

Original Article

Nursing Interventions in Alzheimer's Disease: A Concise Practical Guide for Everyday Use

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Abstract

Introduction: Dementia is currently the fourth cause of death in developed countries, contributing considerably to major medical, social and economic burdens.

Aim: To assess and synthesize current clinical evidence for nursing practices with key clinical concern for patients with Alzheimer's disease in hospital and in home care.

Results: This critical review revealed 158 studies which after abstract perusal were reduced to 31. These were then scrutinized for purpose, content, level of evidence and clinical significance. Hence, five key domains were identified as most relevant in both nursing clinical importance and patient/carer value, i.e. *Memory Impairment, Chronic Confusion, Anxiety, Despair, plus Home Care Needs*.

Discussion: Recognizing which intervention might be the most appropriate for each patient requires a broad knowledge of suitable strategies available and understanding the level of AD in each case. The overall principle is to enhance as much independence as possible and to promote maintaining functional ability.

Conclusions: Nurses caring for patients with Alzheimer's disease offer continuous support under a holistic care model that includes the family and carers. Yet, this should be based on best evidence and clinically significant interventions with the aim to maintain independence and functional ability for as long as possible.

Key words: Alzheimer's disease, evidence, clinical interventions

Introduction

According to World Health Organization (WHO), Alzheimer's Disease (AD) is a chronic and progressive brain condition, in which various functions of the cerebral cortex, such as ability to learn, calculate, speak and judge are disrupted. The disruption of cognitive functions is usually accompanied by a loss of control over emotions and social behavior, as well as a lack of interest and energy (WHO, 2019). Dementia is currently the fourth cause of death in developed countries following heart disease, cancer and stroke. AD is the most frequent form of dementia, but for which

there is no fully effective therapeutic method to date. With the increase in life expectancy, the number of sufferers has increased dramatically leading many laboratories and research institutes around the world, working to find ways to tackle this 'fault-brain epidemic' (O'Dowd, 2017). Memory loss is usually the first symptom of the disease. Initially, memory disturbances are mild so family members or friends may not suspect the problem until the disease progresses and the symptoms become more apparent (Edwards et al., 2018). Family members may also refuse to acknowledge symptoms and attempt to deny the disorder until the person develops extremely

unusual or even dangerous behavior. The progression of the disease varies, but its physical course includes a gradual loss of perception and judgment and, ultimately, a reduction in physical functions and a loss of the ability of the individual to perform his or her daily activities. With the loss of an individual's ability to respond to even the most basic activities of daily life, the burden of dealing with the patient's needs rests upon those who provide assistance (Feast et al., 2016).

A total of 50 different types of dementia have been accounted for to date. Some are extremely rare, while old-age dementia has a more recognizable pattern as follows: Among non-institutional subjects aged <60 years, the incidence is 1%. This rate doubles every 5 years, so that among people aged 65 it is 2%. At 70 the figure becomes 4%, at 75 it rises to 8%, and by 80+ it reaches 16%. Some symptoms of dementia occur in many elderly people, but these mild cases often coincide with other deficiencies in old age and, unlike AD sufferers, do not follow a progressive downward course. These elderly people usually live to the end of their lives with these slight symptoms, and eventually die from other causes (Wu et al., 2017). Dementia has become the most common degenerative disorder of the brain in the western world. AD is the most common form of dementia (60% of the total cases). Currently, in Greece, there are 160,000 patients, with 6.000.000 in Europe and 26.000.000 worldwide. It usually occurs in people over the age of 65, and is rarely seen under the age of 50 (Lethin et al., 2019; Kosmidis et al., 2018).

In developed countries, AD is the fourth major cause of death following heart disease, cancer and stroke. In the USA, about four million people have AD. The increase in average life expectancy in both developed and developing countries, has led to an increase in the incidence of dementia alongside other chronic diseases of old age such as hypertension, coronary disease and stroke (Lang et al., 2017). Thus, AD contributes considerably to

major medical, social and economic burdens. Hence, concerted efforts are being made to prevent and treat all forms of dementia.

Aim: The purpose of this critical review is to assess and synthesize current clinical evidence and therefore propose best nursing practices in key clinical concern domains for the care of patients with AD both in hospital and in home care.

Methods: A systematic, critical appraisal of the literature was undertaken via: Pubmed, Cinhal, Google Scholar and ELIN, by use of combinations of the following key words: Alzheimer's, dementia, nursing care and best evidence, within the past decade (2015-2020).

