Free dementia of alzheimer type essay example

Health & Medicine, Disease

Alzheimer's disease (AD) was first characterized by Alois Alzheimer in 1907. It involves a gradual, progressive and irreversible dementia affecting cognition as well as behavior. It is perhaps the most common cause of dementia accounting for more than 60% of cases of late-life cognitive dysfunction. The etiology of AD is not known and, unfortunately, pharmacological interventions neither cure nor arrest the pathophysiology. Neuropathologically, AD destroys the neurons in the cortex, basal forebrain, amygdala, hippocampus and cerebral cortex. Neuritic plaques and neurofibrillary tangles are commonly seen in this disease; however, the exact cause is yet to be determined. By the year 2050, the worldwide prevalence of AD is expected to be 106. 2 million, with one in 85 persons living with AD (Brookmeyer, Johnson, Ziegler-Graham & Arrighi, 2007). AD affects the patient as well as the family because the need for supervision and assistance increases as the disease progresses. It does not cause the death directly; however, it predisposes the patient to sepsis, pneumonia, choking and aspiration, nutritional deficiencies and trauma (DiPiro, Talbert, Yee, Matzke, Wells and Posey, 2005).

Age of onset

AD is associated with geriatric patients because most cases present in the persons of age more than 65 years. However, the age of onset may be as early as 40 years in 5% of the AD cases. The AD cases are, therefore, arbitrarily classified as early onset (40 to 64 years of age) and late onset (65 years and above). The prevalence of the disease increases exponentially with age (DiPiro, Talbert, Yee, Matzke, Wells and Posey, 2005).

Warning signs of Alzheimer's disease

Several warning signs of AD have been documented and publicized by the healthcare agencies. The purpose of the warning signs is to alert the public; however, the presence of these signs does not mean that a person will have the disease. The primary warning signs are a) asking the same question over and again, b) repetition of a same story or word again and again, c) forgetting normal daily activities such as cooking, playing cards, etc., d) losing the ability to manage finances, paying bills, balancing checkbook, etc., e) getting lost in familiar surroundings, f) neglecting personal hygiene, bathing and changing clothes and g) relying on someone else to make simple decisions and answer questions (National Institutes of Health, 2010).

Stages

AD is divided into seven stages depending on the severity of dementia. These stages are called as ' Stages of cognitive decline: Global deterioration scale.' Stage 1 is the normal stage without any subjective or objective change in intellectual functioning. Stage 2 is characterized by ' forgetfulness' and the patient complaints of losing things or forgetting names of acquaintances. However, job, social functioning, etc. are not interfered in this stage. Stage 3 presents ' early confusion' and the cognitive decline tends to interfere with work and social functioning. Stage 4 or ' late confusion stage' is also called as ' early AD.' In this stage, the patient fails to manage daily activities like home making and finances. S/he faces difficulty in remembering recent events. Stage 5 or ' early dementia' is the ' moderate AD' and leaves the patient disoriented with respect to time, date, year, season, etc. Patient can no longer survive without assistance in this stage.

S/he cannot recall recent events and may forget some details of the past life. Stage 6 is the ' middle dementia' or ' moderately severe AD' and is characterized by patient's difficulty in interpreting their surroundings. In this stage, the patient needs assistance with all activities of daily living and forgets most of the details of past. Stage 7 is the ' late dementia' stage wherein the patient loses ability to speak, walk and feed self. S/he is incontinent of urine and feces, and consciousness may be reduced to stupor or coma (DiPiro, Talbert, Yee, Matzke, Wells and Posey, 2005).

Risk factors

Several risk and protection factors have been associated with AD. Old age is the most important risk factor for the disease and the prevalence of AD increases with age. AD is found to be more common in females, and about 62% of the worldwide AD cases are of females. Family history of AD may increase the risk of disease inheritance. Disease causing mutations in the amyloid precursor protein gene on the chromosome 21 are themselves sufficient to cause AD. Apolipoprotein E (ApoE) genotype increases the risk for AD for ages between 40 and 90 years. Education is a protective factor in the case of AD because educated persons are able to compensate for the cognitive decline and, therefore, dementia is delayed. Some studies have reported that persons on anti-inflammatory medication (NSAIDs) for arthritis are protected from AD. Similarly, estrogen was also found to reduce the risk of AD by 30% (Brookmeyer, Johnson, Ziegler-Graham & Arrighi, 2007; Jorm, 2005).

