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The Nexus Between Family Food Insecurity and Mental Health of its Members: A Review

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Abstract

Food is one of the primary sources of sustainability for families. A family with inconsistent access to adequate, safe, and nutritious food is considered food insecure, which can negatively impact their mental well-being. Studies have shown a significant increase in the number of food-insecure Nigerians, rising from 66.2 million in Q1 2023 to 100 million in Q1 2024. This paper reviewed existing literature on family food insecurity, its causes, and its consequences for the mental health and well-being of families, utilizing Google Scholar as the search tool. The literature established that family food insecurity is significantly linked to anxiety, emotional distress, depression, and other mental health issues among family members. Poor mental health can hinder the ability to access safe and nutritious foods; thus, as access to adequate food and nutrition decreases, family members experience increased anxiety, emotional distress, and depression. Additionally, worsening mental health can lead to decreased productivity among family members, further intensifying food insecurity, thus creating a cyclical relationship between food insecurity and mental health. Policy and public health interventions must address the intertwined issues of food insecurity and mental health. Therefore, there is a call to action for food security to be included as a critical component of primary healthcare that every family should have access to.

Keywords: Nutrition, safe food, mental well-being, poverty, depression, stress.

Introduction

One of the main sources of human survival is food. It not only nourishes the body for a healthy life but also reflects people's socioeconomic class and culture. The adage, health is wealth is usually reflected in the food consumption patterns of individuals and families. Food as the bedrock of life is the main reason why agriculture remains one of the most fundamental determinants of a country's overa l sustainable development (Ajibade, et. al., 2019). Food insecurity has been a global health issue that has dominated the attention of various governments. The abundant production or scarcity of food could go a long way to either

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endanger economic productivity and growth or jeopardize them. The reasons United Nations (UN) prioritized food production and availability as its number 2 of the 17 sustainable development goals. The Sustainable Development Goal 2 (SDG 2) is a global commitment to end hunger, achieve food security, and promote sustainable agriculture by 2030 (Gil, et al., 2019). Food security is when individuals and families have steady access to adequate food (Koroma, et al., 2024). According to Lopes et al. (2023) and Giacoman et al. (2021), the four pillars of food security are availability, access, use, and stability. Food insecurity has been linked to poor dietary outcomes and a higher risk of diet-related non-communicable diseases such as diabetes mellitus, renal and liver diseases, cardiovascular diseases, and some types of cancers (Wright et al., 2019).

According to Khalil, (2022) and Stenfanska, et al. (2017), an individual's nutritional status is influenced by adequate food access, socioeconomic status, life stage, and the environment. Although first noticed after the 2008 global economic crisis, there has been a rising trend in the number of families facing food insecurity (Bell et al., 2022). Globally, 795 million people suffer food insecurity (Jones (2017) with one out of ten persons globally suffering chronic food insecurity (WHO 2023). Food insecurity impacts 13.7 million households in the United States (Cain et al., 2022) and about 100 million Nigerians in the first quarter of 2024 (WFP 2024). Globally, as of 2020, 828 million people experience hunger (FAO; IFAD; UNICEF; WFP; WHO, 2022). In Africa, 52.5% of its population, or 676.1 million people, experienced moderate to severe food insecurity in 2018. Currently, food insecurity has been exacerbated by climate change, the COVID-19 pandemic (Osei-Owusu et al., 2024), civil conflicts within and between countries and economic downturns (Trudell et al., 2021). This implies that food insecurity is not restricted to a section of the world alone but is a global phenomenon. Women (mothers, pregnant and lactating mothers), young children and single parents have been reported to be the most vulnerable impacted in families experiencing food insecurity (Bell et al., 2022). On the other hand, according to Osei-Owusu et al. (2024), older citizens are more susceptible to food insecurity in low- and middle-income nations. It is important to note that an upturn in the economic state of families may go a long way to affect the food security of the family (Ahmad, et al., 2021).

Mental health may be described as the psychological state of an individual which determines how he/she interacts with the environment and people around them (Wren-Lewis & Alexandrova, 2021). Anxiety and stress have been described as predisposing factors to mental health issues. Freeman (2022) described mental health as the health condition that allows people to manage life's stressors, reach their full potential, learn and work effectively, and give back to their communities. Mental health is a component of healthy living that has to do with the state of the mind of an individual (Obumse & Egenti (2021). It is the reflection of how people perceive events around them and determines an individual's social functioning or

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competencies (Blerta, 2019; Bierman & Welsh, 2018). Furthermore, mental health influences every aspect of life throughout the life cycle including academic and career achievements (Obumse & Egenti 2021; Vanderlind, 2019).

