

Nutritional psychiatry: an underappreciated and emerging field



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Abstract

This meta-analysis of psychiatric nutrition as its own field of study argues that this field of research needs much more attention and has garnered enough evidence to warrant the need for it. With so many Americans being afflicted by a number of mental health disorders, the need for alternative treatments is vital, and nutritional psychiatry shows promising results as a potential treatment option. Though there are well-discussed limitations throughout this emerging field of research, such is argumentation for further exploration. The treatment of mental health disorders solely for the good of mankind is a vital component to future healthcare not just in the United States, but across the globe.

Keywords: Nutrition, Psychiatry, Mental health

Nutritional Psychiatry: An Underappreciated and Emerging Field

The National Institute of Mental Health states that one in five Americans suffer from a mental illness (“ Statistics”, 2016). While it is well known that some illnesses are not as severe as others, that does not take away from the fact that these illnesses still need to be treated. What is not considered frequently, however, is the necessity for treatments other than pharmaceuticals in the study of mental health. In fact, a 2016 study indicated that even innovation in relation to mental health treatment was relatively low as opposed to other health disorders. It’s been found that “\$3. 1 per \$1, 000 burden invested in research and development for schizophrenia, \$1. 8 for major depressive disorder, and \$0. 4 for bipolar disorder” (McEwan, 2016). That is a striking difference between the <https://assignbuster.com/nutritional-psychiatry-an-underappreciated-and-emerging-field/>

investment for “ cancer which is (\$75. 5), chronic obstructive pulmonary disease (\$9. 4), diabetes (\$7. 6), and cardiovascular disease” (McEwan, 2016). Even with this striking difference in investment notes that, “ 55-65% of patients on anti-depressants have inadequate responses to medication” (Lewis, 2013). If medication, the most frequent treatment for mental health issues is still being underfunded and on top of that, not doing its job, what are millions of people to turn to for possibly treatment options? What’s being discovered today is the new and emerging field of nutritional psychiatry. Nonetheless, this knowledge is still not as examined as it should be, and in need of more longitudinal studies. In fact, 2015 Dietary Guidelines for Americans advisory committee has concluded that current evidence is limited linking diet and depression, with depression being the most widely studied as of today (Sánchez-Villegas, 2015). The field of nutritional psychiatry is a potentially vital component to mental health treatment that needs further exploration. Studies linking both mental health risk and improvements are rapidly emerging. Even pre-natal studies that show a mother’s nutritional intake correlating to the child’s mental health are being discovered. (Jacka, 2013). With the field being relatively new and not as explored, and the population throughout the world continually suffering from mental health disorders, 1 in 17 just in this country, this field’s growth is imperative to our understanding of mental illness as a society (NIMH, 2016).

How Nutrients Play a Role in Depression Risk

One of the largest areas of study in terms of mental health is the issue of depression. While its prevalence is rampant, there have been improvements linked to nutritional dietary intake, therefore creating a need for further

exploration of the subject. The research suggests improvements both in patients diagnosed with depression and in those not previously diagnosed. For example, one study psychiatric nutritional study looked at patients who have already been diagnosed with major depressive disorder (MDD) were analyzed, while in another, subjects have not been diagnosed with depression disorders from the outset of the study, which is relevant when discussing the role of nutrients in leading to mental illness. Regardless of the outset of the participants in the research groups, the findings between studies were strikingly similar. The researchers in the latter study not involving the MDD patients argue about four specific micronutrients that could be playing a significant role in depression risk noting, “ the percentages of folate, magnesium, calcium and potassium inadequacy were 79. 8, 47. 0, 42. 7 and 98. 0%, respectively. These data suggest the possible contribution of sub-optimal intakes of these micronutrients in the development of depression (Sánchez-Villegas, 2015). The former study, however, looking at B vitamins and depression indicate that “ the Max Stress B group showed greater improvement” [of depression symptoms] (Lewis, 2013). Further discussing the results, Lewis states “ our study may not have been of sufficient length to demonstrate even more significant improvements” (2013). As is indicated, even short-term studies illustrate the correlation between mental health disorders and nutritional intake, even when just considering micronutrients. Lewis’ observation of the need for further research is a clear indication of the driving force of the psychiatric nutrition itself. Depression risk is correlated on some level with nutritional intake.

