

Montessori activities for older adults in community nursing: comparative case study

Zajęcia montessori dla osób starszych w pielęgniarstwie środowiskowym: porównawcze studium przypadku

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STRESZCZENIE

ZAJĘCIA MONTESSORI DLA OSÓB STARSZYCH W PIELĘGNIARSTWIE ŚRODOWISKOWYM: PORÓWNAWCZE STUDIUM PRZYPADKU

Cel pracy. Działania Montessori zostały wdrożone w opiece pielęgniarstwie nad osobami starszymi w środowisku domowym w celu stworzenia znaczących, integracyjnych i bezawaryjnych codziennych czynności, które poprawią jakość ich życia.

Materiał i metody. Zastosowano pogłębione porównawcze studia przypadków z metodami eksploracyjnymi w oparciu o ustrukturyzowane wywiady i obserwację czterech celowo wybranych osób starszych z demencją i bez demencji w środowisku domowym. Dane zostały zebrane przy użyciu metodologii Montessori, która została podzielona na pięć faz.

Wyniki. Opracowano różne rodzaje aktywności i ról w oparciu o indywidualne umiejętności i zainteresowania. Uczestnicy czuli się bardziej niezależni i pewni siebie w wykonywaniu zaplanowanych czynności oraz zadowoleni z tego, że są zajęci w ciągu dnia i zaangażowani w działania, które przyczyniają się do ich lepszej mobilności i zdrowia.

Wnioski. Wdrożone działania mogą ułatwić włączenie osób starszych w codzienną rutynę życia rodzinnego, podnieść jakość życia i możliwość samoopieki w środowisku domowym.

Słowa kluczowe: osoby starsze, demencja, Montessori, środowisko domowe, pielęgniarstwo środowiskowe

ABSTRACT

MONTESSORI ACTIVITIES FOR OLDER ADULTS IN COMMUNITY NURSING: COMPARATIVE CASE STUDY

Aim. Montessori activities were implemented in nursing care of older adults in the home environment with the aim of creating meaningful, inclusive, and failure-free daily activities that improve their quality of life.

Material and methods. In-depth comparative case studies with exploratory methods were used based on structured interviews and observation of four purposely selected older adults with and without dementia in the home environment. The data was collected using the Montessori methodology, which was divided into five phases.

Results. Different types of activities and roles were developed based on the individual's abilities and interests. The participants felt more independent and self-confident in the performance of planned activities and satisfied that they are busy during the day and engaged in activities that contribute to their better mobility and health.

Conclusions. Implemented activities can facilitate the inclusion of older adults in the daily routine of family life, increase the quality of life and the possibility of self-care in the home environment.

Key words: older adults, dementia, Montessori, home environment, community nursing

BACKGROUND

In the process of treatment and care for older adults with dementia it is important to stimulate cognitive abilities, as the stimulation of cognitive abilities in people with mild or moderate dementia can improve their quality of life and well-being [1,2]. Methods to promote cognitive stimulation include memory exercises [3] and various types of enjoyable activities that provide general stimulation for thinking, concentration and memory in older adults with dementia. These interventions, with elements of person-centred care, are designed to address several needs, including social inclusion and engaging interactions [4], and can delay the decline or improve a person's cognitive abilities [5]. In addition to enhancing cognitive abilities, the Montessori method for older adults addresses their physical, spiritual, social and emotional needs [6] by introducing meaningful activities and roles [5,7] into their daily activities, which encourages active engagement in decision making related to daily living [8]. The activities of daily living collectively describe fundamental skills required to independently care for oneself, such as eating, bathing, and mobility and is used as an indicator of a person's functional status [9]. The activities and roles represent five functional areas: cognitive stimulation, life skills, movement and fitness, sensory stimulation and socialisation [10]. The activities are focused on manual activities to maintain flexibility and other motor skills that help to perform dedicated roles for the development of social skills, sense of value and belonging in society [11]. The adaptation of the living environment, which needs to be simplified and adapted to the capabilities of older adults with dementia, also contributes to their ability to independently perform daily activities [6,12].

