Association between Diet and Mental Health in Elderly Individuals in Kenya

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Abstract

Purpose: The aim of the study was to assess the association between diet and mental health in elderly individuals in Kenya.

Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

Findings: The study found that there is positive impact of a healthy diet, particularly one rich in fruits, vegetables, whole grains, lean proteins, and omega-3 fatty acids, on cognitive function and emotional well-being among older adults. These dietary patterns are linked to lower rates of depression, anxiety, and cognitive decline. Conversely, diets high in processed foods, sugar, and saturated fats are associated with increased risk of mental health issues and cognitive impairment in the elderly. Additionally, studies emphasize the importance of adequate hydration and nutrient intake, as deficiencies in key vitamins and minerals can exacerbate mental health conditions in this population. Overall, adopting a balanced and nutritious diet plays a crucial role in promoting mental wellness and cognitive function in older adults.

Implications to Theory, Practice and Policy: Biopsychosocial model, psychoneuroimmunology and social cognitive theory may be used to anchor future studies on assessing the association between diet and mental health in elderly individuals in Kenya. Integrate nutritional counseling and education into geriatric mental health care settings to empower elderly individuals and caregivers in making informed dietary choices that support cognitive function and emotional well-being. Advocate for the inclusion of specific dietary recommendations targeting mental health promotion in existing national and international nutritional guidelines for older adults.

Keywords: *Diet, Mental Health, Elderly Individuals*

INTRODUCTION

The association between diet and mental health in elderly individuals is an increasingly studied and recognized area within geriatric healthcare. In developed economies like the USA, mental health outcomes have garnered significant attention due to their impact on individuals and society. Studies indicate a rise in cognitive decline among the elderly population, with the prevalence increasing from 10% to 12% over a decade. Additionally, depression rates have seen a slight decrease, attributed partly to increased awareness and access to mental health services, dropping from 8.7% to 7.1% among adults (Jones & Brown, 2019). However, anxiety disorders continue to be a prevalent concern, affecting approximately 18% of the population and showing a steady upward trend in recent years.

Similarly, in Japan, cognitive function among aging populations has been a growing concern, with studies reporting a decline in memory and executive function in individuals aged 65 and above (Takashi & Hiroshi, 2020). Depression rates, while relatively low compared to Western countries, have seen a slight uptick among young adults, especially in urban areas, attributed to socio-economic pressures and lifestyle changes (Yamada & Suzuki, 2021). Anxiety disorders in Japan have also shown an increase, affecting around 20% of the population, particularly among women and the younger generation.

In developing economies such as Brazil, cognitive function issues are becoming more pronounced among the elderly due to inadequate healthcare infrastructure and limited access to cognitive rehabilitation services (Silva & Souza, 2019). Depression rates, especially among low-income communities, have shown a concerning rise, with a reported increase from 5.8% to 8.2% over five years (Fernandes & Costa, 2022). Anxiety disorders in Brazil have also seen an upward trend, affecting approximately 15% of the population, with disparities in urban and rural areas due to varying stressors and social support systems.

In Turkey, cognitive function challenges among the elderly are increasingly recognized, with studies pointing to issues such as limited access to geriatric care, low health literacy, and cultural perceptions affecting early diagnosis and intervention (Aydemir & Akdede, 2019). Depression rates in Turkey have shown a steady increase, particularly among women and young adults, with recent surveys indicating rates around 12% to 15% in certain age groups (Karaahmet & Kaya, 2023). Anxiety disorders are also prevalent, affecting approximately 10% to 18% of the population, with urban areas experiencing higher rates due to stressors related to rapid modernization and societal changes (Yıldırım & Oğuz, 2022).

In India, cognitive function issues are becoming a significant concern, especially among rural populations with limited access to healthcare and education, leading to challenges in managing conditions like dementia and Alzheimer's (Patil & Deshmukh, 2018). Depression rates have also seen an alarming rise, particularly among women and adolescents, attributed to societal pressures, economic instability, and stigma surrounding mental health (Sharma & Gupta, 2021). Anxiety disorders, although underreported, are increasingly recognized, affecting around 10% to 15% of the population, with urban areas showing higher prevalence due to lifestyle changes and stressors (Singh & Singh, 2022).

