Improving social participation and activities in nursing home residents with joint contractures
- A multicenter cluster-randomised controlled trial -

Thalhammer, Regina[1]; Servaty, Ricarda[1]; Beutner, Katrin[2]; Nguyen, Natalie[2]; on behalf of the JointConEval Consortium Germany,
[1]Rosenheim Technical University of Applied Sciences (THRO) Research and Development, Mühldorf a. Inn, Germany
[2]Martin Luther University Halle-Wittenberg (MLU) Institute of Health and Nursing Sciences, Halle (Saale), Germany

Background

Residents in nursing homes are often affected by joint contractures, which limits their capacity to perform daily activities and participate in social life. In order to improve their participation and activities, a complex intervention the "Participation Enabling Care in Nursing" (PECAN) has been developed and pilot tested in a previous project [1]. The entire research process is based on the UK Medical Research Council (MRC) Framework for developing and evaluating complex interventions [2].
Objective: Evaluation of the effectiveness and safety of the PECAN intervention.

Methods

Design: Cluster-randomised controlled trial (Fig. 1) in two areas of Germany (Saxony/Saxony-Anhalt and South-eastern Bavaria)
Population: Nursing home residents ≥65 years with joint contractures in at least one large joint with relevant restrictions in daily life
Intervention: PECAN-Concept with an individually tailored approach (Fig. 2).
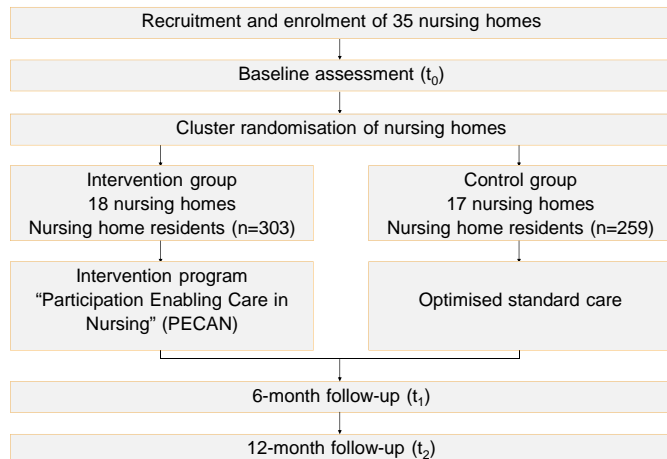**Control:** Optimised standard care

Fig. 1: Flow of the clusters and participants through the trial

Primary outcomes and assessments:
Participation and activities using the PaArticular scale [3]
Secondary outcome parameter: Quality of life (EQ-5D-5L)
The change process will be accompanied by a process evaluation and a health economic evaluation.
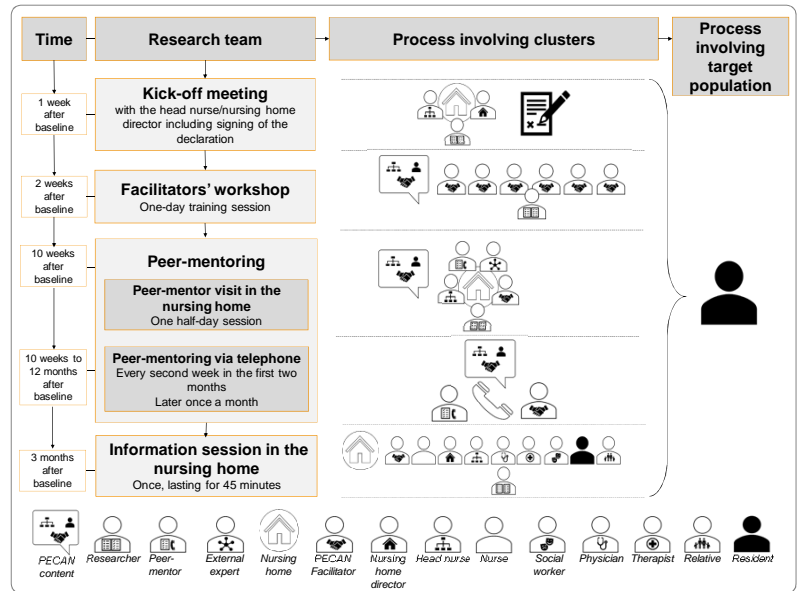

Fig. 2: Overview of the implementation approach

Preliminary Results and Discussion

The intervention period started in August/September 2018 with 14 clusters. The remaining 21 clusters started in January 2019. Fig. 3 shows the recruitment process and reasons for exclusion.
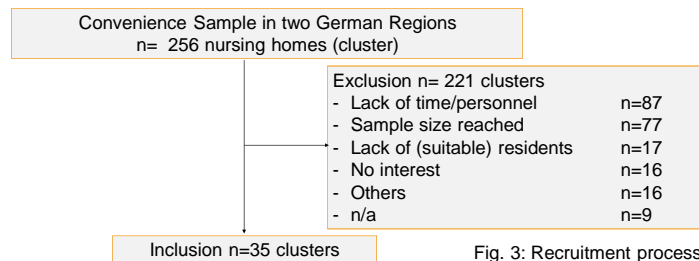

Fig. 3: Recruitment process

Since the required number of participants in the individual clusters was not always or only just reached, two additional nursing homes per region were recruited (in total 36 clusters). Since one institution has withdrawn its commitments at short notice, a total of 35 nursing homes have been recruited.
So far, the PECAN program has been implemented in the intervention group (telephone counselling is still ongoing) and the control group received a short information event for optimised standard care.
We included 562 residents in the study. The main demographics, which have been collected during baseline assessment can be found in Table 1.
We expect a clinically relevant improvement in participation and/or activity in residents with joint contractures and a detailed understanding of the change process due to the intervention.

Table 1: Main demographics

		THRO	MLU	total
Number of clusters		17	18	35
Number of residents		271	291	562
Gender				
Female (%)		189 (69.7)	223 (76.6)	412 (73.3)
Male (%)		82 (30.3)	68 (23.4)	150 (26.7)
Age (range)		66-100	65-103	65-103
Care level in total (%)	without	1	2	3	4	5
	0.4	0.9	24.6	35.8	24.0	14.4
Localization of joint contracture (%)	Upper Extremity	Lower Extremity	Both extremities
	9.6	18.7	71.5

References :
[1] Saal S, Meyer G, Beutner K, Klingshirn H, Strobl R, Grill E, Mann E, Köpke S, Blejlevens MHC, Bartoszek G, Stephan A, Hirt J, Müller M. Development of a complex intervention to improve participation and quality of life of nursing home residents with joint contractures: a mixed method study. BMC Geriatr 2018; 18:61.
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[3] Müller M, Oberhauser C, Fischer U, Bartoszek G, Saal S, Strobl R, Meyer G, Grill E. The PaArticular Scales - a new outcome measure to quantify the impact of joint contractures on activities and participation in individuals in geriatric care: Development and Rasch analysis. Int J Nurs Stud 2016; 59:107-17.