Most research focusing on the effectiveness of Montessori Method in older adults with dementia usually takes place in institutional care, because due to the personnel diversity and the multidisciplinary approach, the implementation of the method in the mentioned institutions is easier. Woods et al. [2] mentioned the use of techniques to promote cognitive stimulation in the home environment as well, which, with the effective training of lay caregivers and family members, would not represent additional burdens, but would have many benefits for older adults with dementia. The use of methods to stimulate cognitive abilities is also applicable in older adults without signs of dementia [13] as there is a decline of cognitive abilities in old age that is unavoidable.

As an equal member of a multidisciplinary team, a nurse can significantly contribute to maintaining and promoting of cognitive abilities in older adults even in the home environment. The community nurse plays a key role in the treatment of older adults in the home environment as a coordinator of care activities, activities of health professionals and activities of support and auxiliary services at the primary healthcare. Other profiles are occasionally included in the treatment but lay caregivers and family relatives are also of great help in ensuring continuous treatment. With the research, we tried to prove that a nurse using the Montessori method in nursing activities can

help promote and maintain the cognitive abilities of older adults and people with dementia. We have not found any research that could confirm the usefulness of such approaches in the home environment in nursing practice.

The aim of this study was to develop and implement daily activities underpinned by the Montessori Method in older adults in the home environment, based on interviews and observation, to determine the impact of introducing new work methods in nursing practice.

METHODS

Design

A qualitative case study methodology was used to generate an in-depth, multi-faceted understanding of a complex issue in the real-life context [14]. The data collection was performed in two phases: in the first phase, a structured interview with an older adult and an informal caregiver/family member was conducted, and in the second phase, a structured observation of the older adult's daily routine was made through the performance of the activities of daily living and the relationship between the older adult and the informal caregiver. Through observation, we achieved an in-depth insight into the daily routine of an older adult, thereby obtaining a realistic picture of the participant's abilities and capabilities, and the relationship between the older adult and the caregiver [15]. The data were collected and wrote down immediately after the interview and direct observation.

Description of the research instrument

In a structured interview and observation based on the Montessori philosophy, we used sets of questions summarised from Kelly [16] and adapted to the local area. The instrument consisted of: i.) brief instructions on how to approach and encourage older adults to participate in activities [12], ii.) a statement of participation in the research by the older adult, legal representative, family member or informal caregiver; iii.) the researcher's statement on personal data protection; iv.) questions/guidelines for conducting the interview and v.) guidelines for conducting the observation. All participants and their relatives or legal representatives signed an informed consent form agreeing that all research data collected could be used for research purposes. Data on the older adult's physical ability, socialisation style, and habits were collected through interview and observation. During the interview, we observed the person's conversational characteristics, including ability to maintain a theme, ask questions, need for additional explanation, use of phrases, and respond briefly [17].

Description of the sample

To ensure sample diversity, despite the small number of participants [14], we included two participants who have received a confirmed diagnosis of dementia, possible or probable Alzheimer's disease, and two participants without a diagnosis. Three participants lived alone, one with a partner. Two participants still had the ability to take care of themselves with the occasional help of family

members, while two of the participants had arranged help from informal caregivers. Two participants had regular visits from a community nurse and two did not. The health condition of all participants was stable during the research, so they were able to participate in the activities and roles. One man and three women participated, and their ages ranged between 82 and 91 years.

Description of the research procedure

The research was conducted in a period of four weeks and was divided into five key phases. The first phase was based on an assessment of participant observation of strengths, abilities, interests, and needs, daily activities, and self-care in the home environment [8]. Based on identified problems and focus on the strengths and preserved abilities of older adults [6], the goal in the second phase was to create an environment that is carefully prepared to provide opportunities for success, choice, greater independence, and self-initiated activities [8]. In the third phase, we focused on the development of activities/roles and created a detailed implementation plan on how to introduce Montessori principles into the implementation of routine daily activities. In the fourth phase we implemented developed activities and roles into the individual's daily life, monitored and documented the execution of the activities. The activities are focused on manual activities to maintain flexibility and other motor skills that help to perform dedicated roles for the development of social skills, sense of value and belonging in society. In the fifth phase we evaluated whether the person engaged positively or negatively with the daily activity/role, whether the activity/role had a positive or negative effect on the person.

Data analysis

All obtained data were coded with the Person code 1, 2, 3, and 4, thus ensuring the anonymity of the participants in the case study. We analysed and synthesised the obtained data to identified themes and patterns that formed the basis for the design of the next phase of the research. Data review, both at the individual level and for collecting and confirming the comparability of the case studies with each other, was carried out independently by two female researchers, who, in the final stage, integrated the findings, which are presented in the results chapter.

