A Scoping Review of Interventions Conducted for Racial and Ethnic Minority Older Adults with Dementia

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Abstract

The older population in the United States is growing. Within this demographic, ethnic and racial diversity is also on the rise. There are various forms of interventions, such as cognitive activities, regular physical and social activities, the Mediterranean diet, examination on sleep patterns, and other person-centered and emotion-focused interventions to help not only the cognitive health but also the overall quality of life of people living with Alzheimer's disease and related dementia (ADRD). However, we still lack knowledge on if and how these interventions are effective for patients from diverse backgrounds. Therefore, this study conducted a scoping review to review the psychosocial interventions (i.e., non-pharmacological interventions) that have been conducted with racial and ethnic minority ADRD patients. Using Arksey and O'Malley's framework, this scoping review was conducted following steps: (a) identifying the research question, (b) identifying relevant studies, (c) selecting relevant studies (d) charting the data according to key issues and themes and (e) summarizing and disseminate research findings. The findings indicated that African Americans are twice as likely to decline cognitively compared to other racial or ethnic groups, while religion, friendship, music and aerobic/physical exercises helped to reduce the risk of developing ADRD later in life. This review helped ensure that racial and ethnic minority older adults with ADRD receive care that is culturally acceptable to them.

Keywords: Alzheimer's disease and related dementia, diversity, race, ethnic, minority, psychosocial interventions, older adults, disease, cognitive functioning, patients

Introduction

The United States population age 65 or older according to an incidence reports that provides a measure of risk for developing a disease, according to this study 491,000 people age 65 or older will develop Alzheimer's disease and related dementias (ADRD) in the U.S. in 2020 (Alzheimer's & Dementia, 2020). The number of people in the U.S. living with ADRD will double by 2060, according to a new study from the Centers for Disease Control and Prevention (2018). This number is projected to grow to 13.9 million, nearly 3.3% of the population in 2060 (CDC, 2018). As the number increases, research predicts that Hispanic American will have the largest projected increase due to population growth over the projected period (CDC, 2018).

Alzheimer's disease is the fifth most common cause of death for Americans ages 65 years and older (CDC, 2018; Alzheimer's Association, 2020). It is an irreversible, progressive brain disorder that slowly destroys memory and eventually, a person's ability to perform even the simplest tasks, such as bathing, feeding, and dressing (CDC, 2018; Alzheimer's Association, 2020). Dementia is a broad category of brain disease that causes a long-term damage (APA, 2013). Dementia is characterized by multiple cognitive deficits, including memory impairments that significantly and adversely affect social and occupational functioning (APA, 2013). Dementia affects over 35 million older adults worldwide with more individuals affected each year (Teri et al., 2016). Dementia increases with age. Although it is not a normal part of aging, it most commonly occurs in people aged over 65 years, when comorbidity is common (Livingston et al., 2017).

The higher prevalence of ADRD in minority racial and ethnic groups compared with whites appears to be due to a higher incidence of dementia in these groups (Alzheimer's Association, 2020). Race and ethnicity can be risk factors for the disease (CDC, 2018). Among people age 65 and older, the largest percentage of those with the disease were African American (14%), followed by Hispanics (12%), and non-Hispanic whites (10%) (CDC, 2018). Hispanic and African American populations are expected to have the greatest increase in ADRD by 2060, the number of Hispanic will be seven times larger than what it is now, and the number of African Americans will be four times larger (CDC, 2018).

As many aspects of life and social interaction depend upon cognitive functions, it is important that caring and enabling interventions and activities that can be provided in the family home and within any care environment. Also, many of dementia's manifestations are now known to be manageable, and while the underlying illness is not curable, the course might be modifiable with good dementia care (Livingston et al., 2017). Although, literature on various psychosocial intervention for dementia is increasingly being accumulated (Blake et al., 2013). There are growing number of studies being conducted viewing the effectiveness of interventions from culturally competent perspective. There are growing number of studies being conducted viewing the effectiveness of intervention from culturally competent perspective. Available interventions that are important as those of psychosocial interventions such as physical and social activity, cognitive activities, the Mediterranean diet, examination of sleep patterns and other person-centered and emotion-focused intervention helps to maintain or improve the trajectory of symptoms and functioning, interpersonal relationships and the well-being of older adults with ADRD, and further change the experience of the course of dementia. Documenting culturally competent interventions is important to help monitor progress, identify gap areas, build trust and rapport with patients from different backgrounds, especially in western healthcare practices. Therefore, the purpose of this study is to conduct a scoping review of psychosocial interventions (i.e., non-pharmacological interventions) that have been conducted with racial and ethnic minority ADRD patients.

Literature Review

Dementia

The word *dementia* is derived from the Latin words de (out of) and men's (mind), and its use has been considered by some to have demeaning connotations (Livingston et al., 2017). There are stigmatizing cultural beliefs about dementia, such as it is a punishment or a curse (Livingston et al., 2017). This stigma can lead to people avoiding diagnosis because they might feel stigmatized by others or in their own mind. Dementia occurs as results of the death of the brain cells, and neurodegenerative disease-progressive brain cell death that happens over time is associated with most dementias (Livingston et al., 2017). For example, dementia can be caused by a head injury, a stroke, or a brain tumor, among other causes. The most common type of dementia is Alzheimer's disease which is degenerative, which makes up 50% to 70% of cases. Other common types include vascular dementia (25%), Lewy body dementia (15%), and frontotemporal dementia, post-traumatic dementia, Parkinson's disease, alpha-synuclein, Huntington's disease, normal pressure hydrocephalus, and Creutzfeldt-Jakob disease (Livingston et al., 2017).

These are illness with demonstrable neural substrate abnormalities together with cognitive symptoms, which occur in people who have had normal brain development (Livingston et al., 2017). Dementia and mild cognitive impairment are characterized by a decline from a previously attained cognitive level, but in dementia in contrast with mild cognitive impairment, the decline affects activities of daily living or social functioning (Livingston et al., 2017). Although, in the mild cognitive impairment, the patient can still engage in complex activities, for example, paying bills or taking medication-greater efforts or new strategies might be required (Livingston et al., 2017). According to Livingston et. al., (2017), there are many different types of dementia, and Alzheimer's disease is the most common. Vascular dementia is the next most common, followed by dementia with Lewy bodies. Mixed dementia with features of more than one cause is also common. Frontotemporal degeneration and dementias associated with brain injury, infections, and alcohol abuse are less common (Livingston et al., 2017). In this study, I used the term Alzheimer's disease and related dementias (ADRD) when referring to all the different types of dementia.

Although, younger people can suffer from ADRD, it is most common among older adults (Prince et al., 2013). ADRD usually occurs in people aged over 65 years, when comorbidity is common (Livingston et al., 2017). Worldwide, around 50 million people have ADRD, with nearly 60% living in low-and middle-income countries. Every year, there are nearly 10 million new cases. (World Health Organization, 2020). The estimated proportion of the general population aged 60 and over with ADRD at a given time is between 5-8% (WHO, 2020). The total number of people with ADRD is projected to reach 82 million in 2030 and 152 in 2050 (WHO, 2020). Much of this increase is attributed to the rising numbers of people with ADRD living in low-and middle-income countries.

