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Nursing Problems in Patients with Alzheimer's Disease — a Case Report

Problemy pielęgnacyjne pacjentów z chorobą Alzheimera — opis przypadku

Monika Biercewicz[1], **Karolina Filipska**[2], **Kornelia Kędziora-Kornatowska**[1]

[1]Clinic of Geriatrics, Faculty of Health Sciences,
Collegium Medicum Nicolaus Copernicus University, Torun, Poland
[2]Interdisciplinary Scientific Society of Geriatrics,
Collegium Medicum Nicolaus Copernicus University, Torun, Poland

Abstract

Introduction. Alzheimer's disease is a syndrome caused by brain disease, usually chronic or of progressive course characterised by clinically numerous disorders of higher cortical functions. It is an incurable disease leading to a complete disability in the advanced stage. An latent initial phase of Alzheimer's disease results in the disease being diagnosed in a more advanced stage.
Case Report. The case study refers to a 67 woman diagnosed with Alzheimer's disease. The disease was diagnosed 1.5 years ago. The paper presents selected needs and problems observed in a patient diagnosed with Alzheimer's disease. The work is a description of a case of a hypothetical patient.
Discussion. Care and looking after the patient with Alzheimer's disease is a complex process. It is characterised by total engagement and the necessary specialistic knowledge on the part of all members of the care team taking care of the patient. Taking care of a patient with cognitive impairment is a difficult challenge for his family and relatives. It requires patience, calm and dedication. Nursing interventions are focused on the performance of professional diagnostic procedures, as well as assisting in everyday activities, supporting and educating the patients and their family.
Conclusions. Alzheimer's disease is a chronic disease that leads to disturbances of functional and cognitive functions. In the presented case the patient is aware of the essence of her disease, which significantly reduces her current quality of life. With a decline in physical performance there can be observed deterioration of patient's physical condition. A significant role in the care of a patient with AD is fulfilled by assistance in everyday activities. **(JNNN 2016;5(3):117–122)**
Key Words: Alzheimer's disease, nursing problems

Streszczenie

Wstęp. Choroba Alzheimera jest zespołem objawów wywołanych chorobą mózgu, zwykle przewlekłą lub o postępującym przebiegu, charakteryzująca się klinicznie licznymi zaburzeniami wyższych funkcji korowych. Stanowi ona nieuleczalne schorzenie prowadzące do pełnej niesprawności w stadium zaawansowanym. Utajony charakter początkowej fazy choroby Alzheimera powoduje, że schorzenie to rozpoznaje się dopiero w stadium bardziej zaawansowanym.
Opis przypadku. Studium przypadku odnosi się do 67 kobiety z rozpoznaniem choroby Alzheimera. Schorzenie to zdiagnozowano 1,5 roku temu. W pracy ukazano wybrane potrzeby i problemy zaobserwowane u pacjentki z rozpoznaną chorobą Alzheimera. Praca stanowi opis przypadku pacjenta teoretycznego.
Dyskusja. Opieka oraz pielęgnacja pacjenta z chorobą Alzheimera jest złożonym procesem. Charakteryzuje się pełnym zaangażowaniem oraz niezbędną i specjalistyczną wiedzą ze strony wszystkich członków zespołu terapeutycznego zajmujących się pacjentem. Sprawowanie opieki nad pacjentem z zaburzeniami funkcji poznawczych stanowi trudne wyzwanie dla jego rodziny i bliskich. Wymaga cierpliwości, spokoju i poświęcenia. Działania pielęgniarskie skupiają się na wykonywaniu profesjonalnych zabiegów diagnostycznych, ale także asystowaniu w czynnościach dnia codziennego, wspieraniu i edukowaniu pacjenta i jego rodziny.

