Mental Health Conditions

The impact on nutritional status & requirements

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Our mental health may impact our dietary choices, and our dietary intake may impact our mental health.

The complex, multifaceted nature of mental health conditions, requiring psychological and, frequently, pharmacological treatment all interact with nutritional status.

Alcohol dependency may impact B vitamin metabolism, and increase the risk of pancreatic and liver conditions, further challenging optimal nutritional intake.

Diagnosed eating disorders require intense specialist treatment and ongoing support to meet individualised nutritional goals.

These clinical conditions and their overlap with nutritional status and treatment will be discussed within this article.

Mental health conditions

Depression, anxiety, bipolar disorder and schizophrenia are common mental health conditions. The current COVID-19 pandemic has seen an increase in the numbers of people affected by depression and anxiety especially.[1]

Schizophrenia & bipolar disorder

Schizophrenia and bipolar disorder frequently require pharmacological treatment as part of the clinical management plan. In particular, anti-psychotic medication prescribed for these conditions can cause changes in appetite, and cravings for high-density energy foods and drinks are regularly reported.[2]

When assessing pooled data within a meta-analysis and systematic review, sodium and energy intakes for those with these conditions is higher than people without a diagnosis.[2] Intake of fruit and vegetables is often lower,[2] which can impact on a range of vitamins, as well as reducing fibre intake, a nutrient linked with brain, gut and heart health.

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Depression

The prevalence of malnutrition amongst older adults (over 65 years) is higher than the rest of the population and approximately a third of adults admitted to care homes are malnourished.[3] Depression is a risk factor for malnutrition in older adults.[4] In practice, those at risk should have a care plan to manage their risk of malnutrition, which may include the provision of additional support at mealtimes, fortified foods and drinks, additional snacks and oral nutritional supplementation. The National Institute for Health and Care Excellence (NICE) guidance highlights that monitoring is required where patients are taking (oral nutritional) *'supplements that meet full energy and nitrogen needs, as they may not provide adequate micronutrients and minerals when only used in a supplementary role'*.[5] As a result, there may be a need for additional vitamin and mineral supplementation.

Mediterranean diet

A Mediterranean diet has been linked to lower levels of depression.[6] The Mediterranean diet is traditionally composed of high amounts of oily fish, fruits and vegetables, nuts, legumes and unprocessed cereals and relatively lower meat and dairy.[6] Olive oil is the main traditional fat source, alongside moderate alcohol intake; traditionally wine with meals.[6] Based on these main elements of the Mediterranean diet, it's fair to conclude that it is high in vitamins and minerals, for example, folate, B6 and B12 vitamins.[6]

Nutrients such as folate have been studied for over 60 years in connection with depression.[7] On average it is suggested around a third of adults with depression may have a folate deficiency.[7] Whilst this may be linked to their condition, or other factors such as low income and food access, it could be that folate deficiency is a risk factor for developing depression.

A meta-analysis of studies in 2017 showed that individuals with depression have a lower dietary folate intake and lower serum levels of folate, concluding folate supplementation should be considered in this population.[8]

High dosage folic acid supplementation can mask vitamin B12 deficiency, so vitamin B12 supplementation should also be considered; a matter that has been debated in respect of the folate fortification of flour.[9]

Broad spectrum multivitamins & minerals

A systematic review, published in 2020, assessed the impact of broad-spectrum vitamin and mineral supplements on symptoms of depression, stress and/or anxiety.[10] The evidence suggested a more positive effect on patients with a diagnosed psychological illness than those without.[10] A broad spectrum vitamin and mineral supplementation appears to be more beneficial than singular vitamins or minerals.[10] However, the wide variance in methods used (no homogenous study designs) within studies reviewed, and the small sample sizes, indicate that much more uniform and planned studies are required on the use of vitamin and mineral supplementation in mental health conditions.[10] A similar conclusion has been reached in bipolar condition.[11] People with schizophrenia are often deficient in folate and B12, vitamins C, D and E.[12] B vitamin supplements have been shown to significantly reduce the severity of symptoms of the illness and can reverse neurological deficits associated with the disorder.[12] A systematic review and meta-analysis of data showed significantly lower blood levels of multiple micronutrients in adults who had their first episode of psychosis (lined with schizophrenia) compared to those without severe mental illness.[12] Since there are often multiple micronutrients at lower levels in those at their first episode of psychosis (and therefore prior to treatment which may include medication), there may be value in a broad spectrum vitamin and mineral supplement.

Harmful drinking & alcohol dependence

Both harmful alcohol drinking and dependence can impact nutritional health. Harmful drinking is defined as: *'A pattern of alcohol consumption that is causing mental or physical damage.'*[13] Alcohol dependence is defined as *'A cluster of behavioural, cognitive and physiological factors that typically include a strong desire to drink alcohol and difficulties in controlling its use.'*[13]

Wernicke's encephalopathy is a life-threatening condition that can occur when there is a severe deficiency of thiamine (vitamin B1). It is most commonly associated with harmful or dependent drinkers, where poor diet and malabsorption increase the risk of deficiency.[13]

To prevent the condition, prophylactic oral thiamine is advised for harmful and dependent drinkers who have (or are at risk of) malnutrition, have decompensated liver disease, or before/during alcohol withdrawal.[13] If those at risk attend an emergency department or are admitted to hospital, parenteral thiamine is recommended.[13] Parenteral thiamine should also be offered wherever there is a suspicion of the condition, as Wernicke's is potentially reversible with high dose thiamine.[13] Oral thiamine treatment should follow parenteral therapy.

