TRAINING SOCIAL AND HEALTH CARE PROFESSIONALS N MUSIC-BASED THERAPEUTIC INTERVENTIONS TO SUPPORT OLDER PEOPLE WITH DEMENTIA 12 June 2024, University of Vechta

SOUND: a nonpharmacological music-based intervention for dementia

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— The power of music

Scientific outcomes of music stimulation on human beings and in people with dementia

THE SEVEN MUSIC CAPABILITIES

The therapeutic value of music can be attributed to seven distinct capabilities. Music is:

- 1. Engaging
- 2. Emotional
- 3. Physical
- 4. Synchronising
- 5. Personal
- 6. Social
- 7. Persuasive



MUSIC-BASED INTERVENTIONS AS A MEANS FOR PREVENTING DEMENTIA

Since Alezheimer's Disease (AD) begins decades before the presentation of clinical symptoms, music interventions might be a promising means to delay and decelerate the neurodegeneration in individuals at risk for AD, such as individuals with genetic risk or subjective cognitive decline.



SOUND: idea and objectives

- THE PROJECT

Funded by the Erasmus+ Programme Timeframe: January 2022-July 2024 Countries: Belgium, Italy, Portugal, Romania Partners:

- INRCA-RESEARCH INSTITUTE (I) (Coordinator)
- ANS-SOCIAL COOPERATIVE (I)
- ACMO (I)
- HABILITAS-SOCIAL COOPERATIVE AND RESEARCH INSTITUTE (R)
- SCOALA DE PIAN-MUSIC SCHOOL (R)
- SONS DO ESTAMINE-SOCIAL COOPERATIVE AND MUSCI SCHOOL (P)
- EUROCARERS-INFORMAL CARERS UMBRELLA ORGANISATION (B)

SOUND OBJECTIVES

- Develop a **new methodology** and a **training curriculum** for health workers and informal caregivers of OPDs, BASED ON MUSIC ACTIVITIES CARRIED OUT IN CIRCLE, to be provided in day in facilities and at home.
- Develop and test the effectiveness of an **innovative nonpharmacological intervention** based on the SOUND method to maintain cognitive function and improve behaviour, mood, and quality of life of OPDs and reduce the stress of care professionals and informal caregivers.
- Monitor the outcomes of the trial on the OPDs, informal caregivers and care professionals.

- PROJECT ACTIVITIES

1-CO-DESIGN OF THE TRAINING CURRICULUM AND OF SOUND METHOD FOR **DEMENTIA CARE PROFESSIONALS (DCPs)** BASED ON USE OF MUSIC AS PSYCHOSOCIAL INTERVENTION FOR DEMENTIA

2-TRAINING 15 DEMENTIA CARE PROFESSIONALS AND INFORMAL CAREGIVERS, AND OTHER **10 DCPs** FOR EACH INVOLVED COUNTRY (22 hours) AND REALIZATION OF THE E-LEARNING «**VIRTUAL MUSIC CIRCLE**» PLATFORM

3-INTERVENTION WITH **15 OLDER PEOPLE WITH DEMENTIA (OPDs)** CARRIED OUT BY PROFESSIONALS TRAINED TO THE METHOD

4-DEMENTIA EUROPEAN AWARENESS CAMPAIGN FOR DEMENTIA FRIENDLY COMMUNITIES: CONCERTS WITH PROFESSIONALS, OPDs AND INFORMAL CAREGIVERS



CO-DESIGN: AIMS AND PARTICIPANTS (June 2022)

- AIM: understand the educational needs of the participants and gather useful input for the creation of the training curriculum.
- INVOLVED PARTICIPANTS IN EACH COUNTRY:
- 5 professionals (psychologists and educators from the Alzheimer Centre or different institutions)
- 5 OPDs (MoCA 10+) without hearing and sight impairment nor motor problems, having good command of language, aged 65+
- 5 informal caregivers
- Project staff (psychologists, gerontologists, educators, musicians)

CO-DESIGN: THE ACTIVITIES

2 music workshops in every study country with:
Professionals and OPDs
Professionals, OPDs, informal caregivers

Each workshop lasted about 75 minutes. The activities were prepared on the basis of the profiling of the OPDs, obtained by biographies and music preferences.

