

Poor Nutrition Increases Stress-Related Mental Health Conditions Over Time Among Females

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Abstract

Advancing research of poor nutrition and its impact on mental health is important due to the high rates of stress-related mental health conditions in our society. The present study aimed to examine how poor nutrition increases stress-related mental health conditions over time among females. A national longitudinal study including in-person questionnaire results from a total of 2,761 female participants was used as a secondary data source for this study. This study found an association between poor nutrition (i.e., consuming fast food) and stress-related mental health conditions (i.e., depression and mood swings) among female. By studying the impact food has on mental health, it will provide results to create long term cheaper and early to late intervention approaches to mental health conditions that are accessible to all.

Introduction

Significance of study

- In 2019, there were 350 million people worldwide who struggled with depression, which is a 18% increase over the past decade. Poor nutrition lacks essential vitamins and minerals which result in the decline of mental health. Nutritional disparity, excessive fat consumption, and lack of vitamins cause inflammation and dysregulation of stress hormones. Certain populations affected by depressive symptoms have been treated with vitamin B12 and folate leading to an improvement in mental health after long-term management.

Purpose

- The purpose of this study is to increase knowledge of the impact poor nutrition has on mental health over time among females.

Research Question

- What is the impact of poor nutrition on stress-related mental health conditions over time among females?

Hypothesis

- Poor nutrition increases stress-related mental health conditions over time among females.

Literature Review

- Studies have proven that diets consisting of inflammatory foods are associated with a high risk of depression. Inflammatory foods are consumed more often in poor nutritional diets.
- Brain chemistry is regulated by nutrition; therefore, mental health is affected by what one eats. Antioxidants, minerals, and vitamins help fight oxidative stress in the brain by removing the 'waste' left by oxygen.
- Because women are found to need many more nutrients than men (Is it due to biology that women need more nutrients?), this could be the reason they are twice as likely to be diagnosed with depression and anxiety.
- The foundation of Social Learning Theory and Social Cognitive Theory is that individuals learn from a combination of interactions between individual, environment, and behaviors through social experiences which explains why individuals take on poor nutrition habits in their lifestyle.
- Studies of poor nutrition in connection with mental health among females are informative; however, there are many variables that make this research difficult to conduct which leads to gaps in research.

Methods

Research Design

The current study is a secondary analysis of the data from the National Longitudinal Study of Adolescent to Adult Health, 1994-2018. The National Longitudinal study of Adolescent to Adult Health is a longitudinal study that began in 1994 with 7th - 12th graders nationwide and ended with that group in 2018 when they were ages 33 to 43 years old. The sampling frame for this study was a stratified, random sample of high schools located in the United States. The data used for this study was collected by survey via audio computer-assisted self-interview, computer-assisted personal interview, face-to-face interview, mixed mode, paper and pencil interview, and telephone interview. The first questionnaire, wave I collection, was administered in 1995 at the adolescent's school where researchers asked about demographics, health, friendships, school activities, and household information. An in-home interview was conducted and included talking about family composition, employment, substance abuse, relationship, criminal activity, health, peers, nutrition, and more. There were follow up in-home interviews in 2002 and 2009, asking further questions pertaining to nutrition, health, and lifestyle. The last data collection was in 2018.

Sample

- Wave I consisted of two stages, stage 1 was conducted in the school setting and stage 2 was conducted in the home setting. Schools in the States qualified for stage 1 if they had a minimum of 30 students in the 11th grade. A feeder school, a school that has 7th grade but sends graduates to high school, also qualified to participate. Over 90,000 students from 7th to 12th grade participated in stage 1 of the study. Stage 2 consisted of adolescents from communities and special samples totaling to 27,000 participants. Participants from the special sample qualified for the sample based on responses from the questionnaire in stage 1. There were students who qualified for both samples. The response rate for Wave I was 79.
- Wave II was an in-home interview survey which included close to 15,000 students. These participants were the same students from Wave I, just one year after. Six years later, the Wave III in-home sample included more than 15,000 students. The response rate for Wave II was 88.6 percent and the response rate for Wave III was 77.4 percent.
- Wave IV consisted of Wave I's original in-home participants. These participants qualified to participate in the in-home interview for Wave IV. During this part of the study, participants were living in 50 different states. The administrators located 92.5% of sample from Wave IV. Wave V consisted of all participants who were still alive from Wave I, which included 19,828 participants. The pool of participants in Wave V were put into three groups that were stratified random samples to implement a survey design. The response rate for Wave IV was 80.3 percent and the response rate for Wave V is 71.8 percent.