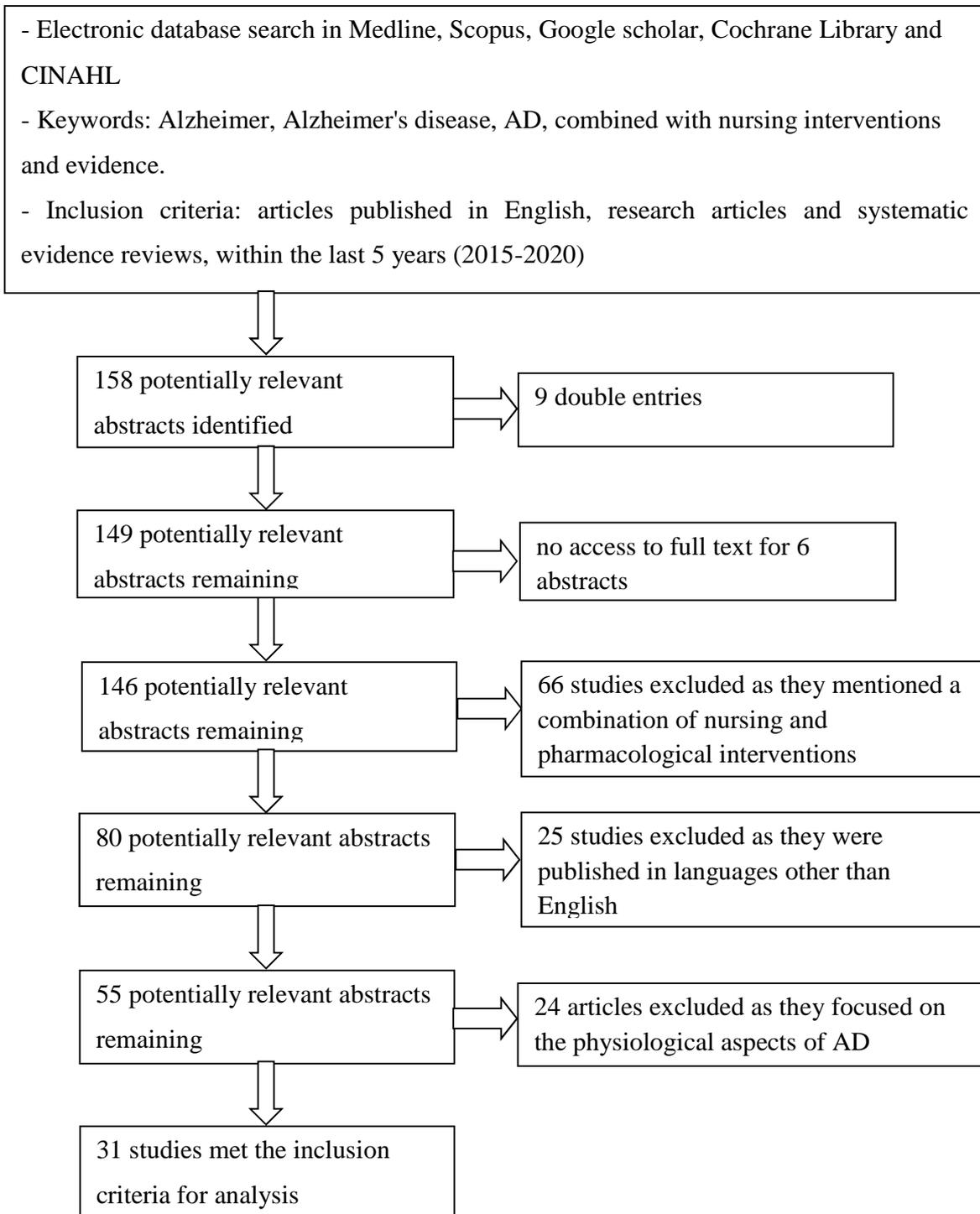
Results

Initial search revealed 158 results studies which after abstract perusal and checking for double entries were reduced to 31 (figure1). These were then scrutinized for purpose, content, level of evidence and clinical significance. Hence, five key domains were identified as most relevant in both nursing clinical importance and patient/carer value (figure 1). Thus, nursing interventions focusing on different care aspects are presented under specific four main symptom categories covering both function and behavioral disorders, i.e. *Memory Impairment, Chronic Confusion, Anxiety, Despair, plus Home Care Needs* with practical tips for nurses for each subcategory, presented with bullet points.