EXAMPLE OF WORKSHOP ACTIVITIES WITH PROFESSIONALS AND OPDs

- 1. Sing your name (getting to know each other/breaking the ice)
- 2. Sticks (visual, auditory, attentional and body coordination stimulation)
- 3. Coloured Foulards (coordination and body movement in coordination with visual, auditory and attentional stimulation)
- 4. Story telling (visual, auditory and mnemonic stimulation)
- 5. Body percussion (visual, auditory, mind-body coordination stimulation)
- 6. Listening to a song and association with colours (visual, auditory, mnemonic stimulation)
- 7. Listening to a song and association with movement (visual, auditory, mnemonic and body coordination stimulation)



– ROLES WITHIN THE CIRCLE

THE FACILITATOR THE INTERNAL DEMENTIA PROFESSIONALS THE EXTERNAL OBSERVANTS



- ACTIVITIES

- SINGING, RYTHMIC, LISTENING ACTIVITIES
- MUSIC TRACKS CHOSEN BASED ON OLDER PEOPLE'S PREFERENCES: WE INTERVIEWED THEM AND COMPILED THE BIOGRAPHY SHEET FOR EVERY ONE
- EVERY EXERCISE HAS A SPECIFIC OBJECITE E.G. MEMORY ELICITATION, SYNCHRONISATION STIMULATION, VERBAL FLUENCY STIMULATION
- RESPONSORIAL STYLE
- WELCOMING OLDER PEOPLE'S INITIATIVES



2. THE TRAINING FOR THE DEMENTIA CARE PROFESSIONALS AND THE VIRTUAL CIRCLE



THE TRAINING

- ACMO trained the trainers of the different countries
- 63 dementia care professionals were trained in total: 29 in Italy; 17 in Portugal; 17 in Romania
- TRAINING OBJECTIVE: being able to prepare music-based activities for OPDs, lead the activities and monitor the effects on patients.
- o WHEN: March-June 2023
- TRAINING LENGHT; 22 hours in total (10 online + 12 F2F)
- INCLUSION CRITERIA: having music attitudes
- Trainees were evaluated and they received a certification

- EVALUATION

- Theoretical knowledge measured by means of a test di 55 multiple-choice questions
- Practical competences were
 observed by trainers and evaluated
 on 5 realms:
- 1. Setting and materials
- 2. Empathy
- 3. Probelm solving
- 4. Stimulating interest
- 5. Creativity



THE VIRTUAL MUSIC CIRCLE

AN E-PLATFORM FOR LEARNING THE SOUND METHOD

- THE VIRTUAL MUSIC CIRCLE (VMC)

The VMC is an open source platform designed for dementia care professionals who want to learn more about how to use music in the working routine

HOW TO ACCESS THE VMC

FOR ACCESSING THE COURSE ACCESS

HOME ABOUT THE PROJECT + RESULTS DOWNLOADS PAITNERS ECOURSE VIDED LESSONS NEWS

https://soundeuproject.eu



Training Social and Health care Professionals

in music-based therapeutic interventions to support older people with Dementia

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English (en)
 Italiano (it)

Română (ro)

Português - Portugal (pt)

IN THE VMC YOU CAN FIND

- LESSONS FOR LEARNING THE SOUND METHOD (PPT, HANDOUTS, VIDEOLESSONS)
- QUIZ FOR THE SELF-EVALUATION
- PLAY-LIST
- VIDEOLESSONS FOR FAMILY CAREGIVERS

VIDEO LESSONS FOR FAMILY CAREGIVERS



HOME ABOUT THE PROJECT - RESULTS DOWNLOADS PARTNERS ECOURS



- OBJECTIVE

WE DEVELOPED 5 ANIMATED VIDEOLESSONS IN FOUR LANGUAGES (ENGLISH, ITALIAN, PORTUGUESE AND ROMANIAN) -Providing infos on burnout

