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Depression Among Fast Food And Traditional Food Users In Adults

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ABSTRACT
Background: The impact of nutrition on psychological health is increasingly recognized, with the field of nutritional psychiatry highlighting its significance. The aim of this study was to determine the depression level among fast food and traditional food users in adults.
Methods: This study examines the relationship between fast food consumption, traditional food consumption, and depression among 157 participants from Islamabad and Rawalpindi, Pakistan. Using a convenience sampling method, data were gathered through a cross-sectional study employing the Beck Depression Inventory (BDI) and the Food Frequency Questionnaire (FFQ).
Results: The sample predominantly consisted of males (54.1%), unmarried individuals (75.2%), those of middle socioeconomic status (84.7%), and participants living in a joint family system (54.8%). The highest educational level achieved by the participants was a Bachelor's degree (44.6%), with an average age of 23 years (SD=16.6). Descriptive analysis outlined the demographic characteristics, while independent sample t-tests and one-way ANOVA assessed the associations between the variables. Findings revealed significant mean differences in depression scores between fast food consumers and traditional food consumers, with fast food consumers showing a higher risk of depression ($p<0.001$). Moreover, married fast food consumers exhibited significantly higher depression scores compared to their unmarried counterparts ($p<0.001$). No significant gender differences were observed in depression scores.
Conclusion: Overall, the study suggests that fast food consumption is linked to an increased risk of depression compared to traditional food consumption, highlighting the potential negative effects of fast food on mental health and the importance of dietary choices in managing depression. These results point to the necessity for further research on dietary habits and mental health, as well as the implementation of public health strategies to encourage healthier eating practices.
Keywords: Nutrition, mental health, dietary preferences, Traditional food, Fast food, Depression.

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INTRODUCTION

Depression is a complex mental health disorder characterized by persistent sadness, loss of interest in activities, changes in appetite or weight, sleep disturbances, fatigue, feelings of worthlessness, difficulty concentrating, and recurrent thoughts of death or suicide. These symptoms must persist for at least two weeks and cause significant distress or impairment in daily functioning.[1, 2]

The impact of nutrition on psychological health is increasingly recognized, with the field of nutritional psychiatry highlighting its significance.[3] Proper nutrition is essential for brain function and plasticity,[4] and childhood nutrition is strongly linked to the risk of psychiatric disorders later in life.[5] Proteins and amino acids from food influence sleep quality by modulating neurotransmitter production.[6] Balanced intake of macronutrients, including amino acids and fatty acids, is crucial for brain health, as emphasized by the World Health Organization.[7]

Amino acids such as tryptophan, methionine, and serine are vital for cognitive function, with deficiencies linked to cognitive decline.[8] Fatty acids also play a significant role, with polyunsaturated fatty acids (PUFAs) being beneficial for cognitive abilities compared to saturated fats.[9] Additionally, vitamins and minerals are indispensable for brain development and function, with deficiencies linked to psychiatric disorders.[10] Minerals like iron, iodine, and zinc are crucial for neurotransmitter synthesis and synaptic plasticity.[11,12]

Understanding the role of nutrition in mental health is essential for promoting psychological well-being.[13] This study aims to explore the relationship between fast food consumption, traditional food consumption, and depression among individuals in Islamabad and Rawalpindi, Pakistan.

The global surge in fast food consumption has raised concerns about its adverse effects on health, particularly contributing to rising obesity rates, cardiovascular diseases, and mental health issues. Children's preference for fast food often leads to reduced intake of essential nutrients like fruits, vegetables, and fiber while increasing consumption of sugars and sodium (Rosenheck et al., 2008). Studies have linked excessive fast food intake with obesity-related medical conditions and behavioral factors such as sedentary activities (Bauer et al., 2009; Larson et al., 2009). Fast food's high calorie, low-nutrient profile exacerbates weight gain and nutritional deficiencies, further impacting overall health (Cummins et al., 2005). Despite growing

awareness, fast food consumption continues to rise, necessitating caution and informed choices (Farzan et al., 2013).

