

DOI: 10.15225/PNN.2018.7.1.5

## Addressing Adventitious Behaviors Associated with Dementia

### Reagowanie na nietypowe zachowania związane z demencją

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#### Abstract

Dementia is an insidious disease process that prevents an individual from making sense of environmental circumstances. Cognitively impaired patients are at increased risk for falls, skin integrity issues, accidents, and wandering behaviors. Yet, as the understanding of this disease process and the behaviors exhibited by the dementia patient grows, there is a new focus on individualizing care and attempting to manage adverse behaviors in a holistic fashion utilizing mainly nonpharmacological interventions. It has been shown that the evidence-based best practices related to mitigating adventitious behaviors in the geriatric population diagnosed with dementia are associated to nonpharmacological interventions. Utilization of technology in the form of computers to implement music therapy, reminiscence therapy, and occupational recreational therapy was the selected evidence-based best practice to implement.

The aim of the work is to show non-pharmacological interventions as an inseparable and complementary method of pharmacological treatment of working with people with dementia. (JNNN 2018;7(1):40–45)

**Key Words:** dementia, nonpharmacological interventions, adventitious behaviors

#### Streszczenie

Demencja jest podstępny schorzeniem, które uniemożliwia chorym zrozumienie warunków środowiskowych. Pacjenci z zaburzeniami poznawczymi narażeni są na zwiększone ryzyko wystąpienia upadków, problemów skórnych, wypadków i zachowań wędrownych. Wraz ze wzrostem zrozumienia tego procesu chorobowego i zachowań przejawianych przez osoby chore, nowe podejście koncentrować się powinno na indywidualizacji opieki i próbach radzenia sobie z niepożądanymi zachowaniami w sposób całościowy, wykorzystując głównie interwencje niefarmakologiczne. Wykazano, że najlepsze praktyki oparte na dowodach, związanych z łagodzeniem przypadkowych zachowań w populacji geriatrycznej z rozpoznaną demencją, wiążą się z niefarmakologicznymi interwencjami. Wykorzystanie technologii w postaci komputerów do realizacji muzykoterapii, terapii wspomnień i rehabilitacji zajęciowej były wybrane najlepszą praktyką opartą na dowodach.

Celem pracy jest ukazanie interwencji niefarmakologicznych jako nieodłącznej i uzupełniającej podstawowe leczenie farmakologiczne metody pracy z osobami z demencją. (PNN 2018;7(1):40–45)

**Słowa kluczowe:** demencja, metody niefarmakologiczne, uboczne zachowania

#### Introduction

Dementia is an insidious disease process that prevents an individual from making sense of environmental circumstances. Patients with dementia are at serious risk for harm due to decline in mental function. Cognitively impaired patients are at increased risk for falls, skin integrity issues, accidents, and wandering behaviors. This loss of control is typically exhibited by agitated behavior and outbursts of anger. There are well-documented

pharmacological interventions established for the management of these behaviors [1]. Yet, as the understanding of this disease process and the behaviors exhibited by the dementia patient grows, there is a new focus on individualizing care and attempting to manage adverse behaviors in a holistic fashion utilizing mainly nonpharmacological interventions. Common nonpharmacological interventions to reduce agitation in the population with dementia include: remove potential environmental irritants, attempt to satisfy the

physiological needs of toileting, food, and water, diversion techniques, therapeutic touch, and repositioning for pain or discomfort. It is noted that at times even these well-documented interventions are ineffective in managing agitated behavior.

Agitated behaviors are especially difficult to manage in the end-stage dementia population. Progressive inhibited cognition makes certain interventions such as cognitive stimulation therapy and redirection less effective. As this disease process progresses, nurses may find that more fundamental and physiologically-based interventions result in better management of agitated behaviors.

The prevailing widely agreed primary contribution to adventitious behaviors in the geriatric population diagnosed with dementia is the unsatisfactory meeting of patient needs [2]. Often these needs are physiological such as comfort, sustenance in the form of food and water, and comfort. The need for comfort involves freedom from pain, loud noises, and bright lights. Unmet needs can also be spiritual, mental, or emotional in nature.