Age-related physical-health problems and ADRD simultaneously occur more often than by chance alone. This co-occurrence is because some physical problems, such as diabetes and hypertension increase the Alzheimer's disease and vascular dementia, making a mixed dementia more likely to occur, and the more physical illnesses a person has the more likely they are to develop ADRD (Livingston et al., 2017). Also, impaired mental and physical function also interfere with exercise or social activities. Lastly, according to World Health Organization

(2020), ADRD signs and symptoms are grouped into three stages: (a) early stage - at this stage ADRD is overlooked, because the onset is gradual and the common symptoms include- forgetfulness, losing track of the time, and becoming lost in familiar places (b) middle stage - at this stage the signs and symptoms become clearer and more restricting these include- becoming lost at home, becoming forgetful of recent events and people's names, having increasing difficulty with communication, needing help with personal care, experiencing behavioral changes, including wandering and repeated questioning (c) late stage - at this stage is the near total dependence and inactivity. Memory disturbance are serious, and the physical signs are more obvious. The symptoms include becoming unaware of the time and place, having difficulty recognizing relatives and friends, having difficulty walking and increasing need for assisted self-care and experiencing behavior changes that may escalate and include aggression.

Diversity Among Dementia Patients

As there are a growing number of older adults in the United States over the next several decades, its older population will become more racially and ethnically diverse (Ortman et al., 2019**).** The projected growth of the older population in the United States will present challenges to policy makers and programs, such as social security and Medicare, it will also affect family's businesses, and health care providers (Ortman et al., 2019). Millions of Americans have ADRD (Alzheimer's Association Report, 2020). As the size of the U.S. population age 65 and older continues to increase, the number of Americans with ADRD will grow. Both the number and proportion will escalate rapidly in coming years, as the population of Americans age 65 and older is projected to grow 56 million in 2020 to 88 million by 2050 (Alzheimer's Association Report 2020). Although, there are more non-Hispanic white living with ADRD than any other racial or ethnic group in the United States because non-Hispanic whites are the largest racial/

ethnic group in the country, older Black/African Americans and Hispanic/Latinos are disproportionately more likely than older white to have ADRD (Alzheimer's Association Report, 2020).

Most studies indicate that older Black/African Americans are about twice as likely to have ADRD, as older Whites. Whereas, some studies indicate older Hispanic/Latinos are about one and one-half times as likely to have ADRD as older Whites (Alzheimer's Association Report, 2020). However, Hispanic/Latinos comprise a very diverse group in terms of cultural history, genetic ancestry and health profiles, and there is evidence that the prevalence may differ from one specific Hispanic/Latino ethnic group to another for example, Mexican Americans compared with Caribbean Americans (Alzheimer's Association, 2020).

In addition, African Americans have the highest prevalence of ADRD (13.8%) followed by Hispanic (12.2%), and non-Hispanic White (10.3%), American Indian and Alaska Natives (9.1%), and Asian and Pacific Islanders (8.4%), (Centers for Disease Control and Prevention, 2018). Similarly, researchers estimate there will be 3.2 million Hispanic and 2.2 million African Americans with ADRD by 2060 (CDC, 2018). The increases are a result of fewer people dying from other chronic disease and surviving into older adulthood when the risk for ADRD increase (CDC, 2018). Furthermore, despite federal regulation and evidence of adverse outcomes of ineffective communication, data suggest that the use of interpreters or a language-concordant provider is low in U.S. hospital and primary care setting (American Geriatrics Society Ethnogeriatrics Committee, 2016). Hence, professional interpreters are essential, having a member of the care team for example, nurse, care manager, or social worker who not only speaks the language, but is from the same culture or ethnic group, may facilitate a deeper understanding of how to engage caregivers and how to support them as well.

On the contrary, a recent systematic review of the literature by the Alzheimer's Association Report, (2020) found that Japanese Americans were the only Asian-American subgroup with reliable prevalence data, and that they had the lowest prevalence of ADRD compared with all other ethnic groups. According to the Alzheimer's Association (2020) reports, that the higher prevalence of ADRD in minority racial and ethnic groups compared with Whites appears to be due to a higher incidence of ADRD in these groups. While the variations in medical conditions, health-related behaviors and socioeconomic risk factors across racial groups likely account for most of the differences in risk of ADRD.

Racial and Ethnic Disparities in Cognitive Health

Despite improvements in the overall health of the U.S. population, racial and ethnic minorities and other populations suffer disproportionate burden of illness and premature death (American Geriatrics Society Ethnogeriatrics Committee, 2016). American Geriatric Society Ethnogeriatrics Committee (2016), defines a population as having health disparities when there is significant difference in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates from the health status of the general population. As such, older racial and ethnic minorities, individuals with low socioeconomic status, and rural persons are currently designated as having health disparities (American Geriatric Society Ethnogeriatrics Committee, 2016).

On the other hand, the prevalence of ADRD in African Americans and Hispanics in the United States with some evidence suggesting that the prevalence of ADRD may be considerably higher in these groups than in non-Hispanic Whites (Chin et al., 2011). Despite this possible disparity, patients of minority ethnoracial groups often received delayed diagnosis or inadequate treatment for dementia. Also, social and cultural factors greatly influence the way in which ADRD is diagnosed and treated. As a result, the disease process manifests as a complex interaction between biology and culture that may differ greatly across ethnoracial group (Chin et al., 2011).

In addition, despite some evidence that the influence of genetic risk factors on ADRD may differ by race, genetic factors do not appear to account for the large differences in prevalence or incidence among racial groups instead, health conditions such as cardiovascular disease and diabetes which are associated with an increased risk for ADRD are believed to account for these differences, as they are more prevalent in Black/African American and Hispanic/Latino people (Alzheimer's Association Reports, 2020). For example, the Health and Retirement study (HRS) found that high blood pressure was significantly more common in African Americans than in Whites or Hispanics, while the prevalence of diabetes mellitus was higher in both African American and Hispanics than Whites as a result of this cardiovascular disease, racial differences in cardiovascular health may contributes to racial disparities in ADRD (Chin et al., 2011).

Furthermore, there is evidence that missed diagnoses of ADRD are more common among older Black/African Americans and Hispanic/Latinos than among older Whites (Alzheimer's Association Reports, 2020). Based on data for Medicare beneficiaries age 65 and older, it has been estimated that ADRD had been diagnosed in 10.3% of Whites, 12.2% of Hispanics/Latinos and 13.8% of Black/African Americans. Although, rates of diagnosis were higher among Black/African Americans than among Whites, according to prevalence studies that detect all people who have ADRD irrespective of their use of health care system, the rates should be even higher for Black/African Americans (Alzheimer's Association Report, 2020).