Measures

Independent Variable: Poor Nutrition

- Participants were asked, "How many times in the past seven days did you eat food from a fast food restaurant, such as McDonald's, Burger King, Wendy's, Arby's, Pizza Hut, Taco Bell, or Kentucky Fried Chicken or a local fast food restaurant?"

Dependent Variables: Mental Health

- Participants were asked, "During the past seven days: You felt depressed."
- Participants were asked, "I have frequent mood swings."

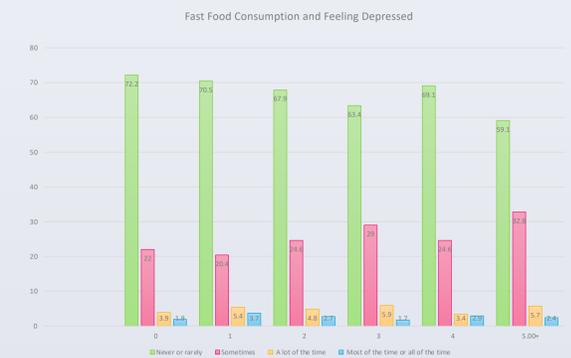
Results

Characteristics of Participants:

- This study included 2,761 female participants with the mean birth year of the participants being 1979 (SD = 1.76).
- The majority of participants in the study reported Protestant (35.6%), followed by Other Christian (22.9%), and Catholic (17.8%).
- The top three highest level of education reported were; some college (34.4%), completed college (bachelor's degree) (21.4%), and high school graduate (13%).
- The top three reported total household incomes were; \$50,000 to \$74,999 (24.3%), \$75,000 to \$99,999 (13.9%), and \$40,000 to \$49,999 (11.3%). The majority of participants reported language used mostly with family was English (75.8%), followed by Spanish (19.3%).
- When asked about general physical health, participants reported; excellent (17.0%), very good (38.6), good (33.6), fair (9.4%), and poor (1.4%). Only about 11% of participants report general physical health as fair to poor.

Fast Food Consumption and Feeling Depressed

- A chi-square test was calculated comparing the frequency of fast-food consumption in relation to depression symptoms in the past seven days. A significant association was found ($\chi^2(15) = 34.15, p = .00$), while a Cramer's V statistic suggested a weak relationship (0.6). Females who ate fast food 5 times or more were significantly more likely to be depressed (32.8%). In contrast, females who never consumed fast food, never or rarely felt depressed (72.2%).



Fast Food Consumption and Frequent Mood Swings

- A chi-square test was calculated comparing the frequency of fast-food consumption in relation to having frequent mood swing. A significant association was found ($\chi^2(20) = 52.60, p = .00$), while a Cramer's V statistic suggested a weak relationship (0.6). Females who ate fast food 5 times or more were significantly more likely to have frequent mood swings (30.8%). In contrast, females who never consumed fast food, did not have mood swings (9.0%).

Discussion

Strengths & Limitations:

- With the large group of participants, it captured a variety of backgrounds, dietary consumptions, and lifestyles.
- Results are based off a longitudinal study which captures participants who were invested for years.
- During the 90's and early 2000's food and mental health were different compared to today
- The stigma against mental health during 1994-2008 impacts results.

Implications & Future Research:

- Advancing research in food and its impact on mental health is important due to the high rates of mental health conditions in society.
- Changing the perspective of causation of depression with research may eliminate stigmatization and increase rates of receiving mental health services.