This study found a significant association between fast food consumption and increased risk of depression. Fast food, characterized by unhealthy fats, sugars, and processed ingredients, contributes to mental health issues through inflammation and impaired neurotransmitter function. It is also linked to unhealthy lifestyles, including sedentary behavior and irregular sleep patterns, which exacerbate depression. In contrast, traditional Pakistani cuisine, rich in nutrients from staples like roti, lentils, and yogurt, promotes better mental health. Supporting research underscores the role of nutrient deficiencies in depression. Notably, our study did not find significant links between depression and gender, marital status, family system, or socioeconomic status, highlighting the complexity of depression's causes and the influence of various factors beyond these demographic variables.

This study was conducted from April-May 2023 in Rawalpindi-Islamabad. The age range was 18 years and above. A total of 150 participants (n=150) were approached for the data collection of the current study. The sample was selected through convenient sampling.

MATERIAL AND METHODS

This cross-sectional study was conducted in Islamabad and Rawalpindi, Pakistan. Participants were recruited through convenience sampling from various settings, including educational institutions, workplaces, and community centers. The sample consisted of 157 individuals with diverse backgrounds, ensuring a balanced distribution of gender, marital status, family system, and socioeconomic status.

Beck Depression Inventory (BDI): The BDI, with a Cronbach's alpha of 0.91, indicating high internal consistency, was used to measure the severity of depression among participants.

Food Frequency Questionnaire (FFQ): The FFQ, with a Cronbach's alpha of 0.80, indicating high internal consistency, was used to assess the dietary habits of participants, specifically focusing on their consumption of fast food and traditional food.

Participants completed the BDI and FFQ to provide data on their depressive symptoms and dietary habits. The questionnaires were administered in person, ensuring that participants understood each item correctly.

Descriptive statistics were used to summarize the demographic characteristics of the sample. Independent sample t-tests and one-way ANOVA were conducted to examine the associations between dietary habits (fast food vs. traditional food consumption) and depression scores. The internal consistency of the instruments was evaluated using Cronbach's alpha.

RESULTS

The demographic analysis revealed that the majority of participants were male (54.1%) compared to female (45.9%). Most participants were unmarried (75.2%), from joint family systems (54.8%), and belonged to the middle socioeconomic class (84.7%). Regarding educational levels, the highest proportion of participants held a Bachelor of Science (BS) degree (44.6%), followed by Bachelor (BA/BSc) (30.6%), intermediate (10.8%), MS/MPhil (8.9%), metric (4.5%), and PhD (0.6%) (Table 1 & 2).

Table 3 revealed a significant mean difference on Beck depression Inventory with t (155) = -4.38. $p<0.001$. Findings showed that fast users exhibited higher scores Beck Depression Inventory (M =2.93, SD = 1.28) compare to Traditional food participants (M = 1.31, SD=1.37). The value of Cohen's d was 1.22(>0.80), which indicate the large effect size.

Table 4 revealed independent Sample T-test: Significant differences were found in depression scores between fast food users and traditional food users ($t(155) = -4.38$, $p < 0.001$). Effect Size: The effect size was large (Cohen's d = 0.80), indicating a strong association between fast food consumption and higher depression scores.

Table 1: Demographic characteristics of study variables (n =157)

Variable	N	%
Gender		
Male	85	54.1
Female	72	45.9
Marital Status		
Single	118	75.2
Married	39	24.8
Socioeconomic Status		
Lower	13	8.3
Middle	133	84.7
Upper	11	7.0

Table 2: Education of the study participants (n=157)

Variable	N	%
Matric	7	4.5
Intermediate	17	10.8
BA/BSc	48	30.6
BS Degree	70	44.6
MS/ MPhil Degree	14	8.9
PHD	1	0.6

Table 3: Mean comparison Depression among Traditional users

Variable	Fast food User		Traditional food users		t(155)	P	Cohen's d
	M	SD	M	SD			
BDI	2.93	1.28	1.31	1.37	-4.38	0.00	1.22

