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Review Article

Impact of Social Isolation on Dementia

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Abstract

Dementia is a real factor in the lives of many individuals and families with a recognized mortality as the sixth leading cause of death [1,2]. Subjective cognitive decline (SCD) was identified by one in 10 people aged 45 and older and of those 41% indicate they had to give up on their day-to-day activities [2]. Of the estimated 10% of the population aged 65 and older with AD, there are an estimated 81% who are older than 75 years of age [1]. This paper will explore the following aspects as they relate to dementia: social isolation, covid-19 impact, dementia symptoms, and behaviors, education and understanding of dementia, safety, and coping with dementia will be discussed.

Keywords: Dementia; Alzheimer's Dementia [AD]; Mild Cognitive Impairment [MCI]; Mixed Dementia; Chronic Traumatic Encephalopathy [CTA]; Caregiver Role; Social isolation.

Dementia Overview

Dementia is a real factor in the lives of many individuals and families with a recognized mortality as the sixth leading cause of death [1]. The total United States population reflects about 1 in 9 people (10.8%) aged 65 and older has Alzheimer's dementia [AD] or an estimated 6.7 million Americans are identified as having AD, and by 2060, the number of people aged 65 and older with AD is projected to rise to 13.8 million [3]. In 2021, more than 11 million family members and other unpaid caregivers provided an estimated 16 billion hours of care to people with Alzheimer's or other forms of dementia's [4]. The greatest risk factors for late-onset Alzheimer's are older age, genetics, especially the form of the apolipoprotein E (APOE) gene and having a family history of AD [3]. Deaths from despair are projected to rise over the next decade due to COVID-19 across all age groups [2]. Older men, aged 85 years and older, have the highest suicide rate of any age group [2]. A death certificate is an official document recording the facts of a death and is a primary source of data for mortality statistics [5].

Dementia Background and Significance

The United States collects data for morbidity and mortality, which is reported annually, and vital statistics are used to capture the mortality burden for the United States. Dementia is a real factor in the lives of many individuals and families with a recognized mortality as the sixth leading cause of death [1,2]. Subjective cognitive decline (SCD) was identified by one in 10 people aged 45 and older and of those 41% indicate they had to give up on their day-to-day activities [2]. Of the estimated 10% of the population aged 65 and older with AD, there are an estimated 81% who are older than 75 years of age [3]. Dementia, AD, and related cognitive disorders account for 5.6 million older Americans aged 65 and older, while AD accounted for 121,499 deaths in 2020, which is 80% of those cases.

Previously, AD and related dementia (ADRD) was the third leading cause of death in 2017 for the oldest Americans aged 85 and older and fifth leading cause of death for those aged 65 and over [6]. It has been identified in various studies that dementia has been underreported by as much as 2.7 times that calculated on death certificates [7].

Brain changes associated with a genetic mutation involve brain proteins that contribute to various cases of Alzheimer's.

These brain changes are seen at different stages. The various conditions notable include Alzheimer's disease, dementia, and forms of mild cognitive impairment (MCI), which may capture earlier phases of progressive disease. People with MCI are often diagnosed with AD within about 5 years of time. Vascular dementia, dementia with Lewy Bodies, mixed dementia, frontotemporal lobar degeneration (FTLD), Parkinson's disease (PD), Down's Syndrome and traumatic brain injuries (TBI) as well as chronic traumatic encephalopathy (CTE) due to repeated blows during contact sport have associated characteristics included as causes of dementia [8].

The brain changes associated with more than one cause is called mixed dementia and is common in late stages [3]. An estimated 40% of dementia worldwide can be attributed to 12 modifiable risk factors; air pollution, economic status, smoking, obesity, physical activity, low education rate, high blood pressure, social isolation, alcohol, depression, diabetes, and traumatic brain injuries [9]. New evidence supports adding three modifiable risk factors: excessive alcohol consumption, head injury, and air pollution [9]. The most common reasons for hospitalization of people with Alzheimer's dementia are syncope, fall and trauma; ischemic heart disease; and gastrointestinal disease [10].

Many persons with AD or dementia have chronic lower respiratory disease (CLRD) at the end of life due to associated muscle atrophy and swallowing difficulties or dysphagia, accounting for 6.6% of deaths for those aged 65 and older and the third leading cause of death for the population aged 45 and older [6]. The ADRD persons had illnesses with wide-ranging impacts on health-care systems with direct impacts on patients, families, caregivers, and their communities. Nearly half of the people with dementia are in the care of hospice at end of life. In U.S. nursing homes, among 10576 people were confirmed to have covid-19, and residents living with dementia made up 52% of the covid-19 cases and yet, those cases accounted for 72% of all deaths, which was an increased risk of 1.7% [9].

