

Singing and COPD: a pilot randomised controlled trial

Submission date 04/12/2018	Recruitment status No longer recruiting	☐ Prospectively registered ☒ Protocol
Registration date 08/05/2019	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 15/08/2022	Condition category Respiratory	☐ Individual participant data

Plain English summary of protocol

Background and study aims

Chronic obstructive pulmonary disease (COPD) is a long-term and progressive respiratory disease which negatively affects people's health and wellbeing. The condition deteriorates over time, and there is no cure. However, there is evidence that activities like regular exercise and singing can improve breathlessness and general health and wellbeing. Previous research has shown positive benefits of singing for respiratory illness, but two recent reviews of the evidence highlights the limitations of previous research and the need for further larger-scale controlled studies with follow-up. The aim of this study is to build on previous research and undertake a larger-scale controlled study of the effects of regular group singing for people with COPD. A new feature of the study will be the direct assessment of patients' patterns of breathing to investigate whether regular singing serves to encourage stronger and more consistent use of the diaphragm to support breathing.

Who can participate?

Adult patients with moderate to very severe COPD

What does the study involve?

Participants are assessed using a number of short questionnaires to assess health status and psychological wellbeing. In addition, lung function is assessed. The focus of interest is on the extent to which patients engage in shallow upper chest breathing, or engage their diaphragm in deeper abdominal breathing. Following the assessment, half of the participants are selected at random to participate in a singing programme and half receive usual care. The singing programme takes place over ten 90-minute sessions. The programme involves breathing exercises and songs which encourage controlled breathing and progressive extension of the time taken to breathe out. Following the end of the singing programme, participants are assessed for a second time. There is then a follow-up period of three months during which no singing activity takes place, and the participants are assessed for a third time to see whether any changes observed immediately following the intervention are maintained.

What are the possible benefits and risks of participating?

On the basis of previous research, participants are expected to gain an increased sense of personal and social wellbeing from participating in an enjoyable and stimulating group activity. If

this is the case, we should see this reflected in answers given on the structured questionnaires that will be employed in the study. They may also find that regular singing teaches techniques of breathing which can help them manage their breathing difficulties more effectively. This potential outcome will be assessed using a validated COPD health questionnaire and direct assessments of lung function. A further benefit for all participants, whether in the intervention or control group, is the satisfaction of taking part in a scientific study aimed at improving the treatment of COPD. Previous research indicates that there are no risks associated with regular singing for people with COPD, and no side effects.

Where is the study run from?

The study is a collaboration between Canterbury Christ Church University, the University of Kent and Medway Community Healthcare who provide secondary support services for people with COPD. Patients will be recruited through Medway Community Healthcare Respiratory Team. The intervention will take place in a community venue in Medway UK, with singing sessions taking place weekly for ten weeks. Assessments will take place in the Sport Sciences laboratory of the University of Kent at Medway Park Sports Centre.

When is the study starting and how long is it expected to run for?

March 2018 to March 2020

Who is funding the study?

The study is being funded by Oak Foundation and supported by Canterbury Christ Church University and the University of Kent (UK)

Who is the main contact?

Prof. Persephone Sextou, persephone.sextou@canterbury.ac.uk

Contact information

Type(s)

Scientific

Contact name

Prof Persephone Sextou

Contact details

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Additional identifiers

Protocol serial number

Protocol 1

Study information

Scientific Title

Singing and COPD: a pilot randomised controlled trial to assess the effects of a structured 10-week programme of singing on the health-related quality of life of patients with COPD, compared with usual treatment, six-months post-baseline assessment

Acronym

Singing and COPD

Study objectives

No change occurs in COPD-specific health status, following ten weeks of regular, weekly singing at the primary end point for the trial six months post-baseline

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 19/02/2019, London – Queens Square ethics committee (Friends Meeting House, Euston, NW1 2BJ; 0207 104 8061; NRESCCommittee.London-QueenSquare@nhs.net), ref: 19/LO/0159

Primary study design

Interventional

Study design

Single-blinded randomised controlled trial

Study type(s)

Quality of life

Health condition(s) or problem(s) studied

Chronic obstructive pulmonary disease (COPD)

Interventions

Randomisation will be conducted by a secure remote randomisation service independent of the research team. Randomisation will employ random permuted blocks of variable length with stratification by sex and COPD severity.

