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Physical distancing during choir singing rehearsals and risk of respiratory tract infections: study protocol for a pilot study

Submission date
04/11/2025

Recruitment status
No longer recruiting

Registration date
05/11/2025

Overall study status
Completed

Last Edited
28/01/2026

Condition category
Infections and Infestations

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
During the COVID-19 pandemic, the authorities advised that people should keep distance between one another. They broadly advised physical distancing, such as keeping 1-2 meters away from one another in general, and also implemented more specific guidelines and mandates such as increased distance during physical exercise, singing or other activities that could increase the risk of transmission. Collectively, such preventative measures contributed to decreased transmission during the pandemic, but there is still uncertainty around the effects of the individual measures. We need more knowledge on the effect of individual measures to be prepared for future pandemics. Increased knowledge of the effect of physical distancing may contribute to the continuation of social activities such as choir practices in a safe manner during future pandemics. We therefore aim to investigate whether physical distancing during choir practices can reduce the risk for respiratory tract infections. In preparation for the main study, we are planning a test project (pilot study), to assess whether a larger study is feasible.

Who can participate?
For this study, choirs with at least 15 adult members who rehearse at least weekly are eligible to participate. In addition, we will recruit adults who don't participate in organized choir singing as a reference from the greater Oslo area through the FHI-panel.

We plan to recruit about 10 choirs, who will be randomly divided into two groups:
1. Distancing group: Choirs in this group will be advised to keep 1.5 meters distance from each other during the choir practice, starting from when they enter the venue and up until the choir practice is finished.
2. Control group: Choirs in this group will conduct their practice as usual.

What does the study involve?
The study period lasts for 9 weeks and consists of the following:
- The choir will practice with or without instructions on distancing during the first 8 weeks of the study period.
- You will be asked to fill out a questionnaire ahead of the study period, every week of the study

period and after the study period. Each questionnaire takes less than 10 minutes.
- In the questionnaire we collect data on:
o Symptoms of common cold or other respiratory infections
o Vaccinations against COVID-19 and influenza
o Whether or not you belong in a risk group for developing severe disease during respiratory tract infections
o Participation in choir practices and if you have followed recommendations for distancing

In addition, we ask that you take rapid tests every week to see if you have been infected with COVID-19, influenza or RSV during the study.

After the study period is over, the participants will be asked to evaluate their experience of being involved with the study. A subset of participants will also be invited to focus group interviews to give feedback on their experiences so that we can improve the future main study.

We will not be collecting information from registers or other sources, we rely on information the participants submit in the questionnaires themselves.

What are the possible benefits and risks of participating?
The study entails no increased health risks for the participants compared to their normal activity. The choir will receive NOK 4000,- in support for funding as compensation.

Where is the study run from?
The study is run from Centre for Epidemic Interventions Research, at the Norwegian Institute of Public Health, Oslo, Norway.

When is the study starting and how long is it expected to run for?
The study will start in February 2026 and run for a total of nine weeks.

Who is funding the study?
No sponsors are involved in the study, the study is funded by intramural funding at the Norwegian Institute of Public Health.

Who is the main contact?
Project leader Erle Refsum is the main contact: erle.refsum@fhi.no

Contact information

Type(s)
Public, Scientific, Principal investigator

Contact name
Dr Erle Refsum

ORCID ID
https://orcid.org/0000-0002-9591-5152

Contact details
Folkehelseinstituttet, Postboks 222 Skøyen
Oslo
Norway

0213
+47 99314576
erle.refsum@fhi.no

Additional identifiers

Protocol serial number
REK938874

Study information

Scientific Title
Effect of physical distancing during vocal ensemble (choir) rehearsals: protocol for a pilot cluster-randomized controlled trial to investigate feasibility, acceptability, adherence, and outcome distribution

Acronym
DISCHO

Study objectives
The primary aim is to evaluate feasibility and acceptability of a planned randomized trial on the effects of physical distancing recommendations during vocal ensembles (choir) rehearsals. We will also investigate adherence to the intervention and characterize a candidate outcome variable to facilitate power analysis for the planned main trial.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 17/10/2025, Regional committees for medical and health research ethics (REC) South-East Norway (REK Sør-Øst, Postboks 1130, Blindern, Oslo, 0318, Norway; +47 228 51 001; rek-sorost@medisin.uio.no), ref: 938874

Primary study design
Interventional

Study design
Pragmatic two-arm parallel group cluster-randomized trial

Study type(s)
Other

Health condition(s) or problem(s) studied
Respiratory tract infections in healthy adults

Interventions
This study aims to assess the effectiveness of maintaining physical distance from others in real-life situations. During the intervention, choir participants will be instructed to avoid close

contact (closer than 1.5 meter) with other participants who are not family members during choir rehearsals the entire time while inside the rehearsal venue. The intervention period will last for eight weeks.