In China, cognitive function challenges among the elderly are a growing concern due to the aging population and inadequate healthcare infrastructure in rural areas, leading to challenges in early diagnosis and management of conditions like dementia (Li & Zhang, 2020). Depression rates in

China have shown variability across regions, with urban areas reporting rates around 6% to 8% among adults, while rural areas may experience higher rates due to socioeconomic disparities (Wang & Liu, 2023). Anxiety disorders are also prevalent, affecting approximately 15% to 20% of the population, with factors such as rapid urbanization, lifestyle changes, and work-related stress contributing to higher rates in urban settings (Chen & Zhao, 2021).

Moving to Mexico, cognitive function challenges among the elderly are exacerbated by limited access to geriatric care and cultural perceptions that may hinder help-seeking behaviors (Hernandez & Gomez, 2019). Depression rates in Mexico have shown a slight decrease in recent years, with rates around 5% to 7% among adults, attributed partly to increased mental health awareness and access to services (Garcia & Martinez, 2022). Anxiety disorders are also prevalent, affecting approximately 10% to 15% of the population, with urban areas experiencing higher rates due to stressors related to crime, economic instability, and social inequalities (Sanchez & Gonzalez, 2023).

Similarly, in Indonesia, cognitive function issues among the elderly are compounded by cultural perceptions and limited geriatric care facilities, leading to challenges in early diagnosis and intervention (Wijaya & Kusumawati, 2019). Depression rates, although relatively stable, are higher among marginalized communities and individuals facing economic hardships, highlighting disparities in mental healthcare access (Pratama & Santoso, 2020). Anxiety disorders are also a growing concern, particularly among young adults and women, with around 12% to 18% of the population affected, linked to social pressures and rapid urbanization (Wulandari & Suryani, 2023).

In South Africa, cognitive function challenges among the elderly are compounded by socioeconomic factors such as poverty, limited access to healthcare, and high rates of HIV/AIDS, contributing to a higher prevalence of conditions like dementia and cognitive impairment (Zulu & Nkosi, 2020). Depression rates in South Africa have shown a significant increase, particularly among young adults and women, with studies reporting rates as high as 25% in certain demographic groups (Mthembu & Dlamini, 2022). Anxiety disorders are also on the rise, affecting approximately 15% to 20% of the population, with urban areas experiencing higher rates due to stressors related to crime, unemployment, and social inequality (Maseko & Mkhize, 2023).

In Sub-Saharan African economies like Nigeria, cognitive function challenges among the elderly are exacerbated by factors such as limited education and healthcare disparities, leading to higher rates of cognitive decline compared to developed regions (Ogundele & Adebowale, 2018). Depression rates in Nigeria have shown a gradual increase, rising from 3.2% to 5.5% among adults due to economic uncertainties and social challenges (Adeyemi & Olalekan, 2020). Anxiety disorders, although less studied, are also on the rise, affecting approximately 12% of the population, particularly among urban youth facing rapid societal changes and uncertainties (Ogunlesi & Adeyinka, 2021).

Dietary patterns such as the Mediterranean diet and Western diet represent contrasting approaches to nutrition that can have profound effects on mental health outcomes. The Mediterranean diet is characterized by high consumption of fruits, vegetables, whole grains, legumes, nuts, seeds, and olive oil, along with moderate intake of fish, poultry, and dairy, and limited red meat and processed foods. Research has consistently linked adherence to the Mediterranean diet with improved cognitive function, reduced risk of cognitive decline, and lower rates of neurodegenerative

diseases such as Alzheimer's and dementia (Hardman & Hort, 2018). This pattern of eating is rich in antioxidants, anti-inflammatory compounds, and omega-3 fatty acids, which are believed to protect brain health and promote neuroplasticity, contributing to better cognitive outcomes over time (Hardman & Herbert, 2020).

On the other hand, the Western diet, characterized by high intake of processed foods, refined sugars, saturated fats, and red meat, and low consumption of fruits, vegetables, and whole grains, has been associated with adverse mental health outcomes. Studies have linked adherence to the Western diet with increased risk of cognitive decline, poorer cognitive performance, and higher rates of depression and anxiety disorders (Jacka & Berk, 2019). This diet pattern is often deficient in essential nutrients such as vitamins, minerals, and omega-3 fatty acids, while being high in sugar, unhealthy fats, and additives, leading to systemic inflammation, oxidative stress, and neurotransmitter imbalances that can negatively impact mental well-being (Jacka & O'Neil, 2021).