Folate's Link to Depression

One micronutrient, in particular, however, is worth more attention in regard to nutritional psychiatry, as proven by the research. Sánchez-Villegas cited an article noting that increase in folate intake during weight loss was correlated with a positive change in depression symptoms (2015). One simple micronutrient having a correlation to an increase in depression symptoms? Quite surprisingly, it's simply not unheard of when looking into nutrition and mental health. Another study supports these findings stating that, " In most, but not all, studies on patients with neuropsychiatric disorders, folate deficiency was associated with low levels of the serotonin metabolite 5-hydroxyindoleacetic acid (5-HIAA) in the cerebrospinal fluid (CSF)." (Young, 2007). Yet again, another micronutrient analysis leading to lower levels of mental health markers within the brain. One study further argues that folate has been linked to depression by numerous other authors and " several clinical trials" (Sanchez-Villas, 2015). Such evidence suggests that this micronutrient alone is worth the research and the field of psychiatric nutrition can aid in researchers learning more about its role in mental health risk, specifically in its link to depression, although all mental health disorders can and need to be analyzed.

Longitudinal Studies with Micronutrients

Longitudinal studies with micronutrients have also been lacking within the research, but the few written indicate the causality of nutrition and mental health. For example, a study on micronutrients on mental health notes that " dietary supplements have the ability to improve certain aspects of mood" (Lewis, 2013) just the same as Sánchez-Villegas research indicates, Lewis

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addresses that the B supplement utilized in his trial can improve mental health as can other nutritional supplements. In fact, Lewis and Sánchez-Villegas both agree on the fact that dietary vitamins and minerals have the ability to improve mental health quality. Lewis, on one hand though, discusses the shortcomings of his study noting that “ longer interventions” are needed to confirm the effect of Max Stress B and other vitamins like it to the link of depression and mental health symptoms (2013). This is indicated by the short time span of his study simply reaching a mere sixty-day marker. It’s imperative to keep in mind, however, that this short time span still showed a correlation, further demanding the need for longitudinal studies. Sánchez-Villegas on the other hand, has a long study with thousands of participants, which further solidifies their findings as vitamins and mineral intake being longitudinally and significantly correlated with less depression symptoms (2018). Just the same, another study on pre and post-natal care was over the course of five years and linked healthy diet quality with lower depression symptoms, while also including prenatal nutrition as a factor. Unlike the other two, these researchers note on page that although the food frequency questionnaire was utilized as in Sánchez-Villegas’s article, this was then used for this study to characterize either a “ healthy” dietary pattern or an “ unhealthy” dietary pattern which was not as specific as the other two studies in measuring specific vitamin intake (Jacka, 2015). With that being said, the results of this prenatal study showed a significantly increased risk in emotional problems and mental health linked with the unhealthy dietary intake (2015). Significant findings in both longitudinal studies indicate the necessity for longitudinal results within nutritional psychiatry as a whole.

While the short-term studies result still pointing to a need for longer studies.
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With these studies indicating such clear correlations, more research can further our understanding of this field in its entirety.

Nutrient Intake in Adolescence Link to Mental Health

A healthier diet has been linked to a lower risk of depression in adults (Paddock 2018), but what is so sorely lacking in the field of psychiatric nutrition is the link between pre-natal and adolescent studies with mental health in childhood. This explicit lack of studies is part of the reason why nutritional psychiatry and its use in the treatment of mental health is so urgent. More so even relating that information to potentially see correlations later in life. As published in research linking diet and adolescence, a researcher stated, “ given that the previous literature in adults regarding diet and mental health has focused on the common mental disorders, depression and anxiety, examination of these same mental health parameters in children and adolescents is needed” (O’Neil 2014). While also referring to cofounding studies suggesting a serious link between diet and mental health indicators, O’Neil also notes another researcher named McMartin’s findings as not showing as much causality between nutritional intake and mental health issues in children (2011). These opposing findings, while possibly bringing into question the take on the literature urging a link between nutrition and mental health, do not completely disregard the topic altogether. On the contrary, nutritional medicine is even more crucial an issue. If no studies were in existence showing a longitudinal, correlating relationship, one could argue to dismiss the field of nutritional psychiatry altogether. However, a prenatal study indicates the clear long term correlation in adolescence to mental health outcomes stating “ in a study of