The aim of the work is to show non-pharmacological interventions as an inseparable and complementary method of pharmacological treatment of working with people with dementia.

## Review

### *Strengths and Limitations of Selected References*

Informal studies such as surveys can demonstrate largely general demographic information with little benefit to the individual patient [3]. Others were so specific to be limited by geographical, cultural, and ethnocentric considerations [4]. While systematic reviews and meta-analyses are important facets in academia and progressive research, they often fail to result in new standards of care or act as seminal sources of research.

There are many trends and patterns that have emerged from these research articles. First, the origin of adventitious behaviors in geriatric patients diagnosed with dementia steps from prolonged periods when basic physiological and psycho-spiritual needs are not being met. Next, the interventions that can be implemented to manage these adventitious behaviors are categorized into either pharmacological or nonpharmacological interventions. Pharmacological interventions have been shown to effectively manage acute behaviors within the studied population, but there are substantial adverse considerations that may occur such as medication side-effects and they have been shown to be ineffective with regards to chronic behaviors [5]. Since the geriatric and cognitively disabled populations are both at high risk for

abuse and neglect, adverse drug effects should be avoided when possible. Nonpharmacological interventions are regarded as the established primary treatment modality when treating adventitious behaviors in the geriatric population diagnosed with dementia.

Research shows that Nurse Practitioners are much more likely to implement non-pharmacological interventions as the first line management of agitated behavior than physicians [6]. Therapeutic interventions are categorized into three major groups: biomedical, behavioral, and Progressive Lowered Stress Threshold [7]. Although most of the reviewed articles focused on non-pharmacological interventions, it is noted that both pharmacological and non-pharmacological interventions are widely used concurrently in many healthcare facilities [3]. While pharmacological interventions are undoubtedly needed in some cases, the benefit of decreasing the risk of serious adverse drug effects is noted related to the use of nonpharmacological interventions [8]. A complementary pharmacological intervention would include frequent medication reviews to reduce the administration of unnecessary and inappropriate medications [9]. Following occupational therapy recommendations regarding environmental modalities has been shown to diminish episodes of agitated behaviors [10].

Behavioral interventions are characterized by attempting to manage adventitious behaviors such as agitation and aggression as the major goal. Caregiver interactions have a major contribution to the development of agitated behaviors [11]. A diminished rapport between a patient and the caregiver is associated with increased risk for agitated behaviors [12]. Frustration, as evidenced by agitation or aggression, is a typical outcome when a patient feels threatened or powerless [13]. A major theme present in much of the literature is person-centered care revolving around interventions implemented with individualized components. Holism is noted to be a foundational tenet with regards to implementing individualized care to patients with dementia. This should be characterized by rendering culturally competent and patient-centered care based on specifications related to the individual patient [14].

Progressive Lowered Stress Threshold is the decreased tolerance that patients with dementia experience to environmental stimuli. There is an arduous balance to be maintained between adequately engaging the demented mind and ensuring that the patient does not become overstimulated. Non-aggressive agitation reliably predicts future episodes of aggressive agitation [12]. Agitated behavior is partly attributed to an environment which is without sufficient appropriate stimuli [15]. A fundamental environmental implication to consider is to meet basic physiological needs such as comfort and freedom from pain [16]. Assessing for discomfort and utilizing frequent repositioning are substantive interventions to mitigate