The Center for Medicare and Medicare (CMS) provides an insurance plan typically for those who reach age 65, if they have paid taxes for 10 years, and are enrolled in the program. Estimates based on prevalence of ADRD among 28.0 million Medicare Fee for Service beneficiaries for those aged 65 or older will likely account for 20% of the population by 2030 [11]. Spending costs for Medicaid totaled $47 billion during 2018 and much of that cost is due to long-term care or other care facilities [3]. People with dementia experience longer and more frequent hospital admissions and readmissions [9].

Isolation Impact and covid-19

Loneliness and Isolation

The negative impact of loneliness and isolation on older adults may be seen in those who have mental or physical health limitations. The social distancing requirement for covid-19 may have impacted or exacerbated the existing problems for the elderly. Factors that compound isolation and loneliness include living alone, poor mental health, depression, anxiety, reduced or limited access for home health care or restrictions and forced isolation in long-term care or hospital settings (MHSOAC, 2020). Deaths from despair are projected to rise over the next decade due to covid-19 across all age groups associated with drugs, alcohol, and suicide, with a predicted rise between 27,644 to 154,037, depending on unemployment data [12]. A recent evaluation of a 5-year look-back of ADRD mortality, per the CDC, which indicated a 16% increase in mortality [13]. As a society we are subject to aging. Aspects of aging may become challenging for social isolation, social networks, social support, and social participation as family dynamics change for loved ones who move or as family members pass away. There are significant risks for death related to social isolation and globally, up to 50% of older persons or one-third of those aged 60 and over, experience loneliness later in life [14].

Frailty

Frailty was evaluated by Kulmala et al. [14] in a multivariate logistic regression model, whereby frailty was eight times more likely to occur in those with cognitive impairment or four times more likely to occur with AD alone.

Cognitive function and dementia are included within some of the definitions of frailty, and many of the features of frailty are recognized as slow walking speeds, poor physical activity, physical inactivity, exhaustion, poor hand-grip strength, and weight loss, which leads to a decline or reduction in physical function [14]. Poor nutrition or malnutrition, an inability to obtain food or food supplies and limited physical stamina may likely contribute to further health decline and compounded by the recent factors associated with social isolation.

Impact of covid-19

Rosenthal, et al. [15], identified the death rate for people aged 65 years and older attributed to more than 80% of the U.S. deaths related to covid-19 [13]. The study conducted by Rosenthal, et al. (2020) [15], demonstrated 35.4% had Medicare, 18.4% had Medicaid, 33.5% had commercial insurance with a total of 64,781 patient being confirmed with covid-19 for their study. The study demonstrated 45.5% were outpatient and 54.5% were in-patient cases. Of the admissions, >80% were considered emergent or urgent, 79% came from a non-health care facility and less than four percent came from a rehabilitation or long-term care facility with a total of 11.4% recorded as dying, the in-patient deaths accounted for 20.3% of that total during April to May of 2020 [15]. As a society in 2018, the total cost for health services for people 65 and older associated with dementia was estimated as 277 billion dollars and in 2022, the cost of caring for people with AD was estimated to be $321 billion, with nearly two-thirds of those costs borne by Medicare and Medicaid [3].

Proactive Management

What can be done? The Alzheimer's Association has a list of items that may impact the outcome of management for AD and is include das follows: 1) appropriate use of available treatment options, 2) effective management of coexisting conditions, 3) providing family caregivers with effective training in managing the day-to-day life of the care recipient, 4) coordination of care among physicians, other health care professionals and lay caregivers, 5) participation in activities that are meaningful to the individual with dementia and bring purpose to his or her life, 6) maintaining a sense of self identity and relationships with others, 7) having opportunities to connect with others living with dementia; support groups and supportive services are examples of such opportunities, 8) becoming educated about the disease, and 9) planning for the future [3]. Although age, genetics, and family history are underlying and cannot be changed, the modifiable risk factors are areas to focus upon for overall improved health and prevention of AD and other forms of dementia [3]. Researchers believe cognitive reserve is a protective component for prevention of brain atrophy. The ability of the brain to make flexible and efficient use of cognitive networks enables a person to carry out cognitive activities despite brain changes and thus the greater the number of years of formal education may determine a higher cognitive reserve [3].

