

ORIGINAL ARTICLE

Study Finds Racism; Causes Black Americans and Asians Brain to Age Faster than of other Races, Increasing Dementia RiskTANVEER YOUSUF¹, QURRAT UL AIN SHAHID², MALIK MUHAMMAD HAMDAN TAFHEEM³, MARIUM KANWAL⁴, AREEBA AHMED⁵¹Medical Officer, Medicine Ward, JPMC, Karachi²Medical Officer, Abbasi Shaheed Hospital Karachi³Medical Officer, Aziz Bhatti Shaheed Teaching Hospital, Gujrat⁴Consultant Physician, Medicine Ward, JPMC, Karachi⁵Medical Officer, PIMS Hospital, IslamabadCorresponding author: Marium Kanwal, Email: dr.maryamkanwal@gmail.com**ABSTRACT****Objective:** This review aimed to find the racism and its effect on occurrence of dementia and treatment of dementia patients. It was observed that Asian and black American brain ages faster than the other races.**Recent findings:** The incidence of dementia or the ageing of brain was compared in different studies it was found that the black Americans and non-Hispanic white population had more cases of dementia as compared to white Americans. 2000 US consensus was taken as a standard and age adjusted incidence rate was calculated in different studies. In the general population the prevalence of dementia is higher among African American but lower among the Japanese American. The most recent studies of racial and ethnic difference in dementia incidence were limited to specific geographical areas. The well-known dementia is Traumatic brain injury (TBI), including mild TBI. The females veterans over 55 are particularly rise sharply in coming years. The ageing and dementia research community has identified different risk factors. The medical, lifestyle factors and genetic factors affect the dementia risk. The study discovered that blacks were 65 percent more likely than white Americans to develop dementia. The demographic factors like medical comorbidities, and psychiatric conditions are also have impact on dementia incidence.**Summary:** The study showed that the ageing of brain takes place early in case of non-white population as compared to white. The cases of dementia and the mortality rate of the patients are higher in case of non-white/black American. There is need to identify the factors that lead to this geographical distribution of disease.**Keywords:** dementia and Asian American adults.**INTRODUCTION**

The clinical syndrome in which acquired losses of emotional and cognitive abilities is reported known as dementia. It affect the quality of life. It is reported that the rate of dementia is higher in black and Asian American adults. White American older adults have less dementia incidence than Hispanic older adults. Factors like health effect of racism, unequal access to health care, and difference in the quality of air. The discrepancies in the prevalence of dementia risk factor play important role in these difference. In the general population the prevalence of dementia is higher among African American but lower among the Japanese American^{1,2}. The most recent studies of racial and ethnic difference in dementia incidence were limited to specific geographical areas. The well-known dementia is Traumatic brain injury (TBI), including mild TBI. Veterans are may be more vulnerable to developing dementia. Male and white participants are involved in most existing research on TBI and risk of dementia diagnosis. Females and non-white service members may face after TBI effects that are very important³⁻⁴. Females are involved in large quantity in combat and at the risk for TBI. The females veterans over 55 are particularly rise sharply in coming years. The medical, lifestyle factors and genetic factors affect the dementia risk.. The study discovered that blacks were 65 percent more likely than Asian Americans to develop dementia. The Asian American are at higher risk of developing dementia than white American. The few studies that have directly examined the effect of gender on the risk of dementia diagnosis after TBI have found small increases in risk for males but not females. Most existing studies of the risk of dementia diagnosis following TBI do not directly examine race differences, and many do not report the racial composition of their samples. Understanding the possible impact of sex- and race-based⁵⁻⁶ health differences on dementia diagnosis risk is key to improving for the growing population of diverse older Veterans with TBI. The demographic factors like medical comorbidities, and psychiatric conditions are also have impact on dementia incidence.

Cross-cultural comparison epidemiology: This large population study was carried out to find the racism and its effect on occurrence of dementia and treatment of dementia patients. The review support the concept that Asian and black American brain ages faster than the other races. The results of different studies

showd that occurrence of different health care conditions had different ratio in multiple races. The rate of diabetes, cardiac failure⁷⁻¹⁰ and depression is also much more in case of black Americans as compared to other races. Any arterial disease are also found to be present more commonly in non-Hispanic white (71%) and black American group (71.8%) as compared to the other groups.

Ethnic comparison: As per previous studies the results also support the concept except that one study showed Asian group to have high rate of diabetes incidence 45% as compared to that found in our study 34.6%¹¹⁻¹². The health care visits of patients were studied and it was found that the highest rate of hospital visits was seen in case of white Americans (82%). In previous studies the results also showed white Americans to have highest rate of hospital visits in comparison to other races¹³.

A number of studies were conducted on participants who visited tertiary care unit of different hospitals. The comparison between the different groups is showed. First group contained black Americans, second group contained participants from Asian community third group had white native Americans and fourth group belonged to non-Hispanic white. The numbers of patients in these groups were 405,311,232 and 301 in black American, Asian, white American and non-Hispanic white group respectively. The average age of the participants is shown in table no.1 where most of them belonged to age greater than 70 years. There were almost equal female and male patients in all groups. The health care visits of the participants per year is also shown in the table no.1 where white American group had most of the health care visits per year (82) as compared to other groups, following it was non-Hispanic white group having 81 hospital visits per year. The incidence of health conditions like diabetes, depression and cardiac arrest was also studied among the groups. The incidence of diabetes was highest in Asian group 34.6% followed by black Americans 31.3%. However, the rate of diabetes was quite less in other two groups¹⁴⁻¹⁵.