Memory impairment

Memory loss has long been associated with ageing, i.e. a normal process of a declining mind and body. Yet, memory impairment can be in AD is a clinical feature which is an actual sign of the condition itself. AD begins gradually, worsens over time and eventually impairs a person's abilities in work, social interactions and relationships with memory loss disrupting life. Memory impairment can be manifested as in asking the same questions repeatedly; forgetting names of people, places,

Figure 1: Flow chart of systematic search and resulting domains



Memory impairment (continues)

passwords; misplacing things; forgetting to do things as planned to; forgetting common words when speaking; mixing words up; taking longer to complete familiar tasks; misplacing items in inappropriate places or getting lost while walking or driving in a familiar area.

Memory impairment is a diagnosis related to stage I of the disease. At this stage, techniques for treating memory loss should be included in the teaching of both the patient and the carer. Recommended interventions include:

- Supplementary therapy, such as meditation, massage or gymnastics. These activities may help to reduce stress which is associated with exacerbation of memory loss (Kohn, 2016).
- Advice the use of a diary by the patient, suggest drawing up lists of tasks that need to be done or ask a third party to remind them of their appointments or other obligations. Written or oral reminders can be of great help to the patient whose memory is disturbed (Hunter & Miller, 2016).
- Recommendation on the use of a pill container for medicinal remedies with the days and times of their intake recorded. This is a good way to ensure that the patient takes his/her medications. If there is concern for patient safety (e.g. oven use and fear it will be left on), recommend an alternative cooking method such as the use of a microwave oven. Less obvious measures such as listing emergency numbers on the telephone keypad, having their mobile or pocket computer adjusted to ring at specific times to remind them of what they have to do or a wake-up call can help a patient with a loss of memory to remember his/her obligations. These simple pragmatic measures may increase patient safety overall and decrease stress for both the patient and the carer (Roach & Drummond, 2014).
- Lee et al., (2020) assessed evidence for a range of non-pharmacological approaches to cognitive symptoms of AD, and proposed that patients with mild to moderate symptoms may benefit from partaking in structured group cognitive stimulation approaches. These groups involve engagement with activities and materials that provide and

provoke some degree of cognitive improvement, within a social context (Posadas et al., 2019).

When an acute state of confusion has set or during the later stages of AD when the memory has deteriorated severely, a patient may plea to see his/her deceased spouse or parent. This unrealistic request can be very troublesome for nurses, but can be sidestepped rather than giving the harsh truth. Thus, the nurse should not focus on 'revealing the truth' to the patient and risk flaming underlying emotions but rather, simply respond as in: "I'm sorry, she's not here, but I am. You're safe and I'm going to be with you all evening", followed by a distraction, such as "Can you please help me tidy this table?" (Nursing and Midwifery Board of Australia, 2016).

Chronic confusion: Confusion is a state of disturbed consciousness, with disruption of thought and decision making capacity and may be acute or chronic. Therefore, the nurse needs to be able to differentiate between the clinical features of acute and chronic confusion with regard to onset, course, progression, duration, awareness, and alertness. Thus, interviewing a patient with or suspected AD, it is important to perform a careful and thorough assessment before deciding that a patient is indeed confused. Chronic confusion, as an aspect of AD is progressive and variable in nature and involves problems with memory recall, language, attention, problem-solving capabilities with reduced comprehension, judgment, abstract thinking, reasoning, communication, emotional expression, and performance of routine tasks. Thus, patients with AD often experience memory disorders that make it difficult to operate in an unfamiliar or shifting environment. One should remember that medical and nursing interventions need to be modified over time, as the patient's cognitive function continues to deteriorate. Therefore, indication labels should be affixed to cabinets, drawers and their contents as appropriate. Visual reminders prompting patient independence should be encouraged from the onset of the nurse-patient therapeutic encounter. The removal of potentially hazardous objects (such as knives, liquids, drugs or chemicals) from the patient's environment may need to be done by the carer and monitored by the nurse. The promotion of safety is an important part of the holistic care for these vulnerable

patients. Thus, confounding environmental stimuli is to be kept to a minimum: reducing the volume of noise, speaking quietly and softly, and not giving the impression that you are in a hurry. By minimizing sensory stimuli of this type and maintaining calm behavior, patient's anxiety is reduced. The nurse should start the intervention by self introduction and addressing the patient by name. There are various techniques that provide specific information to the patient with memory loss. Limit the questions to those with a yes or no answer. Questions should be compatible with the patient's mental comprehension abilities, as their verbal skills and decision-making capacity are constantly diminishing. The nurse should remember that impaired communication due to confusion, altered memory or diminished judgment can be tackled, by simple and pragmatic procedures as follows:

