

The Link Between Malnutrition and Depression: A Review

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Abstract

Malnutrition is a global public health problem having negative effects on development. Despite this fact, the progress to meet the 2025 global nutrition targets is not satisfactory. The burden of deaths and disability caused by neurological disorders is increasingly being recognized as a global public health challenge. Therefore, this review aimed to identify the relationship between malnutrition and depression. There is a vice versa relationship between depression and malnutrition. Hence, addressing nutritional concerns may help alleviate symptoms of depression, and the prevention and control of depression can improve nutritional status.

Keywords: *Malnutrition; Depression; Review*

Introduction

Malnutrition is a global public health problem having negative effects on development. Despite this fact, the progress to meet the 2025 global nutrition targets is not satisfactory. The rate of underweight is up to ten times higher in developing countries as compared to developed countries. However, over nutrition is five times higher in the developed countries [1].

Globally about 149 million children aged under five years are stunted, 49.5 million are wasted and 40.1 million are overweight [1]. In addition, 677.6 million adults are obese. Anaemia and obesity are common among women in the reproductive age group compared to men [2].

At a global level, one-in-four people will likely experience a mental health problem at some point in their lives. About 13% of the global burden of disease is attributed to mental, neurological and substance use disorders [3]. The burden of death and disability caused by neurological disorders is increasingly being recognized as a global public health challenge. Globally, neurological disorders are the leading cause of disability and the second leading cause of death [4].

Over 300 million people are suffering from depression, and 800,000 deaths each year [3]. The disability risk among depressed is increased by 23-fold as compared to the general population [5]. It is the leading cause of disease-related disability in women and adversely affects the health and well-being of mothers and their children [6]. Therefore, this review aimed to identify the relationship between malnutrition and depression.

Evidence on depression as a risk to malnutrition

Depression is characterized by increased sadness and anxiety, loss of appetite, depressed mood, and a loss of interest in pleasurable activities. This is in turn associated with a reduced likelihood of eating a healthy diet [7]. Women with postpartum depression were more

likely to introduce supplementary foods earlier [8] and to practice non-exclusive breastfeeding than women who were not depressed [8,9].

Furthermore, a significant number of infants of mothers in postnatal depression were suffered from malnutrition [9, 10]. Children of depressed mothers were more likely to be stunted compared to children of non-depressed mothers [11, 12]. Mothers with postpartum depression had higher odds of having an underweight infant than mothers without depression [8].

A cross-sectional study in Turkey on individuals aged 60 years and older showed that depression was positively associated with malnutrition [13]. Mental health symptoms were positively associated with the risk of malnutrition among individuals aged 65 to 87 years. [14]. In South Africa, depressed people were about three times more likely to be malnourished than those not depressed [15].

Evidence on malnutrition as a risk to depression

Malnourished individuals had a higher prevalence of significant mental health symptoms [14]. Higher scores of nutritional risks were also positively correlated with higher levels of psychological stress [16]. Obesity is associated with an increased risk for the major depressive disorder [17-20]. A case-control study in Kenya revealed that the odd of maternal depression in mothers of children aged under five years who were hospitalized for malnutrition was found to be significant [6].

Food insecurity, poor household food consumption and low dietary diversity were associated with a higher odd of depression [18, 20]. Likewise, consumption of dairy, eggs, fish, vitamin A, vitamin C rich foods [18] and meat consumption [21] were associated with reduced odds of depression. Additional evidence revealed that deficiency of vitamin D, B 12, omega-3 fatty acids, zinc, folate, Iodine, carbohydrate, fat, proteins and amino acids are associated with a high prevalence of depression. This is because depression is believed to be the result of an imbalance of the neurotransmitters serotonin, dopamine, and norepinephrine [18].

A cross-sectional survey in Nepal showed that depression-malnutrition comorbidity was 7%, and malnutrition and depression were inversely related to each other [22]. In Germany, depression emerged as the only independent risk factor for malnutrition. Vice versa, malnutrition was the only risk factor for geriatric depression [23]. In Mexico, there is an inverse correlation between nutritional status and depression; adults with a better nutritional status had lower depression scores. On the other hand, individuals with depressive symptoms were more likely to be at risk of malnutrition than individuals without depression [24].

Conclusion

A conflicting level of evidence exists for the association between depression and malnutrition. In general, depression is a risk for malnutrition, vice versa; malnutrition is a risk for depression. Therefore, addressing nutritional concerns may help alleviate depression, and prevention and control of depression can improve nutritional status. Nutritional assessment should be undertaken with depression assessment scales. It is also better if health professionals are trained in basic psychosocial support to improve maternal mental health care services. Further longitudinal research is needed to understand the causal relationship between depression and malnutrition.

Declarations

Consent to Publish

Not applicable.

Availability of Data and Materials

Not applicable.

Competing Interests

The author declares that he has no conflict of interest.

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