approximately 3, 000 adolescents, we found independent dose- response relationships between both lower intakes of healthy foods and higher intakes of unhealthy foods and poorer mental health cross-sectionally, whereas over time, lower intakes of healthy, nutrient-dense foods predicted poorer mental health outcomes 2 years later, even after adjustment for mental health at baseline” (Jacka, 2015). The fact that this research exists in and of itself, linking unhealthy dietary patterns in during the prenatal life to poorer mental health outcomes leaves the field of nutritional psychiatry to be an inevitable area of study in and of itself. This thorough, longitudinal study is enough to justify the need for further research, yet it does not stop there. Yet another psychiatric nutritional study found “ cross-sectional, dose response relationships identified between measures of both healthy (positive) and unhealthy (inverse) diets and scores on the emotional subscale of the Pediatric Quality of Life Inventory (PedsQL)” (Jacka, 2011). Quality of life a mental health in children in this case is being linked to dietary intake over the course of four years, which strengthens the argument for further exploration in psychiatric nutrition. Mental health state and quality of life are undoubtedly and intrinsically linked, furthering the demand for this field to expand its research.

The Limits of Nutritional Research Studies Regarding Mental Health

Nutritional psychiatry, while in need of further exploration, does have its impediments. It’s arguable, however, these limitations are not ignoring the field altogether, but rather indicative of the need for more exploration. As indicated in a study on micronutrients, from the beginning the author discusses the potential bias of his study noting that only English speakers <https://assignbuster.com/nutritional-psychiatry-an-underappreciated-and-emerging-field/>

were permitted into this study (Lewis 2013). The researchers discuss being generalized in his findings as his participants, like I said, were limited to being only English speakers. English-speaking restraints on research studies is arguably one of the biggest limits of this research and therefore psychiatric nutrition lacks a critical note of diversity in its findings. This consideration of lack of inclusivity should not be taken lightly, but rather seriously analyzed and these speaking limitations are imperative to be addressed in the future.

Language barriers within the healthcare field.

In addition, another study notes the serious limitations on medical research specifically for immigrants who face language barriers that a shocking two-thirds of cancer patients in the U. S. can attribute their diagnoses to unhealthy diet being a significant contributing factor (Martinez, 2017).

Although cancer is not a mental disorder, it is important to address because this does indicate a link between the field of nutrition, clearly overlapping with nutritional psychiatry, and a lack of diversity. Another researcher also discusses in their research explicitly on language barriers and mental health services that there is “ a clear association between limited language proficiency and underutilization of psychiatric services, irrespective of where the research was conducted” (Ohtani, 2015). In other words, the language barrier is a large issue not just in the field of nutrition but in treating mental illness as a whole across the globe. If psychiatric nutrition is going to be further explored, as it deservedly should be, such is one limitation in the overlapping field of mental health treatment need to be considered when conducting further studies. In both separate fields of nutrition and mental
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health of themselves, diversity and inclusion in terms of language are clearly lacking. The knowledge of this and the emerging field of nutritional psychiatry needs to strive to include these previously under regarded and under-acknowledged populations, and in bringing this field into existence, can make an extremely valuable contribution both to the intellectual world as well as the world as a whole

Lack of longitudinal evidence.

Another serious limitation of nutritional psychiatry is the lack of long term studies. One such example is Lewis' study with the time constraint of the study as a whole, seeing as how it was only sixty days in length. Though he acknowledges this limitation by stating " mood disorder symptoms may take longer than 60 days to occur" and his findings are important, we still need to take into consideration the lack of longevity (2013). When analyzing diet and psychiatric health overlap, is important to take into account both short and long-term studies, but the latter are sorely lacking in availability. Once again, however, these results do not illustrate a dismissive attitude toward the field as a whole, but rather a need for further research. In fact, one study outright referred to long term studies as profound when discussing nutrient rich foods and their impact of overall mental health in children. The author stated the results "...suggests that the impact of inadequate nutrition in early childhood on mental health vulnerability may be more profound the longer the period of exposure to such a diet" (O'Neil 2014). The fact that these links are being scientifically connected with short term studies just verify the need for longer studies.

Food frequency Questionnaire (FFQ) Issues.

The food frequency questionnaire or FFQ for short, is utilized in many studies researching nutritional psychiatry. This FFQ is described as a “ 136-item semi-quantitative questionnaire”, which also involves the skill of a dietician to utilize a nutrient database to analyze the foods indicated as being consumed from it (Sánchez-Villegas, 2015). It is useful, but an author does recognize the drawback of the FFQ used, noted “ it may not be the best method to assess the intake of some micronutrients such as Se or Fe” (Sánchez-Villegas, 2015). This same study also accepts the possibility of some vitamins and minerals being left out of consideration in the study solely because they may have been left off of the FFQ used to measure their intake. In fact, in a study on the epidemiological use of the food frequency questionnaire in the use of research, one researcher states “ intrinsic problems related to self-report remain unsolved” (Shim, 2014). Though this questionnaire is undoubtedly not perfect, it is simply not possible to account for the entirety of the micronutrients available in food to an extremely accurate degree. While this may be true, this is acknowledged by researchers throughout nutritional studies. However, the use of this questionnaire does not expel the results of the research, but rather solidifies their findings. If not analyzing the entirety of the possibilities and still finding correlations in the research is occurring, a more detailed analysis would simply lead to further causality between mental health disorders and nutritional intake.