Psychosocial Intervention for People with ADRD

The growth or research in the psychosocial intervention (non-pharmacological interventions) in the treatment of behavioral problems for people with ADRD has grown exponentially in the past years. Psychosocial interventions (non-pharmacological interventions) to include any intervention that "emphasizes psychological or social factors rather than biological factors" (Ruddy & House, 2005). And the aim is to improve mood, skills and the behavioral and psychological symptoms for people with ADRD. Psychosocial programs are considerably less expensive than long-term care and potentially more effective and less restrictive than pharmacological management (Jones et al., 2012, Knapp et al., 2013).

Psychological interventions may be particularly efficacious for agitation and other behavioral symptoms because even when people with ADRD have become cognitively impaired, they may remain remarkably responsive to interactions with other people. For example, they may not only response beneficially to videotapes or audiotapes of others whom they know as well as responding to music for which they have acquired positive association from earlier in their lives. Similarly, people with ADRD may respond exceptionally well to social activities specially structured to meet their individual capacities and needs (Howe, 2008). For example, a group reading program that uses a Montessori approach (Camp, Skrajner, 2004 & Skrajner, Camp, 2007). These reading materials are simplified and specifically tailored to AD patients' capacities and their age appropriate topics.

Lastly, people with ADRD may remain responsive to even subtle emotional cues, as their behavior deteriorates, due to an irreversible progression of ADRD (Slaughter & Bankes 2007). This deterioration may instead be functionally caused and reversible which may result from having perceived a new cognitive loss that cannot be articulated (Slaughter & Bankes). Providing emotional support to people with ADRD may help in reversing this source of deterioration (Slaughter & Bankes). also, psychosocial intervention (non-pharmacological interventions) may help people with ADRD greatly, in large part because they tend to remain responsive to interpersonal cues. At the same time, psychiatrists should explore ways in which people with ADRD, though cognitively impaired, can still learn.

Theoretical Framework

Understanding the relationship between how population groups experience place and the impact on health is fundamental to the social determinant of health framework. Social Determinants of Health (SDoH) are conditions in the environments in which people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning, and quality of life outcomes and risks (Centers for Disease Control Prevention, 2020). The SDoH is to identify ways to create social, political, economic and physical environment conditions and those that support changes in individual behavior and that improve health for large numbers of people as well as improving the conditions in which we live, learn, work, and play and the quality of our relationships that create a healthier population and society.

However, existing interventions for people with ADRD are not often developed based on such determinants. Successful intervention models with ethnically diverse patients and families should be informed by a framework of social cognitive theory, which posits that behavior is determined by individual beliefs, motivation to change, and social environmental factors (Erickson et al., 2005), each of which can be potential barriers and facilitators to treatment success, and may increase the potential for disparities. A patient or family centered intervention that focuses on a discussion of problems that indirectly and directly influences health outcomes, can result in positive health behavior change (Erickson et al., 2005).

Also, socioeconomic characteristics, including lower levels and quality of education, higher rates of poverty, and levels and quality of education, higher rates of poverty, and greater exposure to adversity and discrimination, may also increase risk in Black/African Americans and Hispanic/Latino communities and may in turn contribute to the health conditions (Alzheimer's Association report, 2020). The SDoH and Environmental Health Promotion model proposed by Schulz and Northridge (2004) provided the perspectives on promoting health with varying values and beliefs of groups of individuals. Therefore, efforts are necessary to help individuals, minority individuals on the contrary, within this model, there are some factors that inhibiting to health promotion.

Identifying barriers such as peer relationships, interpersonal difficulties, and problematic family routines, that are potentially modifiable through brief psychological interventions and successful problem-solving and encouragement have been shown to be important in health promotion interventions. The use of problem-solving techniques is to identify barriers in an effort to reduce potential disparities from impacting health behaviors and health outcomes. This can be an effective treatment modality to reduce disparities as the approach includes teaching and reinforcing problem-solving skills for healthy lifestyle management, and reducing barriers impacting the promotion of optimal health behaviors (Sahler et al., 2005). Consistent with problem-solving theory, the primary "problem" to be solved during interventions should involve identifying specific areas that need improvement with a focus on reducing disparities (Sahler et al., 2005).

Interventions that we want to document can be related to minimizing these stressors for racial and ethnic minority older adults. In SDoH model, mild cognitive impairment/Comorbid condition is listed as "Health and Well-Being" level. In reference to the health outcomes, older adults with lower education, lower income, lower neighborhood is a leading factor that contributes to SDoH. On the other hand, ADRD might constitute the terminal stage of disease processes beginning decades earlier, and lifestyle changes targeting these processes might sometimes prevent or delay ADRD onset (Livingston et al., 2017). There is good evidence that treatment of hypertension reduces ADRD incidences and preliminary evidence that modification of several risk factors has a beneficial effort on cognition. The interventions most likely to be beneficial such as increasing education in early life, increasing physical activity and social engagement, reducing smoking, treating hypertension, diabetes, and hearing impairment are safe and confer other health benefits (Livingston et, al., 2017). Also, dilapidated housing with substandard plumbing, ventilation, and cleanliness are living conditions characteristics of low socioeconomic status, which increase the risk of developing chronic respiratory or infectious diseases and functional incapacity (Cornwell, 2014). The number of social contacts, quality of network, sense of belonging, and quality of relationships influence social isolation (Hand et al., 2014). Elderly without a family support system are more likely to be institutionalized because of unmet medical needs, which opens the door for additional health disparities and barriers to healthcare access and utilization (Hommes, 2000). Given the importance of peer relationships on psychological outcomes and the quality of life, interventions should also target the development of enhanced social support. Intervention models that implement a person-centered and/or family-centered approach, designed to enhance family and interpersonal relationships, by promoting communication and collaboration between caregivers and patients with ADRD is warranted for successful behavior change and optimal health behavior pattern.

Significance of this Study

People with ADRD tend to depend on other persons, not only for practical support, but also to find a balance between their capacities and limitations. Many studies, especially those involving population-based cohorts call for more studies on ADRD with a focus on different racial groups and sub-groups. Provision of healthcare services that are respectful of and responsive to the health beliefs, practices, and needs of older adults of diverse backgrounds may minimize or close the gap of health outcomes. This type of services that are experienced by families from different cultural backgrounds especially African American and Hispanic families and this should be addressed during the treatment process such as empowerment of families' cultural beliefs about ADRD and enhanced communication with medical provider. Also, clinicians, other healthcare providers, and trainees must be educated to care for ethnically diverse individuals. Nursing educators should play a vital role in developing curricula and workshops designed to train nurses to be culturally competent. Medical educator of undergraduate should focus on ways to improve medical students' awareness of how cultural and ethnic beliefs play an integral role in care.