The management of nutrition in patients at risk of Wernicke's encephalopathy is similar to that seen in refeeding syndrome. NICE guidelines for refeeding syndrome recommend thiamine, vitamin B Co Strong and a multivitamin to manage refeeding syndrome.[5] The key difference in the management of the two conditions is the need for intravenous thiamine in the early stages of admission where Wernicke's is a risk.

It is important for there to be a multidisciplinary discussion around the risk of Wernicke's and that whilst management of nutrition during an inpatient admission may mirror much of that of refeeding syndrome, treatments slightly differ. Whilst the risk of refeeding syndrome may pass, ongoing oral thiamine, as well as consideration of other B vitamins and other micronutrients, may be required on discharge for those at risk of Wernicke's. Wernicke's is relatively rare, and it could go without detection as the symptoms can be non-specific, e.g. confusion, which could be attributed to an infection or alcohol intoxication.[14] The author therefore suggests that, due to the irreversible nature of neurological damage if not treated quickly, *"erring on the side of caution"* is appropriate.

Impact on the gastrointestinal system

Harmful alcohol drinking and dependence can cause damage to much of the gastrointestinal tract, increasing the risk of cancer in the tract itself and associated organs, particularly the oesophagus, liver, and colon.[15] Alcohol can increase the risk of reflux and gastritis, which can impact nutritional intake.[16] Since the liver and pancreas can also be damaged by alcohol, this can increase the risk of micronutrient deficiencies. Fat soluble vitamins, iron and copper are stored in the liver and bile production may also be impaired by liver damage. Harmful drinking or dependence on alcohol can also increase the risk of chronic pancreatitis.

Deficiencies of fat-soluble vitamins, zinc, magnesium, folate, iron and vitamin B12 can occur in pancreatitis, and the latter four are suggested as likely markers of pancreatic enzyme insufficiency, where pancreatic enzyme supplementation is likely to be required.[17] Supplementation of micronutrients may need to be considered where there is evidence that alcohol is affecting these organs.

Eating disorders

Late 2020, the results of the most recent Health Survey for England, carried out in 2019, were published.[18] They showed that almost one in five women over the age of 16, and around one in eight men screened positive for a possible eating disorder.[18] This data was collected before the COVID-19 pandemic, and there has been much alarm about how the pandemic has, and will, increase the prevalence of eating disorders, particularly amongst young people.[19]

Anorexia nervosa

A rise in hospital admissions for anorexia nervosa in children and young people during the COVID-19 pandemic has already been reported.[19]

The MaRSiPAN report highlights, particularly with regard to emergency hospital admissions, that dietitians who are not specialists in eating disorders may be responsible for the care of those with anorexia nervosa who may be at risk of refeeding syndrome.[20] They encourage liaison with specialist dietitians from the local specialist eating disorder services, and the development of a refeeding protocol for use in these situations.[20]

NICE guidance emphasises the role of dietary counselling as part of a multidisciplinary approach.[21] Where diet does not yet meet the patient's full needs, it is recommended that the patient should be encouraged to take an age-appropriate multivitamin and mineral supplement.[21]

The MaRSiPAN report further references the role of the dietitian in monitoring the risk of refeeding syndrome, nasogastric feeding, advising on all meals and the need for supervision during and for a period after meals.[20] Further discussion on the role of the dietitian in anorexia nervosa has been covered in more detail in a previous issue of this publication.[22]

ARFID

Avoidant restrictive food intake disorder (ARFID) is a relatively newly accepted diagnosis.[23] Whilst prevalence and public and professional awareness are higher in children and young adults, in reality it can occur in any age group. Frequently, a limited number of foods will be consumed and the restriction to these foods is not driven by weight or body image concerns. A retrospective audit of adults referred for tertiary neuro-gastroenterology investigations indicated that over 6% met the full ARFID diagnostic criteria.[23] The majority of those people cited fear of gastrointestinal symptoms as the main reason for their avoidance.[23] A systematic review of case reports and series relating to ARFID in autism demonstrated nutritional deficiencies in vitamin A, thiamine, vitamin B12, vitamin C, and vitamin D.[24] Regular screening and assessment for micronutrient deficiencies is recommended for those diagnosed with ARFID, and a multivitamin and mineral supplement may be required where there is a risk of multiple deficiencies.[24]

Summary

Mental health conditions, harmful alcohol drinking and eating disorders can all impact nutritional health. Whilst this article has explored these conditions in isolation, frequently several diagnoses occur together, for example, depression and harmful alcohol drinking. Careful assessment of diet, including alcohol intake and food avoidances, risk of malnutrition and history of mental health conditions are essential to optimise nutritional status, and are a key part of the multi-disciplinary treatment for these conditions.

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