- Focus on one piece of information at a time.
- Briefly review what has been discussed with patient.
- Reinforce the original message accordingly.
- Consistently identify yourself as the nurse provider.
- Address the patient by name at each meeting.
- Employ simple reminders for time and place such as clocks, calendars, and familiar personal effects.
- When a patient uses verbal abuse, identify and acknowledge his/her feelings.
- For the patient who resorts to aggression, carefully shift the subject to a safer and less stressful topic.
- Should the patient become delusional, acknowledge feelings and reinforce reality. Challenging the core the delusion should be avoided.
- In all cases, the nurse should speak slowly and softly, use short, simple words and phrases (Oldham et al., 2018; Machiels et al., 2017; Brooker & Latham, 2016; Jenkins et al., 2016)

Assisting the patient to orient to the current environment, to people around them and regular timeframes such as mealtimes, will lead to less confusion. Place large calendars and clocks in the patient's field of view. Whenever you talk to the patient, remind them of the day of the week or the time of the year. You orient the patient according to the level of the patient's current mental state and potential. Demarcation of the patient's vital space by placing colored lines on the floor will help the patient to remain within safe zones. Yet, despite the above mention measures, exact orientation in time or place may not be possible in the final stages of AD.

Anxiety: Anxiety symptoms in AD patients are common symptoms with a prevalence estimates ranging from 8% to 71% for anxiety symptomatology and from 5% - 21% for anxiety disorder per se. (Porter et al., 2003; Lyketos et al., 2000). Anxiety in AD, is associated with other behavior co-problems, diminished quality of life, reduced ability to partake to activities of daily living, disturbed sleep patterns and impaired cognitive functions. Moreover, the nurse treating a patient with AD should keep in mind that the extra burden of anxiety symptoms is a carer's burden too, and that overall, anxiety is a strong predictor for future nursing home placement (Gu, 2015).

Treating the symptoms of a patient with AD associated with anxiety or nervousness is a great challenge for direct caregivers and extended carers. Patients are often relatively calm in the morning hours, later experiencing increasing periods of irritation during the afternoon or evening hours. The patient with AD can still wake up at night with a incidence involving profound anxiety, fear or panic.

- Early recognition and prevention of fatigue and irritation is strongly recommended. Rapid interventions such as promoting adequate rest or early removal from stressful situations such as noisy activities involving large groups of people will alleviate stress levels. Conditions characterized by a variety of stimuli (e.g. talking while music is on) may increase anxiety and cause irritation.
- Also, the nurse should try to maintain daily habits as consistently as possible. In these lines,

providing the patient with a strictly structured day creates a sense of reassurance and reduces stress.

- Planning of set rest periods during the day is also recommended as fatigue contributes to stress and rest reduces this level. Provide the patient with quiet activities, such as listening to music in the afternoons or early at night may help to reduce the 'sun-down' effect.

- If confusion or irritation persist or escalates, reassessment of any organic causes such as reduced blood oxygenation, infections, fatigue, constipation and electrolyte imbalance should be checked. One should not underestimate the value of the therapeutic touch or a light hand massage as these therapeutic activities are relaxing and have a sedative effect (Brown Wilson et al., 2019; Kwak et al., 2017).

Despair: When the patient and his family experience the impact of AD on their lives, they may feel initially frustrated and helpless. They may not have the courage to deal effectively with the diagnosis and the challenges ahead. The progressive degenerative course of the disease and the irreversible nature of the disorder usually diminish their hopes. Hence the need to acquire an ability to adapt psychologically to the problems on a day to day basis. According to Gitlin & Hodgson (2018) despair stems largely from a feeling that nothing can be done arising from the reality that there is no cure for AD. Yet, the nurse treating the patient needs to emphasize that there are many treatments that can alleviate and even slow down the decline imposed by symptoms. Moreover, the family should be reminded that AD is a research priority for clinicians and pharmaceutical investigators around the world, who are actively seeking effective therapies.

- The nurse assesses the level of despair a patient is under and evaluates the extent to which appropriate information and support helps lessen this psychological burden. Realistic information should be provided with sensitivity to the amount of information the family and patient can handle. Often the family may need to be advised without the presence of the patient.

- The nurse should avoid being critical or denying the presence of an expressed frustration. These emotions provide a key to where support is needed and, once provided, may lead to the expression of other frustrations with the hope that

the nurse suggests how the patient's or caregiver's burden can be lessened.

- The nurse may also need to support positive family ties and enhance communication between family members, by promoting mutual respect between them. Strong family relationships and friendships can make life meaningful and help balance the burden of the disease.