Finally, cultural humility also includes being respectful of other cultures, including negating the use of alternative medicines, complementary treatment, or spiritual treatment. It is very important for providers to engage patients and families in a shared decision-making process, including their rationale for wanting to postpone treatment or explore alternative options. As an integrated team, clinicians' patients and families should explore these alternative options. As an integrated team, clinicians' patients and families should explore these alternative options together to determine what might be the best possible solution for their care at the same time maximizing their quality of life. Therefore, this scoping review informs them of the aspect of interventions and further research should focus on the effectiveness of this interventions that have been conducted with racial and ethnic minority or customized interventions to modify behavior or treat specific conditions with the ultimate goal of improving care and health outcomes of this minority older adults.

Methods

For the purpose of this scoping review, I defined psychosocial intervention as those physical, cognitive or social activities that may maintain or improve functioning, interpersonal relationships and well-being of people with ADRD. The term ‘psychosocial interventions’ is sometimes used synonymously with the term ‘non-pharmacological intervention’. The difficulty with using this term is that it describes what an intervention is not (non-pharmacological) but does not explain what it is. It also has a strong sense of symptom management. Intervention to improve psychological, social and everyday functional abilities of people with ADRD should go beyond basic problem-management (Moniz-Cook et al., 2011), thus the term psychosocial intervention is used for this review.

Based on my understanding of Arksey and O’Malley’s (2005) framework. A scoping review is the methodology that would work well to answer my research question. Using this framework, I followed the five methodological steps: (a) identify the research question (b) identify relevant studies (c) select relevant studies (d) chart the data (e) summarize and report the results. This approach allowed me to incorporate a range of study designs and address questions as related to ADRD.

Stage 1: Identifying the Research Question

Research Question: To review studies that document the psychosocial interventions (non-pharmacological interventions) that have been conducted for minority older adults with

Alzheimer's disease and related dementias (ADRD) from different racial and ethnic backgrounds, to highlight each intervention and their effectiveness.

Stage 2: Identifying Relevant Studies

Electronic database and reference lists: AgeLine, EBSCOhost. As for the reference lists, I scanned the bibliographies of the literature obtained through the electronic databases. This aided me in making sure that am using the relevant literature.

As seen in Table 1, search terms: Black/African American, Hispanic, Latinos Native/Indigenous, older adults, elderly, older population, older people, people with dementia, racial, ethnic, diversity, culture, healthcare, health services, access, accessibility, disparities, dementia, Alzheimer's disease and related dementias, interventions, psychosocial, social, cognitive, physical, and sleep pattern.

[Table 1]

Stage 3: Study Selection

- Published in English
- Studies conducted in the United States
- Peer-reviewed journal published between January 2000 – September 2020 (data used after 2000)
- Study sample participants majorly including racial and ethnic minority older adults with ADRD.
- Addressed studies that identified the interventions and their effectiveness
- Qualitative, quantitative studies

Inclusion Criteria. Peer reviewed academic articles on physical, cognitive, psychological or social intervention older adults with ADRD. Also, interventions to reduce risks of ADRD.

Study participants were minorities from diverse racial and ethnic backgrounds, including Black/ African American, Hispanic, Latinos, Asian American, Native/Indigenous people. Older adults age 55+ and anyone as long as they have dementia.

***Exclusion Criteria*-r**epresent research not in the USA due to different policies and programs, health-related outcomes as well as non-research and review articles. Also, pharmacological interventions for ADRD, neurological or biological factors in ADRD, screening or diagnosis for ADRD, health service interventions (e.g. case management), interventions for family and paid caregivers only (not including people with ADRD).

Stage 4: Charting the Data

I created a data-charting table adapted from Arksey and O'Malley's (2005) which include related information such as: authors and year of publication, psychosocial interventions, study population, purpose of the study, study design, and the key findings.

Stage 5: Collating, Summarizing, and reporting the results

In accordance with scoping review recommendations (Arksey & O'Malley, 2005), my analysis focused on reporting the key findings while describing the psychosocial interventions (non-pharmacological) which support older adults with ADRD from diverse backgrounds as well as direct content analysis.

Results

A total of 500 peer-reviewed articles were retrieved from the AgeLine: EBSCOhost from The University of Texas at Arlington Central Library. 475 studies were deemed irrelevant during the initial title and abstracts screening; 25 duplicates were removed; 59 full-text studies were assessed for eligibility; 51 full-text review process led to the exclusion of other studies with reasons. 6 studies did not include Alzheimer's disease and related dementias (ADRD) patients. It was either on family caregiving/caregivers, care setting or nursing home/ institutionalized placement; 13 studies were not non-pharmacological interventions such as broad intervention in mental health, medical intervention; antidepressant treatment and drug taking, clinical trials; 15 studies did not include older adults for their study sample or did not measure outcomes for older participants; or they were either younger than 55 and did not include minorities; 17 studies were non-primary or review articles. As a result, 8 peer-reviewed articles that met the inclusion criteria and were included in the final scoping review. Figure 1 visualizes the study selection process.

[Figure 1]

All sampled studies used either a quantitative, qualitative or mixed method research design to review the interventions that have been conducted with racial and ethnic minority dementia patients. The methodological characteristics of reviewed articles are summarized in Table 2. One study used Cross-Sectional research design that applied a community based participatory approach (CBP), (Rovner et al., 2016). With regards to study type, 3 were quantitative studies (Zahodne et al., 2020; Rovner et al., 2018 & Crawford et al., 2006), 4 were qualitative studies (Epps et al., 2020; Hernandez et al., 2018; Rovner et al., 2016 & Sullivan & Beard, 2014), and 1 mixed study (Sullivan & Beard, 2014). All data provided in these studies were primary data. Questionnaires and survey instruments were used as primary source of data collection for all identified articles including CBP research. Focus group discussion was used in collecting qualitative data from participants in one study which also utilized standardized questionnaires (Sinha et al 2020).

[Table 2]

Study Population

The study population were racial and ethnic minority older adults, aged from 55-90 across the studies. While the average age of older adults African and Hispanic/Latino in some studies was between the ages of 74-75.4 (Rovner, Casten & Leiby 2016; Sullvan & Bead, 2014 & Zahodne et al.,2020). One study included younger adults African American from the age of 38 (Epps, et al., 2020). The numbers of older adults African American, Hispanic/Latino participating in the included studies varied, from older adults with mild cognitive impairment (Rovner, Casten & Leiby, 2016) to older adults with dementia (Epps, et al., 2020). Most of the older adults African Americans, Hispanic/Latino and Whites were recruited from senior centers, senior high-rise apartment buildings, churches, and primary care clinics (Rovner, et al., 2016; Epp, et al 2020; Hernandez, et al., 2018; Crawford, Wayner & Mahoney 2006).

