



Education as Necessary Part in the Nurse's Work with Patient with Dementia of the Alzheimer Type

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Abstract- The purpose of this article is to declassify information of issues concerning Alzheimer's dementia in old population. Education process is in this context necessary part of provided health care. A nurse fulfills the role of educator, while her work is focused on making and formation responsible patient's and group's behavior behalf of support and recovery of health. Sufficient of knowledge and skills in patient care, observance of appropriate medical and nursing procedures and a safe environment are the best ways to keep a high quality of life of patients with Alzheimer's dementia. Previews of education list within education meetings plans can become a significant tool with successful realization of education process.

Keywords- Alzheimer's disease, Aging process, Educational process, Nursing.

1. Introduction

According to World Health Organization Alzheimer's dementia is the most common degenerative disease of the central nervous system with rising tendency. Nowadays, there is over 36 million patients with Alzheimer's disease in the world, each year is this number doubled. In Slovak Republic is that number somewhere between 40 and 50 thousand (Klímová, Magurová et al., 2013).

The needs of patients with Alzheimer's disease (next AD) are different and we cannot specify them exactly. Eveready's care of the patient is extremely difficult, by organizing daily routine (personal hygiene, proper nutrition, safety, etc.), through handling mood changes and different forms of patient's behavior, and support of his cognitive functions (Magurová, Majerníková, 2009). An important part of nurse's professional activity an one of the role is a role of *educator*. Her work is focused on creation and formation of patient's and group's responsible behavior and action in order of support and recovery of health, with the possibility of getting new knowledge, attitudes and beliefs (Závodná, 2006).

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1.2 Definition of Dementias and Alzheimer's disease

Dementias are disorders in which there is a reduction in the level of *intellectual* (eg. intelligence, thinking) and *cognitive functions* of the individual (eg. memory, attention, perception, capacity development and understanding of speech). Many older people suffer from a decrease in mental abilities that go beyond physiological aging. A very important and still unsolved problem is the distinction between normal signs of aging of the brain and senile dementia (Křivohlavý, 2002).

Dementia may accompany various diseases, but according to current knowledge, medical sciences in senile dementia of the two forms of: *Alzheimer's disease* and *multi-infarct dementia*. AD is the major neurodegenerative disease of the brain, leading to neuronal loss and brain matter, which results in brain atrophy. The decline in cognitive and intellectual functions is irreversible. AD is 50-60% of all dementias which are annually diagnosed in thousands of people throughout the world (Šanta, Klímová et. al., 2007, Jirák et al. 2009).

In multi-infarct dementia is declining mental abilities due sclerotic changes of brain vessels. Accompanying symptoms may occur suddenly and sometimes seem stroke. With proper treatment, however, some signs of partially disappear (Jiráček et al. 2009, Tomagová, 2009).

1.3 Pathogenesis and Clinical Features of Alzheimer's disease

In the brain tissue of patients, suffering from AD occurs in areas outside the nerve cell to store the pathological protein called β -amyloid. Genetic studies have pointed to the family history of AD with autosomal dominant mode of inheritance. Until now found a number of genetic mutations on chromosomes 21, 14 and the one leading to the development and launch of the pathological deposition of β -amyloid. The histological picture is so visible argyrophily plaques with amyloid deposits scattered throughout the cortex in all its layers and fibrillary changes in neurons that cause their extinction (Klímová, Magurová, 2013).

Dementia develops initially subtly manifested as mild cognitive impairment. The first symptoms are usually short-term memory disturbances (loss of ability to remember new information, etc.). Gradually over the development of AD occurs: forgetting names and concepts; reduction of vocabulary; disturbances in verbal and writing activities (eg. echolalia -repeat phrases); slowed thinking; that critical Korsakoff's amnesic states (forgetting previous work carried out); occurrence of dyscalculia; apraxia disorders; decrease in the intellectual capacity; mood disorders, apathy, agitation to paranoid disorders (Li, Wahlund, 2011).

Advanced or terminal stage is characterized by almost complete loss of memory. The patients do not recognize close relatives, are unself-sufficient and fully dependent on the help of another person. In advanced stage of AD is associating gait disorder, motor disorders, incontinence, immobility (Li, Wahlund, 2011). The disease lasts approximately 7-10 years from finding of first symptoms of disease and patients with AD are usually dying for bronchopneumonia or other complications of immobilization syndrome.

1.4 Diagnostics and Treatment of Alzheimer's disease

Diagnosis of AD is difficult, especially in the early stages of the disease. Getting detailed personal and family history, examining the clinical picture of the disease, implemented *psychometric tests* (eg. MMSE - Mini-Mental-Test-Examination; CDT - Clock Drawing Test, ADAS-cog - Alzheimer's Disease Assessment Scale-cognitive and others) [8] and *tests of functional ability* (ADL – Barthel Test of daily activities, IADL -

Test of instrumental daily activities, etc.). In the context of diagnosis is carried brain electroencephalography (EEG), computer tomography (CT), magnetic resonance imaging (MRI) or positron emission tomography (PET), or other (Ono, Saji, 2012, Tomagová, 2009)

In the pharmacological therapy are recommended procedures, such as acetylcholinesterase inhibitors, nootropic substances, substances destroying oxygen free radicals and non-pharmacological methods, such as physical activity, reminiscence therapy, cognitive training, environmental manipulation, kinesiotherapy, lifestyle approach, alternative methods of treatment and others (Holmerová et al., 2005, Sheardová, 2011).