The mental health of families may be influenced by factors such as economic status (Ahmad, et al., 2021), social status, and medical conditions of members of the family (Jones, 2017). Food insecurity has some negative effects on families. It could cause children to develop socially deviant behaviours such as drug abuse, stealing, bullying, and social segregation or discrimination at school (Smith, et al., 2023). Finlay (2019) added that it could lead children to scavenge for food in bins, be humiliated by peers in school for food, steal other children's money for food, and even sell illicit drugs to make money for food. Food insecurity further exacerbates poverty, Wigth, 2014, conflict and stealing (Suri & Ray, 2025), under-nutrition and ill health (Jones, 2017), stunted growth in children, and early obesity (Bernal et al., 2014)

The major objective of this review is to examine the nexus between family food insecurity and the mental health of its members, highlighting the multiple impacts of limited access to adequate food on the mental health of the family. The outline of this review is as follows:

- Conceptualization of family food insecurity
- Causes of food insecurity
- Nexus between Food Insecurity and Mental Health: What Research Holds
- Conclusion
- Recommendation

Conceptualization of Family Food Insecurity

Food insecurity is defined as the inability to consistently obtain adequate food for an active, healthy life (Ahmad et al., 2021; Bell et al., 2022; Brown et al., 2019). It refers to the lack of adequate, sufficient, and safe food for daily consumption to meet an individual's nutritional needs. Food insecurity arises when food is not regularly available to provide the necessary nutrition for families (Ahmad et al., 2021; FAO, IFAD 2013; Jones 2017). Individuals and families struggle to access nutrient-dense food needed to meet their dietary requirements consistently (Smith et al., 2023). It often manifests through micronutrient deficiencies (Lopes et al., 2023) and poorly diversified diets (Gassara & Chen 2021). Lopes (2023) noted that family food insecurity is marked by a lack of or insufficient food, deficiency of essential nutrients, inadequate nutrition and dietary education, poor food storage conditions, ineffective nutrient absorption, and generally poor nutrition among family members.

Ahmad et al., (2021) and Suri and Ray (2025) identified three forms of food insecurity: acute, occasional, and chronic. Acute food insecurity is a severe case of food insecurity, which is usually caused by natural disasters such as famine, drought, war, flood, etc. Occasional food insecurity is when food insecurity is temporary; this occurs when crops are planted newly thereby reducing the level of available consumable crops. This usually ends when the first harvest emerges. Also,

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this may occur when there is financial scarcity in families which prevents them from buying food to stock at home at the right time. The third is chronic insecurity which is a consistent re-occurrence of insecurity of food (Ahmad et al., 2021; Suri & Ray, 2025).

Causes of Food Insecurity

Many factors are associated with the causes of food insecurity (Wubetie et al., 2023). These factors could be grouped as natural or man-made factors. The natural factors include natural disasters like volcanic eruptions, wildfires, earthquakes and the effect of climate change such as floods, drought or changes in rain patterns (Change 2016; Prospects, U. N. 2019). The man-made factors include wars and civil strife, migration, urbanization, poverty, inflation, and unemployment (Ben Hassen & El Bilali 2022; Nchasi et al., 2022; Picchioni et al., 2022; WHO 2019; Wubetie et al., 2023)

Several studies have shown that socioeconomic factors are one of the major causes of man-made food insecurity. Economic slowdowns raise the rate of food insecurity in most countries, especially low-income countries (Dasgupta & Robinson 2022; Nchasi et al., 2022; WFP & UNICEF 2022). According to the World Food Program (WFP) and UNICEF (2022), Jones (2017) and Blake (2019), sub-Saharan Africa has higher rates of food insecurity due to income inequality resulting from unemployment and poverty. Poverty is usually a byproduct of unemployment, and both are interwoven in mutual causation and functionality. Unemployed people have a higher tendency to be poor because they lack the financial capacity to purchase food or engage in agricultural activities such as the purchase of agricultural inputs. Ahmad et al., (2021) observed that poverty remains a major factor that propels food insecurity. Households with low incomes are likely to be food insecure (Nzuza, 2016). In a survey conducted in Ado-Ekiti among households, food insecurity indices were reported to have declined with higher income levels but increased with household size and number of dependents (Akerele et al., 2013). Smith et al. (2023) further added that the level of income of the family positively correlates with the food security of the family. Thus, there is a link between the economic status of the family and food insecurity.

Overpopulation could also undermine food availability. An area with high population density will likely have the problem of food insecurity. According to WFP (2018), an increase in population makes resources scarce and this can lead to inflation. An increase in population in a community could be a result of migration or urbanization. The International Food Policy Research Institute (IFPRI, 2019) noted that the migration of people from one end to another could increase the rate of population and reduce the rate of food supply in the area. For instance, the influx of internally displaced persons (IDPs) in camps may lead to an increase in the population in a particular camp and may strain the available food supply.