Response bias.

Psychiatric nutrition is not a perfect science, so there are some confounding factors in specific studies which are of important note, such as response bias within the FFQ and mental health measuring responses. Tannenbaum states in a study simply looking at mental health measurements that “ In order to be effective, the importance of linkage between data sets and across time needs urgently to be addressed” (2011). To put it plainly, limitations are abounding, but long-term studies may increase the accuracy of such data. In one study, for example the participants in that study were all college graduates, which on the surface relates back to the lack of diversity in the field (Sánchez-Villegas, 2015). But in fact, while the author is aware this could cause issue in the outcomes, it is actually used as a point in defense of the results when it is stated, “ We restricted our cohort to highly educated participants to obtain a better quality of self-reported information to improve the retention rate and to minimize confounding by educational level and therefore by socio-economic status” (Sánchez-Villegas, 2015). In order to defend the FFQ and it’s findings, limiting some of these studies within the field of psychiatric nutrition actually helps cement the outcomes, as is stated by having higher educated individuals be the baseline for a psychiatric study. In another study, the researchers agreed, notes the bias of their study as having issues because of the self-reporting aspect of the results (also in relation to the FFQ), which the researcher called response bias (Jacka, 2013). This same response bias is a simple inevitable outcome of the nature of the research since it included the study of people reporting on individuals other than themselves (i. e. mothers responding on childhood behaviors) but is acknowledged in the discussion of its findings. Overall, response bias may be a prevalent issue, but once again, is something that can be addressed <https://assignbuster.com/nutritional-psychiatry-an-underappreciated-and-emerging-field/>

over time if pertinent and urgent research is undertaken within psychiatric nutrition.

Cofounding Factors within Nutritional Psychiatric Research

Other potential confounding factors, such as home environment, that could potentially play a role in mental health outcomes were also noted throughout the research, one stating “ we may not have captured salient aspects of maternal psychopathology, SES, the home environment, or other factors that may have an impact on both mothers’ and children’s diets and children’s mental health” (Jacka, 2013). While difficult to control for, such concerns were not mentioned in many studies, but rather addressed as being controlled for within the research. Still, it is a potentially vital limit to consider, seeing as how mental health can be difficult to measure and there are many confounding factors affecting an individual’s mental health as a whole. Such is an even more essential reason to continue to research the topic. Clearly a link is shown between psychiatry and nutrition, and the studies have indicated the importance and the correlation. The urgency is evident and the beginning stages in place, yet the research is indicative of further obligation to continue down this new scientific realm.

Research may be overlapping in terms of results, and the various nutritional components may be difficult to measure, but the little research that is currently done in the field of nutritional psychiatry is pretty transparent: there is a link and a correlation to be made for mental health disorders being treated by nutrition. Depression is the largest mental health disorder shown correlated to nutritional research in improving mental health outcomes, but

the research is still not indicative enough for even the Dietary Guidelines Advisory Committee to publicly state there is a correlation (2015). This field is so recent that news headlines are just now frequently reporting these links between dietary intake and mental health (Paddock, 2018). For these reasons alone, the field of nutritional psychiatry is just on the cusp of being developed and it's research must be continued for the good of mental health in society, not just in our country but the world over. Frequent confounding factors found in the research such as response bias and lack of diversity prove this field difficult to research, and all the more reason to do so. The potential of linking what we ingest to how we perceive the world mentally has wide-reaching repercussions of treatment. With many mental health disorders not being treated well, these field of nutritional psychiatry is simply a no-brainer to delve into. Yes, it has its limitations and weaknesses, but such is the reason for our urgency. The link between adolescent diet and mental health in children alone should be further researched for the health of the world's children. We have the power to unlock a wondrous world of mental health treatment for the human population. Studies indicate there is a correlation, both long term and short term and include both the afflicted and the undiagnosed. So why not invest further? For what is at stake is an attribute that is so difficult to treat as it is. Every stone must be turned, and what better place to start then with the wonderful potential of psychiatric nutrition?

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