Wnioski. Choroba Alzheimera jest przewlekłą chorobą, która prowadzi do zaburzeń funkcji poznawczych i funkcjonalnych. W przedstawionym przypadku pacjentka jest świadoma istoty swojej choroby, co znacznie obniża jej dotychczasową jakość życia. Wraz ze spadkiem wydolności fizycznej obserwujemy pogarszający się stan fizyczny. Znaczącą rolę w pielęgnacji chorego z AD stanowi pomoc w czynnościach dnia codziennego. **(PNN 2016;5(3):117–122)**
Słowa kluczowe: choroba Alzheimera, problemy pielęgnacyjne

Introduction

Alzheimer's disease (AD) is widely recognised as one of the most common neurodegenerative diseases of old age. AD is defined as a degenerative disorder, irreversible and progressive. In patients diagnosed with the disease there is observed the loss of neurons and synapses of the brain. This results from the progressive deposition of senile plaques and neurofibrillary degeneration of neurons [1,2]. To date, no cure for this disease has been invented. Available treatments provide only temporary reduction of symptoms [3]. The etiology of the disease is dominated by both environmental factors (eg. education), as well as by genetic predisposition [4]. The incidence of AD increasing with age, is a major challenge for most modern societies [5]. According to data presented in the World Alzheimer Report 2015 published by Alzheimer's Disease International, there are around 46.8 million people of all ages suffering from Alzheimer's disease, where in 2013 the figure was 35 million [6]. AD can occur in two forms: sporadic (SAD) and family form (FAD) [7]. Much more often the sporadic form is diagnosed with patients (approximately 60–85% of cases) [8]. A latent initial phase of Alzheimer's disease results in its diagnosis only at a more advanced stage. Memory problems emerging at the beginning, which often disturb daily functioning, are ignored by the patient and family. They are regarded as a natural aspect of the implications of the aging process of an individual. In most patients at the moment of AD diagnosis, approximately 60% of the neurons had already disappeared. This is an irreversible process, since there are no medicines that would stop neuron degeneration [9–11]. Alzheimer's disease is considered to be one of the most serious public health challenges. This is due to the fact that it constitutes one of the main reasons for disability and mortality in the elderly. The latent nature of AD progression and the rapidly increasing number of patients is associated with numerous and significant health, social and economic consequences [12].

The aim of this study is to show selected needs and problems observed in the patient diagnosed with Alzheimer's disease. The article presents a proposal of nursing procedures in relation to a specific nursing problem.

Case Report

Halina, a 67-year old woman admitted to the Department of Geriatrics at dr Antoni Jurasz University Hospital No. 1 in Bydgoszcz in the turn of May and June 2015 under the scheduled mode due to increasing disorders regarding short-term memory and speech. The patient well adapted, although she does not indicate a positive attitude to the hospital and medical staff. In the patient there occur visual hallucinations. During hallucinations the woman also feels shortness of breath, severe dizziness and chest tightness. The patient complains of the trouble with sleeping. More and more often, Halina experiences difficulties with finding words to define objects and concepts. In addition, there is a general weakness, fatigue and chest pain. The patient was 1.5 years ago diagnosed with Alzheimer's disease. Another concomitant disease that is mentioned by Halina's son is hypertension and COPD. On the day of admission blood pressure was 160/100 mmHg. On the day of the interview the patient was of III category of nursing care. Halina is a lying patient, she changes the position in bed herself, requires assistance with eating meals and substantial assistance in the activities of hygiene. Body skin clean, dry, pale-pink, flabby, without pathological changes and edema The patient denies allergies. Hygienic condition very good, clean hair and skin, although it is possible to notice drying skin. There are no lesions on hand and head skin, no significant bruising on the skin. Bed linen and underwear clean. There are no problems with vision and hearing. The patient on the Norton Scale scored 14 pts., and on the Glasgow Scale 15 points. There is no life-threatening as the parameters of life are following:

— blood pressure: 130/70 mmHg;
— pulse: 65 beats/min, regular and equal;
— body temperature: 36,8°C;
— breath: 17/min, performed effortlessly, regular.

Halina is a pensioner, with vocational education. For 30 years she worked as a seamstress. The patient is a widow and lives in a house with her son. The patient can count on her family, who visit her in the hospital. The woman despite serious illness, tries to lead a healthy lifestyle. She does not smoke cigarettes, does not drink alcohol and coffee. The patient does not have 5–6 meals a day, explaining that as a lack of appetite and disorder of the senses of smell and taste. Her daily diet includes fruit, vegetables, lean meat, cereals, dairy products. She

limits the number of finished products to a minimum. The patient does not have problems with food allergy.

