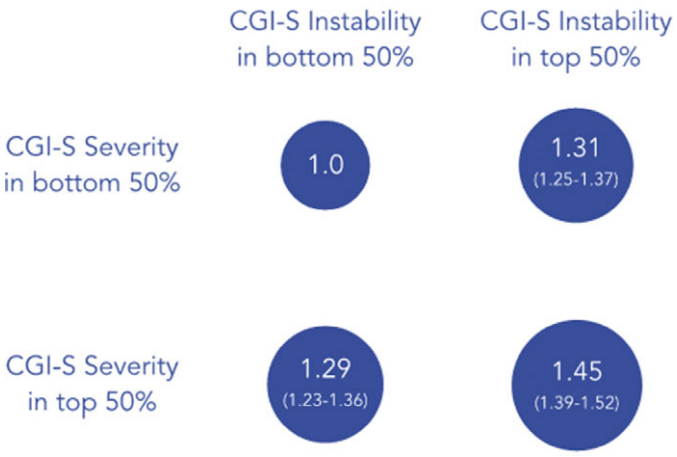
Image:



Conclusions: Early CGI-S trajectories reflecting clinical severity and instability independently predict risk of hospitalisation across diagnoses. This risk was compounded when instability and severity were present together. These results have translation potential in predicting individuals who are at high risk of hospitalisation and could benefit from preventative strategies to mitigate this risk.

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The kynurenine pathway in schizophrenia, bipolar disorder, and major depressive disorder: a systematic review and meta-analysis of cerebrospinal fluid studies

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Introduction: The kynurenine pathway has been suggested to be involved in the pathophysiology of psychiatric disorders, including schizophrenia (SZ), bipolar disorder (BD), and major depressive disorder (MDD).

Objectives: To conduct a systematic review and meta-analysis of the kynurenine pathway metabolites from cerebrospinal fluid samples in SZ, BD, and MDD.

Methods: PubMed and Scopus databases were searched from inception to April 2022 to identify case-control studies assessing kynurenine metabolites [tryptophan (TRP), kynurenine (KYN), kynurenic acid (KA), quinolinic acid (QA), and 3-hydroxykynurenine (3-HK)] in SZ, BD, and MDD vs. healthy controls (HC). PRISMA guidelines were followed in the literature review. The random effects model parameter was selected when comparing the standardized mean differences (SMD) between groups.

Results: A total of 23 articles met inclusion criteria (number of articles k=8, 8, 11 for SZ, BD, and MDD, respectively). For SZ, KA levels were increased in SZ compared to HC (SMD=2.64, CI=1.16-4.13, p=0.0005, I^2=96%, k=6, n=384). KYN levels were not significantly different between SZ and HC (SMD=4.19, CI=-0.70 to 9.09, p=0.0933, I^2=99%, k=4, n=188). For BD, TRP levels (k=7) did not differ significantly between BD and HC. There was a limited number of studies to conclude increased levels of KA in BD (k=2). For MDD, although some studies tended toward increased levels of KYN in those with remission vs. decreased levels in those with current depression, there were no significant differences in any of the kynurenine metabolite levels. There was a limited number of studies to conclude increased levels of QA in MDD (k=2).

Conclusions: KA, which has possibly neuroprotective effects, is increased in SZ. QA, which has neurotoxic effects, may be increased in MDD. There may be alterations in this pathway based on population characteristics and mood states.

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