Education and the understanding AD, ADRD

Education

Recognizing a need for understanding the dynamics of AD and the opportunities for education may be the first step in the process of caregiving. Programs available through various AD organizations may assist the caregiver and examples of these program are as follows: 1) dementia conversation, 2) effective communication strategies, 3) symptoms of dementia, 4) managing money, 5) living with AD for caregivers early, middle, or late stages, and 6) AD conversations for legal, financial and medical appointments [3].

Symptoms

Dementia has some distinct symptoms in the early stages and these may be subtle or gradual. In general, when a person is having difficulties with reasoning, judgement, and memory we are cuing for factors attributing to memory loss. Symptoms for AD include difficulties with language such as forgetting words for things or not being able to find the right words, difficulty concentrating and reasoning, hearing impairment, having problems with complex tasks like cooking paying bills, balancing a check-book, and getting lost in familiar areas [16]. People may have difficulty speaking or writing coherently, may not recognize familiar environments or surroundings and also may have difficulty planning or carrying out complex or multi-step tasks [16].

Behaviors

Behavioral symptoms may be progressive and disruptive for all those involved. Identified symptoms that are troublesome include: 1) increased aggression, anger or hostility, 2) exhibiting little interest, apathy, or withdrawal, 3) changes in or difficulty with sleep, 4) hallucinations, delusions or distinct perception changes, 5) disorientation to surroundings or environment, 6) needing help with basic task for daily living [eating, bathing, and dressing], 7) difficulty controlling urine or incontinence of bladder or bowels are conditions of behavior that createdifficulty for the caregiver [16].

Agitation and aggressive behaviors may be augmented by delirium, a temporary state of confusion associated with some factor (mediation, infection), underlying depression or anxiety, sleep disorders or sleep deprivation, physical pain or discomfort, being frightened, or other side effect associated with medications may contribute to the acceleration of untoward or unsafe behaviors [16].

Safety

Cognitive or mental changes create concerns for safety as the decision-making and judgment become impaired in those the dementia. Day to day items that become of concern include some of the following: driving, cooking, medication management, walking in the neighborhood, a reduction of strength/ mobility and higher risk for falls [16]. Perception of the environment is of safety concern as persons with AD may not see items in their way such as rugs, cords, furniture, or other clutter such as shoes, toys, or animals underfoot.

Coping

Caregiver's and persons with dementia may need to develop enhanced coping mechanisms. Daily frustrations may develop due to inflexibility. Often times people will argue about how, when, or why of events and that may cause a person with other memories to become agitated. Things that may help to reduce stress or to assist with coping include the following:1) make a consistent daily plan, but allow for flexibility 2) be patient with repetition [questions, answer, statements], 3) avoid major environmental changes, 4) avoid arguing about mistaken dates, facts or timelines, 5) establish a calm, consistent nighttime routine, 6) speak slowly, be patient, present one idea at a time, 7) have a daily exercise routine or physical activity lined-up, 8) use memory aides for activities [phone numbers, calendars, daily instructions] and have them visible, 9) assist with personal tasks as needed [bathing, dressing, eating], 10) establish a safe environment [child proofing for the AD patient, night lights, limited clutter], and 11) consider utilizing respite services, adult day care, or other hired help for relief of caregiving or to allow for a chance to recharge [16-18].

Conclusion

People with dementia are more vulnerable to illnesses and deterioration of condition at rapid rates associated with their inability to communicate effective for their needs or concerns. Attention and awareness of risk factors and a reduction of modifiable risk would alter the overall progression of the various forms of dementia. Targeting the education of healthcare workers, caregivers, families, and communities may impact overall health and contribute to improved knowledge and understanding of dementia as a whole. Participation in education programs for health care workers, and caregivers may reduce the impact of problems associated with the unwanted behaviors and safety factors for dementia. Research for dementia targets nutrition, hydration, bowels patterns, reduction of infection risk, minimizing polypharmacy, promotion of effective sleep, symptom awareness, and environmental safety. The link between frailty, deconditioning, and the aging body organs and systems may increase the factors for safety, illness, and a predictable timeline for death. Livingston, et al. [9] suggests a new type of therapy focusing on more specific age-related processes to minimize frailty suggests many diseases may be the underpinning of late life severity and aggressive progression for dementia and thus, an effort to reduce those conditions may reduce the overall incidence or severity of dementia. Organizations and public awareness are avenues to assist with knowledge and funding for research and AD programs in many communities to assist with adequate resources and care for those impacted by these conditions. Advancement in understanding, disease process origin and knowledge, care delivery, safety, and caregiver quality of life factors may ultimately ameliorate the progression of these conditions to facilitate guidelines and policy making related to costs and delivery of care for the future. Collaborative efforts in evidence driven research may ultimately reduce the mortality for those afflicted with this destructive disease process.

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