Note. BDI Beck Depression Inventory

Table 4: Mean comparison of Martial Status Depression, Fast Food and Traditional Food

Variable	Male		Female		t(155)	P	Cohen's d
	M	SD	M	SD			
BDI	1.27	1.25	1.69	1.62	-1.85	0.007	0.32
FFQ							
TFU	8.07	1.64	8.17	1.15	-.42	0.68	0.07
FFU	3.69	1.79	4.25	2.46	-1.63	0.10	0.26

Note. BDI = beck depression inventory, FFQ = Food frequency questioner (TFU = Traditional food user, FFU = Fast food User

Table 5: Mean comparison of Gender on Depression, Fast Food and Traditional Food

Variables	Single		Married		t(155)	P	Cohen's d
	M	SD	M	SD			
BDI	1.43	1.45	1.56	1.43	-49	0.62	0.09
FFQ							
TFU	8.13	1.42	8.05	1.47	-32	0.75	0.05
FFU	3.58	1.79	5.05	2.70	-3.87	0.00	0.64

DISCUSSION

This study found a significant association between fast food consumption and an increased risk of depression, aligning with previous research that links unhealthy diets to mental health issues.[14,15] The Fast food's high content of unhealthy fats, sugars, and processed ingredients may lead to inflammation and impaired neurotransmitter function, contributing to depression.[16,17] Additionally, the overall unhealthy lifestyle often associated with fast food consumption, such as sedentary behavior and irregular sleep, further exacerbates depressive symptoms.[18,19]

Nutritional deficiencies, particularly in essential fatty acids and folic acid, are linked to Major Depressive Disorder (MDD) and can be mitigated through dietary interventions[^7^][^8^]. Studies indicate that nutrient deficiencies are common in Western diets and among low-income individuals, who are at higher risk for depression.[20,21] Our results are consistent with findings which show that good eating habits and adequate micronutrient intake are associated with lower depression risk.[22,23] Similarly, highlighted the importance of polyunsaturated fatty acids and flavonoids in reducing depression risk.[24,25]

We did not find significant relationships between depression and demographic factors such as gender, marital status, family system, and socioeconomic status, suggesting that other factors like genetics, coping mechanisms, and social support may play more significant roles.[26,27]

In summary, this study emphasizes the critical impact of diet on mental health, advocating for healthier eating habits to reduce depression risk. Further research should explore the complex interactions between diet, lifestyle, and mental health.[28,29]

Our study has limitations, including the use of convenience sampling and self-reported data, which may affect the generalizability and accuracy of the findings. Additionally, the cross-sectional design limits the ability to infer causality. Future research should employ longitudinal designs and more diverse sampling methods to validate and extend these findings. Addressing these limitations will help to better understand the complex relationship between diet and mental health, ultimately aiding in the development of comprehensive public health strategies. Future research should continue to explore the underlying mechanisms linking diet and depression and investigate other potential risk and protective factors associated with depression. By expanding our knowledge in this area, we can develop more targeted and effective strategies for preventing and managing depression, particularly in populations with high rates of fast food consumption.

CONCLUSION

Our study provides evidence of a significant association between fast food consumption and an increased risk of depression. The findings underscore the importance of dietary choices in mental health outcomes, suggesting that higher consumption of fast food may contribute to the development and exacerbation of depression. Furthermore, our study did not find a significant association between depression and gender, marital status, family system, and socioeconomic status. This suggests that these specific demographic and socioeconomic factors may not be strong predictors of depression risk in our study population. Given the potential negative impact of fast food consumption on mental health, it is crucial to prioritize public health interventions that promote healthy eating habits and raise awareness about the potential risks associated with fast food consumption.

ETHICAL CONSIDERATIONS

The study was conducted following ethical guidelines, and informed consent was obtained from all participants. Confidentiality and anonymity were ensured throughout the research process.

This methodological approach ensures a comprehensive analysis of the relationship between dietary habits and depression, with robust statistical

validation and high internal consistency of the measurement instruments.

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