The patient nature is generally calm and composed. She seems to accept the disease and measures taken in connection with the disease. Body weight of the patient is currently 65 kg, and the BMI is equal to 24.8 kg/m², indicating a correct value. The patient has had an intravenous line started. The patient's condition in the subsequent days of her stay in hospital underwent significant improvement. Halina still suffers from tiring cough, which manifests itself several times a day. During her stay in hospital Halina had the following tests performed: blood count, magnetic resonance imaging of the head, spirometry, chest X-ray. A physiotherapist visits her and introduces light breathing exercises, aimed at extending breathing phases (the exercises involve stopping the air in the lungs as long as possible, counting at this point seconds).

Problem 1:

Limited capacity in the field of self-service, self-care

Aim: Ensuring proper personal hygiene and eliminating the consequences resulting from the limitations of self-service and self-care.

Actions:

1. assistance in the performance of the body hygiene,
2. assistance in the performance of the mouth cavity hygiene,
3. changing bed linen,
4. changing the underwear,
5. skin moisturising,
6. educating the family on how to perform the toilet of the body in the case of a lying patient,
7. assistance in taking meals,
8. placing all objects used by the patient at hand.

Assessment: Appropriate personal hygiene provided.

Problem 2:

Impairment of everyday functioning due to occurrence of short-term memory disorders

Aim: Support for the patient in the longest possible preservation of memory related to everyday life, as well as to the past.

Actions:

1. patiently answering questions, even if the answers have already been provided many times (use of simple, unambiguous phrases and words),
2. providing a sense of security,
3. repetition of information provided, eg. on scheduled operations, day schedule, introducing oneself to the patient,
4. application of mental training through joint photo viewing, counting, reading,
5. family involvement in the therapeutic process,
6. informing the family about the necessity to leave patient's belongings in the same place, for example eyeglasses.

Assessment: Support and assistance in the field of the occurrence of short-term memory disorders provided.

Problem 3:

Communication problems due to the development of Alzheimer's disease

Aim: Preservation of non-verbal and verbal communication.

Actions:

1. providing benevolent, peaceful and quiet atmosphere,
2. the use of simple, short sentences,
3. establishing emotional contact with the patient, getting acquainted with her needs, complaints, problems,
4. being patient and calm during the interview,
5. showing an interest in the general well-being of the patient,
6. referring to the patient by the second name and maintaining eye contact,
7. the use of verbal and non-verbal messages, in the case of misunderstanding on the part of the patient, guidance, describing various activities with the use of gestures.

Assessment: Logical contact with the patient preserved.

Problem 4:

The occurrence of difficulties in eating due to self-care deficit

Aim: Preventing nutritional deficiencies, preventing weight loss, facilitating meals.

Actions:

1. positioning the patient in a high or half-high position during the meal,
2. observing the correct temperature of meals and beverages,
3. meals aesthetically prepared and varied,
4. assessment of nutritional status:

a. monitoring the weight and other indicators of nutritional status,
b. determination of caloric intake,
c. keeping records of food intake,

5. prevention of tilting the head back by the patient during swallowing (this causes aspiration of nourishment into the respiratory tract),

6. in the event of choking, persuading the patient to cough, chest percussion, during the occurrence of inefficient cough use of Heimlich blow,
7. ensuring the patient sufficient time, privacy and peace while having a meal,
8. protection of patient's clothes against possible stains (napkin, lignin),
9. after each meal performance of the oral cavity toilet to remove residual food debris,
10. mental support.

Assessment: The patient's current nutritional standards preserved, weight stayed the same.

Problem 5:

The risk of pressure sores and chafing due to immobilization and self-care deficit

Aim: Prevention of pressure sores and chafing.
Actions:

1. assessment of the risk of bedsores by standardised scales, for example the Norton Scale,
2. repositioning the patient every 2 hours, in order to relieve the areas most vulnerable to pressure,
3. positioning the patient on an antidecubital mattress,
4. moisturising and oiling places subject to formation of pressure ulcers, eg. greater trochanter, heels, shoulders, etc.,
5. maintaining the skin clean, particularly the crotch area,
6. accurrate drying of the skin, with particular emphasis on skin folds, and areas most vulnerable to pressure,
7. daily change of bed linen, which should always be clean, dry, without folds and creases,
8. frequent ventilation of the room where the patient is staying in order to prevent patient's overheating and sweating,
9. insulation of directly adjacent skin layers with the use of eg. shafts, rollers,
10. wholesome diet application rich in fiber, vitamins B, A and C, macro- and micronutrients (iron, zinc, calcium) and electrolytes (sodium, potassium).

Assessment: The risk of chafes and bedsores reduced.

