

**Aims.** The primary aim of this rapid review was to evaluate the evidence base for the efficacy of ketamine across all formulations and routes of administrations in the treatment of adult patients with treatment resistant depression (TRD).

**Methods.** This rapid review retrieved controlled trials on use of ketamine across all of its formulations, including all isomers and across all routes of administration in TRD patients for achieving response and remission. This review included PubMed and PsycINFO databases. The retrieved studies were screened with the help of a screening tool and data were extracted by using data extraction forms by two authors. The studies were evaluated for quality of evidence, ethical issues and critically analyzed. Narrative synthesis was used for data synthesis.

**Results.** This review retrieved 10 placebo controlled randomized controlled trials (RCT) on intravenous (IV) ketamine, IV esketamine, intranasal (IN) ketamine and IN esketamine in TRD patients. IV ketamine and esketamine showed higher rates of remission and response in comparison with placebo groups in TRD patients. There was no significant improvement in response and remission rates in TRD patients on IN esketamine in comparison with placebo. The adverse effects in the intervention groups were of mild to moderate severity and short lasting mostly resolving within a day.

**Conclusion.** This review recommends IV ketamine and esketamine can help in achieving early response and remission in TRD patients and it seems to be a well-tolerated treatment option. Further studies are needed to assess these issues around safety, ease of administration and potential for dependence.

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## Dementia in the United Arab Emirates: Factors Affecting the Time From Symptom Emergence to Formal Diagnosis

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doi: 10.1192/bjo.2024.174

**Aims.** Dementia is a debilitating neurodegenerative disorder that can negatively impact the lives of those affected and their families. Providing safe and person-centered care for individuals living with dementia is a global need with particular emphasis on providing individuals and their families with a rapid diagnosis of their condition following the commencement of symptoms. This study aimed to establish the mean duration of cognitive symptoms before a formal diagnosis of dementia is given in the United Arab Emirates (UAE). We also studied demographic and symptom-specific factors affecting the time for dementia to be formally diagnosed. Our study examined a global issue through a more localized lens to identify areas for improvement.

**Methods.** The study involved extracting and analyzing anonymous data from the electronic medical records of dementia patients at Al-Ain Hospital, UAE. Following ethical approval, the data for individuals diagnosed with any form of dementia from 01/01/2010 to 31/12/2019 were extracted using a set of related diagnostic

codes. A short questionnaire was completed for every record that matched the search criteria. Demographic information was collected in addition to details of diagnosis, presenting symptoms, comorbidities, and medications.

A two-tailed independent t-test was conducted to assess the effect of demographic characteristics (gender, nationality, and age) on the time to receive a diagnosis of dementia. A one-way ANOVA was conducted to assess the effect of initial symptoms, including forgetfulness, agitation/aggression, and hallucinations, on the time taken to receive a diagnosis.

**Results.** Out of the total sample of 825, 442 (53.6%) were females, with 518 (63%) being Emirati citizens. The mean age of the studied sample at the time of diagnosis was 78 years (SD = 11.1). Alzheimer's dementia, 335 (40.6%), was the most common subtype diagnosed. The mean duration of symptoms (DUS) before formal diagnosis was 34.6 months (SD = 28.8). A statistically significant relationship was found between age and DUS, with those over 70 years of age at the time of diagnosis more likely to have a longer DUS ( $p < 0.001$ ). There was a statistically significant mean difference in the DUS and some initial symptoms, namely agitation/aggression ( $p < 0.001$ ), lability ( $p < 0.003$ ), disinhibition ( $p < 0.001$ ), and hallucinations ( $p < 0.001$ ).

**Conclusion.** To our knowledge, this is the first study of its kind in the UAE. Future investigation in this area is much needed, and this study will provide the foundations for dementia awareness campaigns encouraging early presentation to the services.

No financial sponsorship has been received for this study.

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## Drift in Depression Prevalence Disorder in Gulf Cooperation Council (GCC) Countries Over 30 Years

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doi: 10.1192/bjo.2024.175

**Aims.** Depression disorder is a major public health problem and a serious medical illness which negatively affects people's daily life. The WHO's International Classification of Diseases (ICD-10) defines this set of disorders ranging from mild to moderate to severe. Estimated annual percentage change (EAPC) is a useful statistic that is used to measure trends in rates over time-period.