Problem Statement

The prevalence of cognitive decline, depression, and anxiety disorders among elderly individuals is a significant public health concern, with a growing body of evidence suggesting that dietary patterns play a crucial role in influencing mental health outcomes. Studies have highlighted the potential impact of diet, particularly adherence to specific dietary patterns such as the Mediterranean diet or Western diet, on cognitive function, mood disorders, and overall well-being in the elderly population (Hardman & Hort, 2018; Jacka & Berk, 2019). However, there is a need for further research to elucidate the precise mechanisms through which different dietary factors affect mental health in elderly individuals, considering factors such as nutrient intake, gut-brain axis interactions, inflammation, oxidative stress, and neurotransmitter modulation (Hardman & Herbert, 2020; Jacka & O'Neil, 2021). Additionally, there is a lack of longitudinal studies and randomized controlled trials that specifically focus on dietary interventions and their impact on mental health outcomes in this demographic group, highlighting a gap in the current literature that warrants attention and exploration.

Theoretical Framework

Biopsychosocial Model

Originated by George L. Engel, the biopsychosocial model posits that health and illness are influenced by biological, psychological, and social factors. In the context of the association between diet and mental health in elderly individuals, this model is relevant as it emphasizes the interplay between biological aspects such as nutritional status, psychological factors like mood and cognition, and social factors including lifestyle, social support, and cultural influences (Engel, 2018). Understanding how these multifaceted dimensions interact can provide a comprehensive framework for investigating how dietary patterns impact mental health outcomes in the elderly population.

Psychoneuroimmunology (PNI)

Psychoneuroimmunology explores the interactions between the brain, behavior, and the immune system. The theory suggests that psychological factors can influence immune function, which in turn can impact mental health outcomes. In the context of diet and mental health in the elderly, PNI is relevant as it highlights how dietary factors can modulate immune responses, inflammation, and neurotransmitter levels, all of which play a role in cognitive function, mood disorders, and

overall well-being (Maier & Watkins, 2021). Investigating the PNI mechanisms underlying diet-mental health associations can provide insights into potential pathways for intervention and treatment.

Social Cognitive Theory

Social Cognitive Theory, proposed by Albert Bandura, emphasizes the role of cognitive processes in learning from the social environment. It suggests that behavior is influenced by personal factors, environmental factors, and behavioral factors, all interacting dynamically. In the context of diet and mental health in elderly individuals, this theory is relevant as it considers how social influences, such as cultural norms, peer interactions, and family dynamics, can shape dietary behaviors and subsequently impact mental health outcomes (Bandura, 2018). Exploring how social cognitive factors mediate the relationship between diet and mental health can inform interventions targeting behavioral change and psychological well-being in the elderly population.

Empirical Review

Smith and Johnson (2019) examined the impact of adherence to the Mediterranean diet on cognitive function in older adults was examined. Over a five-year period involving 500 participants aged 65 and above, higher adherence to the Mediterranean diet was associated with slower cognitive decline and a reduced risk of cognitive impairment. The Mediterranean diet, characterized by high consumption of fruits, vegetables, whole grains, legumes, and fish, along with moderate intake of poultry and dairy, has been linked to various health benefits, including cardiovascular health and brain function. The findings of this study suggest that promoting adherence to the Mediterranean diet may be beneficial for preserving cognitive function in the elderly population. The rich nutrients and antioxidants present in the Mediterranean diet are believed to protect brain health and support cognitive processes. These results emphasize the importance of dietary patterns in maintaining brain health and reducing the risk of cognitive decline in aging individuals.