Interventions

Selected studies presented various types of interventions including: the role religiosity in improving health outcomes and quality of life for racial and ethnic minority older participants against ADRD (Koenig et al., 2001 & Epps et al 2020). Religiosity is divided into three domains: organizational (e.g. attending formal communal meeting such as worship services), non-organizational (e.g. private prayer and reading scripture), and subjective (e.g. the level of significant religion holds for the individual (Despoina et al. 2018). The significance of music, which helped engage dementia patients, but also could lift moods and acts as a memory stimulus (Epps. et al. 2020). Imagery and Sound, to incorporate pictures and visuals as a way to increase engagement to follow along with the sermon (Epp, et al., 2020), exercise intervention-dance based aerobic exercise (Sinha. et al., 2020). Trusting in God yields strength and hope and helps with memory (Sullivan & Bread, 2014). Cognitive rehabilitative intervention (Greenaway, Duncan & Smith, 2013; Vidovich, et al., 2015). Also, frequent contact with friends was a stronger predictor that protects against age-related cognitive declines (Zahodne, et al., 201) and Behavior Activation, which is aimed to increase cognitive, physical, and social activity or support therapy (Rovner, et al., 2018).

According to Epps and colleagues (2020), suggested that religious involvement such as church attendance for worship services is a vital component of religiosity in improving health outcomes and quality of life for many African Americans adults. Also, Sullivan and Beard, in their study ascertained African Americans, rely on religion as a belief to help them live positively with their cognitive decline with the help of their family members “they posit a strong role for God in facilitating their brain health, such a belief keep them calm when faced with distressing instances of memory failure” (2014, p.70). Whereas, in a large and racially ethnically diverse sample more frequent contact with friends was a stronger predictor of slower episodic memory decline than contact with children, or other family. Friendship was only significantly associated with changes in episodic memory (Zahodne et al., 2020).

Discussion

Alzheimer’s disease (AD) is one of the leading causes of dementia and represents one of the greatest burdens of healthcare systems worldwide, with no effective treatment for the disease to date and new drug development faces substantial scientific obstacles (Green et al., 2009; Schneider & Sano 2009). An extensive epidemiologic literature, however, suggests that cognitive, physical, and social activities may prevent cognitive decline (Akbaraly et, al.,2009 & Fabrigoule et al., 1995). The growth of research in the psychosocial treatment of behavioral problems in dementia has grown exponentially in the past couple of years. This review revealed

500 studies which, when restricted to those studies that met the criteria, 8 peer reviewed studies were used.

Different types of psychosocial treatment were identified that were unique to the studies reviewed. The role of religion/spirituality (2 studies), maintaining simplicity throughout services "for many participants, simplicity was essential in promoting engagement and participation for dementia patients, the use of imagery and sound, incorporating pictures and visuals, modifying seating arrangements to accommodates any disabilities, and support. Worship services are important for African-American families (Epp et al., 2016). A worship services can offer various positive stimulus for ADRD patients. For example, church leaders ministering to dementia patients have reported noticeable changes, such as increased interest and energy and less wandering and fidgeting from congregants when emphasis was placed on maintaining simplicity throughout services.

Music was also emphasized as a powerful factor that not only helped engage dementia patients, but also could lift moods and act as a memory stimulus. Studies have shown music could be used as a stimulus to increase memory and decrease anxiety in ADRD patients (Sung et al., 2010). Moreover, music has been vital in coping and healing for many in the African American community for a number of years and continues to serve as a source of comfort and strength to many (Hamilton et al., 2006). In addition, religious faith providing hope and a sense of comfort, is that religious beliefs such as trust in God and religious practices, prayers and Bible reading led to an increased sense of optimism and contentment among participants (Crawford & Beard, 2014).

Physical activity/exercise (3 studies), exercise for people with dementia improved overall, physical and cognitive function. Exercises classes were held, and it involved strength, flexibility, and endurance training from a program called Enhanced Fitness which was conducted by trained and certified Lifetime Fitness Program (LFP) instructors. Although, it is a cross-sectional study where the association between depressive symptoms and cognitive function across study waves in the presence of an exercise intervention. Exercise has been known to help patients with dementia who engage in physical exercise earlier in life show less cognitive decline and have reduced risk of developing dementia later in life. The type, intensity and duration of exercise is also important when 45 minutes of aerobic exercise in a standard dance-based aerobic format and 5-minute cooldown and stretching. Engaging in cognitive, social, and physical activities may prevent cognitive decline. When patient participates in cognitive/social activities was positively associated with education, depression literacy mobility, instrumental activities of daily living (IADL), verbal learning and subcomponent of executive function.

Social enhancement/social relationship such as emotional support, friendship and instrumental support (2 studies), in a large and racially and ethnically diverse sample, study found having a stronger network of friends is prospectively associated with less episodic memory decline above and beyond other positive psychosocial factors, depressive symptoms, chronic diseases, and baseline episodic memory (Zahodne et al., 2020). Friendships may be particularly beneficial for cognitive aging because they require more active maintenance (i.e. communication and shared activities than family relationships, which can be more obligatory (Robert & Dunbar 2011& 2015). Similarly, according to Rovner and colleagues (2018), suggest epidemiologic studies that 12% to 41% of older black individuals decline in memory over 2 years. Thus, behavioral activation’s treatment effect is notable and supportive therapy’s positive effect suggests that social interaction itself may be beneficial but to lesser extent. In addition, the use of an ancient form of hand-on healing applied by trained practitioners called Reiki on client’s with MCI or Mild AD has a great impact to improve memory and behavior deficiencies including waking up at nights, remembering recent events, losing or misplacing things, and depression issues and it was developed in the Tibet 2500 years ago.

This scoping review raises several important limitations to understanding how effective the psychosocial interventions (non-pharmacological interventions) as an intervention that have been conducted with racial and ethnic minority dementia patients. First, the short-term nature of intervention periods, and the absence of a non-control group for comparison. Secondly, the sample size is small. Thirdly in some cases the participant were specially recruited instead of randomly assigned. Where it is expected that the participant will be of best chance to succeed. Fourthly, the use of ancient form of hand-on healing Reiki, to a great extent may need some validation. Two Reiki Maters with years of experience in Reiki treatment provided the Reiki. Result of Reiki treatment might be different when performed by new initiates of Reiki I or Reiki II level practitioners. Lastly, is the need for evidence-based psychosocial programs to be scaled up. As this review demonstrates, there is now evidence-based psychosocial programs with proven excellent outcomes. Unfortunately, very few of these programs have been offered in the community using rigorous translational or dissemination science methodology.

Findings of this studies varied, with primarily positive results presented. Dilworth-Anderson (2002) reviewed of 20 years of studies on carers which showed African Americans to be much more likely than Whites to engage religion in making sense of their experiences. It is more silent to African Americans in contending with AD/MCI and more comfortable initiating discussion about religion. Friendship was only significantly associated with changes in episodic memory (Zahodne et al., 2020). There is significant cross-sectional association between depressive symptoms of cognitive functions across study waves in the presence of an exercise.