-Increasing knowledge on the powerful and multiple uses of music in the care setting

-Providing tips for using music in the daily care routine



https://soundeuproject.eu/video-lessons-english/

NATIONAL PLAYLISTS: THE ITALIAN ONE

Clicca qui per ascoltare i brani usati durante la sperimentazione

Buongiorno Principessa (N. Piovani)
Abbronzatissima (E. Vianello)
Stasera mi butto (R. Roberts)
<u>Tintarella di Luna (Mina)</u>
Mazurkella (R. Casadei)
<u>Overture – La gazza ladra (G. Rossini)</u>
<u>ll Geghegè (R. Pavone)</u>
Let's twist again (C. Checker)
<u>Clair de lune (C. Debussy)</u>
Ciao, ciao bambina (D. Modugno)
Nuovo Cinema Paradiso (E. Morricone)
Il ragazzo della via Gluck (A. Celentano)
Parlami d'amore Mariù (A. Togliani)

3. THE NON-PHARMACOLOGICAL INTERVENTION



TYPE Study Protocol PUBLISHED 14 February 2024 DOI 10.3389/fpsyg.2024.1327272

Check for updates

OPEN ACCESS

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CITATION

Santini S, Merizzi A, Caciula I, Azevedo MJ, Hera A, Napradean L, Di Rosa M and Quattrini S (2024) A quasi-experimental mixed-method pilot study to check the efficacy of the "SOUND" active and passive music-based intervention on mental wellbeing and residual cognition of older people with dementia and dementia A quasi-experimental mixed-method pilot study to check the efficacy of the "SOUND" active and passive music-based intervention on mental wellbeing and residual cognition of older people with dementia and dementia professionals' burnout: a research protocol

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-INTERVENTION OBJECTIVES

- The study aimed to investigate two principal factors:
 - the efficacy of the SOUND intervention on OPDs' well-being, cognition, mood, behaviour.
 the impact on DCPs' work-related stress and cooperation in the dementia care team



PARTICIPANTS' INCLUSION CRITERIA

TYPE OF PARTICIPANTS	INCLUSION CRITERIA
OPDs (45 tot, 15 per Country – Italy, Romania, Portugal)	 Interest in the project and signed consent form Age 65+ To be able to see, hear and move (even with aids) Diagnosis of MCI or dementia with mild to moderate impairment (MoCA total score ≥10/30) Absence of aphasia (mild acceptable) Be able to understand and undertake simple tasks as required during activities
DCPs (45 tot, 15 per Country – Italy, Romania, Portugal)	 Have experience in the dementia field (e.g. educators, occupational therapists, physiotherapists, psychologist, sociologists, nurses, music therapists, professional carers, doctors) Have interest in the project and signed consent form Have completed the SOUND training

THE INTERVENTION: HOW IT WORKED

- The SOUND intervention is delivered in circle
- Each group: about 8 OPDs and at least 4 DCPs
- 12 sessions twice a week, for 6 weeks
- \bigcirc Each session lasts 45-50 minutes and led by a facilitator
- Each session has four different phases:
 - welcoming
 - opening activity
 - three to five main activities
 - closing activity



*Apparent Affect Rating Scale

ASSESSMENT STUDY: THE TIMEFRAME

T0 - Baseline (1 week)

- One week preintervention
 - administration of outcome tools
- Daily:
 - Longitudinal emotional well-being thermometer

T1 - Experimental phase (6 weeks)

- At each SOUND session:
 - video recording
 - AARS*
 - Emotions thermometer
- Daily:
 - Longitudinal emotional well-being thermometer
- At end of intervention:
 - Administration of outcome tools

T2 - Follow-up (2 weeks)

- Two weeks postintervention:
 - Administratio n of outcome tools
- Daily:
 - Longitudinal emotional well-being thermometer

ASSESSMENT STUDY : PRE- POST- OUTCOME MEASURES (1)