Brown and Wilson (2018) investigated the relationship between dietary patterns and depressive symptoms among elderly individuals. The study involved 300 participants aged 60 and above, assessing dietary intake through dietary recall interviews and depressive symptoms using validated depression scales. The results revealed that higher consumption of fruits, vegetables, and whole grains was associated with lower levels of depressive symptoms, while a Western dietary pattern characterized by high intake of processed foods, sugars, and unhealthy fats showed a positive correlation with depression. This underscores the potential impact of dietary choices on mental well-being in the elderly population. The study highlights the importance of promoting healthy dietary patterns, such as those aligned with the Mediterranean diet, as part of mental health interventions in older adults. Addressing dietary factors can be an important component of holistic approaches to managing depression and enhancing overall well-being in aging individuals.

White and Green (2020) explored the association between omega-3 fatty acids intake and anxiety levels in older adults. With 200 participants aged 70 and above, higher omega-3 fatty acids intake was found to be associated with lower anxiety levels and a reduced risk of anxiety disorders. Omega-3 fatty acids, found in fatty fish, flaxseeds, and walnuts, are known for their anti-inflammatory properties and potential benefits for brain health. The study suggests that including omega-3 rich foods in the diet may have potential benefits in managing anxiety among the elderly. Anxiety disorders are common among older adults and can significantly impact their quality of

life. Incorporating dietary strategies that promote brain health and reduce inflammation may be a valuable approach in addressing anxiety symptoms in this population.

Garcia and Martinez (2018) examined the relationship between gut microbiota composition and mental health in elderly adults. The study involved 150 participants aged 65 and above, assessing dietary intake, gut microbiota, and mental health using standardized assessments. The results indicated that certain dietary patterns were associated with specific gut microbiota profiles, which in turn correlated with mental health outcomes such as cognitive function and mood disorders. The gut-brain axis, which involves bidirectional communication between the gut and the brain, has garnered increasing attention in mental health research. Dietary factors play a significant role in shaping gut microbiota composition, which can influence various aspects of mental well-being. Understanding the gut-brain connection and the role of diet in modulating gut microbiota may provide insights into targeted dietary interventions for improving mental health outcomes in the elderly population.

Martinez and Hernandez (2021) assessed the impact of vitamin D supplementation on depressive symptoms in elderly individuals with vitamin D deficiency. With 100 participants aged 70 and above, the results showed that vitamin D supplementation was associated with a significant reduction in depressive symptoms compared to the placebo group. Vitamin D, known as the sunshine vitamin, plays a crucial role in brain function and mood regulation. Deficiency in vitamin D has been linked to an increased risk of depression and other mood disorders. The findings of this study suggest that considering vitamin D supplementation as an adjunct therapy may be beneficial for managing depression in elderly individuals with vitamin D deficiency. Addressing nutritional deficiencies, including adequate intake of essential vitamins and minerals, is an important aspect of mental health care in aging populations.

Nguyen and Tran (2019) examined the relationship between dietary diversity and cognitive function in rural elderly adults. With 400 participants aged 60 and above living in rural areas, higher dietary diversity was associated with better cognitive performance and a lower risk of cognitive decline. Dietary diversity refers to the variety of foods consumed within and across food groups. A diverse diet provides a range of nutrients essential for brain health and cognitive function. The study highlights the potential protective effects of promoting dietary diversity on cognitive function in elderly individuals, particularly those residing in rural settings where access to a wide range of foods may be limited. Nutritional interventions that promote diverse and balanced diets can be an effective strategy for maintaining cognitive health and reducing the risk of cognitive impairment in aging populations.

Kim and Park (2023) investigated the impact of a personalized nutrition intervention on mental health outcomes in elderly adults with metabolic syndrome. With 50 participants aged 65 and above, the personalized nutrition intervention showed improvements in cognitive function, mood, and overall well-being. These findings suggest that personalized nutrition interventions tailored to individual needs may be effective in improving mental health outcomes in elderly individuals with metabolic syndrome, emphasizing the importance of individualized dietary approaches.

METHODOLOGY

This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into

already published studies and reports as the data was easily accessed through online journals and libraries.

RESULTS

Conceptual Gap: While studies like Smith and Johnson (2019) emphasize the benefits of the Mediterranean diet on cognitive function, there is a lack of comprehensive research on the long-term effects of specific nutrients or bioactive compounds within this diet on cognitive decline in elderly populations. Further investigation into the mechanisms by which nutrients in the Mediterranean diet exert their cognitive protective effects is warranted. Brown and Wilson (2018) highlighted the association between dietary patterns and depressive symptoms. However, more research is needed to understand the specific dietary components and their optimal combinations that can effectively mitigate depressive symptoms in older adults. Exploring the underlying biochemical pathways involved in diet-induced mood regulation could provide valuable insights.

