

**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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**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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**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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**Aims.** The prevalence of emotional problems, such as depressive and anxiety disorders, increases sharply during adolescence. There is evidence for familial clustering of mental health problems during early childhood and adulthood, however no studies have investigated whether adolescent mental health problems cluster within families. This study tests the hypotheses that i) emotional problems during adolescence cluster within families, and that ii) conduct, peer and hyperactivity problems, prosocial behaviour and overall emotional and behavioural difficulties during adolescence also cluster within families.

**Methods.** We used cross-sectional data from a nationally representative survey of UK households, collected between 2019 and 2021, with 4,088 participants aged 10–16 years. Analyses included 1,241 participants who had complete outcome data and complete data on all covariates of interest. The Strengths and Difficulties Questionnaire (SDQ) was used to examine emotional problems, as well as conduct, peer and hyperactivity problems, prosocial behaviour and total difficulties. Multilevel modelling was used to: estimate clustering of i) emotional problems and ii) conduct, peer and hyperactivity problems, prosocial behaviour and total difficulties, within families, after adjusting for several individual- and family-level covariates associated with adolescent mental health problems (including individual and family demographics, school and sibling bullying, quality of parent-child relationship, parent mental health and parent romantic relationship satisfaction).

**Results.** After adjusting for known covariates of adolescent mental health problems, there was substantial clustering of adolescent emotional problems (ICC: 0.439; CI<sup>95%</sup>: 0.36–0.52; SE: 0.042) and overall adolescent emotional and behavioural difficulties (ICC: 0.417; CI<sup>95%</sup>: 0.34–0.50; SE: 0.043) within families. There was also evidence of clustering of adolescent peer problems (ICC: 0.374; CI<sup>95%</sup>: 0.28–0.48; SE: 0.051), hyperactivity (ICC: 0.332; CI<sup>95%</sup>: 0.25–0.42; SE: 0.044), prosocial behaviour (ICC: 0.263; CI<sup>95%</sup>: 0.18–0.37; SE: 0.048) and conduct problems (ICC: 0.232; CI<sup>95%</sup>: 0.14–0.35; SE: 0.053) within families after adjustment.

**Conclusion.** We found strong evidence that adolescent emotional problems cluster within families even after accounting for individual- and family-level covariates which are associated with adolescent mental health problems. Over 40% of the variation was accounted for at the family level. This indicates how the contextual characteristics of the family environment may influence the mental health of young people. As such, social policy aiming to prevent or improve the mental health of young people should focus on family context.

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## Role of Parental Supervision on Digital Screen Use and Its Effects on Children's Mental Health and Wellbeing in Bangladesh: A Cross Sectional Study

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**Aims.** The younger generation of today is highly dependent on digital technologies worldwide. Studies on young children's cognitive and socio-emotional development have shown that there can be conflicting effects from using screen-based media or from exposing them to it. The study explored the relation between unsupervised use of digital screen time with student mental health and behavioral problems.

**Methods.** It was a cross sectional descriptive study approached primary and secondary school going children from grades 2–8 (age 6 to 14 years), purposively selected six schools consist of three English and Bangla medium schools from Dhaka city. A total of 420 students along with their parents were enrolled by clustered random sampling. Study explored the effect of the unsupervised screen time on student mental health and social wellbeing through semi structured questionnaires, Strength and Difficulties Questionnaire (SDQ), Pittsburgh Quality of Sleep Scale (PSQI), Spencer Children Anxiety Scale (SCAS) and Development and Wellbeing Assessment Scale (DAWBA).

**Results.** Students used various forms of digital screens for 4.6 hours every day, and 56% of them used these devices without parental supervision or monitoring. English Medium students spend significantly more time on screens on a daily average (5.5 hours) compared with students at Bangla Medium schools (3.7 hours). 21.2% students had mental health concern, this percentage was higher in the unsupervised group (56.2%) than in the supervised group (43.8%). In the unsupervised group, students experienced higher levels of emotional difficulties (15.7%), behavioral difficulties (28.3%), hyperactivity behavior difficulties (17.4%), peer relations difficulties (28.8%), and pro-social behavior difficulties (6.7%) compared with supervised group. 83.3% of students in the supervised group found higher levels of anxiety compared with the unsupervised group (16.7). In the unsupervised group, 15.4% of the students had experienced sleeping problems, compared with 14% in the supervised group.

**Conclusion.** These results suggest an impact of unsupervised screen time on the prevalence of mental health problems among students. Appropriate screen usage may be a major intervention target to improve children's mental health and wellbeing.

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## A Systematic Review of Estrogen Modulators as Augmentation to Antipsychotics for the Treatment of Post- and Perimenopausal Psychosis

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**Aims.** To investigate if estrogen agents as an adjunct to anti-psychotic medication are effective at treating psychosis in post- and perimenopausal females.

**Methods.** A digital search focusing on controlled clinical trials was conducted. Studies were assessed for quality using the Cochrane Risk of Bias tool and GRADE system. The Joanna