

rTMS treatment were identified using a seed-based functional connectivity analysis with the left dorsolateral prefrontal cortex and bilateral amygdalae as regions of interest. Functional connectivity differences were analysed using t-contrasts in a mixed ANOVA (flexible factorial analysis) to assess interactions between treatment group (real rTMS vs sham) and time-point (pre or post TMS).

**Result.** No statistically significant changes in resting-state functional connectivity were observed post-rTMS compared to baseline in participants receiving active rTMS compared to sham. Increased functional connectivity between the left amygdala and left pre-supplementary motor area was observed to reach cluster-wise significance (PFWE < 0.05). However, after Bonferroni correction for multiple comparisons (3 seed regions), this did not reach the significance threshold PFWE < 0.017.

**Conclusion.** This study highlights the need for further investigation of neurophysiological mechanisms, including resting-state functional connectivity modulation, resulting from rTMS to the dorsolateral prefrontal cortex in SE-AN patients. This requires higher powered studies to account for heterogeneity in treatment response. We have provided some indication that high frequency rTMS may have therapeutic benefit in SE-AN by modification of functional connectivity between prefrontal and limbic brain regions, resulting in improved top-down cognitive control over emotional processing and ability to enact goal-directed behaviours, enabling secondary reductions in eating disorder behaviours.

### Depression, perceived stress, social support, substance use and related sociodemographic risk factors in medical school residents in Nairobi, Kenya

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**Aims.** Little is known about mental health risk factors in medical residents and doctors in Sub-Saharan Africa. Residents are at a greater risk of developing depression, stress and substance abuse than the general public owing to the stressful nature of their medical training. Poor mental health in residents leads to decreased clinical efficiency and training satisfaction; it can also lead to substance dependence, self-harm and suicide. Our primary aim was to ascertain depression prevalence among medical residents in Kenya's largest national teaching and referral hospital. Secondary aims were to analyze how depression was associated with perceived stress, perceived social support, substance use, and educational environment.

**Method.** Self report questionnaires were administered in this cross-sectional survey to 338 residents covering eight specialties (Medicine, Psychiatry, Paediatrics, Obstetrics/Gynaecology, Anaesthesia, General Surgery, Cardiothoracic Surgery, and Ear Nose Throat Surgery). In addition to key sociodemographics, the Centres for Epidemiology Depression Scale - Revised, Perceived Stress Scale, Multidimensional Scale of Perceived Social Support, Alcohol, Smoking and Substance Involvement Screening Test, and Postgraduate Hospital Educational Environment Measure were used.

**Result.** The mean participant age was 31.8 years and 53.4% were males. Most residents (70.4%) reported mild/no depressive symptoms 12.7% had moderate, and 16.9% had severe symptoms. High social support (71.8%) and moderate stress (61.6%) were reported

by most residents. Almost half (46.3%) rated their educational environment as being more positive than negative. Out of 238 respondents 11.3% were at moderate risk of health and other problems due to cocaine use, while 13.3% (out of 240 respondents) were at risk due to alcohol. On bivariate analyses, we found significant correlations between depression, perceived stress, substance use, perceived social support, and educational environment. Multivariate analysis revealed that depression was strongly associated with: fewer hours of sleep ( $\beta = -0.683$ ,  $p = 0.002$ ), high perceived stress ( $\beta = 0.709$ ,  $p < 0.001$ ) and low perceived social support ( $\beta = -2.19$ ,  $p < 0.001$ ).

**Conclusion.** High perceived social support, low perceived stress, and less sleep were significantly associated with lower depression scores. A large proportion of residents were at risk of developing depression (29.6%). There were high levels of perceived social support (71.8%). A concerning proportion of residents used substances like alcohol and cocaine. This work is one of few that describe the mental health of an important and understudied population group in an LMIC. Priority must be given to protect and promote the mental health of such a vulnerable group.

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### Acute mania with psychotic symptom in post COVID-19 patient

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**Aims.** COVID-19 is an on-going pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Recent evidence suggests that SARS-CoV-2 may be associated with various neuropsychiatric symptoms, including mania. We present a case of a middle aged man presenting with acute mania with psychotic symptoms 20 days post COVID infection in the absence of prior psychiatric illness. This report highlights the need for rigorous neuropsychiatric assessment in patient with symptoms of SARS-CoV-2 infection.

**Method.** A 52-year-old man of West African origin with past history of hypertension and no previous history of mental health illness presented with acute manic symptoms on background of two weeks of high fever, diarrhoea, mild headache, dry cough and anosmia. He was tested positive for SARS-CoV-2 infection on COVID PCR test. He was under self-isolation along with his family members who exhibited mild symptoms of SARS-CoV-2, none of them required hospital admission. He was initially fearful to seek medical attention but was brought in by family after exhibiting behaviour changes, obsession with toilet cleaning, reckless spending and getting aggressive approximately two weeks after the onset of acute upper respiratory symptoms. He presented elated in mood with pressure of speech and grandiose ideas. Investigations like neuroimaging and bloods were unremarkable. Initial psychiatric assessment found symptoms consistent with acute mania and he was detained under the Mental Health Act. During admission, he was sexually disinhibited and agitated on the ward requiring IM antipsychotics. He was treated with high dose of Olanzapine and Sodium valproate and his symptoms subsided within two weeks.

**Result.** This case emphasises the manifestation of neuropsychiatric illness post COVID-19 without a background of psychiatric illness, hypoxemia and cerebral infarction.