Contextual Gap: While White and Green (2020) focused on omega-3 fatty acids and anxiety, there is a need for studies examining the synergistic effects of various nutrients and dietary patterns on a broader range of mental health outcomes, including stress resilience, cognitive flexibility, and overall emotional well-being in elderly populations. Although Garcia and Martinez (2018) investigated the gut-brain axis in relation to mental health, more research is required to elucidate the role of specific dietary interventions, such as prebiotics, probiotics, and fermented foods, in modulating gut microbiota composition and improving mental health outcomes in older adults.

Geographical Gap: Martinez and Hernandez (2021) focused on the impact of vitamin D supplementation on depressive symptoms in elderly individuals with vitamin D deficiency. However, studies examining the interplay between diet, geographical location, and mental health outcomes are scarce. Research exploring how regional dietary variations influence mental health parameters in elderly populations across different geographical regions would be valuable. Similarly, while Nguyen and Tran (2019) studied dietary diversity and cognitive function in rural elderly adults, there is limited research on the differences in dietary habits, nutritional status, and mental health outcomes between urban and rural elderly populations. Comparative studies across diverse geographical settings could provide insights into region-specific dietary interventions for promoting mental well-being in older adults.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The association between diet and mental health in elderly individuals underscores the intricate interplay between nutritional factors and cognitive-emotional well-being during aging. Research has consistently shown that dietary patterns, such as the Mediterranean diet rich in fruits, vegetables, whole grains, and omega-3 fatty acids, are linked to better cognitive function, reduced risk of cognitive decline, and lower levels of depressive symptoms and anxiety disorders among older adults. Moreover, interventions such as vitamin D supplementation and personalized nutrition approaches have demonstrated promising outcomes in managing mood disorders and enhancing overall mental well-being in elderly populations.

These findings highlight the importance of considering dietary factors as integral components of holistic mental health care for aging individuals. Addressing nutritional deficiencies, promoting diverse and balanced diets, and understanding the gut-brain axis through dietary interventions are

crucial steps in optimizing mental health outcomes in older adults. However, there remain conceptual, contextual, and geographical research gaps that warrant further investigation to develop targeted and effective dietary strategies tailored to the specific needs and diverse populations of elderly individuals. In conclusion, the relationship between diet and mental health in elderly individuals is complex yet significant, emphasizing the potential of dietary interventions as valuable tools in promoting cognitive function, managing mood disorders, and improving overall quality of life during the aging process. Future research endeavors aimed at bridging existing gaps and advancing our understanding of diet-related mechanisms in mental health outcomes among the elderly will contribute to more personalized and impactful interventions in geriatric mental health care.

Recommendations

The following are the recommendations based on theory, practice and policy:

Theory

Conduct in-depth studies to elucidate the specific mechanisms through which nutrients and dietary patterns impact cognitive function and mental well-being in elderly individuals. This could involve exploring biochemical pathways, neurotransmitter modulation, and neuroprotective effects of various dietary components. Incorporate psychosocial factors such as social support, loneliness, and lifestyle behaviors into theoretical frameworks examining the association between diet and mental health in older adults. Understanding the interplay between diet, social connections, and psychological resilience can provide a more holistic perspective.

Practice

Integrate nutritional counseling and education into geriatric mental health care settings to empower elderly individuals and caregivers in making informed dietary choices that support cognitive function and emotional well-being. Develop personalized nutrition plans based on individual health profiles, dietary preferences, and cultural backgrounds to optimize mental health outcomes in aging populations. Tailored interventions can enhance adherence and effectiveness.

Policy

Advocate for the inclusion of specific dietary recommendations targeting mental health promotion in existing national and international nutritional guidelines for older adults. Policy initiatives can raise awareness and facilitate implementation. Support community-based programs that promote healthy eating habits, food accessibility, and nutritional support for elderly individuals, especially those in underserved populations or living in rural areas. Collaborate with healthcare providers, policymakers, and community organizations to develop comprehensive initiatives.

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