Findings no effective pharmacotherapy exists to prevent cognitive decline in persons with MCI, and black individuals are twice as likely to decline cognitively. Finding indicate that African Americans abca7 (ABCA7, is a gene known to confer significantly greater AD risk in African Americans, Sinha et al., 2020) may not confer direct ADRD risk, but it may indirectly increase the risk of ADRD by moderating the protective effect of aerobic exercise (Sinha et al., 2020).

Implication for Social Work Research

The number of individuals with ADRD is growing at a staggering rate. Thus, it is essential that social workers in geriatric settings are knowledgeable about this disorder and the appropriate interventions to use at all stages of the disease. Treatment interventions for people with ADRD is relevant to social work practice because it uses the evidenced-base practice in the intervention process. For example, the Social Determinant of Health (SDoH) aim at identifying way to create social, political, economic and physical environment conditions and those that support changes in individual behavior that improve health for large number of people as well as improving the conditions in which we live, work, learn, and play and the quality of our relationships that creates a healthier population and society. But this is not often developed based on such determinant. Hence, successful intervention models with ethnically diverse patients and families should be informed by a framework of social cognitive theory, which posits that behavior is determined by individuals' beliefs, motivation to change, and social environmental factors (Erickson et al., 2005), each of which can be potential for disparities.

The National Association of Social Workers (NASW), states Social Worker and other Mental Health Professionals must be skilled in assessment and diagnosis to the interventions they select appropriately match the identified problem whereas, evidenced-based treatment (EBT) must be adapted and personalized for individual based on their culture, interest, and circumstances (NASW, n.d). On the other hand, Texas States Board of Social Worker Examiners (TSBSWE), states clinical social worker practice involves using specialized clinical knowledge and advanced clinical skills to assess, diagnose, and treat mental, emotional, and behavioral disorders conditions and addiction including severe mental illness and serious emotional disturbances in adults, adolescent and children (THHS, 2019).

Implication Social Work Education

The ultimate goal of researcher, geriatric health professional, social workers, and families is to find a cure for ADRD. Even though, pharmacological advances have been of great significant, not all individuals with AD benefit from these treatments. Thus, the demand for psychosocial interventions is great. For example, mental health problem experienced by African Americans must be seen in the context of their socioeconomic status and the suffering they have endured in a predominantly White society. Social workers should consider the differences among African Americans based on national origin, religion, education, and economic status. The family system and the diverse sources of support within the nurturing and sustaining systems should be identified. Patients/clients should be helped to build support and eliminate obstacles to their individual and collective betterment (Sands & Gellis, 2012), they should be assisted to be instrumental in developing and effecting solutions to identified problems.

Implication for Social Work Practice

According to Alzheimer’s Association (2021), trust in health care and perceptions of health care quality are eroded when individuals experience racial and ethnic discrimination in clinical settings. A study by Adult California Health Interview Survey (2015 & 2016) found that discrimination in clinical setting “make(s) a person less likely to have a future interaction with health care,” such as not receiving medical care when necessary or not filling prescriptions.

Racial and ethnic disparities in health and health care, such as those observed during the pandemic, extend to dementia care. Stigma, cultural differences, awareness and understanding, and the ability to obtain a diagnosis, manage the disease, and access care and geography and socioeconomic status.

Furthermore, it is important to develop a workforce that reflects the demographic of individuals with ADRD. This should begin during outreach and recruitment to training programs and continue with programming designed to support racially and ethnically diverse students during their training years and extend to offering residency and internship opportunities in health care setting and social work practice that treat diverse populations. The U.S. Department of Health and Human Services (CLAS) Standards (2021) offer information to improve communication with people from different ethnic groups in a way that is respectful and responsive to their culture (AGSEC, 2016 & USDHHS, 2021). Hence, the American Geriatrics Society (AGS) formed an Ethnogeriatrics Committee that issued a guidance stressing the importance of cultural competence in geriatric care (AGSEC, 2016).

People of color want health care providers who understand their unique experiences and backgrounds. It is imperative for ADRD providers to be more culturally competent where minorities are being treated with courtesy or respect. At the organizational level, competence helps to build a diverse and inclusive workforce (Jackson & Gracia, 2014). Cultural competence training equips professional with skills and resources needed to connect with dementia care patients and caregivers across racial and ethnic group in a way that is sensitive to culture and language (USDHHS, 2014), such as (1) culturally diverse staff that reflects the population served (b) an ability to overcome language barriers, either with bilingual staff or interpreters, (c) training for providers on the cultures and languages represented in the population, and (d) patients materials and practice signage that are translated and sensitive to cultural norms.

Implication for Social Policy

It is reasonable to maintain that if people need help, there is a public interest to provide it, whether or not the matter falls within the confines of mental illness. Yet limitations always exist on the resources available. Studies has shown that people from minority, racial, and ethnic group in the United States have similar or lower rates DSM disorders than Whites. Finding that African Americans and Hispanics groups are less likely to receive any kind of treatment than Whites (Mechanic, Mcalphine & Rochefort, 2014), are less likely to receive specialty mental health care; and may be more likely to seek care outside the health sector (Mechanic, Mcalphine & Rochefort, 2014). In addition, there are wide variations in the quality of care provided, including striking ethnic and racial disparities in rates of adequate care for example, for depression and anxiety (Young et al., 2001), schizophrenia (Kuno & Rothbard, 2002), use of psychotropic medication (Han & Liu 2005), and detection of Mental Health problems in primary care (Borowsky et ai., 2000).

It is complicated to sort out the effect of race and ethnicity on access to appropriate mental health care as distinct from the role of socioeconomic status and insurance. African Americans and Hispanic have lower levels of education and income and are more likely to be uninsured than Whites. There is also evidence that Hispanics and Blacks are more likely than Whites to seek care from a spiritual or religious advisor when emotional or mental health problems arise (Mills, 2012). Since the provision of services itself affects demand, if the field is defined too broadly, infinite amounts of money and time and a large number of personnel could theoretically be absorbed in providing mental health care (Mechanic, Mcalphine & Rochefort, 2014). Resources, however, are never unlimited, we must weigh investments in mental health care against investments in education, transportation, recreation, housing, and the like, we must base such decisions on some sense of priorities and some notion of the criteria by which priorities will be established. Finally, although, public policy making often must proceed despite uncertain knowledge, those government agencies financing care need to insist that serious attempts to be made to evaluate program effectiveness because of the critical relevance of information of this type (Mechanic, Mcalphine & Rochefort, 2014).