2. Education and the Educational Process in Alzheimer's Disease

Education (lat. *educare* - *educate*) is the most important aspect of nursing practice. In general, it is aimed at individuals, groups and communities, with emphasis on a holistic approach to human (Magurová et al, 2008). The author (Juřeníková, 2010, p. 9) education has defined as „*a process of continuous influence of behavior and practices of the individual with goal to induce positive changes in their knowledge, attitudes, habits and skills*”.

The role of the nurse is to motivate, guide the patient and other members of the nursing team and help them to identify the problems, which they encounter. Sufficient knowledge and skills in patient care, in compliance with appropriate medical and nursing procedures, providing a safe environment is to maintain a high quality of life of patients with AD.

On the education is participating *educator* (actor of educational activities), for example nurse, doctor, etc. and learner (subject of teaching), which may be a patient, family member, caregiver (Magurová et al. 2008).

The educational process is a dynamic interaction between an educator and learner. Process is ongoing in a logical following five stages as focused, systematic, managed and planned.

As a nursing process, educational process is ongoing in the following phases:

1. Assessment - collecting, sorting and analyzing data about learning
2. Diagnostics- identifying the educational diagnosis
3. Planning – preparing of teaching plan
4. The implementation of the educational process
5. The evaluation of the educational process (Závodná, 2006).

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The quality of the educational process depends on the interaction involved in the education and on their personal qualities, norms, values, opinions, attitudes and interests (Kuberová, 2010).

The nurse's roles in the care of patients with Alzheimer's dementia are following:

- to focus attention on support and development of malfunction of the patient
- to obtain maximum self-sufficiency patient
- to maintain and support memory and orientation of the patient with AD
- to create a good relation of trust nurse – learner
- to provide for family members information materials about the specifics of the patient if they care at home
- to support and lead learners for patient cared at home
- to implement education
- to support lifelong learning of nurses and prepare educational sessions focused on the care of patients with AD (Huňavá, Koňošová, 2008).

In the educational process, we distinguish the following forms of education: *the individual associated and mixed* (Zormanová, 2012). An essential need is to educate all family members involved in care for an ill family member, as well as the involvement of family at the rehabilitation and social reintegration program. Care of patients with AD at home requires 24-hours care, which is enormous physical and mental burden for caring. For effective education is essential for the nurse to consider the particularities of care of patients with Alzheimer's dementia.

The goal of nursing interventions is: to protect mental patient's performance against rapid decline; to prevent social isolation; to protect the patient from physical and mental strain; to determine appropriate physical activity and support self-sufficient activities and provide differentiated nursing care. In the following text, we focus on the educational process in relatives of patients suffering from Alzheimer's dementia realized by the nurse in the hospital and at selected educational diagnosis of the process.

2.1 Phase 1 of the Educational Process

Learner - 55-year-old wife of patient with AD, she has secondary education. She lives in a household with her husband and youngest daughter. From learner's,

personal characteristics are prevalent diligence, responsibility, sociability and perseverance in daily activities. The best she teaches in the afternoon. Noise is disturbing her as well as fear and the disease of her husband itself. Her important priorities are the health of her husband and improve its social situation. Aim of learner is to learn as much about Alzheimer's disease as possible, to help her husband in practicing memory exercises communication with the environment and ensuring a safe home environment. During interview, however she expressed fear about the managing of planned activities. She has a precarious feeling of further development of health status of the husband.

Alzheimer's disease often leads to a change in behavior, temporal and spatial orientation in a patient in home environment and external environment. Preventing accidents and injuries is basic care about patient with Alzheimer's disease (Klímová, Magurová et. al., 2013)

2.2 Phase 2 of the Educational Process

Based on educational assessment there was established of selected knowledge diagnoses in relatives of patients with Alzheimer's disease:

1. Deficiency of knowledge on ensuring of safe home environment for the patient in relation to the new situation, manifested by increasing interest about information, asked questions and by requiring direct answers.
2. Deficiency of skills in training cognitive functions in relation to the deficiency of experience in this field, manifested by verbal expressing and requiring for visual presentations (Gurková et. al., 2009).

2.3 Phase 3 of the Educational Process

Planning: Nurse together with the learner has created a plan for a meeting based on their ideas, requirements and recommendations by nurse. The educational process was subsequently divided into several of educational meetings.