pain which affects the quality of life of older adults with dementia [17]. Physical activity such as aquatic exercise [18] and ambulation [19] is attributed to reducing discomfort in this population. Cognitive stimulation therapy in the form of group activities serves as modes to deliver engagement, pleasure, and enjoyment [20]. Distraction and diversionary interventions have been proven effective in deescalating agitated behaviors [21]. Reminiscence therapy is the utilization of therapeutic communication to bask in pastime events which may result in improved psychological wellbeing and prevent further psychological decline [22]. The benefit of reminiscence therapy is thought to stimulate interest and maintain patient identity [23]. Although light therapy was effective for improving sleeping patterns in this population [15], it was shown to be virtually ineffective in managing episodes of agitated behavior [24]. Animal therapy has been shown to improve mood thus decreasing the occurrence of acute behavioral disturbances [25]. Multiple studies have shown that music therapy is beneficial for patients in all stages of dementia [26–29]. One limitation is that patients in the later stages of dementia are unable to participate in active music therapy [30]. Such diversionary and reaffirming interventions are effective for patients in the mild to moderate stages of dementia [31], yet have been shown to have decreased effectiveness in those in the progressive stages of cognitive decline.

### *Transferability of Solutions*

Essentially, discovering the root cause of the behavior will dictate which clinical intervention is appropriate. Once the interdisciplinary team adequately understands the root cause of adventitious behaviors in the geriatric population diagnosed with dementia, implementing substantive and relevant biomedical, behavioral, and Progressive Lowered Stress Threshold interventions becomes the primary treatment modality. There has been a very intentional shift away from utilizing pharmacological agents as a primary intervention to largely achieve staff convenience. Instead there is an honest effort afforded to attempt to identify the root cause of behaviors seen in this population.

There are some considerations that make the effective management of adventitious behaviors difficult to treat using the stated interventions. The first consideration is staffing. When a patient exhibits adventitious behaviors, it often requires individualized attention to mitigate. This can be challenging in any setting, but it is especially difficult within the long-term care setting. The second consideration is access to appropriate technology to implement desired interventions. A nurse may want to treat adventitious behaviors with music therapy, but if

there is no instrument, radio, computer, or television dedicated to this purpose the intervention cannot be implemented [32].

### *Impact of Technology on Clinical Problem*

Technological advances can positively impact the clinical problem of adventitious behaviors in the geriatric population diagnosed with dementia. Many nonpharmacological interventions are geared toward fulfilling unmet physiological and psycho-spiritual needs. Such interventions may include occupational activities, music therapy, aroma therapy, physical exercise, bright light therapy, touch therapy, and cognition stimulation therapy [33]. Advances in technology have allowed these interventions to be implemented much easier in healthcare facilities. For example, utilization of music channels available on television can be used to select specific compositions to suit whichever mood is trying to be cultivated. Additionally, the use of computers can be utilized to assist with recreation, reminiscence activities, and entertainment for patients in the geriatric population diagnosed with dementia that are exhibiting adventitious behaviors.

The use of computers is the one facet of technology which has arguably been most developed in contemporary history and has a prodigious potential for greater utilization. Computers can be utilized to help implement many nonpharmacological interventions to mitigate adventitious behaviors in the geriatric population diagnosed with dementia. As mentioned above, healthcare workers can find and project music that promotes a certain mood. Concurrently, computers can be used to help patients reminisce and recreate. Finally, patients may be able to benefit socially from using email modality to communicate with family and friends.

Computers can have an impact on many different factors related to the healthcare institution. Staff can utilize computers for electronic medical records. Members of different components of the interdisciplinary team will be able to easily communicate and implement the multifaceted plan of care for the patient. Computers will have a significant effect on the administration of medications, implementation of treatments, and dissemination of pertinent patient information across the healthcare network.

### *Evidence-based Solution*

The clinical problem of adventitious behaviors in the geriatric population diagnosed with dementia remains a pertinent consideration in many healthcare settings to this day. These behaviors are largely a result of unmet

needs in this population. Historically, treatment for these behaviors has been centered on the administration of pharmacological agents to terminate the undesired actions. Contemporarily, the understanding that cessation of the behavior does not mitigate the unmet needs that the individual is experiencing. Due to this fact, wellness theorists established that underlying unmet needs should be satisfied as the best course of action.

Satisfying these unmet needs is typically approached through the modalities of nonpharmacological interventions. Effective nonpharmacological interventions that have been shown effective in meeting unmet needs includes music therapy, pet therapy, reminiscence therapy, repositioning, toileting, and recreation. A common unmet need that is rarely realized is the need for occupation of time. To assist with the satisfaction of unmet needs this writer suggests that healthcare professionals utilize computers to assist with nonpharmacological interventions.

