**Methodologies of chosen playlist selection for people living with dementia: A Systematic Review Protocol**

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**Abstract**

**Background:** To further personalise and refine playlist collection methodologies for people with dementia, currently utilised methodologies must be reviewed and critically analysed. However, there is limited transparency of some of these approaches. To remedy this current gap in literature more focussed research into the methodologies used in creating these music playlists is needed (Garrido et al., 2017). This protocol is for a systematic review that aims to identify the methodologies currently utilised in the development of music playlists for people with dementia and will also explore and analyse the effectiveness of these methods on dementia-related outcomes.

**Methods:** This protocol has been written in line with the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocol (PRISMA) guidelines. Systematic searches will be used to identify the efficacy of methodologies used to collect chosen playlists for people living with dementia. These searches will be conducted across PubMed, PsychInfo, SCOPUS, and Music Periodicals database. Titles, abstracts, and keywords will be screened with Rayyan.ai software and risk of bias will be assessed utilising the mixed methods appraisal tool (MMAT).

**Results:** Studies will be reported as descriptive data summarised narratively. Data and information on specific methodologies will be grouped together. Depending on the variability of methods, this might occur through grouping methodologies into broader themes (e.g., informant-based questionnaire playlists). Identifying and critically analysing the efficacy and acceptability of playlist collection methodologies will further researcher’s understanding and future refine of further tailored and user-friendly playlist collection methods for people with dementia.

**Discussion:** Findings from the systematic review will help aid the refine and development of new methodologies for playlist collection in people with dementia, so that it is not only effective in improving outcomes and objectives but also acceptable and feasible.

**Keywords** Dementia, music, chosen playlists, individualised music listening

**Introduction**

Dementia is a progressive syndrome that results in cognitive and functional decline. Approximately 55.2 million people are estimated to be living with dementia with nearly 10 million new cases every year, of which there is currently no cure (WHO, 2020).

There is accumulating evidence that music can be an effective non-pharmacological intervention in the lives and care of people living with dementia (Tamplin et al., 2019). Music in its various forms such as therapy in formal or informal activities engages widely across brain regions and effectively treats various symptoms associated with dementia (Tamplin et al., 2019). Importantly, these benefits appear to occur without any side effects.

While music listening in groups has indicated to be effective in reducing anxiety and loneliness in people living with dementia (Svansdottir and Snaedal, 2006), Garrido et al (2018) report that certain musical characteristics such as minor keys and faster tempos caused irritation and reduced enjoyment, as did certain genres not to the participant’s taste. These characteristics cannot effectively be avoided in group listening whereas individualised music listening is tailored to the individual and has the proven benefit of memory triggers and recall also (Tamplin et al., 2019). As such, individualised music listening (or chosen playlists) are popular choices for people with dementia (Costa et al., 2017). Such interventions achieve pleasurable qualities for both the person with dementia and their care givers (Weise, L et al., 2019). The existing studies show that the use of individualised music listening can significantly reduce anxiety, depression, and agitation in people living with dementia (Costa et al., 2017).

Further research is needed into variables that influence individual responses to music and further clarification of protocols and methodologies for music use (Garrido et al., 2017). In further understanding of what characteristics and variables make an effective chosen playlist, it will further inform the methodologies and design that create them for people living with dementia.

**Rationale**

Previous literature has focussed on the effectiveness of music interventions on dementia outcomes more broadly (Svansdottir and Snaedal, 2006). To date, there is limited to no research focussed on the methodologies used in creating music playlists for people with dementia (Gerdner, 2012). Due to cognitive impairment, generating personalised playlists for people with dementia may be problematic. Therefore, more novel approaches have been designed to meet their needs. Companies and charities such as MediMusic, Playlist for Life, and X System have adapted the music playlist collection process from participant forward questionnaires and interviews (Gerdner, 2012) to algorithms and playlist generators. However, there is limited transparency of these approaches. To remedy this current gap in literature more focussed research into the methodologies used in creating these music playlists is needed (Garrido et al., 2017).

**Aims**

The systematic review aims to identify the methodologies currently utilised in the development of music playlists for people with dementia for therapeutic interventions. The systematic review also aims to understand the effectiveness on dementia-related outcomes.

**Objectives**

1. To describe methodologies in gathering music for chosen playlists
2. To ascertain the accessibility and feasibility of these methodologies
3. To compare the efficacy of music playlist methodologies on dementia-related outcomes.

