meet each other. Similar experiences and sentiments are shared. Patricia enjoys singing with VC members, however

recognises the need for face-to-face choir sessions, as this is where she is able to interact beyond her singing session,

> 'The negative is that I am feeling.. I can't physically go up and chat to someone...I got blah dee blah dee blah! And they go oh I got I've had that have you tried this...' (Patricia).

Linda comments,

> 'I think it's good… I didn't realise this long. I miss face to face… so one day hopefully we have both virtual and meet as well, that would be amazing' (Linda).

James also comments and reminisces on the importance of singing face-to-face,

> 'When you were in the music hall…we would just sing as a choir… it would be a lot better if we were down there.' (James).

Subsequently, Angus choosing not to partake in VC sessions is based on longing to sing face-to-face. Angus explains,

> 'Yes I miss the people and getting together and singing live.. I know we can't do it now because of lockdown... but it would be nice to get the choir in an open space and sing out in a field or car park or something like that, socially distanced of course. But it would be nice but I think it is going to be very difficult when everything goes back to normal…um…to get people back..' (Angus).

Discussion and Conclusion

The aim of this study was to explore stroke survivors' experiences and perceptions of singing, or choosing not to sing, in a virtual choir (VC) during the global pandemic. Choir member first commented on the importance of singing in the 'Strike A Chord' choir, what the choir and choir members (friends) meant to them. An insight into their experiences and feelings towards performing collectively as a choir highlighted the positive implications on members' wellbeing and health, thus addressing social isolation in line with previous research by Tamplin and colleagues (2013), Fogg-Rogers *et al.,* (2016) and Fancourt and Steptoe (2019).   Such perceived benefits of singing included, being free, being able to learn, improving health, helping with mental health and helping with aphasia. This was also supported by the one participant who chose not sing in the VC. Such positive implications parallel those highlighted in Fancourt *et al.,* (2016). Moreover, in line with previous literature (Tamplin *et al.,* 2013; Fogg-Rogers *et al.,* 2016; and Fancourt & Steptoe, 2019), VC sessions provided a sense of belonging (community) thus allowing stroke survivors to be socially present, thus combating social isolation. The global pandemic has had implications on how stroke survivors are able to interact,

however the study demonstrates the adaptability of VC members. Participants also expressed, the importance of face-to-face interaction and longing to sing live and face-to-face. Other important findings linked to participant accounts can be seen below (Table 2). Most participants in this study share similar experiences as revealed by Patricia when singing in a VC during the global pandemic. Patricia extract,

> *'I feel inspired when I come to the choir and I see all the other people that managed to get online… I think that's incredible…we all manged to get on there that's amazing'* (Patricia).

The research presented here offers an insight into the experiences and perspectives of stroke survivors who currently partake in VCs, as well as the thoughts and beliefs of one stroke survivor who chose not to take part in VCs with their reasons. It is also important to note that for another stroke survivor (Fred); he was also unable to join VC sessions as he did not have a computer and understand the VC technology (see reflections section). This qualitative study may also offer some support for those wishing to join VCs.

Reflections

The researchers also acknowledge important reflections raised when conducting this study and analysing the data. Various issues in relation to conducting qualitative work, considering sample size and sample populations and the digital shift in relation to our ageing population should also be considered (Table 2). It is also worth noting that aphasia among participants were not assessed, which may have contributed to decisions of choosing to engage or not to engage in VC. The Stroke Association and other researchers have also commented on similar reflections and recommendations when conducting research with stroke survivors or vulnerable groups i.e. problems with speech and cognition (Patel *et al.,* 2006) and tailored research based around user involvement and input (McKevitt, Fudge & Wolfe, 2010). Other examples of reflections and recommendations can be seen in Table 2 below.

In line with the technological/digital shift (Table 2), Angus comments,

> *'I think it difficult for some of them, but others are just not interested.. in getting to grips with technology…it is bad enough to get people to answer their mobile phones at times… We got a Facebook group, …other people dip in and out of occasionally, some people never post on it.'* (Angus).

Although some choir members have not embraced VC technology, the MD checks up on choir members regularly via telephone or contacting their relatives. Some negative implications when using Zoom observed amongst this cohort of stroke survivors included, the technology becoming the new

norm, physical inactivity due to being seated during VC sessions and some choir members being left behind due to the lack of technological equipment or adapting to the technological shift. This is evident in Fred's account.

Qualitative research is not generalisable, however, conducting similar studies exploring the use of various virtual platforms for singing programmes and other art programmes would complement this study, allowing for more insight in different contexts. In the future similar studies should be conducted. Other considerations for future research might want to consider the following; the type of technology used, accessibility to the internet, internet speed, the geographical region and other external and internal environmental factors that might influence engagement.

Table 2 Reflections in relation to digital practice and qualitative interviews
- Impact of virtual platforms on practice - Does it lessen or enhance practice for choir members?   - Delivery and experience – Is there an authentic way of delivering such programs via various online platforms?   - Technological/digital shift – Do all participant members have access to technological devices, internet and are they technologically savvy and up to date? Are we considering our older populations, their access and skills in relation to the digital shift?   - The role of the researcher – when conducting qualitative research (e.g. stroke survivors or vulnerable groups) the role of the interviewer plays an important role when navigating the interview schedule and interviewing, therefore the researcher should upskill and adapt the interview schedule accordingly (e.g. some stroke survivors may have aphasia which will impact interviewees responses and communication). It is important to utilise strategies for effective communication i.e. aphasia friendly PIS, consent and interview schedules, thus adapting accordingly. Moreover, shorter sentences with pictures and use of other strategies such as drawing, the use of phones and tablets should also be considered.

Declaration of Interest: *none*

Key findings

- Stroke survivors' had positive experiences and perceptions of engaging, or choosing not to engage, in a virtual choir (VC) during the COVID-19 pandemic.
- Interestingly, one choir member who chose not to take part in VC sessions also highlighted the positive implications of such platforms, important for stroke survivors' wellbeing and social interactions.
- Some stroke survivors embraced the VC platform and adapted accordingly, however still longed to sing face-to-face.
- This study highlights the importance of singing via a virtual platform for stroke survivors during the current pandemic.

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