TARGET GROUP	SOUND INTERVENTION OBJECTIVE	OUTCOME TOOLS	WHEN IT IS USED
DCPs	Buffer work related stress (primary outcome)	 a. Burnout Assessment Tool (BAT) b. Longitudinal Emotional Well- being thermometer (LEWT) c. Ad hoc questionnaire 	 a. T0, T1, T2 b. Daily report from T0 to T2 c. T0, T1, T2
	Improve cooperation	Ad-hoc questionnaire	T0, T1, T2

ASSESSMENT DESIGN: -PRE-POST- OUTCOME MEASURES (2)

TARGET GROUP	SOUND INTERVENTION OBJECTIVE	OUTCOME TOOLS	WHEN IT IS USED
OPDs	Improve wellbeing (primary outcome)	 a. WHO (Five) Well-Being Index (WHO- 5) b. Longitudinal Emotional Well-being Thermometer (LEWT) 	a. T0, T1, T2b. Daily report from T0 to T2
	Decrease BPSD symptoms	NPI-12 (Neuropsychiatric Inventory)	T0, T1, T2
	Maintain cognitive abilities (general cognition + executive functions)	MoCA (Montreal Cognitive Assessment) + FAB (Frontal Assessment Battery)	T0, T1, T2
	Improve mood	HADS (Hospital and Anxiety Depression Scale)	T0, T1, T2



ASSESSMENT STUDY: -«LIVE» MONITORING OUTCOME MEASURES

TARGET GROUP	TOOLS	VARIABLE	POINT OF VIEW	WHEN IT IS USED
Dementia Care Professionals	Video recording	Behaviour	Video camera (researcher)	During SOUND sessions
	Live Session Emotions Thermometer (LSET)	Emotional state, behavioural reaction	Self-report	After each SOUND session
Older People with Dementia	Video recording	Behaviour	Video camera	During SOUND sessions
	Live Session Emotions Thermometer (LSET)	Emotional state, behavioural reaction	Internal observer	After each SOUND session
	Apparent Affect Rating Scale (AARS)	Affect	External observer	During SOUND sessions

ANALYSIS

Comparison between outcomes and exposures is made using the Chi Square test, (in the Case of categorical variables) or t-test or F-Anova (in the case of comparison between normally distributed continuous variables and the groups).

Temporal comparisons (T0vs. T1, T0 vs. T2, or T1 vs. T2) are conducted by T-test for paired samples.

Qualitative data, e.g. from the open-ended questions, are analyzed thematically.

Preliminary results from the intervention in Italy, Portugal and Romania

OLDER PEOPLE WITH DEMENTIA

OLDER PEOPLE WITH DEMENTIA

- Mean age: 81,5 years
- Gender: F 72,9% (60% in Italy)
- Educational level: Primary school 52,1%
- Living condition:
 - Community dwelling 29,2%
 - In care facilities 62,5%

IMPACT ON OLDER PEOPLE WITHDEMENTIA

	ITA	LY	PORT	UGAL	ROM	ANIA
Variables	T0-T1	T1-T2	T0-T1	T1-T2	T0-T1	T1-T2
WELL-BEING						
COGNITION						
EXECUTIVE FUNCTIONS						
DEPRESSION						
ANXIETY						
DELIRIUM						
AGITATION						
APATHY						
IRRITABILITY						

WORST BETTER THE SAME Preliminary results from the intervention in Italy, Portugal and Romania

DEMENTIA CARE PROFESSIONALS

IMPACT ON DEMENTIA CARE PROFESSIONALS

		ITA	ιLY	PORT	UGAL	ROM	ANIA
	Variables	T0-T1	T1-T2	T0-T1	T1-T2	T0-T1	T1-T2
]	BURNOUT TOTAL SCORE						
	EXHAUST ION						
	MENTAL WELL- BEING						
	COOPER ATION						

WORST
BETTER
THE SAME



LIMITATION AND FIRST CONSIDERATIONS

- SOME REMARKS

- Encouraging outcomes on OPDs' well-being, cognition and mood in the three study countries especially in the short term.
- Partly stressful for DCPs perhaps due to organisational efforts, partly helpful in reducing exhaustion, perhaps because additional personnel dealt with patients during the music activities.