- To provide the patient with a sense of hope the nurse should encourage him/her to make as many decisions as possible. This level of involvement gives a sense of some control. Moreover, where appropriate, encouraging the patient and his family to seek spiritual guidance (if this has helped them in the past) can also help alleviate despair as the patient's religious beliefs can be a powerful support system (Wang et al., 2020; Harrison et al., 2019).

Home care needs: When the patient is discharged from hospital care, the community nurse should continue with the patient's and family's education of the disorder while suggesting and activating available support systems. The nurse in this case should be aware that she may need to repeat the advice given and even re-explain the disorder as it progresses, as patients and their families may be in a state of shock or denial, especially in the initial period of the disease. It is essential that practical solutions to problems associated with the course of AD are provided. Hence, the importance of continued evaluation both for the patient and the carers. The proposed interventions should be appropriate to the circumstances of the patient, family and its economic potential. Maintaining an environment which is as less restrictive as possible, but promoting patient safety is the primary objective of patient education in this case.

- An example of practical tips is the use of labels on drawers that identify different types of clothing, and labels for rooms, which will help guide the patient and enhance the patient's independence.

- Consistency and stability in the environment and daily routine are an integral part of care.

- Emphasizing realistic expectations means adapting care and communication to the level of the patient's potential.

- Mutual support groups and discussion with people who have similar problems can help to address the stress felt by a person caring for an AD patient. A patient with AD who is confused or agitated is not feeling at ease and is usually afraid.
- The nurse needs to design the patient's care in a way that fits the level of the patient's ability by consistently fine-tuning their daily schedule.
- Provide regular rest periods to reduce the patient's stress and fatigue (these periods are not believed to increase night sleep) is also an alternative way to put patients at their ease (Williams et al., 2019; Müller et al., 2017; Jang & Yi., 2017).

Finally, the nurse should reassure the family that should the situation become too burdensome, there are other services available that can be mobilized. Examples include short respite either at the patient's home or some short stay care facility whereby the carer will be 'temporarily replaced'. If necessary, a referral to an appropriate long-term care service, including specialized nursing services can be suggested. Family members may need help to adapt to the idea of prolonged nursing care, but their suffering can be minimized if they are relieved of physical care needs (Carter et al., 2019; Ludden et al., 2019).

Although the clinical focus is on the patient with AD, the nurse should also 'treat' the carers almost as an extended patient as they too may suffer high levels of stress or neglect their own wellbeing while looking after a relative with AD (de Oliveira et al, 2015).

Discussion

Early in the disease, nursing care focuses on helping the patient make small and useful adjustments to their environment. As the patient becomes increasingly incapable of serving himself, more subtle changes are needed. It is also important to provide support, both physical and psychosocial, to the carer and the patient alike, as the latter becomes increasingly more dependent. The nurse should keep in mind that patients with AD vary widely in their responses to the range of psychological and pharmacological approaches available. Recognizing which intervention might be the most appropriate for each patient requires a broad knowledge of suitable strategies available and understanding the level of AD in each case.

The overall principle is to enhance as much independence as possible and to promote maintaining functional ability.

Moreover, patients with AD often require intensive support with care aimed at dealing with the physical and psycho-social effects of the disease. The role of the nurse in the long-term support of these patients is also important, providing them with appropriate training and referring them to appropriate services for continuing care in the community. Health promotion of patients with AD focuses mainly on functionality and promoting safety. If the patient is to be hospitalized at home, care for his/her safety and consideration of whether the carer is capable of meeting his/her basic needs, such as maintaining hygiene and assisting in the activities of daily life should be emphasized.

Working with people who have AD and their families is both challenging and rewarding for the nurse. In the long term, providing care for these patients refines professional qualities such as sensitivity, compassion, patience, empathy and the ability to listen and communicate effectively. Yet, it is also a key nursing task, to provide care that is based on best evidence and clinical guidelines which includes considering the patient's individual needs, recognizing their uniqueness, while supporting carers, who are central to the wellbeing of people with AD.

Conclusions: Within the multiprofessional health care team, nursing staff offer AD patients personal daily treatments and continuous support under a holistic care model that includes the family and carers. This is based on best evidence and clinical significant interventions with the aim to maintain independence and functional ability for as long as possible.

Thus, nurses can incorporate interventions that have demonstrated increased wellness outcomes for patients and their families including encouraging regular physical activity, socialization, healthy diet, promote a consistent and stable environment, secure a daily routine, design the patient's care aiming at maintaining functional independence and promoting the delivery of dignified treatment.

Finally, nurses as patient-advocates have a fundamental responsibility to promote public awareness of AD to teach communities to look past the debilitating medical condition and instead recognise each patient as a person deserving compassionate and dignified treatment.

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