The incidence of dementia or the ageing of brain was compared in different studies it was found that the black Americans and non-Hispanic white population had more cases of dementia as compared to Asian and white Americans. 2000 US consensus was taken as a standard and age adjusted incidence rate was

calculated. In a study carried out to compare the racism related issues with dementia it was found that the Asians, Latino and black Americans are diagnosed with dementia at younger age as compared to native White Americans. The cases reported in black American group were 314 then it was followed by 265,213 and 199 in non-Hispanic, Asian and white native Americans respectively. Age adjusted incidence rate was also calculated with 95% confidence interval. The similar trend of cases was also observed in different races.

The mortality rate in different ethnicities: Indifferent studies the mortality rate in different races or ethnicities was analyzed and it was found that the mortality rate was highest in case of non-Hispanic white group of participants (42%). It is close to the mortality rate studied in the previous studies where it was 39%. Following non-Hispanic group there were black Americans (35%), then white native Americans (18%) and Asian (16%). The mean duration of follow-up by the patients of different races showed that the native white American group had the highest follow up duration for dementia as compared to other groups. However, the lowest follow-up session was observed in case of Asian group (1.1 ± 2.3).

Risks factors that can elevate the incidence: As per studies the rate of dementia incidence was long under study to find the risks factors that can elevate the incidence¹⁶. The pattern of disease occurrence is under study to find the very factors involved in its prevalence. The incidence of dementia in different races and ethnicities was under studied and it was found that there exists a geographical pattern of the disease¹⁷. It has always been difficult to measure the exact magnitude of race having effect on dementia occurrence, but it has been established that both factors are interlinked¹⁸.

Survival duration after diagnosis of dementia: The survival duration after the patients are diagnosed with dementia is as low as 3 years. If the factors that has lessened the rate of dementia in white population are studied, then it can help increase the life of dementia patient in other parts of the world. One of the possible reasons that can be admitted is the genetic factors, as the genetics of dementia says that it is more prevalent among non-white population¹⁹⁻²⁰. Secondly the health conditions and the follow-up sessions conducted by white population is far better than the non-white population. The patients suffering from dementia in Asian countries are often neglected and they end up not visiting hospitals once for this particular ailment²¹. Regardless of the reason, the ageing of brain is slower in white population as compared to non-white population.

The effect of race on the mortality rate was also analyzed in different studies and most of studies reported these results and it was found that the mortality rate was highest in case of non-Hispanic white population as shown in table.

Table 1: The race and mortality study on study groups

Race	Mortality %
Black American	35%
Asian	16%
White native American	18%
Non-Hispanic white	42%

South American: There is the ethnic and socioeconomic diversity among South Americans. The study was conducted and it was reported that the 6% of the population that is older than 65 years in Chile is suffering from the dementia. The percentage of dementia cases reported from the other South Americans countries are highly comparable with the United States and Europe²¹⁻²².

African: The African residents have exposure to the different environment comparing to the Americans. The incidence of dementia in a study was reported to be 2.53% in the African Americans. The lower rates of cognitive impairments and amyloid deposition was observed in the Nigerians. The African American are more prone to the development of the dementia in the later ages²³.

Asian: The distribution of dementia subtype among Asian and white American vary greatly. Asian American age faster than the white American. However the prevalence of dementia in Asian people is quite higher than European countries. It was reported in a study that prevalence of dementia in Chinese people is 4.6 percent, in Japanese is 8 percent. The prevalence rate of dementia are 3.24 per every thousand Indian people.

Genetic background-A risk factor: The one of the main factor that contribute to the dementia different prevalence in the different ethnic groups is genetic background. The APOE $\epsilon 4$ is considered as one of major risk factor that contribute to the development of the dementia and Alzheimer disease. The scientist are focusing on the APOE $\epsilon 4$ polymorphism role that it play in the ethnic group disparities. The linkage between the allele is consider to be highly effected by the racial differences. These not only effect the allele linkage but also the NFTs number and SPs density. The further studies are conducting to clearly understand the risk association of the allele with different cultural and ethnic groups. The scientist are examining the APOE genotype of the individuals and calculating the frequency of the allele²⁴. It is reported in the recent studies that there is a disequilibrium linkage between allele and the Alzheimer disease. The regulatory sequences in the promoter region of the genes are highly associated with the modification of the APOE expressions. The other risk factors also modified the allele expression these includes, head injury and coronary artery disease.

Stroke: The vascular dementia is observed to be highly effect the African and Asian American. The incidence of stroke are quite greater in the Asian American. The cerebrovascular diseases higher incidence adds to the higher incidence of the dementia. So, it is concluded that the higher risks of stroke in the Asian American ultimately leads to the greater incidence of dementia²⁵. The African American have the higher prevalence of the hypertension it is even much higher in the Asian American. Such people are at the greater risk of development of the neurovascular pathologies. There is still need to understand the association of these pathologies with the development of the dementia and Alzheimer²⁶.

CONCLUSION

The study show that the ageing of brain takes place early in case of non-white population as compared to white. The cases of dementia and the mortality rate of the patients are higher in case of non-white/black American. There is need to identify the factors that lead to this geographical distribution of disease.

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