Urbanization is another factor associated with food insecurity. Massive movement of families and young people to urban areas limited

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farming spaces tend to reduce the population of the productive population in the rural areas mostly known for farming (Deng et al., 2015; Maja & Ayano 2021). In other words, urbanization limits the production of food but increases the rate of demand for food, thereby resulting in food insecurity.

Food insecurity in many cases could be a cause and consequence of conflicts. Suri and Ray (2025) noted that conflict disrupts agricultural outputs, the food supply chain, and sources of revenue for the family by limiting access to resources. Climate variation also adversely affects the rate of food production, availability, and even consumption. According to FAO (2016), drought, flooding, and wildfires can reduce the productivity rate of farmers, and this could lead to food scarcity and inflation. This is especially true with the case of flooding that usually happens in Nigeria between August and September. In addition, the unpredictable nature of the rainy and dry seasons in recent times has made farmers uncertain of when to cultivate without unnecessary losses. This is worsened by the scarcity of irrigation facilities leading to the over-dependence of farmers on natural rain for cultivation. According to Khalid, et al. (2021) and Ae-Ngibise et al. (2021), climate change and consequent reduction in rainfalls have continued to disrupt food availability in sub-Saharan Africa. Therefore, there is a need to devise a means of adapting to the changes of nature.

Nexus between Food Insecurity and Mental Health: What Research Holds

Food insecurity is a social construct, yet its influence extends across the political, economic, physiological, and psychological states of individuals and families. Studies have reported interconnections between mental health and food insecurity in families (Myers, 2020; Smith, et al., 2023; Suri & Ray, 2025). Food insecurity has been linked to poor mental health. In a systematic study conducted in the United States by Cain et al. (2022), the results revealed a significant association between food insecurity and mental health outcomes in both children and parents. It showed a statistically significant relationship between family food insecurity and symptoms of stress, anxiety, and depression, especially among parents. Also individuals with mental health issues have been known to be food insecure implying that the connection between food insecurity and mental health is bidirectional (Abeldt, 2024). Similarly, Fang et al. (2021) found that among low-income Americans, food insecurity was more likely to increase mental disorders than job loss during the COVID-19 pandemic. It associated the relative risk of mental illness arising from food insecurity to almost three times that of job loss during the pandemic. Food insecurity accounted for over 250% of the causes of mental disorders, including anxiety (257%) and depression (253%) among family members (Fang et al., 2021). In Myers' (2020) review study, food insecurity was reported to have a positive significant association with mental disorders among people of various age groups. It could adversely affect the mental health of family members, which could, in turn, impact on the

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overall well-being of the family (Myers, 2020; Puddephatt et al., 2020; Smith, et al., 2023; Suri & Ray, 2025; Thompson et al., 2018). The implication of this trend is that the longer food insecurity persists, the more likely mental disorders are to occur.

According to Suri and Ray (2025), prolonged food insecurity exacerbates psychological depression and emotional distress, resulting in a vicious cycle that prevents access to adequate food and nutrition and further impairs mental health and well-being. The lack of assurance of where and when the next family meal would come from may create some anxiety, especially for parents in the family. People who suffer from depression may not be able to function properly to produce food or make money to be used to purchase food (Tarasuk, 2018). Therefore, it may be implied that food insecurity positively correlates with the poor mental health of family members (Fang, et al., 2021; Jessiman-Perreault & Mclntyre, 2017; Jones, 2017; Myers, 2020; Tarasuk et al., 2018). Tarasuk et al. (2018) observed that in Ontario, Canada mental health issues were more common among individuals experiencing food insecurity. This suggests that apart from other factors, mental well-being is majorly determined by the level of food security of the family. In a related study in the United Kingdom, Puddephatt et al. (2020) and Thompson et al. (2018) reported a nexus between food insecurity and mental health. They observed physical and emotional stress plus anxiety in families that are food insecure. This phenomenon may trigger or worsen any existing mental health challenges. Smith, et al. (2022) added that food insecurity could lead to low mood and low energy. This also may be a precursor to mood swings, depression, and depression among family members.

In a study conducted in urban Maputo, Militao et al. (2024) revealed a significant difference in the mental health outcomes between family members who suffered from food insecurity and those who did not. This difference indicated that those experiencing food insecurity had 25.79% poor psychological health compared to 0.26% of those without food insecurity. They further stated that heads of families with low income reporting food insecurity had poorer mental health compared to heads of families with higher income and food security. Weaver et al. (2021) added that the frustration from being unable to obtain desired or preferred food or acquiring food through socially undesirable means could lead family members to develop depression, stress, sadness, and low self-esteem. Mahfouz et al. (2021) explained that in Egypt, symptoms of mental disorders such as depression and anxiety were significantly more prevalent among mothers from food-insecure homes than among those from food-secured homes. This assertion aligns with that of Suri and Ray (2025), who argued that mothers in food-insecure households exhibit aggressive tendencies that negatively impact their children's social development. Thus, family food insecurity may contribute to maternal mental distress, as mothers experiencing severe food insecurity tend to suffer 13 times more mental