Conclusion

The outcome of this scoping review is that religious involvement, such as church attendance for worship services is a vital component in improving health outcomes and quality of life for many African American adults. Also, music has been vital in coping and healing for many in the African American community for many years. The healing ability of music to improve focus and mood is a powerful factor that not only helped engaged dementia patients, but also could lift moods and act as a memory stimulus. Similarly, exercise present a promising non-pharmacological option to potentially delay the onset or slow down the progression of ADRD, exercise interventions on ADRD patients have been explored and have been found to reduce and improve cognitive function. Also, there is a need for mental health literacy in all levels of education and especially, for racial and ethnic minority groups. This will improve knowledge and attitude toward mentally ill person and reduce the widespread of public stigmatization. The study of racial and ethnical diverse older adults provides support for the relevance of friendships for episodic memory trajectories in the late life. Lastly, the variation in the quality of care provided, African American and Hispanic groups are less likely to receive specialty mental health care.

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Figure 1. Study Selection

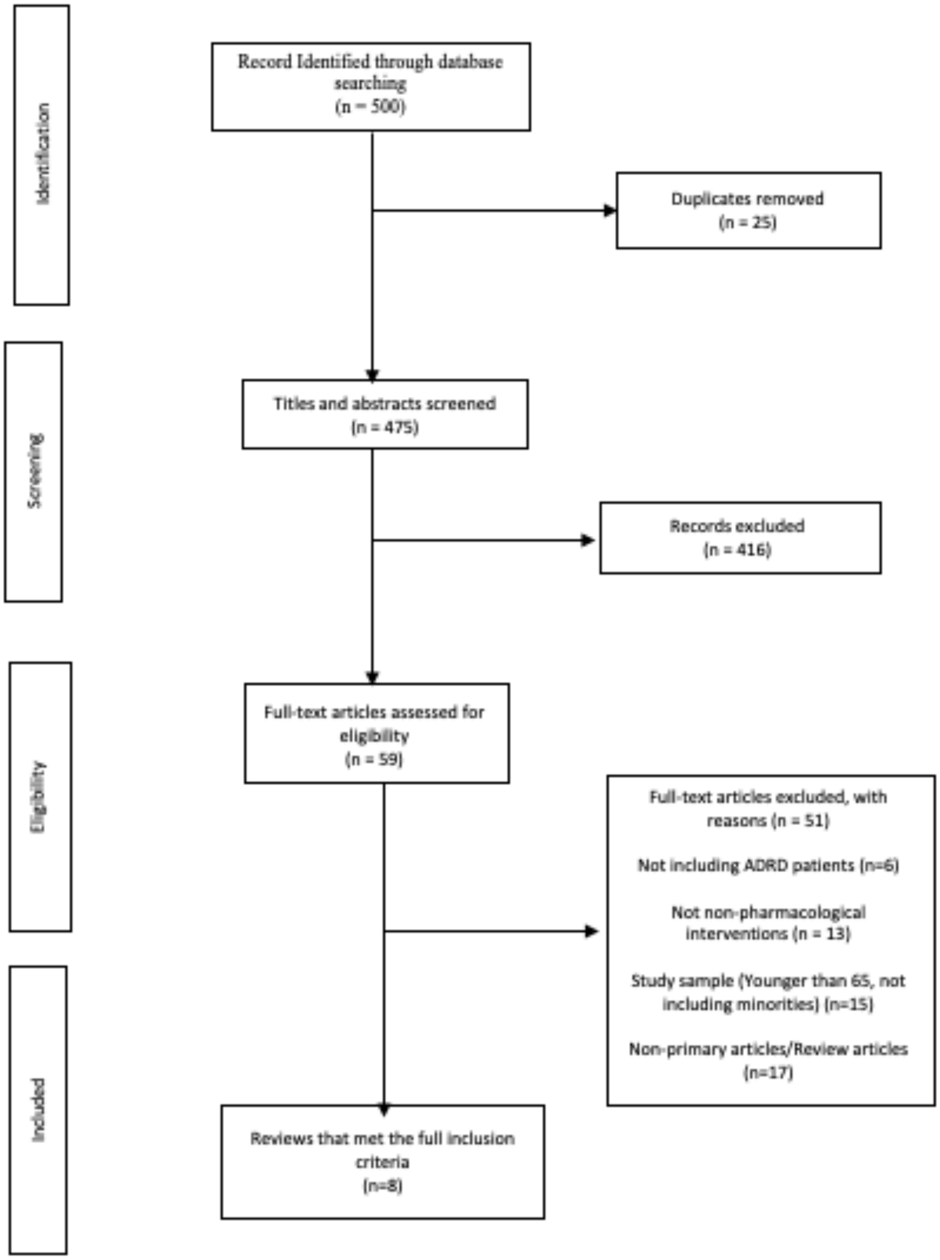

Table 1.

Search terms.

Ethnicity	ADRD	Interventions
African American	Vascular dementia	Psychosocial
Hispanic	Lewy body dementia	Non-pharmacological
Asian American	Frontotemporal dementia	Cognitive Activities
Native American	Post-traumatic dementia	Physical
Indigenous people	Parkinson’s disease	Social
	Alpha-synuclein	The Mediterranean
	Huntington’s disease	Sleep patterns
	Normal pressure hydrocephalus	Other Person Centered
	Creutzfeldt-jakob disease	Emotional Focused

Table 2:

Charting the Data

Authors & Dates	**Purpose of the Study**	**Methods**	**Sample Study Participants**	**Intervention Details**	**Findings**
Epps et al (2020). Designing Worship Services to Support African-American Persons Living with Dementia.	To explore how to design or modify worship services to support African-Americans living with dementia.	Qualitative (descriptive study). Interviews Semi-structured One-on-one interviews	83% female 23% male African American adults (n-12) (Average Age range from 38 to 71) Mean Age 56.5 years	Simplicity- maintaining simplicity throughout services which is essential in promoting engagement and participation Imagery and Sound- increased visuals and adjustments in sound in order to support the needs of People Living with Dementia (PLWD)/ ADRD	The healing ability music to improve focus and mood. Music has been vital in coping and healing for many in the Africa- American community for a number of years and continues to serve as a source of comfort and strength to many. The authors suggest that Religious involvement church attendance for worship services is a vital component of religiosity in improving health outcomes and quality of life for many African-American adults.
Neha, et al. (2020). ABCA7 Genotype Moderates the Effect of Aerobic Exercise Intervention on Generalization of Prior Learning in Healthy Older African Americans.	The study investigated the effect of a 20-week aerobic exercise intervention compared with "treatment as usual' on hippocampal function and potential ADRD risk in a group of healthy older African Americans who were either carriers of the	Participants were recruited through local churches, senior centers, city, county, and state offices for health and other federally subsidized low-income	56 Older African Americans The high risk older African Americans Age 55 years old (Average age 69). 5= males 51= females	Exercise intervention- participant enrolled in a 20-week dance based aerobic exercise program. Which met twice a week for 60 mins per session. Participant heart rates were monitored throughout each class session.	Among the various modifiable lifestyle factors, physical inactivity is the greatest modifiable risk factor for dementia. Individuals who engage in more physical exercise earlier in life show less cognitive decline and have a reduced risk of developing dementia later in life.