Each educational meeting is concerned *educational sheet* comprising: Topic of education; Form of education; Aims of education (cognitive, emotional, and behavioral); Resulting criteria; the Length and Duration of Education and the like (Table 1-2).

Table 1 Educational sheet of planning of educational meeting aimed at ensuring the safety of the home environment for a patient with AD

The topic of education: The importance and relevance of security in the home environment for a patient with AD. Safe home environment and the use of devices to improve the orientation of a family member at home.	
Affective goal	Learners will express the desire to gain knowledge on how to maintain a safe home environment.
The resulting criteria (RC)	RC1: Learners express the need and willingness to acquire knowledge about ways of ensuring safe home. RC2: Learners verbalize interest to learn the ways to ensure a safe home. RC3: Learners expressed their willingness to cooperate with nursing team. RC4: Learners recognize the importance of a safe home environment with care of patients with AD.
Cognitive goal	Learners will have knowledge about ensuring of safety home.
The resulting criteria (RC)	RC1: Learners explains the necessity of ensuring the safety home environment of patient suffering from AD, using appropriate means. RC2: Learners justified the importance of ensuring security at home. RC3: Learners name the possibility to provide a safe home. RC4: Learners indicate the importance of specific changes that are necessary to ensure secure environment. RC5: Learners describe the correct placement of furniture in your home. RC6: Learners appoint and describe options to ensure the home environment, ensuring the prevention of falls and injury in patients with Alzheimer's dementia using appropriate tools.
Behavioral goal	Learners will be able to appropriately modify the home environment.
The resulting criteria (RC)	RC1: Learners are actively involved in the course of educational meetings. RC2: Learners will use the tools to ensure safety.
Date:	Form: group
Time: 60 minutes • 2 educational meetings	Methods: motivational interview, interpretat, explaining, demonstration method, situational method
Place: educational room	Requisites: paper, pen, presentation in Power Point, booklet, schematic layout of the apartment, educational sheets, visual symbols

activities related to the safe home environment, the importance of specific changes in the prevention of

Table 2 Educational sheet of planning of educational meeting aimed on training cognitive functions of patient's with AD

Topic: Practice of memory in patients with Alzheimer's dementia.	
Affective goal	Learners recognize the importance of gaining knowledge and skills about training of memory.
The resulting criteria (RC)	RC1: Learners express effort to obtain knowledge acquisition workout memory. RC2: Learners are willing to obtain skills associated with training cognitive function in patients with AD.
Cognitive goal	Learners have knowledge of training procedures appropriate for the patient with AD.
The resulting criteria (RC)	RC1: Learners describe efficient methods of memory training in patients with AD. RC2: Learners appoint the importance of practicing cognitive function in patients with AD. RC3: Learners explain the benefits of training memory. RC4: Learners give types, how can ill cope with the loss of short term memory.
Behavioral goal	Learners will have skills in training of memory.
The resulting criteria (RC)	RC1: Learners properly practice training of memory. RC2: Learners are active in memory training, which is part of the non-pharmacological treatment. RC3: Learners conduct exercises on cognitive rehabilitation.
Date:	Form: group
Time: 60 minutes • 2 educational meetings	Methods: talking, interpretation, discussion, demonstration method, method of visual illustrations, method of snowball
Place: educational room	Requisites: Mini-Mental-Test-Examination, paper, pen, game – pexeso, educational material (see Fig.1), demonstrations for training, educational sheets, interactive whiteboard

2.4 Phase 4 of the Educational Process

At the beginning of the first educational meeting, the learners were familiar with the goal and content of educational meetings. They were explained symptoms of AD, the requirements for care of the patient, way of behavior to the patient in the deterioration of mental state (depression, aggression, etc.). In exposure phase of educational meetings, attention was focused on

falls and injury and simple orientation in the environment. In the context of improving the patient's cognitive functions (memory, attention, learning) were recommended procedures designed to exercise memory (simple word games, rhymes, compound words, images, memory game, etc.), also known as cognitive rehabilitation. How very appropriate, it seems so reminiscence therapy, which aim is to induce the patient pleasant memories and positive emotions. Interviews can be combined with photographs, eventually movies. When using creative procedures, the patient may be together with family members or caregivers construct such commemorative box or suitcase of memories (Klímová, Magurová et al., 2013).

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2.5 Phase 5 of the Educational Process

The aim of education was to achieve change for the better behavior and families of patient with Alzheimer's dementia. The goals of the educational process has been designed and developed together with the learners. During the various educational meetings are all actively involved in education, put particular questions relating to reinsurance safe home environment. They answered control questions correctly and demonstrated progress towards achieving safe home environment and easier orientation in it. Answers ways workout memory, also confirmed their interest in the subject.

3 Conclusion

Alzheimer's disease is one of the major chronic neurodegenerative brain disease in which there is a progressive dementia. As reflected in the gradual failure of intellectual and cognitive functions of the body, largely nuisance and make life difficult for patients and family members. Assistance through the education of nurses is very suitable method for the treatment of dementia of the Alzheimer type.

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