Alzheimer's Disease in African Americans: A Preliminary Systematic Review

Stephen C. Enwefa* and Regina L. Enwefa*

Department of Speech Language Pathology and Audiology, College of Nursing and Allied Health, Southern University and A & M College, Baton Rouge, Louisiana.

***Correspondence:**
Stephen C. Enwefa and Regina L. Enwefa, Department of Speech Language Pathology and Audiology, College of Nursing and Allied Health, Southern University and A & M College, Baton Rouge, Louisiana.

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ABSTRACT

Alzheimer's disease (AD) is one of the most common and dreaded diseases affecting the elderly community of all ethnic races. AD was first described by Alois Alzheimer's in 1906 as a presenile dementia. AD is characterized by a wide range of clinical disorders. Studies argue that there are two distinct features of AD; while both are characterized by spatial deficits, the other overwhelmingly tends toward language deficits. AD discriminates neither among ethnic groups nor among age groups. AD is no longer an old age problem. The available evidence suggests that a small portion of young adults in the general population (ages 18-34) are experiencing AD as reported by family members. The increased life expectancy in the western world combined with low birth rate have greatly altered the age structure of the general population with a proportional increase in the elderly group. Considering the medical advances made during the late segment of the twenty and early twenty-first centuries, the elderly population has been labeled the fastest growing part of the American society. Neurodegenerative diseases account for considerable morbidity and mortality in the United States elderly population and it is projected to be the fastest growing section of the population during the next fifty years. AD is the most common and most devastating form of degenerative Dementia [1]. AD accounts for about sixty percent of all types of dementia. The purpose of this review was to identify and characterize the disproportionate impact of Alzheimer's Disease in African Americans. Also, the study sought to describe racial disparity, barriers, and lack of awareness of the diseases in African American communities in the continental United States. There is a need to have reliable research that addresses the performance of African Americans on the spectrum of Alzheimer's Disease (AD) patients in comparison with normal elderly patients on visual recognition tasks and on a continuum of markers for AD.

Keywords

Alzheimer's Disease (AD), African Americas, Neuropathology, Dementia, Neurodegenerative Disease, Cerebrovascular Accident, Biological Markers, Racial Disparities, Degenerative Disease.

Introduction

Alzheimer's disease (AD) is one of the most common and dreaded diseases affecting the elderly community of all ethnic races. AD was first described by Alois Alzheimer's in 1906 as a presenile dementia. AD is characterized by a wide range of clinical disorders. Albert and Lafeche [2] argued that there are two distinct features of AD; while both are characterized by spatial deficits, the other overwhelmingly tends toward language deficits. AD discriminates neither among ethnic groups nor among age groups. AD is no longer an old age problem. The available evidence suggests that a small portion of young adults in the general population (ages 18-34) are experiencing AD as reported by family members. The increased life expectancy in the western world combined with low birth rate have greatly altered the age structure of the general population with a proportional increase in the elderly group. Considering the medical advances made during the late segment of the twenty and early twenty-first centuries, the elderly population has been labelled the fastest growing part of the American society. Neurodegenerative diseases account for considerable morbidity and mortality in the United States elderly population and it is projected to be the fastest growing section of the population during

the next fifty years. AD is the most common and most devastating form of degenerative Dementia [1]. AD accounts for about sixty percent of all types of dementia [3]. AD is the fastest growing disease in the United States, and it is characterized by a wide range of clinical disorders [1,4]. Even though studies have shown that Alzheimer's is the 6th leading cause of death in the U.S, and the fifth leading cause of death among older adults, the disease itself ranks third behind cancer and heart disease.

Alzheimer's Disease is a chronic neurodegenerative disease that originates from a pathological process and is characterized by certain deposits of irregular proteins known as plaques and neurofibrillary tangles in the brain [1]. It is highly suggested that professionals be encouraged towards moving everything over to being able to make an earlier diagnosis and treatment. The combined mixed pathologies such as cerebrovascular accident is considered a common cause of Alzheimer's Disease. Alzheimer's Disease is the sixth leading cause of death for all Americans and the fourth leading cause of death for older African Americans [5,6]. Alzheimer's Disease has been identified as an emerging public health crisis among African American communities and several studies suggest that African American elders are two to three times more likely to have Alzheimer's Disease compared with Whites [7].

The current projections have indicated that by 2050, at least forty-two percent of the nation's older adults will be members of minority groups [1]. Also, those aged eighty-five and older, which constitutes thirty-three percent is projected to be in the minority [1]. This serious demographical shift in age and race façades a critical challenge to minority populations, specifically African Americans. The lack of biological markers also serves as a major risk factor relative to the barriers and it poses a great question as to the progression of the disease in the African American population.