RESULTS

The results for each phase are presented separately to increase transparency and demonstrate research procedure.

The key elements that directed us to activities in the first phase were for Person 1 that enjoyed his profession, likes to talk and search for information related to it, and even today is happy with the innovations and knowledge in his professional field. He is skilled in using the tablet, which is a source of information for him. At home, he often performed everyday tasks to maintain the living environment, but now he needs some encouragement and motivation from another person for this. Person 2 needs help from another person in some daily activities,

especially in bathing, dressing and preparing food. The biggest problem in performing daily activities is limited mobility due to constant skeletal pain. This person independently performs only those daily activities that can be performed sitting or very slowly with some walking. Due to an illness, she gave up what she loved to do in life, which was beekeeping and gardening. Person 3 has given up meeting friends, travelling and taking short trips in the area due to hand pain and a poor sense of balance, although she still strongly wants to do so. She lives alone, has no help from informal caregivers, and wants, at least to some extent, to maintain contact with her friends and be more mobile outside the home. Person 4 is not oriented in time and space due to advanced dementia. She orients herself only in her home and the surroundings of the house, where she knows the environment well. All her life she liked to be well-groomed: she went to the hairdresser regularly, took care of her hygiene and dressed fashionably. With advanced dementia came a lack of interest, exacerbated by a hand injury. Due to an inability to use her right hand, the person became more and more dependent on outside help. The person really likes to talk about her family, to which she is emotionally attached.

In the second phase we identified the goals that guided us in preparing further activities:

Person 1: Creating roles and activities to enhance balance; encouraging him to help in carrying out the activities with the intention of participation; developing more activities based on his interests and previous occupation while taking vision problems into consideration; support from his wife.

Person 2: Creating activities and roles for use in the morning to maintain hand flexibility, which she can mostly perform by herself in a sitting position; reviving some phases of routine tasks that she could perform on her own to feel useful and more independent; regular recording of activities; support of niece and lay carers.

Person 3: Creating activities and roles aimed at increasing muscle strength and strengthening balance for safer walking; stimulation of gross and fine motor skills to strengthen the muscles of the right hand; revival of life interests and inclusion in daily activities; family support.

Person 4: Creating activities and roles with the aim of rekindling interest in cooperation and performing tasks in connection with external tidiness; exercising and strengthening the muscles of the injured hand; breaking down certain daily tasks into individual phases; family and caregiver support.

Based on the set goals, in the third phase we developed 22 different individual types of activities and roles to integrate them into the participants' daily lives which we present in Tab. 1.

■ Tab. 1. Planned and implemented activities for each person

	Planning
Person 1	Developed activity: template for matching images with words on the topic of animals, world heritages and attractions, sports; developed roles: morning exercise, vacuuming the living room, putting dishes in the dishwasher, daily shopping, house repairs, evening listening to music. Developed; 1 activity with different themes and 6 different roles.
Person 2	Developed schedule with the option of indications that the activity/role has been performed during the day; developed activity: template for matching images with words on the topic of beekeeping, gardening, flowers; develop roles: daily preparation of cutlery for lunch, preparing food for cat, arranging and watering balcony flowers, putting clothes in washing machine, removing, and drying them; preparing instructions for niece and lay carers. Developed; 1 activity with different themes and 4 different roles.
Person 3	Developed schedule with the option of indications that the activity/role has been performed during the day; developed activities: template for matching images with words on the topic of clothes, cities of Slovenia and Europe; easy exercises to strengthen and stimulate body balance, 15 min of slowly riding a stationary bike; developed roles: daily cleaning of apartment; preparing instructions to perform the exercises correctly. Developed; 3 different activities and 1 role.
Person 4	Developed schedule for the activities that she can do independently; developed activity: memory book about her life, events, and family with matching pictures; developed roles: preparing breakfast, making the bed in the morning, care for appearance before daily walks, making coffee; task breakdown for preparation on daily walk; preparing instructions for correct performance. Developed; 1 activity and 5 different roles.

