

Multicomponent non-pharmacological interventions for sleep disturbances in nursing home residents

- systematic review of intervention components -

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- Sleep disturbances are frequent in people with dementia (PWD) causing several negative consequences¹
- Guidelines recommend the use of non-pharmacological interventions^{2,3}
- At the moment no “gold-standard” intervention exists^{4,5}
- It seems to be most likely that multicomponent non-pharmacological interventions have the highest potential against sleep disturbances

- a. Identification, description and summary of the detected multi-component non-pharmacological interventions
- b. Analysis of each single component within the multicomponent interventions

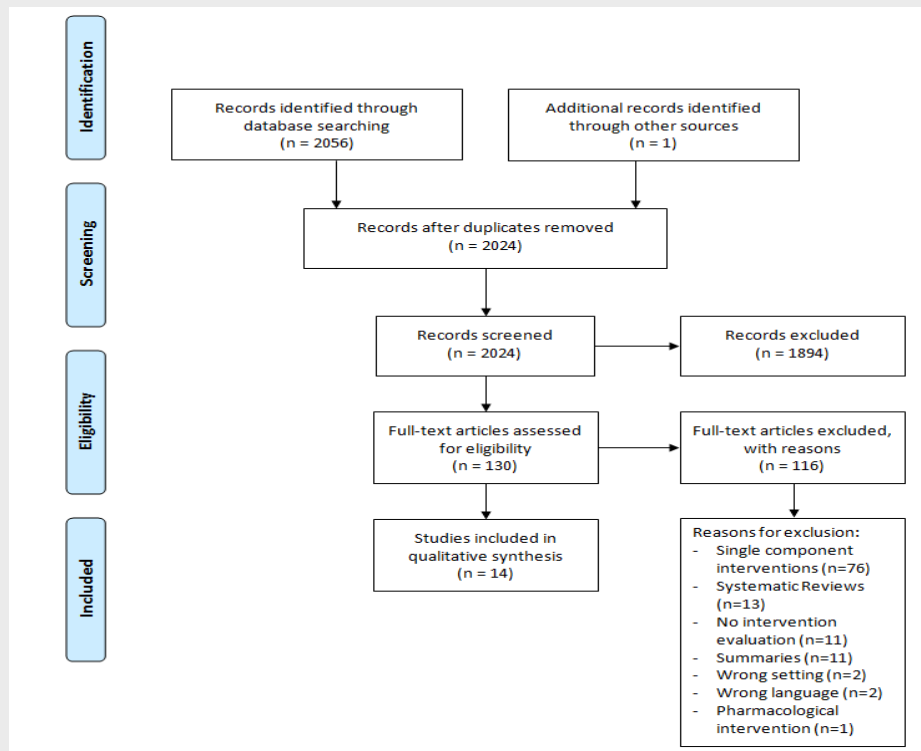
Overarching objective: Usage of the results as one part for the development of a complex intervention within the research project “*Multi-modal, non-pharmacological intervention for sleep disturbances in nursing home residents with dementia*” [MoNoPol-Sleep].

Systematic literature search [12 | 2018]

- Databases: Medline [Pubmed], CINAHL [EBSCO], Scopus and Cochrane Library
- Inclusion criteria: all evaluation studies investigating multi-component, non-pharmacological interventions to reduce or avoid sleep disturbances in nursing home residents [exception case studies] in English or German language

Systematic evidence analysis and synthesis

- Abstract & full-text screening was performed by two independent reviewers
- Data extraction was performed by one reviewer and accuracy of data independently cross checked by a second reviewer
- Cochrane risk of bias tool⁶, CASP⁷ for observational studies & PRISMA⁸ statement
- Components of interventions were analyzed in detail by applying the TIDieR⁹ and CReDECI 2¹⁰ criteria



- **procedures:** Daytime activities [n=10], staff training [n=7], nighttime activities [n=6] & light exposure [n=3]
- **materials:** Six studies reported information about materials
- **modes of delivery:** The interventions were conducted in groups [n=10] or individually [n=1] three studies did not report anything about the delivery
- **intervention provider:** research staff [n=7], specialists for intervention provision [n=6]
- **intervention period**
range between five days and three months, most studies provided the intervention for several weeks [n=8]

Development:

- Components, selection reasons and functions [n=14]
- Theoretical basis of the intervention [n=5]
- Interactions between different components [n=0]
- Consideration of context characteristics [n=0]

Piloting

- Pilot tests were only conducted in two studies

Evaluation

- Control condition & selection reason [n=10]
- Strategy for delivering the intervention within the context [n=12]
- Used materials/tools [n=9]
- Fidelity of the delivery process compared to the study protocol [n=0]
- Process evaluation and its theoretical basis [n=1]
- Identified barriers and facilitators influencing the delivery [n=1]
- Factors which might influence the delivery of the intervention [n=1]
- Costs or resources for delivery of the intervention [n=0]

- The review included 14 studies with a total of 1399 participants
- Single components were combined differently in each study
- Promising components are
 - daytime activities > strength training, body awareness & meditation
 - nighttime activities > reduce noise, light and nursing care practices
 - staff training > sleep characteristics of PWD, factors associated with poor sleep
- The results of the review gave hints what is to consider more in detail in MoNoPol-Sleep
- Additionally the review findings will be used with other research results within MoNoPol-Sleep

- 1 **Alzheimer Europe** (2017). Dementia in Europe. Yearbook 2017 Standards for residential care facilities in Europe.
- 2 **Deuschl, G. & Maier, W.** (2016). S3-Leitlinie Demenzen. Leitlinien für Diagnostik und Therapie in der Neurologie. Berlin: Deutsche Gesellschaft für Neurologie.
- 3 **National Institute for Health and Care Excellence** (2018). Dementia: assessment, management and support for people living with dementia and their carers.
- 4 **Capezuti, E., et al.** (2018). A systematic review of non-pharmacological interventions to improve nighttime sleep among residents of long-term care settings. *BMC Geriatr*, 18, 143.
- 5 **Wilfing, D., et al.** (2015). Non-pharmacological interventions for sleep disturbances in people with dementia (Protocol). *Cochrane Database Syst Rev*.
- 6 **Higgins, J. P., et al.** (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, 343, d5928.
- 7 **Critical Appraisal Skills Programme** (2019). CASP Checklist.
- 8 **Liberati, A., et al.** (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *J Clin Epidemiol*. United States.
- 9 **Hoffmann, T. C., et al.** (2014). Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ*, 348, g1687.
- 10 **Mohler, R., Kopke, S. & Meyer, G.** (2015). Criteria for Reporting the Development and Evaluation of Complex Interventions in healthcare: revised guideline (CReDECI 2). *Trials*, 16, 204.



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Thank you for your attention



Project homepage:
www.monopol-sleep.de