	ABCA7 rs37644650non risk (TT) or high-risk (GG) genotype.	housing sites.			
Sullivan, S. C. & Beard, R.L. (2014). Faith and Forgetfulness: The Role of Spiritual Identity in Preservation of Self with Alzheimer's	The study aimed to understand the role of religion/spirituality in the illness narratives of a diverse sample of seniors dealing with memory loss by documenting the role of one potential positive resource, religious identity or spirituality, central to experiences of self and social identity.	Mixed method (Exploratory Study of qualitative) . In-depth interviews (in-person and group) Focus groups and Survey data Convenience and snowball sampling	(n-169) participants African American (57%) White (43%) Women N=63 (84%) Men N=12 (16%) The Majority (55%) Married or living as married one-quarter (N=19) Widowed, divorced (N=9) 12% Single or never married (N=6) 8% Average age=74 (age range from 58 to 90)	They rely on religious beliefs to help them live positively with their cognitive decline with the help of family members. Their feelings of peace, serenity, acceptance, and perseverance demonstrate that they are drawing upon religious resources to integrate their loss of memory into their lives.	Diagnosed individuals and family members draw on religious frameworks in dealing with ADRD Although personal religious practices such as specific time set aside for prayer and Bible reading were more often mentioned in helping to contend with memory loss or caring.

Rovner, et al., (2016). Determinants of Activity Levels in Africans Americans With Mild Cognitive Impairment	To conduct a randomized - controlled trial to test the efficacy of a behavioral intervention to reduce cognitive decline by increasing activity participation in older African American with MCI.	Cross-sectional study. In-depth interviews (in-person and group) Focus Groups.	African American (n-177) Women (80.1%) Age 65+ (Average age 75.4)	Some studies suggest that cognitive rehabilitative interventions for persons with MCI improve targeted cognitive functions. Physical and psychosocial interventions also have modest cognitive benefits. Possible mechanisms for these effects may include reduced amyloid deposition, improved cardiovascular and cerebrovascular integrity.	Culturally relevant behavioral interventions to reduce cognitive decline (by increasing activity participation in older African American with Mild cognitive Impairment MCI). Dotson et al, studying activity participation using the FCAS in large community sample of older African American found small negative correlations between higher activity levels and age and depressive and moderate positive correlation with years of education and overall cognition, memory, and executive function.
Zahodne, et al., (2020). Positive Psychosocial Factors and Cognitive Decline in Ethnically Diverse Older Adults	To examine prospective associations between positive psychosocial factors and changes in cognitive domains within a diverse sample of older adults. And to explicitly test whether prospective associations differ	Longitudinal study NIH Toolbox Survey observation Chi-square	(n-578) older adults Non-Hispanic Black (42%) Non-Hispanic White (31%) Hispanic (28%)	In a large and racially ethnically diverse sample, more frequent contact with friends was a stronger predictor of slower episodic memory decline than contact with children or other family. Social support from friends, family or children, social	The longitudinal study of racially and ethnically diverse older adults provides support for the relevance of friendships for episodic memory trajectories in late life. Maintaining friend networks may contribute not only to better socioemotional functioning.

	significantly across non-Hispanics Blacks (NHB), non-Hispanic White (NHW), and Hispanics.			strain from friends, family or children, marital status, or overall social network size (Zahodne et al., 2019).	
Hernandez, et al., (2018). The Association Between Depression Symptoms and Cognitive Functioning in Older Hispanic/Latino Adults Enrolled in an Exercise Intervention: Results From the “Caminemos!” Study.	To address gaps in the current literature on the association of depressive symptoms and cognitive function by specifically dealing with two major shortcomings (a) minimal to no inclusion of minority or underserved older adult populations (Hispanic/Latino) and (b) absence of longitudinal designs capturing measures of psychological ill being and cognitive across multiple waves.	Qualitative method In-person interview Observational design	(n-572) older Hispanic/Latino Age 60 and above (mean age 73.13) Male 22.90% Female (77.10%)	Exercise classes began 15 min after group discussion session concluded and involved strength, flexibility, and endurance training from the LIfetimeFitness Program (LFP) now called Enhanced Fitness and were conducted by trained and certified LFP instructors. Treatment and control groups received the in-person lectures and exercise sessions separately.	Among Hispanic/Latino adults, they are less likely to be diagnosed when experiencing psychological distress and often hold stigmatizing beliefs regarding mental health treatment which further prevent seeking of care (Lewis-Fernandez, 2005). The current study documents a significant cross-sectional association between depressive symptoms and cognitive functions across study waves in the presence of an exercise.

Rovner, et al. (2018). Preventing Cognitive Decline in Black Individuals with Mild Cognitive Impairment A Randomized Clinical Trial.	The aim is to determine whether behavioral activation prevents cognition and functional decline over 2 years in black individuals with MCI.	Single-center, single-masked, attention-controlled randomized clinical trials.	(n-221) fully eligible participants were randomized Analyses out of 536 individuals. (Average age 70). The mean age 75.8 years. (n-175) women (79%)	Participant were randomized to behavioral activation, which aimed to increase cognitive, physical, and social activity or support therapy, an attention control treatment.	Blacks' individuals have almost twice the rate of dementia as white individuals; the need for culturally competent preventive treatments such as behavioral activation to reduce the burden of dementia and achieve health equity for everyone. No effective pharmacotherapy exists to prevent cognitive decline in persons with MCI, and black individuals are twice as likely to decline cognitively, meet criteria for MCI, and develop dementia as white individuals.
Crawford et al., (2006). Using Reiki to Decrease Memory and Behavior Problems in Mild Cognitive Impairment and Mild Alzheimer's Disease.	This empirical study explored the efficacy of using Reiki treatment to improve memory and behavior deficiencies kin patients with mild cognitive impairment or mild Alzheimer's disease. Reiki is an ancient-on healing technique reputedly developed by in Tibet 2500 years ago.	Quasi-experimental study. Pre-post and pre-test scores of the Annotated Mini-Mental State Examination (AMMSE and Received Memory and Behavior Problems Checklist (RMBPC).	(n-12) participants Age ranges from 60 to 80 Female (67%) American Indians (46%) Remaining White.	Twelve participants were exposed to 4 weeks of weekly treatments of Reiki from two Reiki Master-level practitioners:12 participants served as controls and received no treatment. Reiki treatments were given by two Usui Reiki Masters for 30 minutes per week for 4 weeks. Scores of pre-and post-test of the AMMSE and RMBPC were statically compared.	The Reiki treatments show promise for improving certain behavior and memory problems in patients with mild cognitive impairment or mild Alzheimer's disease. Caregivers can administer Reiki at a little or no cost resulting in significant societal value by potentially reducing the needs for medication and hospitalization. Pre-and post-test scores in the AMMSE and RMBPC in MCI or AD clients were significantly improved after for 30 minutes treatments once per week of Reiki at the $p <00.5$ alpha level.