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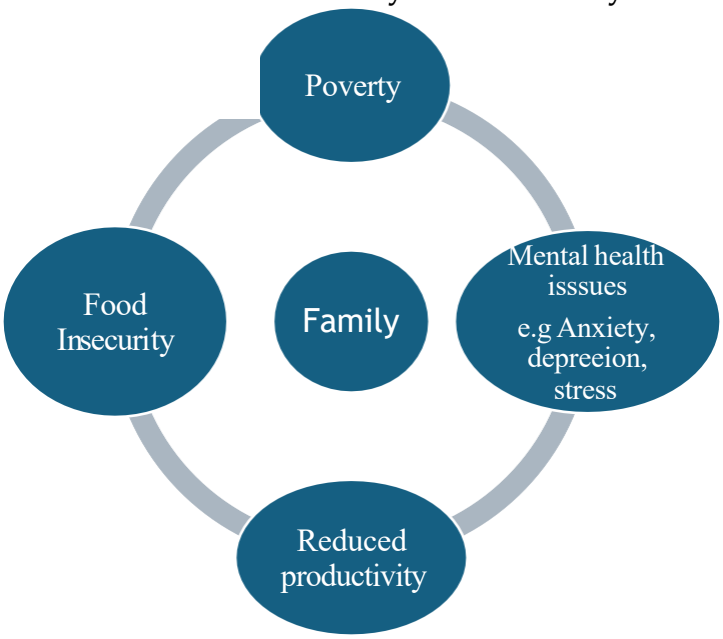
distress than those with food security (Mahfouz et al., 2021). Another study conducted by Ae-Ngibise et al. (2021) in West Africa showed that food-insecure families displayed symptoms of anxiety, sleeplessness, emotional instability, intellectual disability, and general mental instability.

In their study, Pourmotabbed et al. (2019) observed that food insecurity positively correlated with the risk of depression and stress, but not with anxiety. They emphasized that older people 65 years and above had a higher risk of depression than younger people. Although men have been reported in America to have more tendency to develop depression due to food insecurity (Pourmotabbed, et al., 2019), a recent study by Ahmad et al. (2021) and Suri and Ray (2025) showed that women suffer more mental illness such as depression during food insecurity than men. This may be because women are primarily responsible for managing and preparing food in the home.

From the foregoing, several studies have documented the link and negative effect of food insecurity on mental health. Food insecurity may be a risk factor for people who are developing a mental illness or with an existing mental illness (Abeldt, 2024; Tirfessa, et al., 2020). Considering the population of food-insecure families and the implication of this trend raises serious public health concerns.

Figure. 1: The Interconnection of Family Food Insecurity and Mental Health



Source: Authors' illustration based on literature

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Figure 1 above shows a graphic illustration of the cyclical nature and nexus between family food insecurity and mental health as reviewed in literature used for this paper. It shows that a downward change in the family income level sets the stage for food insecurity. Food insecurity leads to hunger. Hunger creates a feeling of anxiety, emotional stress, depression, anger and low self-esteem, all predisposing factors to mental health challenges. This condition of poor mental health affects the level of productivity of the family members and deepens poverty and the vicious cycle continues.

Conclusion

Household food insecurity is a global phenomenon that extends to all populations but is more severe among low-income families. Studies reviewed have established a positive significant correlation between the family's food insecurity and the mental health and well-being of its members (both parents and children). Food insecurity may impact mental health directly by causing emotional stress and depression in individuals and families. The argument put forth is that the likelihood of experiencing anxiety, emotional stress, and depression is increased when one does not have consistent and stable access to adequate, safe, and nutritious food required to meet the daily nutritional requirements. Mental illnesses increase the number of social deviants, halt the contributions of citizens, and further deepen poverty. This raises serious public health concerns, especially among low-income families and/or in developing countries that have a higher percentage of food-insecure families. The connection between food insecurity and mental health is complex and cyclical. The more food insecurity persists in households or families, the more the mental health of its members deteriorates. Poor mental health further reduces the productivity of family members thus intensifying food insecurity.

Recommendations

The paper recommends as follows:

1. The federal and state governments should put in place social invention programmes that will address the issue of food security such as the implementation of conditional cash transfer to indigent families, food stamps, free access to farm implements and inputs, and school feeding programmes.
2. There should be a collaboration between the government and the private sector to intensify efforts in food production, processing, preservation, and storage to ameliorate food insecurity. This will ensure a regular food supply and prevent scarcity of staple foods.
3. Food security should be made a very significant component of primary healthcare that every family ought to access.
4. There is also the need for further research to investigate the impact of family food insecurity from the aspect of mental disorder of family members in Nigeria.

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