The aim of this study was to compute the drift in depression prevalence disorder using the EAPC of the prevalence of depression disorder between 1990 to 2019 with corresponding 95% confidence intervals (95% CI) across the GCC countries.

**Methods.** Prevalence of depression disorder data for the GCC countries were downloaded from "Our World in Data" <https://ourworldindata.org/mental-health#depression>. We computed the drift of depression over 30 years between the 6 GCC countries using the statistical software R.

**Results.** The greatest decrease was seen for Bahrain which is (–5.2%) followed by Qatar (–3.2%) and United Arab Emirates (–3%). However, the largest increase was observed for Saudi Arabia (2.7%), followed by Kuwait (1.1%) and Oman (0.7%). The reduction in the prevalence of depression disorder seen in Bahrain, Qatar and United Arab Emirates shows a significant achievement in mental health diagnosis, prevention, and treatment.

**Conclusion.** However, further studies are required to better understand the drifts in the GCC countries. Furthermore, governmental funding for academic and research mental health programs is highly recommended.

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### Association Between Females and Males in the Prevalence of Depression in the Gulf Cooperation Council (GCC) Countries

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doi: 10.1192/bjo.2024.176

**Aims.** In most populations, the prevalence of depression is more significant in women than in men. Nonetheless, the degree of gender disparity varies significantly across countries. The aim of this study is to consider the role of gender inequality in explaining these differences in the Gulf Cooperation Council (GCC) countries.

**Methods.** Data on the ecological prevalence of depression (males versus females) from 1990–2019 from the GCC countries were downloaded from Our World in Data and included in the statistical analysis. A mixed-effects linear model was used to examine the association between males and females, i.e. females regress on males. Year and country variables were used as random effect variables.

**Results.** The prevalence of depression in the GCC countries shows a gender-specific pattern with a higher prevalence in females than in males 1.218 (95% CI: 1.149–1.285),  $p$ -value < 0.001. Higher levels of depression between men and women were observed in Kuwait and Saudi Arabia compared with the other four countries. The lowest depression prevalence was observed in the United Arab Emirates.

**Conclusion.** The pattern of depression in the GCC countries is based on gender. However, the association between global measures of gender inequality and the gender gap in depression may depend on how the level of depression is measured. More research is needed to investigate the mechanisms that underlie the gendered nature of depression prevalence.

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### Vitamin-D Deficiency & Depression: Is There an Association? Average Data From Gulf Cooperation Council Countries

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doi: 10.1192/bjo.2024.177

**Aims.** The evidence for the association between vitamin-D deficiency and depression, although equivocal, has been established in several populations in different countries and supported by meta-analytical studies<sup>1</sup>. Much of the evidence for this comes from Western countries<sup>2</sup>. Similarly, the evidence for the benefits of supplementation, although shown, also comes from similar populations and is equivocal<sup>3</sup>. Need for data from different populations and for randomized controlled trials to establish causality is stressed by most researchers. This study aims for presentation reviews of the association between vitamin-D and depression in the GCC, using the publicly available data of Our World in Data.

**Methods.** The statistical analysis used median prevalence depressive disorders data (from 1990–2019) in the GCC countries (both sex and age-standardized (%)), which was downloaded from Our World in Data and was last updated on August 28, 2022. Vitamin D deficiency data were collected through a literature review search using PubMed and Google Scholar. A linear regression model was performed with the median prevalence of depressive disorders data as an outcome. The prevalence of vitamin-D deficiency, population median age and the interaction term between prevalence of vitamin-D deficiency and population median age were used as predictors. The effects of prevalence of depressive disorders both sex age standardized (AS) percentage (%) were estimated with 95% confidence interval (95% CI) using bootstrap covariance matrix estimator. Fitted model's likelihood ratio chi-square (LR  $\chi^2$ ) test with corresponding  $p$ -value was computed and reported.

**Results.** A positive association was observed between the median prevalence of depressive disorders and the prevalence of vitamin-D deficiency, adjusted for population median age, were observed (LR  $\chi^2$   $p$ -value = 0.005) and adjusted  $R^2$  = 0.706.

**Conclusion.** Prevalence of depressive disorders was associated with prevalence of vitamin D deficiency among the population of GCC countries. Future randomized control trials on Vitamin D supplementation are needed to confirm these observations.

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### Familial Clustering of Adolescent Emotional Problems in a Nationally Representative Sample in Britain: A Multilevel Investigation

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