In the control arm, participants will conduct choir rehearsals under standard conditions without any distancing restrictions while they are in the venue. The comparator is chosen to represent the risk of respiratory tract infection during choir singing without any physical distancing measures.

To compare the time to developing an respiratory tract infection among persons participating in vocal ensembles to persons not participating in organized singing, an external reference group, with a similar geographical location as the choirs in the control group will be recruited. The external reference group will not receive any restrictions on physical distancing.

The choirs will be randomly allocated 1:1 to the intervention and control arms for a study period of 2 months.

Intervention Type
Behavioural

Primary outcome(s)
1. Time to respiratory tract infection (RTI) is measured using a composite of self-reported symptoms via weekly individual questionnaires and positive antigen test results for SARS-CoV-2, influenza A/B, or RSV from study start to last completed questionnaire or end of study period
2. Self-reported RTI symptoms are measured using the Jackson scale in weekly individual questionnaires from study start to last completed questionnaire or end of study period
3. Positive viral infection status is measured using antigen tests for SARS-CoV-2, influenza A/B, and RSV at 2 months
4. Symptom severity is measured using the Jackson scale (0–3 per symptom) in weekly individual questionnaires from study start to last completed questionnaire or end of study period
5. Presence of common cold is measured using self-report in weekly individual questionnaires from study start to last completed questionnaire or end of study period
6. RTI onset is defined as the first occurrence of a self-reported common cold, a Jackson score ≥2, and at least one of sneezing, nasal discharge, nasal obstruction, or sore throat, measured using weekly individual questionnaires from study start to last completed questionnaire or end of study period
7. Symptom-free and test-negative status at baseline is measured using self-report and antigen testing at study start

Key secondary outcome(s)
1. Time to first positive test for SARS-CoV-2, influenza A/B, or RSV is measured using antigen testing
2. Time to first self-reported respiratory tract infection is measured using weekly individual questionnaires and the Jackson scale
3. Number of days with self-reported symptoms of respiratory tract infection is measured using the Jackson scale in weekly individual questionnaires from study start to last completed questionnaire or end of study period
4. Number of participants with a self-reported respiratory tract infection or positive antigen test is measured using weekly individual questionnaires and antigen testing
5. Distribution of positive tests for SARS-CoV-2, influenza A/B, and RSV is measured using antigen testing

Completion date
01/04/2026

Eligibility

Key inclusion criteria
Inclusion criteria for choirs are:
1. The choir comprises at least ≥ 15 members
2. The choir rehearses at least ≥ once a week
3. The majority of the choir members consent to participate in the study and follow the assigned intervention
4. The choir may hold rehearsals in a venue that allow for at least 1.5 meter distance between singers during the study period

Inclusion criteria for choir members are:
5. Aged 18 years or older at the day of signing consent
6. Provide informed consent to participate in the study and contribute weekly data

Inclusion criteria for choir members for a substudy on adherence to the intervention are (only including a few choirs in the intervention arm):
7. Each choir members are willing to have an assigned place for the duration of each practice, and share information on their location, and
8. All choir members provide consent to be filmed or monitored during rehearsals

Inclusion criteria for the reference group participants are:
9. Member of the Norwegian Institute of Public Health survey panel (“FHI-panel”)
10. Resident of the greater Oslo region, Norway
11. Provides informed consent to participate in the study and contribute weekly data

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
100 Years

Sex
All

Total final enrolment
196

Key exclusion criteria
Exclusion criterion for the reference group participants is
1. Regularly attends choir rehearsals

Date of first enrolment
01/12/2025

Date of final enrolment
27/01/2026

Locations

Countries of recruitment
Norway

Study participating centre
Centre for Epidemic Interventions Research
Folkehelseinstituttet, Postboks 222 Skøyen
Oslo
Norway
0213

Sponsor information

Organisation
Norwegian Institute of Public Health

ROR
https://ror.org/046nvst19

Funder(s)

Funder type
Government

Funder Name
Norwegian Institute of Public Health

Alternative Name(s)
Norwegian Institute for Public Health, Folkehelseinstituttet, NIPH, FHI

Funding Body Type

Government organisation

Funding Body Subtype
Research institutes and centers

Location
Norway

Results and Publications

Individual participant data (IPD) sharing plan
Code for data preparation and statistical analysis will be made public (e.g., via GitHub and Zenodo), along with an anonymized version of the final data set used for analysis.

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Other files	Protocol amendment 1	16/12/2025	16/12/2025	No	No
Protocol file	version 2	19/11/2025	19/11/2025	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes