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## Nutritional Psychiatry

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**Abstract** Nutrition is a major game changer in the treatment of psychiatric disorder. Foods and supplements provide these essential nutrients the brain needs to develop and function effectively, which can also serve as an integral part in the treatment of psychiatric issues. As humans, we cannot survive without food, and when you eat complete (balance diet) and have the needed rest which the human body requires, you are more certain to be well and free from any mental challenges. Most scientific researchers focus more on the cause of mental disorder as being genetic, psychosocial, abuse or use of drugs, cannabis, alcohol etc. But little attention has been given to heavy metals such as Pb, Hg, Cd & As who are also been responsible for most psychiatric disorder such as depression, dementia, schizophrenia, hallucination etc. Which brings us to the type of nutrients that can help combat these excesses of these toxic metals before it escalates into psychiatric condition. Types of nutritional components that are of benefit to the mental health are niacin, folate, vitamin B6 & B12, phospholipids, cholesterol, and omega-3 fatty acids. Refined sugar and saturated fat are seen as dangerous precursor to cognitive function. The aim of this review is to establish the importance of nutrition in the treatment and management of psychiatric disorders.

**Keywords** Psychosis, Neurosis, Schizophrenia, Heavy metals, Meta-analysis, Depression

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### 1. Introduction

Lead (Pb) and Cadmium (Cd) causes lesions in the brain as well as decline in the total cortical volume, white matter, abnormal laminar organization, enlargement of cerebroventricular system, and changes in gray and white matter [1, 2]. The brain is an organ that is exceptionally sensitive to what we eat and drink, just like other organs in the body (liver, kidney, heart). For the brain to remain healthy and active, it needs different amount of balance diet in the right proportion such as complex carbohydrates, vitamins, minerals, water, essential fatty acids, and amino acid [3] which can enhance its healthy neurotransmitter activity. These balance diet can also protect the brain from the effects of oxidants which have been categorized to have negative influence on mental health and mood [4, 5]. The scientific evidence of nutrition's important role in the prevention, development, and management of diagnosed mental health problems ranging from dementia, depression, anxiety, attention deficit hyperactivity disorder (ADHD) and schizophrenia [4] have been globally accepted.

The rate of psychiatric cases increasing globally calls for concerns on how well this could be handled using nutrition. Some researchers think depression, psychosis, schizophrenia, neurosis, and some other neuropsychological disorders should be handled by counselling and anti-depressant medications. Some others are of the school of thought that good nutrition, balanced diet, and a less stressful lifestyle/environment are a better alternative therapy for handling psychiatric disorders. The structure, composition, and function of the brain mostly depends on nutrient that are at its disposal, which include, amino acids, lipids, mineral salt, and



vitamins [6-9]. Neuropeptides, neurotransmitter, microbiota, and endogenous gut hormones are directly affected by the diet composition in several instances [6, 10, and 11]. Logically, food intake and its quality would have tremendous impact in the function of the brain, making healthy diet a modifiable option in targeting mental health, cognitive performance, and mood [12 and 13].

We have seen that most of the illnesses we suffered are linked to what we eat. Excess consumption of sugar intake can lead to depression among so many others. On the other hand, consumption of fruits and vegetables intake (rich in folic acid) and fish intake (rich in essential fats) have proven to be very important to our mental stability [14]. Refined sugar uses up the body's minerals and vitamins without providing any. A teaspoon of sugar will use up Vitamin B in your system for its catabolism, leading to more demand for the vitamin that is important in increasing our mood. In turning sugarcane into sugar, chromium will be lost in the process and it's an essential mineral in stabilizing blood sugar level [14].

The systematic review of epidemiological literature carried out on mental disorders and poverty in low and middle-income countries, deduced out of 115-research carried out, approximately 70 % had reported cases of positive association ranging from different poverty measures and mental disorders [15 and 16]. Although quality nutrition might be expensive, we must prioritize it for our mental wellbeing and state of mind as these depends largely on what we eat. It could be the type of food, drinks and generally what we subject ourselves to, daily. Stress level on its own is a determining factor that can affect our mood, if not well managed can lead to depression and other psychiatric disorders.

## **2.Methodology**

Several online interactive searches from PubMed, Google Scholar, MEDLINE, and Research Gate for original research were used for this review. They were obtained using terms such as Psychosis, Neurosis, Schizophrenia, Depression, and Role of Nutrition in Psychiatry, Influence of Heavy metals on nutrition like Lead, Arsenic, Mercury, and Cadmium etc. Statistical data and facts sheet were obtained from the Web sites of some organizations such as World Health Organization, International Society for Nutritional Psychiatry, Centers for Disease Control (CDC), Research Gate, European Neuropsychopharmacology and National Institute of Mental Health (NIMH). Searched results were critically analyzed, full texts were obtained, inclusion and exclusion standard were applied to obtain appositeness of articles used in this review. Articles were included in whole, parts or extracted form if they lay emphasis on psychiatry disorders and nutritional benefits in tackling mental health challenges. Research studies excluded were those of no viable impact to the review and non-English written.

## **3. Results andDiscussion**

### **3.1. Search Results**

In total, a hundred and twenty (120) articles were searched and proposed for use in this review. After thorough screening of their abstracts and titles, 20 articles were extinguished, leaving 100 articles to be surveyed. The articles were expunged based on irrelevance, 15 articles were inappropriate (n = 15), duplicated copies were (n = 3) and non-English written were (n=2). When reviewed further after putting into perspective inclusion and exclusion standards, 10 more articles were removed leaving 90 for this systematic review.

**Search terms:** Nutritional Psychiatry  
Screening of Titles and Abstracts  
Not relevant articles (N=15)  
Articles not available in English Language (N=2)  
Duplicate (N=3)  
Total Number of Articles (N=100)  
Articles further screened for final review  
Articles removed (N=9)  
Articles used for this review (N=91)

*Figure 3.1: Search Map of the review*



### **3.2. What is Depression?**

Depression is simply a feeling of guilt and inadequacy that is characterized by dejection, accompanied by lack of strength or the will power to move ahead. A depressive disorder is caused by anxiety or pains that affect the thinking abilities of the individual, how he handles tasks, his routine activities such as working, mealtime, rest, sleep etc. To successfully diagnose a depressive patient, the symptoms must have been seen for at least two weeks [17]. There are two main forms of depression:

- (i) Major depression- constantly having symptoms of depression for at least two weeks in a row, seamlessly affecting your daily productivity, work, studies, sleeping mood, and general approach towards life.
- (ii) Persistent depressive disorder (dysthymia)- showing depression symptoms that has lasted for at least two years. A patient with such depressive diagnosis will show series of major depression although with lesser symptoms [17].

### **3.3. Diagnosis of Depression**

Patients with symptoms of depression or anxiety may deny psychiatric evaluation because of social stigma or maybe due to lack of enough experience of depression. Generally, severe symptoms should alert the clinician couple with series of laboratory test is a likelihood of anxiety. Although, the clinician should look out for undiagnosed medical ailments. Violence to one's partner during pregnancy is associated with depression [18].

Evaluating patients for psychiatric diagnosis requires the clinician to consider certain other factors such as: Patient History; confirm period of the illness, history of previous cases, and other similar disorders, family own history, abuse, or misuse of substances, etc. Usually, patients don't easily admit to having a depressive family member or relatives. With further questioning and probing, they turn around to open on a 'relative that was moody and had to go on vacation'. Its best patients been diagnosed with depression are screened for bipolar disorder as well. Research has it that 30-50% of bipolar disorder patients came down with symptoms of acute mania when given antidepressant pharmacotherapy [18].

### **3.4. Clinical Problem and Management Issues of Depression**

Depression is one of the most prevalent disease conditions around. A good number of the world's population say about 5 % suffers from depression [18]. The statistics shows women 20-25 % and men 7-12 % are depressed. On an average, the first encounter of depression usually occurs in the mid-20s. Although for some others, it may happen earlier in their childhood through adolescence and into their adulthood [19]. Often, somatic symptoms predispose the clinical leaving the clinician to evaluate other obvious health challenges prior to the patient's mood alterations.

For a successful therapeutic section with a patient, the psychiatric must learn to establish a trustworthy relationship with the patient regardless of the nature of the treatment he wants to inculcate. The alliance may prove to be more productive than the monotherapy with medication [20].

### **3.5. Signs of Depression**

There are some major signs and symptoms you can easily detect from a depressive patient. Although some can be perceived as part of life's low but the longer it lingers, the more chances that the person is coming down with depression. These symptoms are:

- i. Helplessness and Hopeless Feelings- having the impression those things will never be okay.
- ii. No interest in daily activities- don't care anymore about things that were one's of interest to you like hanging out with loved ones, socializing and all.
- iii. Weight changes and loss of appetite- a 5 % drastic change in the body, either weight loss or gain in less than a month.
- iv. Changes in sleeping habit- waking up too early in the wheel hours of the morning or sleeping too much.
- v. Reckless behavior- reckless driving and substance abuse [21].



### **3.6. Depression in Women**

Women have the tendencies to experience symptoms of depression more than men such as overeating, weight gain, guilt feelings, excessive sleeping etc. These are also influenced by hormonal factors during menopause, menstruation, and pregnancy [21]. These symptoms have been attributed to their biochemical formation, social and psychological differences. Also, if a woman has lost interest in sex, she is tired all the time, has difficulty in sleeping, the chances are she is short on serotonin. Reduced estrogen means low in serotonin hence low moods [14, 22 and 23].

### **3.7. Management and Treatment of Depression**

Often, depression is seen from two sides, feeling miserable and feeling apathetic and unmotivated. The widespread believe that the cause of this constant biochemical theory is a brain imbalance of two neurotransmitters:

- (i) Serotonin; perceived to natural influence mood.
- (ii) Dopamine, Noradrenaline, and Adrenaline; perceived to mainly influence motivation [14].

From the experimental findings conducted by ‘Antonella Dubini in Milan Italy’ he gave some of his patient selective serotonin reuptake inhibitor drug and the others noradrenaline reuptake inhibitor drugs. It was established that those that had serotonin their mood improved, while those that had adrenaline and noradrenaline drugs also had improved motivation [24].

### **3.8. Psychosis**

Diagnosing a psychotic patient is basically clinical as there are no diagnostic tests to be carried out for result ascertainment. Major psychiatric disorder that portrays signs of psychosis includes Psychoses due to physical condition, alcohol, drugs (stimulants/hallucinogens); Delusional disorder; bipolar mood disorder; Schizophrenia and Schizoaffective disorder [25]. The mental condition of impaired reality is evident in psychotic symptoms such as delusions, mood disturbance, and hallucination are referred to as Acute Psychosis. The characteristics symptoms of psychosis are established by patient’s illness and conducting risk assessment rather than concluding the diagnosis to be bipolar mood disorder or schizophrenia [25].

Substance-induced psychoses have been linked to suicidal and violent attitudes, hence the need to combat the menace by hospitalizing the patient else it could be as harmful as a case of primary psychotic disorder. Individuals that make use of substances such as cocaine, cannabis, alcohol, and amphetamine can show psychotic symptoms even when they have no mental illness. A schizophrenic and a bipolar patient usually show similar symptoms as those whose mental condition is because of substance misuse [26].

#### **3.8.1. Clinical and Developmental Consideration of Psychosis.**

Adults hallucinate even in the absence of other psychotic symptoms but are symptomatic with psychopathologic conditions such as post-traumatic stress disorder, depression, severe anxiety and so on. Usually, there are differences among the age-related cognitive preoccupations and pseudo hallucinations [27]. Hormonal and metabolic conditions are responsible for symptoms of psychotic behavior in children. Endocrinopathies comprises of disorders of the Parathyroid glands, thyroid, and adrenal glands. Exposure to heavy metals can result in exogenous metabolic disturbances leading to psychotic symptoms [27].

### **3.9. Schizophrenia**

Schizophrenia is a neurodevelopmental disorder that affects the thought of a person, is behavior and feelings. People with such disorder usually experience disorganized speech or behavior, hallucination, impaired cognitive ability, and delusion. They feel other people are reading their mind, plotting to harm them, controlling their taught, hearing voices or seeing things that aren’t there. Such behaviors scar the individual and make them withdrawn or upset, likewise those around them [28]. They sometimes feel distracted and out of touch, gazing for hours without talking, and when they finally speak, it doesn’t seem connected with the present reality.



A lot of factors may cause schizophrenia, some of which are (i) Genetics: Some families may sometimes have someone with schizophrenic condition. Although even though there is such a condition in their lineage, it doesn't mean others will have it. (ii) Environment: Living in poverty, exposure to viruses, nutritional problems, and stressful environment can be one of many environmental problems that can aid a schizophrenic condition. (iii) Disruptions in brain structures, brain chemistry and function: Most times such disruption may be because of environmental or genetic factors which will end up leading to schizophrenic disorder [28].

The cognitive deficits seen in schizophrenia are due to the dysfunction of several neurons. It is believed that glutamatergic dysfunction is connected to the dysfunction of parvalbumin-positive interneurons inside the hippocampus and cerebral cortex which are subtle to alterations in NMDA-type glutamate receptors. The release of pyramidal neurons is systematized by fast spiking neurons causing the production of gamma oscillations, which is vital to proper cognitive function [29 and 30].

### **3.9.1. Diagnosis and Treatment of Schizophrenia**

Women who had complications during childbirth and at fetal life are likely to come down with Schizophrenia. A meta-analysis conducted showed the close inter-relationship between pregnancy complications, complications of delivery and abnormal fetal growth with Schizophrenia [31 and 32]. Also, the tendency of life risk factor of influencing the neural connectivity of the developing fetal brain being exposed to maternal respiratory infections or malnutrition from folic acid or vitamin D deficiency during pregnancy can also result in the condition.

Older men fathering children have greater chances of having a child who might develop schizophrenia than the younger men [31 and 33]. Research has it that men with schizotypal characteristics might harbor greater risk-increasing mutations because of repeated mitosis in progenitors of sperm cells [31 and 34].

From statistics, it has been proven that schizophrenia is often diagnosed in men than in women, with a risk ratio of 1.4: 1 and the disorder is usually more severe in men [31 and 35]. They develop the disorder earlier between the ages of 20-24 years, while in women it occurs 5 years or later [31, 36, 37 and 38].

People with schizophrenia are advised to start treatment as soon as they are diagnosed with the condition because early detection can avert the severity. Schizophrenia can be reduced with proper rest and less stressful environment, eating healthy (quality diet), psychosocial rehabilitation, medication, and family support [39].

### **3.10. Neurosis**

Neurosis is a psychological disorder that interferes with one's life quality without altering his view of reality. It's also referred to as an anxiety behavior by some psychiatrists and to describe diseases where the nervous system is not functioning correctly [40]. There are different types of neurosis: (i) Anxious neurosis: This is characterized by severe sweating, tremor, anxiety, and panic attack. (ii) Depressive Neurosis: The feeling of losing interest in everything that was once of interest and fun. (iii) Obsessive-compulsive Neurosis: It involves repeating intrusive thoughts, mental actions, and characteristics.

### **3.11. Effect of some Heavy Metals (Pb, Hg, Cd & As) and their Role in Mental Health**

Lead is ubiquitously a naturally occurring metal that is been used in so many domestic accessories and manufacturing industry. The toxic effect of Lead (Pb) as seen in the brain cannot be explained by only a single mechanism. It has a direct neurotoxic effect on the brain which is associated with the storage and release of various neurotransmitters, apoptosis, excitotoxicity of the brain, mitochondria, cerebrovascular endothelial cells, astroglial and oligodendritic cells, and the second messenger system. Lead can also imitate essential elements like calcium in the body thereby exhibiting some toxic impact [41 and 42]. Lead easily crosses through the blood brain barrier (BBB), enters the placenta, and makes its way into the fetal brain [43]. It also enters the blood-cerebrospinal fluid barrier leaving them weak and easily vulnerable to damages caused by lead and other toxic substances in the body. Series of evidence has shown that IQ deficit and signs of attention deficit/hyperactivity disorder are linked to prenatal lead exposure [43 and 44]. Researchers have linked lead exposure in multiple psychiatric illnesses [45]. Blood lead levels of (5–10 µg/dL) have been associated with aggression, delinquency, neurological signs, depression, and anxiety [46-49].



According to research carried out by [50], Cadmium was associated with an increased likelihood of depression. They went further to state that heavy metals are well established neurotoxins with Mercury (Hg) and Lead (Pb) taking the front roll. These heavy metals can interfere with important cellular systems at a level far below what we think might show signs of toxicity [50-52]. Cadmium give rise to neurotoxicity through multiple pathways as well as interfering with the blood-brain barrier, high oxidative stress, interference with zinc and calcium-dependent processes, metallothionein as well as induction of apoptosis. And all these pathways are closely inter-related in the pathophysiology of mood disorders [50 and 53].

Mercury was also implicated in this research because it was linked as a major cause of depression. Mercury is found in different forms in nature as elemental, organic and inorganic. All three forms have proven to be very toxic at any level which can cause damage in humans by severe alterations in the body tissues [54 and 55]. Due to its very low excretion rate from the body, a huge amount of absorbed mercury accumulates in the organs such as liver, nerve tissue and kidney.

Long term exposure to Arsenic could result in mental retardation and developmental disabilities such as cognitive, physical, psychological, speech impairments and sensory. Studies conducted in China and Bangladesh have shown that mental health disorder such as depression are more common amongst people contaminated by arsenic [56].

**Table 3.1:** Administrative limit of some heavy metals

S/N	Some heavy metals in our surroundings.	Acceptable limit in drinking water (EPA Limit in ppm).	Environmental limit in the workplace air(OSHA limit in mg)	Acceptable limit in comestible/water (FDA limit in ppm)
1.	Lead	0.015	0.15	–
2.	Mercury	0.002	0.1	1
3.	Cadmium	0.005	5	0.005
4.	Arsenic	0.01	10	–
5.	Zinc	5	5	–
6.	Selenium	0.05	0.2	–

mg, milligram; ppm, parts per million; OSHA, Occupational Safety and Health Administration; FDA, Food and Drug Administration; EPA, Environmental Protection Agency [57].

### 3.12. Role of Nutrition in Mental Health

So far there have been a lot of systematic reviews and meta-analyses searching for the connection between nutrition and mental health. An analysis conducted from literature showed that there is a possibility that reduced depression rate was because of ‘healthy diet’, which comprises of diet rich in fish, vegetables, fruits, and whole grains [58, 59]. Also, another study carried out showed that increased intake of Mediterranean diet can be linked to a reduced risk of depression [58, 60].

Consumption of micronutrients (i.e., minerals and vitamins) has been associated with less aggression and grater emotional regulator in children with attention deficit hyperactivity disorder (ADHD); which is a chronic condition involving attention difficulty, impulsiveness, and hyperactivity [58, 61]. A recent meta-analysis shows that intake of high refined sugar and saturated fat may show increased hyperactivity, contrary to the protection diet rich in vegetables and fruits give [62].

A buildup of phenylalanine in the body (Phenylketonuria) is another instance where exclusion diet prevents cognitive decline [63]. Furthermore, it’s been proven from research that deficiencies of various nutrients, primarily vitamins, discrete cognition [64 and 65].

#### 3.12.1. Vitamin B: niacin, folate, vitamin B6, and vitamin B12

Most of the vitamins we consume play a pivotal role in building up our immunity and developing our mind and brain. The body needs Vitamin B6 (Pyridoxine) a water-soluble vitamin for different purposes. It’s essential for the creation of neurotransmitters and red blood cells just like fat, protein, and carbohydrate metabolism [66]. It also plays a major role in mood regulation partly because it’s necessary for creating the neurotransmitters that are responsible for regulating emotions, including serotonin, dopamine, and gamma- aminobutyric acid (GABA)



[67]. From foods and supplements, our body generates Vitamin B6 it needs, as it cannot produce it on its own [68]. Majority of people get their Vitamin B6 from what they consume. This might pose some risk as most people don't often eat quality meals or balanced diet. Diet rich in Vitamin B6 include eggs, vegetables, pork, wholegrain cereals, soya beans etc. High level of homocysteine an amino acid connected with depression and psychiatric cases can also be reduced in the body by Vitamin B6 [69]. Deficiency of Vitamin B6 can cause depression as it is a cofactor in the tryptophan-serotonin pathway [70].

Lack of Cobalamin a water-soluble vitamin (Vitamin B12) naturally found in animal foods, including dairy, poultry, fish, meat, eggs, can result in psychosis, lethargy, depression, poor memory associated with mania and so on [71 and 72].

Thiamine (Vitamin B1) a water-soluble vitamin found in food, also manufactured as a medication and a dietary supplement can be gotten from leguminous foods, whole grains, fish, and some meat. Its deficiency causes beriberi with numbness as Central Nervous System (CNS) symptom and Wer-nicke's encephalopathy.

Folic acid (Vitamin B9) which is converted to folate by the body is used as a food fortification and dietary supplement. Its deficiency has diehard consequences on neurodevelopment in utero and infancy, which in turn has deficits connected with greater risk of depression during adulthood [73 and 74].

Vitamin B plays the role of co-factors in major enzymes that control the balance of neurotransmitters and production. For instance, serotonin (5-HT) is synthesized from 5-HTP by adding a methyl group (carboxylase), from noradrenaline as its adrenaline. Folate is the major precursor on which this enzymatic process is dependent as well as Vitamin B6 and B12. Deficiency of folate is highly seen amongst depressed people. At Boston Massachusetts General Hospital USA, research was conducted on 213 depressed patients at the Depression and Clinical Research Program, those that had lower folate levels had more melancholic depression and lesser tendency to improve when antidepressant drugs are been administered to them [14 and 19].

Patients diagnosed with depression and schizophrenia is usually folate deficient. In London UK at the Kings College Hospital's Psychiatry department, a study was also carried out on such patients. And it was established that folate deficiency was discovered in one out of every three patients at border line. Immediately, the patients were asked to take part in a trial where they were given folate for six months alongside their usual treatment drugs. There were tremendous improvement and recovery on those given folates, and the more they took the folate, the more stable they became [14 and 75].

### **3.12.2. Omega-3 Fatty Acids**

Omega-3 fatty acid has been widely studied with respect to the brain function. Its major action in the brain is mostly on the functional and structural constituent of the membrane phospholipids in retina and brain [76 -79]. According to [80 and 81], "Alpha-linolenic acid, a plant-based omega-3 fatty acid, is found in flaxseed oil and soybean oil, and main dietary source of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) is fish oil. These omega-3 fatty acids are potent activators of transcription factors and inflammatory modulators".

### **3.12.3. Antioxidants**

In oxidative stress, free radicals in excess can cause severe damage to structures inside the brain cells leading to cell death in most cases. And the brain is vulnerable to oxidative stress because of the neuronal membrane that is metabolically active and rich in lipid. For the maximum function and structural integrity of the brain, strict balance between antioxidant system and oxidative stress is needed [76 and 82].

Evidence from research emphatically exposes the major non-enzymatic antioxidants in foods which are Vitamins A, C, and E and there are significant reasons that these antioxidant vitamins form strong protection against mental disorders and cognitive decline involving substance abuse, depression, schizophrenia, anxiety disorders, attention-deficit/hyperactivity disorder, autism and bipolar [76, 83-86]. The antioxidant properties possessed by these vitamins can enable them override harmful substances known as free radicals, formed within the cells that can cause disease or damages to the body.