In the fourth phase, before the implementation of activities/roles, we in two cases proposed minor environmental adaptations due to the risk of falls and to ensure the safer performance of tasks. We introduced and demonstrated developed activities and roles (Tab. 1) to all participants and asked them to repeat the tasks. Depending on the person's reaction during the performance, we adjusted the degree of challenge. For Person 1 and Person 3 we extended the activities and roles and made the challenge more difficult. Person 1 was so enthusiastic about the activities that he downloaded them to his tablet. For Person 2 and Person 4 we expanded the activities and roles at the same level of challenge to other themes.

In the fifth evaluation phase we received feedback from the older adults and their relatives through additional short interviews. The interviews were based on short, prepared questions. We also asked for their families' and caregivers' feedback. Almost every time the older adults successfully completed the activities, they expressed a positive engagement and were satisfied after the successful completion of the task (Tab. 2).

■ Tab. 2. Interview evaluation for each person

	Older adults and their relatives'/caregivers' feedback
Person 1	"I got to know some new species of animals and world sights. However, it is hard to remember those who have specific names. I like it because I have learned new concepts and learned something new. With great pleasure I would like to continue with the activities because they fulfil my day, and my time goes faster. Before, I mostly sat on the couch and did nothing, because I have bad vision, I cannot read, I also find it hard to watch TV. These activities are very welcome for me". Wife - "Lately he is very interested in the activities, he does not need much encouragement. I like him to be busy".
Person 2	"These activities remind me of my younger, active years in beekeeping and the bees, which I still carry in my heart. I refreshed the knowledge that escaped over the years, and I met new concepts. I want to continue with activities very much, because they remind me of the beautiful years of my life. I am happy that I can still do some things on my own". Niece - "She is very pleased that she has something to do". Lay caregiver - "If she forgets to prepare the cutlery for lunch, she immediately warns us that we should delay lunch until she has prepared the cutlery first. If she feels worse, she asks us to prepare the cutlery for her".
Person 3	"It was a real challenge; I was impressed by the exercises for strengthening balance. When I saw the progress in other abilities, I became even more enthusiastic. I am more self-confident, and I'm not so scared about falling anymore. I am happy that I still remember the places that I visited. I will continue with the exercises, because now I can better stretch my legs, and use my hands, and my movement coordination is better". She has no relatives, but she will recommend these activities to her friends.
Person 4	She is visibly enthusiastic about the activity, but she does not recognise a change in her daily activities anymore. She looks happy when looking at the pictures and remembering her family and events related to them. Considering her positive response, we assume she wants to continue. Family members and caregivers noticed that she likes to be included in activities. They began to adapt the activities and roles to her abilities.

DISCUSSION

Due to the global increase in the population of older adults and the increasing incidence of multimorbidity, long-term conditions and dementia, health professionals will play an important role in the long-term care of older adults. Traditionally, care of older adults followed a medical model of intervention, but today the network that supports individuals in the maintenance of their motor, sensory, and cognitive skills and abilities has been moved from task-oriented to patient-centred practices that have expanded to include other health professionals (nurses, occupational therapists, psychologists, etc.), family members, and volunteers [18]. Nurses play an important role in promoting the functional, physical, social, and mental well-being of older persons and providing high quality and safe care. Nurses plan their work based on anamnestic data collection that helps them identify the limitations, difficulties, and problems people have in performing daily activities, and thus achieve a more comprehensive, person-centred, holistic approach to improve the effective-

ness of care and achieve better outcomes for patients [19]. In this research, we have focused on implementing individualised interventions that encourage an older adult to participate in decision-making, maintain self-care skills, and thus promote independence and a sense of worth. We successfully developed Montessori activities which we integrated into the daily implementation of nursing interventions. With this approach we provided care based on assessing the needs and condition of individuals, as a practical, holistic and individualised approach that can be used in an older adult's daily routine [20].