**Methods**

This systematic review will follow PRISMA, the Preferred Reporting Items for Systematic Reviews and Meta-analyses (Moher et al., 2010)**.**

**Eligibility**

The systematic review will be using the SPIDER (sample, phenomenon of interest, design, evaluation, research type) framework for determining eligibility for the search strategy. This framework is useful for qualitative and mixed method research (Cooke et al., 2012).

**Sample-** people with dementia

**Phenomenon of Interest-** methodologies of music playlist selection for people with dementia

**Design-** observation, interview, questionnaire, survey, intervention, evaluation

**Evaluation-** description of music playlist selection, alongside evidence related to the acceptability, feasibility, and efficacy

**Research Type-** quantitative, qualitative, and mixed method

**Inclusion criteria:**

* English language studies
* Studies that include people with dementia as the sample population, or in cases where no participant data is reported, studies where music playlist methodology is described as designed for people with dementia. Dementia can be self-reported and includes any subtype of dementia.
* Peer review articles

There is no restriction on demographics of participants outside of including people living with dementia. In cases where the sample consists of people with and without dementia, these will be included provided the related outcomes are reported separately.

**Exclusion criteria:**

* Studies with no description of the music playlist generation methodology or no citing an existing established methodology
* Studies in which the music playlist is used with another intervention such as dancing.
* Editorials, commentaries, and reviews.

**Identifying relevant studies**

**Information sources:**

* PubMed
* PsycInfo
* SCOPUS
* Music Periodicals database

Citations of potentially relevant studies will be hand searched.

**Search strategy**

Search terms can be categorised as:

People with dementia-

* Dementia OR Alzheimer\*

Music-

* “Individual\* music” OR “chosen music” OR “personal\* music” OR “tailored music”

Filtered for peer review only in searches.

All searches and dates saved for own records and replicability.

**Data Management:**

All citations found in each database will be downloaded into Zotero to allow for merging and duplication checks. Rayyan.ai will be used to screen titles and abstracts. We will review full-texts and extract data into an Excel proforma.

**Selection Process:**

Two reviewers will independently screen titles and abstracts against the inclusion/exclusion criteria. If the article is deemed relevant by either reviewer based on the title and abstract, it will be brought forward for full-text screening. Full articles that meet the criteria will be independently reviewed and in duplicate. Agreement statistics at the full-text stage will be reported. Any disagreement between independent researchers will be reviewed and discussed with a third reviewer.

**Data items and collection process:**

BE will extract the data for eligible studies as per the inclusion/exclusion criteria. Full text data will be inputted into a pre-designed form. Data extraction will consist of descriptive information such as music playlist methodology, demographic information, evidence of acceptability, feasibility, and efficacy.

**Outcome prioritisation**

Primary outcome-

Descriptive information of the music playlist generation process and methodologies such as duration, the types of questions used to facilitate decision-making, and the feedback provided.

Secondary outcomes-

There are three secondary outcomes to consider for this systematic review: feasibility, acceptability, and efficacy.

Feasibility-

Data related to the number of participants entering the study alongside recruitment obstacles. Information on the representativeness of the sample, alongside whether the music playlist process was implemented as intended. The cost of implementation will also be considered.

Acceptability-

Adherence rates of the music playlists, participant engagement, acceptability, and appeal. Data related to the burden of the music playlist generation process.

Efficacy-

The health, wellbeing, or mood related outcomes following the implementation of the music playlist generated. Outcomes will require to have face validity. Change scores from baseline (Mean and SD) or sufficient information to calculate change scores will be required.

**Risk of bias in individual studies**

The Mixed-Methods Appraisal Tool (MMAT) will be used for studies where secondary data outcomes are extracted. MMAT was designed for mixed-method reviews specifically (Hong et al., 2018) and will be used to assess bias by BE. Any bias reported will be used to contextualise findings.

**Data synthesis**

A narrative, textual synthesis will occur. Data and information on specific methodologies will be grouped together, this includes evidence of acceptability, feasibility, and efficacy of the methodologies. Depending on the variability of methods, this might occur through grouping methodologies into broader themes (e.g., informant-based questionnaire playlists).

**Discussion**

This review aims to identify current methodologies in collection of chosen playlists, critically analysing literature on chosen playlists with specific outcomes for people living with dementia. In doing so it will aid the development and refine of new methodologies for playlist collection in people with dementia, so that it is not only effective in improving outcomes but also acceptable and feasible.

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