In addition, there is a paucity of information in the amount of research for the diagnosis, management, and treatment of the disease that has been based on non-Hispanic whites [3]. What is surprising is that studies indicate there are more African Americans than Caucasians between 14 percent to approximately 100 percent with a higher diagnosis of AD. Other studies indicate that a greater number of African Americans are at risk for Alzheimer's Disease specifically around the age of 65 or older and is expected to more than double to 6.9 million by 2030 [8].

The purpose of this review was to identify and characterize the disproportionate impact of Alzheimer's Disease in African Americans. Also, the study sought to describe racial disparity, barriers, and lack of awareness of the diseases in African American communities in the continental United States. There is a need to have reliable research that addresses the performance of African Americans on the spectrum of Alzheimer's Disease (AD) patients in comparison with normal elderly patients on visual recognition tasks and on a continuum of markers for AD.

Equally important is the need for a more reliable visual recognition marker (cognitive marker) sufficiently sensitive to (1) discriminate AD stages, and (2) to differentiate AD from normal elderly patients. Differentiating who is at risk for AD in advance of its onset is critical since valid and reliable differentiation will contribute to the early and accurate identification of early cognitive, visual, behavioral, biological markers for AD, and Genomics in African Americans. Considering the combination of the current issues with the projected increase in AD in African Americans and with evidence of such magnitude, we realize that a call to action for an investment to stop, educate, prevent, rehabilitate, or cure Alzheimer's Disease is a mandate for current policy-makers and researchers. Therefore, for a racially diverse nation like the United States there is a need for more opportunities to address Alzheimer's Disease and dementia on a global scale, but it must be understood that the findings must support a need for more targeted interventions, whether preventive or service- driven, to help address the gaps we know exist - and for more research.

Racial Disparities, Barriers, and Lack of Awareness in African American Communities

There is a growing body of evidence that suggests that the prevalence of Alzheimer's Disease is expected to be at least two to three times higher among older African Americans than in older non-Hispanic whites. Studies suggest that there are racial disparities in the type of cognitive tests used to test performance of these individuals. These studies are not able to discriminate AD stages or differentiate AD from normal elderly patients. In addition, African Americans tend to score poorly on the average on these tests compared to other races. The low-level performance of African Americans on these tests is still used as the standard for making a diagnosis of AD in the African American population.

Disease prevention, education, and awareness are still a crucial component to reducing some of the racial disparities in Alzheimer's Disease. Age is still a strong link to the risk of the AD. The APOE e4 allele has been found to be consistently higher in African Americans but inconsistently related to Alzheimer's disease.

There is a recent genome association called (GWAS) that confirmed the APOE e4 allele as a new gene, ABCA7 found to have a relationship to increased risk of Alzheimer's Disease among African Americans. There is still more research needed to be conducted in this area. Alzheimer's Disease has been identified as an emerging public health crisis in African American communities. Over the years, Alzheimer's Disease has been described as a silent epidemic in the African American communities. AD is such a debilitating degenerative disease that causes memory loss, some behavior problems, and severe functional limitations that impact the quality of life. The Alzheimer's Disease Association estimated that 5.2 million Americans have AD (Alzheimer's Disease Association, 2018). What is surprising is that research indicates, there are more African Americans than Caucasians between 14 percent to approximately 100% with a higher diagnosis of AD. This infact validates the current report that a greater number of African Americans are at risk for Alzheimer's Disease; specifically, around the age of 65 or older and it is expected to more than

double to 6.9 million by 2030 [8]. African Americans comprise 12 percent of the American population. Due to quality of lifestyle, many African Americans experience higher rates of cholesterol, diabetes, and high blood pressure which places them at a greater risk of developing dementia.

Caring for individuals with dementia poses challenges for the longevity of the role of the caregivers. There are more African Americans than Caucasians that care for their relatives with dementia and are less likely to request for help. The view of the African American communities is that caring for a loved one is considered to be a responsibility and not a burden. Enwefa and Enwefa [3] identified many barriers within the African American communities that can prevent early diagnosis and treatment of Alzheimer's Disease.

Some of the barriers that are impacting the lives of African Americans with Alzheimer's Disease within their communities presently are the following:

Lack of Awareness
Several studies have reported that dementia is not a normal part of the aging process [5,6]. Several signs and symptoms are often unrecognized, and services may not be used until late in the disease.

Cultural Barriers
There are many cultural barriers that influence the mistrust of medical institutions within this ethnic population. Many African Americans recognize that there is not enough proficient care and it is quite limited in communities. The results of previous studies indicate that the majority of African Americans live in the southern region of the United States.

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