



Feature Article

The development of the MIBBO: A measure of resident preferences for physical activity in long term care settings



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ABSTRACT

Offering physical activities matching with the preferences of residents in long-term care facilities could increase compliance and contribute to client-centered care. A measure to investigate meaningful activities by using a photo-interview has been developed (“MIBBO”). In two pilot studies including 133 residents living on different wards in long-term care facilities, feasibility, most chosen activities, and consistency of preferences were investigated. It was possible to conduct the MIBBO on average in 30 min with the majority (86.4%) of residents. The most frequently chosen activities were: gymnastics and orchestra (each 28%), preparing a meal (31%), walking (outside, 33%), watering plants (38%), and feeding pets (40%). In a retest one week after the initial interview 69.4% agreement of chosen activities was seen. The MIBBO seems a promising measure to help health care professionals in identifying residents’ preferred activities. Future research should focus on the implementation of the tailored activity plan, incorporating it into the daily routine.

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Introduction

In numerous studies, it has been established that physical activity, even with low intensity, has beneficial effects on both physical and mental functioning in older people aged 65 years and over.^{1–3} Despite these benefits, it has also been shown that many people in this age group are insufficiently active to achieve these positive effects. They hardly meet the required 30 min of moderate physical activity a day, as recommended by several international guidelines.^{4–6} A specific sub group within this target population is formed of residents of long-term care facilities (e.g. nursing homes). They are, on average, (even) less active than their peers living at home and, in addition, due to cognitive and communicative impairments, they are often difficult to stimulate to become more physically active.^{7,8}

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The American College of Sports Medicine defines physical activity as ‘body movement that is produced by the contraction of skeletal muscles and that increases energy expenditure’.² According to this definition, all sorts of routine activities in daily life have a ‘natural’ activity component. For example, activities such as setting the table for a meal and watering plants involve walking, reaching, grasping, and carrying. Daily activities residents prefer to do could be integrated in their daily routines, increasing their physical activity level and contributing to person-centered care. However, according to a recent study, only a minority of residents (18%) seem to participate in these kinds of routine everyday activities.⁹ In these types of activities, informal and professional caregivers can be involved to supervise residents, but at least partly the residents may perform them independently. This increases the physical activity opportunities for residents as they are not merely dependent on the caregivers’ availability or a specific location (e.g. gym).

Many long-term care facilities organize exercise activities for their residents, such as gymnastics, walking programs or recreational activities (e.g. woodwork) that may have a physical component. Residents are invited to participate in these activities but

often caregivers have limited insight into which kind of activities residents prefer. The activity program is often based on what the institute has to offer, not on what the residents would like to do.

Including residents' preferences in selecting activities can improve interest and compliance.¹⁰ According to the recommendations of the American College of Sports Medicine and the American Heart Association every older adult (aged 65+ years) should have a physical plan based on individual abilities and preferences.⁶ The same is true in the Netherlands. The Dutch Inspectorate for Health Care has defined seven modules for physical activities in elderly care that must be taken into account when developing personalized activity plans. According to one of these, health care facilities need to incorporate the wishes and preferences of elderly people when planning, performing, and evaluating policy with regard to physical activity.¹¹ However, it remains unclear how the perspective of this communication vulnerable group of residents in long-term care facilities can be investigated.

A variety of generic and standardized assessments and tools to investigate abilities of older adults on different levels (e.g. cognition or mobility) are available for care professionals. With the increase in client-centered care, more individualized tools and measures to explore a person's needs, preferences, and aims have been developed. The existing tools are, however, related to goal setting within rehabilitation or to a certain medical treatment.^{12,13}

A measure to identify preferences with regard to physical activities tailored to the situation of residential long-term care facilities has therefore been developed. The measure is named "MIBBO" which is a Dutch acronym for "Measure to Identify Meaningful Physical Activities in the Elderly". The aim of this study was to investigate:

- 1) The feasibility of the MIBBO in residents of long-term care facilities
- 2) Which activities residents of long-term care facilities prefer
- 3) How consistent preferences of residents are over a short period of time (1 week).

Material and methods

Design

This study was a descriptive study in two phases testing preliminary use of the MIBBO. First, feasibility was assessed in a small sample. Subsequently, the MIBBO was used with a larger sample to identify the activities that residents chose most often. In this second phase, a test-retest procedure was embedded using a sub-sample to research how consistent the preferences of residents were.

Sample

The population of residents in long-term care facilities is heterogeneous in terms of physical, communication, and cognitive impairments. Therefore, two long-term care facilities covering the entire scope of different subpopulations participated: a nursing home and a long-term facility for residents with psychiatric disorders.

For phase one of the study, ten residents of both a somatic and a psychogeriatric ward of the nursing home ($n = 10$) were selected by physiotherapists and occupational therapists working on the ward (selected sample). In the second phase of the study several subpopulations of residents of both long-term care facilities ($n = 123$) participated: 46 residents of geriatric rehabilitation wards, ranging from orthopedic rehabilitation and lung rehabilitation to rehabilitation after acquired brain injury; 52 participants lived in a psy-

chogeriatric nursing home and 25 participants lived on wards for residents with psychiatric disorders. Nurses working on the wards selected these residents (convenience sample).

Eligibility consisted of two criteria. First, only residents who were at least able to actively initiate one- or two-sided reaching and grabbing from a seated position were eligible to participate. Second, residents should be able to answer closed questions (i.e. yes-no questions), either by speech or by nodding. Eligible residents were invited to participate unless they were specifically excluded by their medical doctor or responsible nurse (e.g. if they experienced delirium). In [Table 1](#) an overview of the numbers of residents living on the participating wards at the time of the study is provided, together with the number of residents invited to participate and those who actually participated.

The participating long-term care facilities already used the MIBBO as part of usual care or institutional policy. No individual data on patient characteristics were necessary for this purpose and, therefore, were not collected. As no identifying information was collected and no procedures additional to usual care were applied, exemption was considered and no written informed consent was obtained. Residents were informed about the aim and duration of the interview and were free to refuse participation. The use of the MIBBO was approved by the local ethics board (METC Atrium, Orbis, Zuyd; 12-N-20; 13-N-152; 13-N-173) and the management of the participating centers. The participating population is comparable to the general population of Dutch long-term care residents as described in other studies. In these studies the average age of residents included was, for instance, 83.4 years (SD 6.0) and in general more women than men live in Dutch long-term care facilities.^{14,15}

Procedure

In phase one of the study, physiotherapists, occupational therapists, and students, who were familiar with the procedure, conducted the MIBBO. During the ten interviews an interviewer and an observer were present. They were instructed to observe the handling of the steps and material of the MIBBO and the specific reaction of the resident. Afterwards, both the interviewer and observer were asked to report their experiences using a questionnaire, which focused on the feasibility of the MIBBO. Three main topics were discussed: 1) Did the residents understand and like the use of the MIBBO based on the observation made during the interviews?; 2) How long did it take to conduct the MIBBO?; 3) Were the instructions and the material clear (i.e. manual and material, photo-cards)?

Table 1
Overview of participants per ward in phase two of the study.

	Number of residents who lived on wards	Number of residents asked for participation	Number of residents who agreed	Number of residents who completed the MIBBO
Geriatric rehabilitation wards of nursing home				
- Orthopedic care	23	23	22	20
- Collum care	16	16	15	15
- Lung care	24	6	5	4
- Brain injury	15	5	4	3
Psychogeriatric ward of nursing home	160	52	52	42
Ward for elderly people with psychiatric disorders	38	28	25	21
Total	276	130	123	105

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