Problem 6:

The occurrence of breathing difficulties as a result of coexisting COPD

Aim: Decrising dyspnoea and soathing the patient.
Actions:

1. performing inhalation with the use of medicines according to the doctor's recommendation,
2. carrying out oxygen therapy according to the doctor's recommendation for a nasal oxygen catheter — "whiskers" flow 4.5 l/min,
3. monitoring basic vital signs (respiration, pulse, blood pressure, body temperature),
4. recording the results of observations conducted in a manner that allows evaluation of changes in the patient's condition over time,
5. observation of the skin (whether it is bruised, pale, cold to the touch),
6. ensuring good microclimate conditions in the room, frequent airing due to breathing difficulties,
7. ensuring appropriate, safe position of the body with a stable backrest,
8. motivating the patient to receive high or half-high position which enables to lower the diaphragm, causes better expansion of the lungs and results in deeper breathing,
9. placing patient's bed, as far as possible from the radiator,
10. participation in pharmacological proceedings.

Assessment: Patient's breathlessness and anxiety reduced.

Discussion

A characteristic feature of Alzheimer's disease is incurable and progressive disorders of the homeostasis. The disease mainly affects people aged over 65, however there are incidents of the disease in the younger age group [13]. AD applies to approximately 5–7% of the population over 65 years of age. It is estimated that two hundred thousand people in Poland suffer from this disease [14]. In the patient, described in our work the disease was diagnosed when she was 65 years old. It cannot be precisely determined however, when exactly AD developed, because the woman had already complained about memory problems since the age of 58 but she did not report this problem anywhere. She considered it as a natural aspect of the process of aging.

It arises from the interview and from the tests carried out that the patient has not been diagnosed with depression, which is very often associated with AD. The prevalence of depression among patients with AD is approximately 20–30%. Conducted studies have shown that depressive disorders are often a factor predisposing for the development of AD [15]. In the studies by Geerlings et al. [16] in 503 respondents aged over 60 with a history of depressive episodes there was noted no increased risk of AD incidence. The patients were observed for the development of AD for an average period of six years. As a result of Cox regression analysis it was proved that, among patients with early-onset of depression, the risk of AD increased. The risk decreases proportionally

among patients diagnosed with depression late. The research showed no statistically significant dependence which would allow to consider depression as a factor favouring the occurrence of AD. In the studies carried out by Zubenko et al. [17] it was indicated that approximately half of patients with AD report already experienced episode of depression in their life, whereas 1/3 of respondents experienced an episode of depression in the period of dementia.

Another major concern of patients with Alzheimer disease is the decline in their quality of life. This is mainly due to the loss of ability to function independently [18]. In the studies by Pusswald et al. [19] there was shown a significantly reduced rate of the quality of life of patients with AD in particular with regard to the physical realm. Next, in the studies by Lima et al. [20] including 128 patients with AD at an early stage there was reported a decrease of the quality of life. It was also shown that social support and independent functioning in everyday life positively correlated with the quality of life tested. The patient's case presented is also associated with decreased quality of life. There are frequent complaints about health condition and the lack of independence as well as dependence on others.

Conclusions

Alzheimer's disease is a chronic disease that leads to disturbances of cognitive and functional sphere. One of the characteristic features is its incurability. In the described case the patient is aware of the essence of her disease, which significantly reduces her previous quality of life. With a decline in physical capacity we observe a decline of physical condition. Patients with progression of the disease are becoming less and less independent, and sometimes even aggressive. They need a 24-hour care, therefore, educating the family and the role of the caregiver are very important in the course of AD. This disease entails serious psychological and physical stress, as well as financial challenge, not only among the patients themselves but also mainly among the caretakers of such patients. It affects both the conditions, style and quality of life of the family. Our patient after discharge from hospital, has been staying in a family home with her son. In the case of AD and co-occurrence of COPD, there is a necessity of rehabilitation of the patient. The patient's son is aware that the assistance of a professional therapeutic team is extremely important. Active rehabilitation and cognitive functions exercises will delay the development of the diseases.

References

[1] Mace N.L., Rabins P.V. *36 godzin na dobę. Poradnik dla opiekunów osób z chorobą Alzheimera i innymi chorobami otępiennymi oraz zaburzeniami pamięci w późnym okresie życia*. MediPage, Warszawa 2005.

