

**Method.** A comprehensive search was performed on PubMed, MEDLINE and PsycINFO, with identified studies screened against a priori inclusion/exclusion criteria. Eligible studies underwent quality-assessment using the Joanna Briggs Institute Critical Appraisal Tools, and data were synthesised qualitatively.

**Result.** 17 publications were included, consisting of data on participants with obesity, binge eating disorder (BED), bulimia nervosa (BN), anorexia nervosa (AN), and/or subclinical presentations. Studies were small (average sample size  $n = 46.4$ ), predominantly female (87.9%), and were highly variable in methodology, with different diagnostic tools, self-report measures, and emotional tasks/paradigms used.

**Conclusion.** The evidence suggests that HRV is a valid, objective biomarker of ER impairments in AN, BN, BED, emotional eating, and obesity. Despite some inconsistencies, likely attributable to methodological heterogeneity, EDs/obesity appear to be characterised by irregular resting state vagal activity and abnormal stress reactivity. Furthermore, the autonomic dysfunction observed across EDs/obesity may be reversible by novel effective interventions such as HRV-biofeedback or PlayMancer videogame therapy.

### Vitamin D deficiency in a high secure forensic psychiatry hospital: A clinical audit and service evaluation

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**Aims.** To assess concordance with guidelines on monitoring vitamin D levels and prescribing prophylaxis or replacement. To assess the association between the implementation of local guidelines and prevalence of vitamin D deficiency.

**Background.** Vitamin D deficiency is associated with various adverse health outcomes including osteoporosis, fractures and myalgia. Most recently, vitamin D deficiency has been hypothesised as a risk factor for severe COVID-19 infection. Risk factors for vitamin D deficiency include incarceration, ethnicity, diet and a diagnosis of psychiatric disorder. Vitamin D deficiency is known to be prevalent among individuals within forensic mental health institutions.

Local Trust guidelines advise that vitamin D levels should be checked within one-month of hospital admission, followed by checks at three-monthly intervals. Recommendations for prescribing depend on patients' vitamin D levels; deficient ( $<25\text{nmol/L}$ ), insufficient ( $25 < 50\text{nmol/L}$ ) or adequate ( $50\text{-}150\text{nmol/L}$ ). We assessed concordance with these guidelines at Broadmoor Hospital, UK.

**Method.** Medical records, laboratory results and drug charts were assessed for a total of 75 patients across 15 wards. Data were collected using a standardised audit tool, including; date of admission, admission vitamin D level, most recent vitamin D level and the dose and frequency of vitamin D prescribed.

**Result.** 76.4% of patients had their vitamin D levels checked within one month of admission. 66.7% of patients had their vitamin D checked within the last 3 months. For patients with an admission vitamin D level recorded, 43.6% had deficient vitamin D levels, 43.6% had insufficient levels and 12.7% had adequate levels. For patients with a more recent serum vitamin D level, 14.5% had deficient levels, 38.7% had

insufficient levels and 46.8% had adequate levels. For patients with a documented serum vitamin D level, 21.4% were prescribed the correct dose, 22.9% were under-dosed, 14.3% were over-dosed and 41.4% received no dose where guidelines suggested they should.

**Conclusion.** Comparison of admission and most recent vitamin D levels suggests a general improvement in prevalence of vitamin D deficiency associated with the implementation of local guidelines. However, we identify significant areas for improvement. A substantial proportion of patients lacked admission or regular monitoring of vitamin D levels and a substantial proportion of patients were under-dosed or received no dose where guidelines suggested they should have. We propose that better concordance with guidelines may improve clinical outcomes further. This may prove especially important during the COVID-19 pandemic, given a potential association between vitamin D deficiency and severity of respiratory infection.

### HappyMaps: a single hub of resources on children and young people's mental health for parents and professionals

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**Aims.** Mental health issues in children and young people are a growing concern and the benefits of intervening early are well established for many mental health problems, but existing Child and Adolescent Mental Health Services (CAMHS) are often overstretched with variable waiting times for assessment. Many children also have problems which do not reach the referral thresholds and parents are left to find advice elsewhere. Existing resources for parents are scattered across many different websites and therefore difficult to access both for parents and professionals working with young people. With this in mind, and in consultation with CAMHS Bristol and many other stakeholders (including parents themselves) we designed an easily navigable website intended as a single comprehensive portal of resources for parents of children with mental illness and difficulties.

**Method.** Qualitative research methods were used to gather information about how the website should be designed and also to gather feedback once the website was live. Focus groups were performed with parents/carers and stakeholder discussions took place to inform the design of the website. Once the website was live, surveys via a Survey Monkey link on the website and Google Analytics were used to evaluate the website.

**Result.** 60,000 users have utilised the website since the launch in March 2019. Two thirds of users are women and one third are men. Most popular webpages that are visited are primary, secondary, help-in-a-crisis and self-help for young people. Positive feedback has been collected from both parents/carers and service providers. The website has continued to develop and is now a registered charity and has received community lottery funding, which will allow for further evaluation and developments.

**Conclusion.** HappyMaps has been successful in providing a single hub of information for parents/carers, GPs, CAMHS workers and teachers. Future work involves evaluating the website and attracting interest from other CAMHS teams and professionals in other areas of the UK so that they can create HappyMaps sections for their populations.