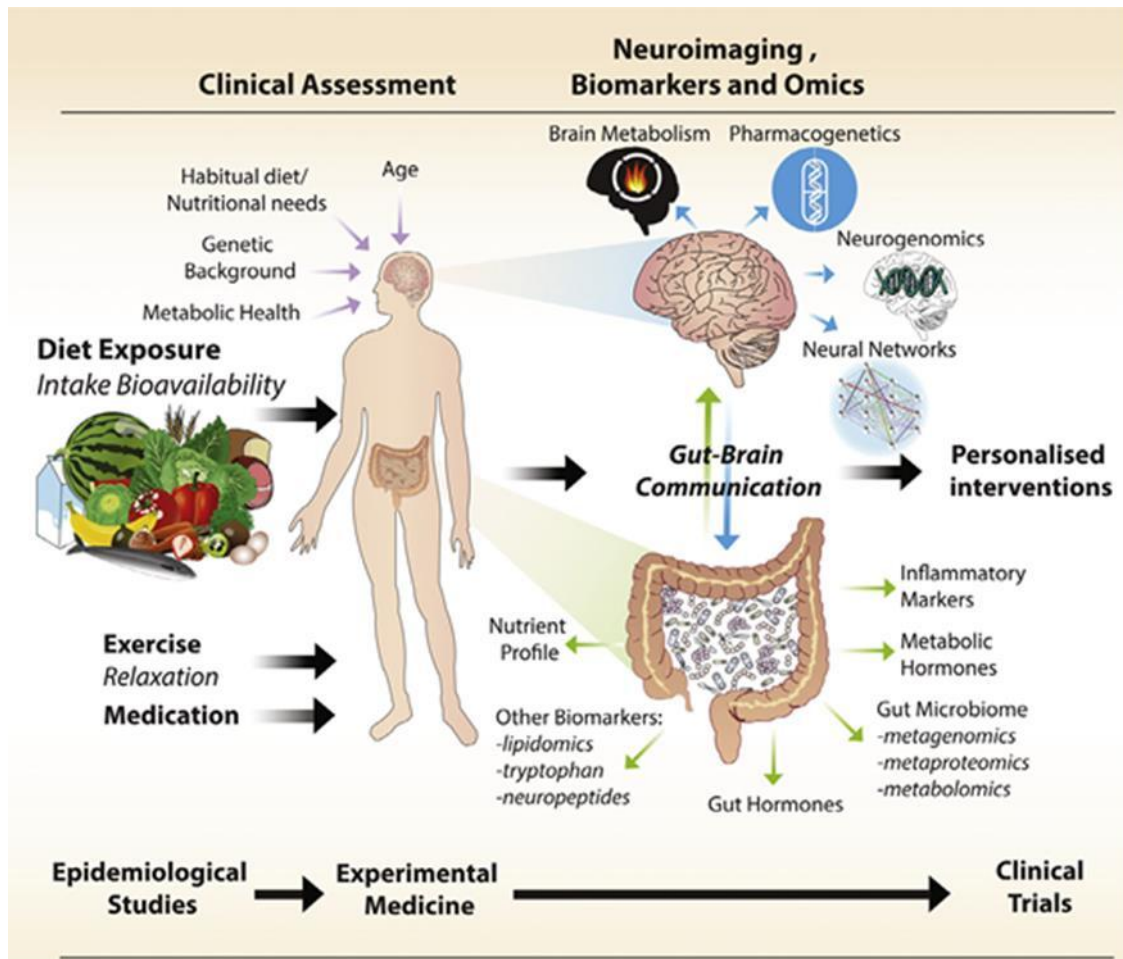


Figure 3.2: Integrated nutritional intervention and care in affective disorder studies and treatment [87]

### 3.13. Habitual Diet Linked to Mental Health in Children and Adolescents

Recent data have emerged in the past five years supporting claims that there is a strong relationship between the dietary patterns of a child and his mental health. Several researchers have deduced that ‘unhealthy childhood dietary sequence’ can be intertwined with ‘poor mental health’ ranging from both external and internal behaviors. With the later comprising of symptoms of anxiety, sadness, depression, while the former encompasses aggression, hyperactivity, and anger. Both internal and external behaviors are used as a biomarker when diagnosing mental health disorder [88 and 89].

There was also a recent systematic review on the divergent relationship between ‘unhealthy dietary patterns and poorer mental health’ both in adolescents and children [88 and 90]. It was observed that those with poor quality diet had worse case of mental health issues as compared to those with quality diet. The concluding fact was centered on the evidence that development of mental health problems in adolescence and childhood is tied to their nutritional consumption [88 and 91]. Therefore, it is imperative a child gets the adequate food nutrients needed right from infancy as they develop through adolescence into a full-grown adult.

### 4. Conclusion

Toxic metals ranging from Lead (Pb), Mercury (Hg), Arsenic (As) and Cadmium (Cd) could be found in our environment, in the air we breathe, houses we live in, and even in our food. Exposure to these metals can result in a cascade of mental health disorders that may impersonate many psychiatric diseases thereby leading to psychoactive prescription drug use and excessive treatments. Elimination and avoiding exposure to these metals are very paramount.





There is truth in the saying ‘You are what you eat’ but unfortunately today most of the foods we eat contain chemicals, preservatives, lack essential nutrients and are over-processed. Eating right and healthy should be of immense concern to all, as it contributes to a healthy mind set and physical health. If we really want to tackle this menace called mental disorder that is gradually increasing in our world today, more conscious effort must be invested in quality diet.

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