To achieve person-centred outcomes, account must also be taken of the prerequisites and care environment which are necessary for providing effective care through the care processes [21]. Today, nursing interventions are increasingly focused on ensuring greater self-efficacy for older adults in their home environments [18], which is also less costly to the healthcare system than placement in long-term-care settings. Incorporating Montessori activities into the nursing care of older adults could provide a more holistic person-centred approach that promotes shared decision-making and preserves the person's dignity and autonomy. Montessori activities can be implemented by community nursing staff with the help of family members or lay caregivers in order to more easily ensure the continuity of implementation and successfully implemented activities. The authors Brush et al. [8] and Ducak et al. [12] emphasised that it is important for older adults and persons with dementia to ensure a regular schedule and routine, so family relatives and caregivers are important actors in ensuring the continuity of these activities. Successfully performed activities are also influenced by the environment, which must be adapted to ensure safe and successful performance of activities for an older adult. Environments adapted in accordance with Montessori principles can support the deferment of memory loss and address many and diverse issues which are associated with a decline in the physiological and psychological abilities of older adults [16]. Developed meaningful activities that match the existing abilities of the person, using tasks related to their previous roles, a suitable environment, prepared clear instructions and an activity schedule encourage older persons to achieve a higher level of independence in performing daily life activities [6,12,22,23]. Using the systematic approach to collect data, we developed interventions for meaningful activities that meet the interests and desires of older adults. In doing so, we took into account their remaining abilities and motor skills and used materials already familiar to them from daily life [6,23]. All the information gathered through observation helped us to design the activities for each older adult in their home environment so that he/she could successfully perform them at any time in his/her daily life, which was reflected in their positive feedback. Daily or frequent performance of developed manual activities has been shown [24] to stimulate motor, sensory, and cognitive skills, and purposeful roles allow older adults to express their social skills and develop a sense of worth and belonging. Other authors [8,25] also argue that these appropriate activities tend to improve quality of life through engagement, social

interaction, and opportunities for self-expression and self-determination. Older adults' lives are therefore enriched through engagement in roles, routines, and activities, which promotes a sense of community belonging and well-being [8].

By evaluating the results collected based on the observation in the home environment of older adults performing tasks, the second goal of the research was achieved. The Montessori activities and roles developed for an individual showed that all participants enjoyed participating in their implementation and would like to continue in the future. We observed that Montessori activities/roles had a positive impact on older adults, as demonstrated by their expressing of positive emotions, satisfaction, a sense of self-confidence and belonging during and after implementation. Several studies mainly conducted in nursing homes and long-term facilities confirm these findings [24,26,27] that Montessori activities result in the persons exhibiting greater pleasure, higher levels of positive engagement, and more positive effect than before.

Implications of findings

The research findings suggest that innovative approaches used in clinical practice can be a great tool to move from medically oriented treatment of patients to patient-centred approaches. Engaging patients with dementia in a variety of meaningful activities, with minor adjustments due to the uniqueness of each care setting, enables healthcare professionals to optimise patient-centred care. Because the activities are designed to be interesting and challenging, with opportunities for increasing or decreasing complexity [28], they are suitable for both older adults and people with dementia in a home care setting. Elements of the Montessori philosophy and a person-centred approach in nursing care have positive effects on older adults within a short period of time and can be implemented in the daily care of each individual. Family, relatives, and other caregivers have proven to be an important source of information that can be useful in getting to know a person, their preferences and values [29]. The involvement of family members and caregivers ensures continuity of activities and enables them to accept and understand the person with dementia in a different way, which also helps to reduce their emotional burden [30]. Therefore, it will be crucial in the future to educate nurses, other healthcare professionals, family members, and caregivers about the different approaches to treating older adults and people with dementia that will help prolong their independence and self-care in the home environment [22]. The results of the study can also serve as a basis for further research on the effectiveness of innovative approaches in the treatment of older adults.

LIMITATIONS

The limitations of the study are the small sample that does not allow generalisation of the data to the population of older adults. In addition, the sample is too small to say with certainty that the approaches used are equally effective in older adults with dementia and without dementia.

CONCLUSION

The study confirms the usefulness of innovative methods in nursing care of older adults and people with dementia in the home environment. The Montessori philosophy applied is based on maintaining cognitive abilities, dignity, self-care, and an appropriately arranged, older adult-friendly environment. Implemented in nursing care, it encourages a focus on individualised, patient-centred care and reflects patient satisfaction by involving them in everyday activities and roles that represent for them an important contribution to the community. Meaningfully prepared activities based on an individual's life interests increase the engagement and well-being of both older adults and their loved ones. The results of this study confirm the importance of involving family members and/or lay caregivers in the care of older adults and to educate them about appropriate approaches. Incorporating Montessori activities into older adult home environment treatment will greatly contribute to their independence, prolonging the quality of life in old age at home for as long as possible.

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