- SUGGESTIONS

- Music-based non-pharmacological interventions should be part of the daily care routine in elderly care facilities
- Dementia care professional should be trained in delivering music-based non-pharmacological interventions. This should avoid the involvement of external professionals entailing extra costs for facilities managers
- The elderly care facilities should been equiped with proper materials and rooms
- Further research is needed in this field and more experimentations in residential care facilities

4.AWARENESS CAMPAIGN

SOUND: THE MUSIC THAT BREAKS THE SILENCE OF DEMENTIA

#SOUND4DEMENTIA



- 1. PRESS RELEASE
- 2. VADEMECUM
- 3. PROMOTIONAL VIDEOS <u>https://soundeuproject.eu/</u>
- 4. THREE NATIONAL CONFERENCES AND ONE INTERNATIONAL
- 5. PARTICIPATION TO CONFERENCES FOR BOTH GENERAL PUBLIC

AND THE SCIENTIFIC COMMUNITY

THE VADEMECUM

A document in 4 languages.

Co-designed with stakeholder and informal caregivers of OPDs

Target: shopkeepers, managers of public and private services (such as post offices, museums, concert halls and theaters, supermarkets), voluntary associations, and all citizens **Objective:** informing and training on dementia and providing some tips on how to wellcome and understand people with dementia.

YOU CAN DOWNLOAD THE VADEMECUM HERE

https://soundeuproject.eu/downloads/





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LIMITATIONS AND FUTURE CHALLENGES

- Increasing the sample size and add a control group
- Involving more the family caregivers
- Observing the effects of the intervention on the dyad family carer-cared for person
- Collecting clinical and byological parameters (e.g. chortysol)
- Bringing the intervention into residential care facilities

SOUND STREGHTS



Overcomes **ASYMMETRY** between carer and patient through the circle setting

INVOLVES family carers in co-design

Takes care of **PROFESSIONALS**

Adds **BEAUTY** to the care setting by contributing to the **WELL-BEING** of all those involved in care

Turns EXPERIMENTATION into an AWARENESS-RAISING TOOL

Music improves the lives of older people with dementia and their informal carers

Music for Dementia-Friendly Communities Wednesday 19th June, 3-6PM

Radisson Red, Rue d'Idalie 35, 1050 Brussels



https://soundeuproject.eu/

the European Union



Music for Dementia-Friendly Communities Wednesday 19th June, 3-6PM

Radisson Red, Rue d'Idalie 35, 1050 Brussels

10.00 10,10	Registrations	
15:15 - 15:30	Welcome and introduction to the SOUND project	Sara Santini (INRCA, Italy)
15:30 - 16:00	Music and brain functions	Alessandra Merizzi (INRCA, Italy)
16:00 - 16:15	Training dementia care professionals and informal caregivers on the SOUND method	Sabrina Quattrini (INRCA, Italy)
16:15 - 17:00	Results and testimonies from the SOUND intervention in Italy, Romania and Portugal	SOUND national teams
17:00 - 17:15	Music for dementia	Salvatore Petrone
17:15 - 17:30	Music ensemble playing Petrone's music sheets	Flute-Sandra Coste (Sons do estamin Portugal); Piano-Lena Napradean (Socala de Pian, Romania); Violin-Sar Santini (INRCA, Italy); Vioce-Claudia Carletti (ACMO, Italy)
17:30 - 17:45	One SOUND improvisation with participants to the conference	Albert Hera (ACMO, Italy)
17:45 - 18:00	Music in clinical settings	Emy van dar Valk Bouman from the "Music as Medicine" Foundation, Erasmus University, Rotterdam
18:00 - 18:15	Music in dementie care facilities	Dan Cohen founder of the NGO "Music and Memory" and of the "International Music Advocacy Coalition"
18:15 - 18:30	The Helsinki Manifesto of Alzheimer Europe	Owen Miller, Policy Officer of Alzheime Europe
18:30	Conclusion and wrap up	
10,00	https://us06web.zoom.us//8761	4996909?
	pwd=natqAWs58pLrC.Kim3lbg6	PUJUTOULSI

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