

self-ratings of insight on the VAGUS tool were different from but complimentary to the ratings for insight on the HCR-20 ( $r = 0.480$ ,  $p < 0.001$ ), the DUNDRUM-3 ( $r = 0.491$ ,  $p < 0.001$ ) and DUNDRUM-4 ( $r = 0.265$ ,  $p = 0.041$ ). An inverse relationship between the VAGUS scores and the scores on the PANSS measures ( $r = 0.452$ ,  $p < 0.001$ ) was found, correlating lower levels of insight with a higher degree of positive and negative psychotic symptoms. There was also a correlation between greater insight and progress through the care pathway to lower secure wards.

**Conclusion.** Using a specific tool to rate insight adds benefit over and above the insight ratings on other tools currently in use and may be helpful in guiding clinical decision making in the forensic setting.

### Frailty in Individuals With Mental Disorders: Longitudinal Analyses of All-Cause Mortality

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**Aims.** Frailty is a medical syndrome that is strongly associated with mortality risk, and an emerging global health burden. Mental disorders are associated with reduced life expectancy and elevated levels of frailty. In this study, we examined the mortality risk associated with frailty in individuals with a lifetime history of mental disorders compared to non-psychiatric controls.

**Methods.** The UK Biobank study recruited >500,000 adults, aged 37–73 years, between 2006–2010. We derived the two most common albeit distinctive measures of frailty, the frailty phenotype and frailty index. Individuals with lifetime depression, bipolar disorder or anxiety disorders were identified from multiple data sources. The primary outcome was all-cause mortality. We have also examined differences in frailty, separately by sex and age.

**Results.** Analyses included up to 297,380 middle-aged and older adults with a median follow-up of 12.19 (IQR = 1.31) years, yielding 3,516,706 person-years of follow-up. We observed higher levels of frailty in individuals with mental disorders for both frailty measures. For key comparisons, individuals with a mental disorder had greater all-cause mortality hazards than their controls. The highest hazard ratio (3.65, 95% CI 2.40–5.54) was observed among individuals with bipolar disorder and frailty, relative to the non-frail controls.

**Conclusion.** Our findings highlight elevated levels of frailty across three common mental disorders. The increased mortality risk associated with frailty and mental disorders represents a potentially modifiable target for prevention and treatment to improve life expectancy.

### Moroccans' Perception of Addiction: A Cross-Sectional Study on Stigma and Familiarity Dynamics

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**Aims.** This study aims to assess the stigmatization of Moroccans towards substance and non-substance addictions, as well as to explore its relationship with both demographic factors and addiction familiarity.

**Methods.** 527 Moroccans anonymously participated in a cross-sectional study via an online survey that was distributed on social media. Participants were randomly assigned 2 vignettes describing either substance (Alcohol and Cannabis) or non-substance (Gambling and Social Media) addictions, followed by the Social Distance Scale and the Familiarity Scale.

**Results.** A total of 527 individuals answered our online questionnaire. The median age of respondents was 27.6 years (std = 15.66). 56% were females and 44% were males. Among the participants 45% were married and 50% were medical students or health professionals.

Using ANOVA and a series of student t-tests, that yielded a  $p < 0.05$ , the following results were obtained:

A moderate level of stigma was found towards all addictions, except for social media where no stigma was found ( $p < 0.05$ ). In contrast, the familiarity level was high with social media addiction and low with the other addictions ( $p < 0.05$ ).

The women in our study showed higher stigmatization of all addictions, whereas older people (>43 years) showed higher stigmatization of substance addictions only.

Different levels of stigmatization were observed towards the 4 types of addiction; the highest being cannabis addiction and the lowest being social media addiction.

Regarding familiarity with addiction, males were more familiar with all types of addiction. Whereas, younger individuals (<23 years) were the least familiar with substance addiction.

Moroccans' familiarity levels with different types of addiction were significantly different. Familiarity with social media addiction was the highest whereas familiarity with gambling addiction was the lowest.

Using the Pearson correlation, we found that stigma and familiarity concerning substance addiction were negatively correlated ( $r = -0.30$ ,  $p < 0.01$ ). A stronger, yet moderate relationship was found between stigma and familiarity regarding cannabis ( $r = -0.36$ ,  $p < 0.01$ ).

**Conclusion.** It seems that Moroccans stigmatize against most addictions, which was found to be influenced by multiple factors including familiarity level, age, and sex. These findings can be used as a base to create a targeted educational campaign to tackle addiction in our society. No significant conclusions were made concerning whether or not the academic level or the health professional background influenced stigmatization, which raises concerns about the Moroccan academic and medical curricula's representation of addiction.