Computers are a valuable tool which may be utilized to implement many nonpharmacological interventions. A staff member can select appropriate music to sooth anxiety, promote a calm environment, and assist the patient to reminisce about their earlier lives [34]. To facilitate meaningful reminiscence, a computer can be utilized to lead a patient through a slideshow of their loved ones. For patients in the earlier to moderate stages of dementia, a staff member may conduct online searches of the particular interests and hobbies to which the patient subscribed. This would serve as an effective use of technology to promote recreation.

### *Ethical Considerations*

Out of the selected articles, roughly half dealt with specific individuals' medical record. All articles dealing with systemic review and meta-analysis did not pose any risk to human subjects. The primary identifier that was assessed during the compilation of the selected research articles is the general geographical location in which the study was conducted. This is typically not enough as an identifier to quality as a risk of possible harm to a human subject. Researchers protected the human subjects from possible harm by ensuring that identifying information was not included within the meta-analysis of the data. For example, the gender, age, and past medical history of an individual are not put at risk if a general geographical location is selected by the researchers. This author does feel that the study participants did receive adequate protections due the non-identifying nature of the research articles.

The population of elderly patients diagnosed with dementia exhibiting adventitious behaviors is at very high risk for abuse, neglect, and mismanagement. It is

imperative that the healthcare worker appreciate that these patients are not only worthy of the rights afforded to all patients in the healthcare system, but they are due a higher level of scrutiny and assurance to be free from abuse. Because they often cannot advocate for themselves, nurses must act not only as caregivers, but also as fierce patient advocates. One major consideration related to harm that this population is susceptible is unnecessary and risky pharmacological agents. For this reason and many more, the standard of care for this population has grown to depend on nonpharmacological interventions individualized to treat each specific patient's particular needs.

### *Challenges and Barriers to Implementing Technology*

There are many considerations that may be challenging or act as barriers to the successful implementation of computer use to implement nonpharmacological interventions in the geriatric population diagnosed with dementia. First, computers are associated with a large financial investment. Each computer unit will cost the facility several hundred dollars. Not only does the facility have to buy the physical computer and all the hardware that is necessary, but they also have to buy the specific software to support whatever applications that are intended to be implemented. Second, the staff of the facility must be educated on the modalities and functionality of the computer units. While many younger staff members will undoubtedly be familiar with many computer functions, older staff members as well as patients deemed capable of using the computer should be given the requisite training. Last, computers require frequent maintenance for optimal functioning. Not only will the facility have to provide education to end-users on the proper handling of hardware and appropriate use of software applications, but it will also have to ensure that timely and substantive technical support is available.

### **Conclusion**

The clinical problem of adventitious behaviors in the geriatric population diagnosed with dementia is well documented. Technology can be utilized to better implement such modalities as reminiscence and occupational therapies. Adverse behaviors caused by sustained unsatisfactory mitigation of basic needs and the empirically-based preference towards mitigation said behaviors with nonpharmacological interventions are the primary trends that were identified throughout the literature.

It has been shown that the evidence-based best practices related to mitigating adventitious behaviors in

the geriatric population diagnosed with dementia are associated to nonpharmacological interventions. Utilization of technology in the form of computers to implement music therapy, reminiscence therapy, and occupational recreational therapy was the selected evidence-based best practice to implement. Three challenges associated with implementing computers into the clinical setting are financial cost, need for education for end-users, and continual required technological support.

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**Conflict of Interest:** None

**Funding:** None

**Author Contributions:** Douglas Kemerer<sup>A–H</sup>

(A — Concept and design of research, B — Collection and/or compilation of data, C — Analysis and interpretation of data, D — Statistical analysis, E — Writing an article, F — Search of the literature, G — Critical article analysis, H — Approval of the final version of the article)

**Received:** 11.02.2018

**Accepted:** 05.03.2018