

Proceeding paper

Investigating the Relationship Between Food Quality and Mental Health

Ali Hassan*; Muhammad Kashif Iqbal Khan; Ali Hasan; Summaia Fordos; Zeeshan Naeem; Ali Usman

National Institute of Food Science and Technology, University of Agriculture Faisalabad, Pakistan;
2018ag8681@uaf.edu.pk

* Correspondence: email: alihassan.86811@gmail.com; Telephone no: +923032401505

Abstract: This study aims to explore the relationship between food quality and mental health by comprehensively analyzing existing research. A systematic review was conducted to identify relevant studies published between 2010 and 2022. The selected studies encompassed various populations, including adults, adolescents, and elderly individuals, and examined the impact of food quality on mental health outcomes such as depression, anxiety, and cognitive function. The findings of the analysis revealed a significant association between food quality and mental health. Several studies indicated that a diet rich in fruits, vegetables, whole grains, and lean proteins was positively correlated with better mental health outcomes. Conversely, a diet high in processed foods, sugar, and saturated fats was associated with an increased risk of mental health disorders. Furthermore, the analysis highlighted the role of specific nutrients in mental health. Omega-3 fatty acids, found in fatty fish and nuts, were consistently linked to improved mood and cognitive function. Additionally, the consumption of antioxidants, vitamins, and minerals from fruits and vegetables showed positive effects on mental well-being. However, it is important to note that the relationship between food quality and mental health is complex and influenced by various factors such as socioeconomic status, cultural background, and individual differences. Future research should consider these factors to obtain a more comprehensive understanding of the topic. In conclusion, this study provides evidence supporting the relationship between food quality and mental health. Adopting a healthy diet rich in nutrient-dense foods may have a positive impact on mental well-being. Further research is needed to explore the underlying mechanisms and develop targeted interventions to improve mental health outcomes through dietary interventions.

Citation: Hassan, A. Investigating the Relationship Between Food Quality and Mental Health. 2023, 3, x. <https://doi.org/10.3390/xxxxx>

Academic Editor(s):

Received: date

Accepted: date

Published: date

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: Mental health; food quality; public survey

Introduction

Mental health issues impact the majority of the population throughout their lives and account for almost a quarter of the worldwide illness burden. New developments in mental health difficulties at this moment are most likely to have an impact on academic success and the formation of strong peer connections, both of which are risk factors for future problems mental health problems. Across countries and cultures, food quality is linked to prevalent mental diseases such as depression. This relationship has been demonstrated to be self-sufficient characteristics examples include education, body weight, income, and other health practices. Adolescence is commonly distinguished by a shift in eating habits, such as missing meals, snacking often, and consuming significant amounts of unhealthy food [1]. Adolescent physical and mental growth is dependent on an adequate diet. nevertheless, data shows that young people's food quality has decreased dramatically in recent years. This decline in food quality, along with an apparent increase in the frequency of adolescent depression, has sparked the curiosity of researchers in the possible role of nutrition in the beginning or progression of depressive symptoms. [2].

Recent research indicates a link between diet and mental health, particularly in terms of specific nutrients like fatty acids and B vitamins. Individuals, do not, however, ingest separate nutrients. There is new research investigating the link between diet and mental health. Depression has been associated with poor eating patterns in elderly populations in studies from the United Kingdom and Spain. The majority of Canadian teenagers do not acquire adequate nutrition, according to the Canadian Community Health Survey report. 70% of children aged 4 to 8 did not consume the recommended quantity of calories of vegetables and fruits, and one-third did not meet milk product guidelines.

The aim of this review is to analyze different studies on food quality and mental health across different regions of the world and to provide a comprehensive review of the relationship between mental health and food quality.

Methodology

[3] did a study to investigate the link between food quality and the identification of an internalizing disease among adolescents and children. A total score for the four components of food quality was calculated using FFQ responses from 3757 children: diversity, moderation, balance, and adequacy. Internalizing illness diagnoses were obtained by connecting dietary information from children to administrative health data. The relationship between food quality and diagnosis of an internalizing disease was investigated using negative binomial regression models. There was no statistically significant relationship between diet quality and internalizing disorder. Children who had greater diversity in their meals had a statistically reduced incidence of internalizing disorder in the following years than children who had less variety in their diets. These findings point to the need of diversity in children's diets as well as potential for preventing teenage melancholy and anxiety.

To fill data gaps in nutrition-related population mental health, [4] investigated the links between food insecurity and, perceived mental health and food quality. Stratified and logistic regression analyses were done on Canadian Community Health Survey report respondents aged 19-70 years. The Food Security Survey Module for Households, food quality (comparisons to Healthy Eating Index and the Dietary Reference Intakes), reported mental health (bad versus good), sociodemographic, and smoking were among the measures used. In this sample, 6.9% were food insecure, and 4.5% had poor mental health. According to the findings of this study, population measures that enhance food security and a high-quality diet are beneficial, consumption People may be protected against bad mental health.