[2] Contador I., Fernández-Calvo B., Ramos F., Mograbi D.C., Morris R.G. Interaction Effect of Awareness and Educational Attainment on the Benefits of Multicomponent Intervention for Persons with Mild Alzheimer's Disease. *Arch Clin Neuropsychol*. 2016. doi: 10.1093/arclin/acw074.

[3] Huang W.J., Zhang X., Chen W.W. Association between alcohol and Alzheimer's disease. *Exp Ther Med*. 2016; 12(3):1247–1250.

[4] Amieva H., Le Goff M., Millet X. et al. Prodromal Alzheimer's disease: successive emergence of the clinical symptoms. *Ann Neurol*. 2008;64(5):492-498.

[5] Lambert J.C., Ibrahim-Verbaas C.A., Harold D. et al. Meta-analysis of 74,046 individuals identifies 11 new susceptibility loci for Alzheimer's disease. *Nat Genet*. 2013;45(12):1452–1458.

[6] Hebert L.E., Weuve J., Scherr P.A., Evans D.A. Alzheimer disease in the United States (2010–2050) estimated using the 2010 census. *Neurology*. 2013;80(19):1778–1783.

[7] Wallin A. Current definition and classification of dementia diseases. *Acta Neurol Scand Suppl*. 1996;168:39–44.

[8] Kowalska A. Genetyka zespołów otępiennych. Część 3: podłoże molekularne wieloczynnikowego dziedziczenia postaci sporadycznej choroby Alzheimera. *Postepy Hig Med Dosw*. 2009;63:577–582.

[9] Na H.K., Kang D.R., Kim S. et al. Malignant progression in parietal-dominant atrophy subtype of Alzheimer's disease occurs independent of onset age. *Neurobiol Aging*. 2016;47:149–156.

[10] Barcikowska M. Choroba Alzheimera — leczenie zależne od stadium. *Post. Neurol. Prakt*. 2004;4:279–280.

[11] Rachel W., Turkot A. Jak pomóc opiekunom pacjentów z otępieniem w chorobie Alzheimera? *Psychoterapia*. 2015; 1(172):59–71.

[12] Peters R., Poulter R., Warner J., Beckett N., Burch L., Bulpitt C. Smoking, dementia and cognitive decline in the elderly, a systematic review. *BMC Geriatr*. 2008;8:36.

[13] Kubis A.M., Janusz M. Choroba Alzheimera — nowe możliwości terapeutyczne oraz stosowane modele eksperymentalne. *Postepy Hig Med Dosw*. 2008;62:372–392.

[14] Wojszel Z.B., Bień B. Choroba Alzheimera — problem diagnostyczny i terapeutyczny. *Medycyna Rodzinna*. 2002; 1:2–6.

[15] Fujise N., Ikeda M. The relationship between depression and dementia in elderly. *Seishin Shinkeigaku Zasshi*. 2012;114(3):276–282.

[16] Geerlings M.I., den Heijer T., Koudstaal P.J., Hofman A., Breteler M.M. History of depression, depressive symptoms, and medial temporal lobe atrophy and the risk of Alzheimer disease. *Neurology*. 2008;70(15):1258–1264.

[17] Zubenko G.S., Zubenko W.N., McPherson S. et al. A collaborative study of the emergence and clinical features of the major depressive syndrome of Alzheimer's disease. *Am J Psychiatry*. 2003;160(5):857–866.

[18] Bruvik F.K., Ulstein I.D., Ranhoff A.H., Engedal K. The quality of life of people with dementia and their family carers. *Dement Geriatr Cogn Disord*. 2012;34(1):7–14.
[19] Pusswald G., Moser D., Pflüger M. et al. The impact of depressive symptoms on health-related quality of life in patients with subjective cognitive decline, mild cognitive impairment, and Alzheimer's disease. *Int Psychogeriatr*. 2016;31:1–10.
[20] Lima S., Gago M., Garrett C., Pereira M.G. Predictors and Moderators of Quality of Life in Alzheimer's Disease Patients. *J Alzheimers Dis*. 2016. doi: 10.3233/JAD-160256.

Corresponding Author:
Monika Biercewicz
Klinika i Katedra Geriatrii
ul. M. Skłodowskiej-Curie 9, 85-094 Bydgoszcz, Poland
e-mail: kamamb@cm.umk.pl

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