### How Does an Observational Assessment Adapted for Online Delivery Perform Compared to an In-Person Assessment? Learning From the National Autism Service for Adults

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**Aims.** The National Autism Service for Adults receives over 600 referrals annually and with an extensive waitlist, COVID-19 restrictions on in-person assessments were a challenge for service delivery. We aimed to adapt the Autism Diagnostic Observation Schedule (ADOS) for online delivery and investigate whether it is comparable to the in-person ADOS in predicting Autism Spectrum Disorder (ASD) diagnostic outcome. We also aimed to obtain qualitative feedback from service users and clinicians regarding experiences of the online ADOS.

**Methods.** A working group of staff who administer ADOS and representatives from psychiatry, psychology and management reached consensus that an online version of ADOS module 4 was feasible based on experience that a lot of information required for coding is obtained verbally and some tasks were adaptable for online delivery. After the pilot, it was agreed all algorithm items could be coded except 'unusual eye-contact'. Subsequently, 163 service users attended an online ADOS between August 2020 and February 2021. A matched-comparison group consisted of 198 service users seen for an in-person ADOS between May 2014 and February 2020. Algorithm scores were recorded and ASD diagnosis was made by a trained clinician. Qualitative feedback regarding the online ADOS was collected from 46 service users and 11 clinicians.

**Results.** The working group agreed the online and in-person ADOS were closely matched regarding administration and coding. Mean scores for service users who received an ASD diagnosis were comparable for the online and in-person ADOS groups (7 and 8 respectively). This was also shown for those who were not diagnosed with ASD (3 and 4 respectively). A two-sample t-test showed no significant difference in total scores between the online and in-person ADOS ( $p = 0.38$ ). Qualitative feedback suggested good service user and clinician satisfaction; only 27% of service users indicated they would have preferred an in-person assessment; 88% of clinicians reported there were gains from offering an online alternative. Although the online and in-person ADOS perform similarly, clinicians reported relying more on qualitative reports over scores from the online version to inform diagnostic decision.

**Conclusion.** To our knowledge, this is the first study to examine using an online ADOS within an adult diagnostic service. Due to its comparable performance, the online-ADOS is a viable alternative option for service delivery when in-person assessments are not possible. As this clinic group has high rates of comorbid mental health difficulties, the applicability of online assessments could generalise to other services and have an impact beyond the pandemic.

### The Effectiveness of Exercise as a Treatment of Major Depressive Disorder in Adolescents: A Systematic Literature Review of Randomised Control Trials

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**Aims.** Major depressive disorder (MDD) is the most prevalent mental health condition among adolescents. Current treatments have limited effectiveness, accessibility and questionable safety profiles. Exercise is becoming a more widely recognised intervention for MDD in adults. However, evidence and research for its effectiveness in adolescents is lacking. This

review aimed to establish if exercise is effective at reducing MDD symptoms and severity in adolescents, and thus its first-line treatment potential.

**Methods.** Electronic databases were searched for randomised control trials studying effects of exercise in adolescents, clinically diagnosed with MDD. Trials were excluded if participants' depression was secondary to another disorder or health condition. The primary outcome measure was depression symptom severity, assessed by a validated depression symptom scale. Six trials met the eligibility criteria and were included in this review.

**Results.** Four trials found reduced depression scores in the exercise intervention group compared to control immediately post-intervention; of the four trials which included follow-up data, all reported higher rates of remission in the exercise intervention group compared to control. The length of exercise intervention programme seems important, needing to be greater than 6-weeks for a therapeutic effect. The type of exercise doesn't appear critical.

**Conclusion.** Given the small sample sizes and methodological limitations presented by the trials, it is difficult to draw definitive conclusions. Further and larger-scale studies are needed before exercise can become a recognised and readily recommended treatment for MDD in adolescents; but thus far, it seems to have a promising therapeutic potential in both short and long term.

### Digital Phenotyping Methods to Measure or Detect Social Behaviour in Patients With Serious Mental Illness (SMI): A Systematic Review. a Closer Look at Bipolar Disorder

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**Aims.** To provide a fresh insight into the extent digital phenotyping methods have been employed to measure or detect social behaviour in patients with SMIs; with a closer look at the validity, reliability, acceptability and tolerability of these digital phenotyping methods.

**Methods.** Using specified search terms relating to digital phenotyping metrics and terms related to SMIs, a thorough literature search strategy for studies was employed across the following electronic databases: PubMed, Embase, and PsychINFO - from inception to July 2021.

Included studies employed digital phenotyping methods, collecting either passive, active or mixed-modal data, which in principle reported metrics representing social behaviour on patients with an SMI. Here we present a preliminary analysis of studies reporting results for patients with BD, with a particular focus on tolerability and acceptability.

**Results.** Of 4,646 records initially screened, a subgroup of 9 studies ( $n = 474$ ) directly focusing on patients with BD are reported here. Across the studies, we find a modest adherence rate towards these applications by patients, ranging from 72.6% to 89.2%. Methods used by the studies include the frequency of phone calls and text messages, and self-reported and observer ratings of social and interpersonal functioning. The collection of such digital phenotyping data appears tolerable and acceptable to