Intervention: a structured and progressive programme of group singing for participants with COPD delivered over 10 weeks in sessions lasting 90 minutes, supplemented by home practice between sessions supported by printed and audio-visual material.

The participants in the control condition will receive treatment as usual (TAU).

Participants will be assessed at baseline using a number of validated, short questionnaires to assess health status and psychological wellbeing. In addition, lung function will be assessed using standardised spirometry and a new technique which assesses patterns of breathing. The focus of interest is on the extent to which patients engage in shallow upper chest breathing, or engage their diaphragm in deeper abdominal breathing. Following baseline assessment, half of the participants will be selected at random to participate in a singing programme and half will receive usual care. The singing programme will be implemented over 10 90-minute sessions. The

programme will involve breathing exercises and songs which will encourage controlled breathing and progressive extension of the time taken to breathe out. Following the end of the singing programme, participants will be assessed for a second time. There will then be a follow up period of 3 months during which no singing activity will take place, and the participants will be assessed for a third time to see whether any changes observed immediately following the intervention are maintained.

Intervention Type

Behavioural

Primary outcome(s)

Quality of life assessed with the COPD Assessment Test (CAT) at baseline, three months following the ten-week intervention, and then after a further three months.

Key secondary outcome(s)

Measured at baseline, three months following the ten-week intervention, and then after a further three months:

1. Breathlessness assessed using mMRC self-completion questionnaire
2. Physical health related quality of life and mental health related quality of life assessed using SF-36 v2 self-completion questionnaire
3. Generalised anxiety disorder assessed by GAD-7 (self-completion questionnaire)
4. Depression assessed by PHQ-9 (self-completion questionnaire)
5. Lung function and patterns of breathing assessed by standardised spirometry and structured light plethysmography
6. Functional exercise measured by the standardised six-minute walk test

Completion date

31/03/2020

Eligibility**Key inclusion criteria**

The trial will be open to patients:

1. With a diagnosis of COPD who have received pulmonary rehabilitation (or in receipt during the recruitment period)
2. Willing to undergo the collection of assessments planned
3. Willing to be randomised to either the intervention or control group
4. Able to attend one of the two groups planned (given the proposed day and time)

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Senior

Sex

All

Total final enrolment

36

Key exclusion criteria

1. Are unable to give informed consent
2. Have comorbid conditions that make participation difficult
3. Are unable to travel independently to the venues
4. Are not sufficiently fluent in English to complete the questionnaires employed

Date of first enrolment

18/03/2019

Date of final enrolment

09/03/2020

Locations**Countries of recruitment**

United Kingdom

England

Study participating centre

Medway Community Healthcare

Bailey Drive

Gillingham

United Kingdom

ME8 0PZ

Sponsor information**Organisation**

Canterbury Christ Church University

ROR

<https://ror.org/0489ggv38>

Funder(s)**Funder type**

Charity

Funder Name

Oak Foundation

Alternative Name(s)

Oak Foundation USA, Oak Philanthropy (US) Inc.

Funding Body Type

Private sector organisation

Funding Body Subtype

Trusts, charities, foundations (both public and private)

Location

United States of America

Funder Name

Canterbury Christ Church University

Alternative Name(s)**Funding Body Type**

Private sector organisation

Funding Body Subtype

Universities (academic only)

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

Following publication of the trial results, all anonymised participant level data will be available to university researchers for secondary analysis. Participant consent given. Requests should be made in writing to the Head of Research, Faculty of Health and Wellbeing, Canterbury Christ Church University, North Holmes Road, Canterbury, Kent CT1 1QE, UK. Data will be available as an SPSS file for one year post-publication of the trial.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		01/05/2022	15/08/2022	Yes	No
Results article	Implementation and evaluation	01/05/2022	15/08/2022	Yes	No
	Participant experiences				

Results article		01/05/2022	15/08/2022	Yes	No
HRA research summary			28/06/2023	No	No
Protocol file	version 1	18/12/2018	15/08/2022	No	No