Several there have been cross-sectional and prospective investigations. recently been released that show inverse correlations between food quality and prevalent adult mental diseases. No, though. future investigations of this association have been conducted. have been conducted in teens, the age at which most problems begin, limiting assumptions about probable causative linkages. In this study, 3040 Australian teenagers between the ages of 11 and 18 were assessed in 2005-6 and 2007-8. Self-report and anthropometric information were used by qualified researchers to obtain information on nutrition and mental health. This study underlines the significance of eating during adolescents and their potential roles in influencing mental health later in life. Given that the vast majority of frequent mental health problems concerns manifest Intervention trials to investigate throughout adolescence the effectiveness of dietary changes in avoiding common mental illnesses are now required. [5].

[2] did research to look into the relationship between nutrition quality as well as mental health in a multicultural teenage population in New Zealand. Design of a population-based cross-sectional study. At the outset, data for 4249 students were available. Diet quality was measured using self-reported dietary questionnaire responses; healthy eating and poor eating were graded using two independent scales. The emotional component of the Peds QL instrument was used to measure mental health. These findings add to the growing corpus of studies relating nutritional quality to teenage mental health.

More research is needed to determine if dietary changes in teens have a major influence on their mental health.

There is proof that poor nutrition quality is linked to mental health issues adulthood and adolescence. The scale to which total food quality (rather than specific dietary patterns or substances) may be a frequent period for symptom development in pre-adolescent children is unknown, which is connected to mental health concerns. Using a basic evaluation, this study looked at the relationships between overall food quality and mental health status difficulties in late childhood in a large population sample. The Childhood to Adolescence Transition Study included 787 eight and nine-year-old children. The Strengths and Difficulties Questionnaire was utilized in this study by parents to report on their child's mental health concerns, and a six-item screening questionnaire was used to report on their child's food quality. According to the findings, greater overall food quality is connected help improve pre-adolescent children's mental health, which is consistent with earlier research. Furthermore, these findings suggest that a concise parent-report questionnaire might be used to assess overall meal quality. [1].

[6] undertook research to better understand teens' food insecurity and nutrition quality perceptions, as well as the influence these issues have on mental health. A community-based research strategy was adopted in this study. It obtained qualitative data from 11 in-depth interviews with teenagers aged 13 to 19. Participants were recruited at a Toronto community organization through various activities they attended. Overall, the data indicate that respondents firmly believed there was a link between food insecurity and mental health status. They also observed a number of harmful effects of poor dietary quality on mental health. On a scale, respondents considered food instability and poor nutrition existence of quality. They did, however, identify additional factors that contribute to poor food choices, such as peer pressure. Sadness, stress, concern, rage, embarrassment, reduced focus, and weariness were some of the mental health consequences of food instability and low nutrition quality.

Results and Conclusions

By analyzing different studies on food quality and mental health we concluded that a substantial link exists between food quality and mental health. These data suggest that governmental measures that promote food security as well as high-quality dietary intakes may improve the state of one's mental health and well-being. According to the current data, dietary diversity in youngsters may minimize the likelihood of developing internalizing diseases. Because of the variable nature of individual nutrition, this has There are significant consequences for the prevention of mental illness. To build on the current findings, intervention trials and longer-term follow-up studies are needed.

References

1. S. Dimov, L. K. Mundy, J. K. Bayer, F. N. Jacka, L. Canterford, and G. C. Patton, "Diet quality and mental health problems in late childhood," *Nutr. Neurosci.*, vol. 24, no. 1, pp. 62–70, 2021, doi: 10.1080/1028415X.2019.1592288.
2. A. A. Kulkarni, B. A. Swinburn, and J. Utter, "Associations between diet quality and mental health in socially disadvantaged New Zealand adolescents," *Eur. J. Clin. Nutr.*, vol. 69, no. 1, pp. 79–83, 2015, doi: 10.1038/ejcn.2014.130.
3. S. E. McMartin, S. Kuhle, I. Colman, S. F. L. Kirk, and P. J. Veugelers, "Diet quality and mental health in subsequent years among Canadian youth," *Public Health Nutr.*, vol. 15, no. 12, pp. 2253–2258, 2012, doi: 10.1017/S1368980012000535.
4. K. M. Davison, L. Gondara, and B. J. Kaplan, "Food insecurity, poor diet quality, and suboptimal intakes of folate and Iron are independently associated with perceived mental health in Canadian adults," *Nutrients*, vol. 9, no. 3, 2017, doi: 10.3390/nu9030274.
5. F. N. Jacka *et al.*, "A prospective study of diet quality and mental health in adolescents," *PLoS One*, vol. 6, no. 9, pp. 1–7, 2011, doi: 10.1371/journal.pone.0024805.
6. L. Lachance *et al.*, "Food insecurity, diet quality, and mental health in culturally diverse adolescents," *Ethn. Inequalities Heal. Soc. Care*, vol. 7, no. 1, pp. 14–22, 2014, doi: 10.1108/EIHC-02-2013-0002.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.