Diagnostic criteria / nursing assessments

Diagnostic evaluation of the patients with dementia including AD is a challenge for healthcare professionals. Accurate diagnosis is essential for planning of appropriate medical and psychosocial interventions. The diagnostic criteria for AD includes several aspects viz. a) Analysis of general history of the patient with special reference to neurological events, b) neurological examination including focal signs, eye movement disturbances, extrapyramidal signs and gait etc., c) Referral for neuropsychological tests, electroencephalography (EEG), electromyography (EMG) and brain autopsy and biopsy (Waldemar, Dubois, Emre, Scheltens, Tariska & Rossor, 2000). AD is characterized by impaired memory and cognitive disturbances such as aphasia, apraxia, agnosia and impaired executive functions. The cognitive abnormalities must be progressive and must clearly represent a change from a previous higher level of function. Other diagnostic criteria for AD includes the symptoms such as insight loss, compromised daily activities, anomia, apathy and social withdrawal (Farlow & Cummings, 2007). Neuroimaging studies are particularly helpful in the diagnosis of early stage AD. The atrophy of medial temporal lobe as visualized with MRI or CT can be correlated with other findings to diagnose AD.

Healthcare practitioners use three modules for the diagnosis of AD namely cognitive evaluation, behavioral assessment and the assessment of daily living activities. Cognitive evaluation is central to diagnosis and management of AD. Quantitative neuropsychological tests are highly recommended for mild to moderate forms of the disease. Cognitive assessment by neurologists include a) word list recall, b) temporospatial orientations, c) naming, d)

drawing, e) uni- and bi-manual postures execution and f) verbal fluency. The second module i. e. behavioral assessment is based on caregiver interview or questionnaire. The third assessment i. e. evaluation of function in daily life allows the clinicians to evaluate the need for personal or institutional care of the patient. The other recommended investigations include CSF analysis, genetic testing and non-nervous tissue examinations (Waldemar, Dubois, Emre, Scheltens, Tariska & Rossor, 2000).

Interventions (pharmacological and non-pharmacological)

Pharmacotherapy may reduce the symptoms of AD but the disease is eventually fatal. The first step toward the long-term management is early diagnosis of the disease so that the therapy may stabilize or reduce the rate of cognitive and functional decline. Pharmacotherapy of AD focuses on three aspects viz. Cognition, psychiatric symptoms and daily activities. Cholinesterase inhibitor therapy with rivastigmine, donepezil or galantamine is the first line therapy in mild-to-moderate AD. Cholinesterase inhibitors such as donepezil are noted to give a sustained cognitive benefit for 6 to 9 months. Memantine is an NMDA antagonist used in combination with donepezil for the treatment of cognitive symptoms.

The patients of AD are also known to benefit from concomitant therapy with alternative drugs, biologicals and supplements. Ginkgo biloba is proved to be beneficial in some cases; however, recent studies show inconsistent results. Vitamin C, E, B6 and B12, NSAIDs, lecithin, acetyl-l-carnitine and hormone replacement therapy have proved to be efficacious in some patients of AD (Farlow & Cummings, 2007).

Non-drug therapy and social support are the primary treatment interventions

in AD. Upon initial diagnosis, the patient and the family should be educated about the course of illness, prognosis, treatments and quality-of-life issues. Education improves the caregiver's confidence and delays the nursing home placement of the patient. In order to ensure safety and to compensate for the deficits in cognition, life for an AD patient should be made simple and structured. In the beginning, the patient may need frequent reminders; however, assistance may be needed with personal hygiene and daily activities at the later stages. Education, communication and planning are the primary non-pharmacologic components of caring for an AD patient (DiPiro, Talbert, Yee, Matzke, Wells and Posey, 2005).

The effects of music sessions on the AD patients in long-term care have been studied. Music therapy served as an important diversion for the patients trapped by the dementing illness. Music had a quieting effect as evident by the decreased verbalizations and interactions among the patients. Immediately after the music sessions, the patients displayed an increase in interactions through words and gestures. The results of this study showed that patients with most severe cognitive impairments exhibited improvements in memory. Therefore, related forms of stimulations such as a soothing environment, sounds of wind, rain, oceans, etc. may also be explored to minimize the tragedy of the disease (Sambandham & Schirm, 1995).

Other considerations in the management of Alzheimer's disease

Care-givers of persons with dementia and AD have overwhelming effects on their own physical and mental health. Psychiatric nurses can play a pivotal

role in assessment and treatment of caregiver depression. They may identify high-risk caregivers and offer pre-service screening. They may encourage the use of mental health services to reduce the toll of care-giving to an AD patient. They may also provide referrals for support groups and services including respite and day care for the patient. They should deliver psychoeducational interventions, behavioral treatments and direct counseling of the care-givers (Buckwalter, Gerdner, Kohout, Hall, Kelly, Richards & Sime, 1999).

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