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Author's declarative title: Multimorbidity is highly prevalent in adults with severe mental illness

Commentary on: Halstead S, Cao C, Høgnason Mohr G, Ebdrup BH, Pillinger T, McCutcheon RA, et al. Prevalence of multimorbidity in people with and without severe mental illness: a systematic review and meta-analysis. *Lancet Psychiatry*. 2024;11(6):431-42.

Commentary

Implications for practice and research

- Multimorbidity is highly prevalent in adults with severe mental illness and should be a key consideration when assessing adult patients with severe mental illness.
- Future research should explore key moderating factors for the prevalence of physical multimorbidity in adults with severe mental illness.

Context

The term severe mental illness (SMI) refers to individuals with psychological conditions so profound that they significantly hinder their capacity to perform functional and occupational activities, with schizophrenia and bipolar disorder often being classified as SMIs (1). Evidence suggests that there is an association between an increased risk of multimorbidity and the presence of mental illness (2). However the degree of association and the prevalence of multimorbidity in individuals with SMI is less understood (3). Therefore, to explore this association a recent systematic review by Halstead et al., (2024) was undertaken to assess the prevalence and odds of multimorbidity in individuals with SMI (3). The aim of this short commentary is to critically appraise the systematic review by Halstead et al., (2024) and contextualize these findings in the context of practice.

Methods

This systematic review carried out a comprehensive multi-database search from the date of inception until February 15, 2024. Only observational studies which assessed the association of either schizophrenia-spectrum disorder or bipolar disorder to ≥ 2 physical health conditions or ≥ 3 psychiatric conditions in total, including the SMI (multimorbidity) were included. Screening data extraction and assessment of quality (modified Joanna Briggs Institute for cross-sectional designs quality assessment tool) was undertaken by two reviewers independently with arbitration by a third review. A random effects model was used to meta-synthesize multimorbidity for physical conditions to assess the odds of occurrence in adults with SMI and to generate prevalence estimates for both physical and mental multimorbidity. Heterogeneity was assessed using the I^2 statistic. A range of subgroup, sensitivity and meta-regression analyses were undertaken on thresholds of multimorbidity,

diagnostic subgroups, geographical location of study, lifetime diagnoses, mean age (categorical), study continent, study sample type, and study design.

Findings

The 82 studies included in the review varied in range of quality (quality: low $n=21$, average $n=33$, high $n=28$). Individuals with SMI were 2.40 times more likely to have physical multimorbidity compared to those without SMI. The subgroup analysis for SMI condition type and number of physical conditions did not substantially change the odds of physical multimorbidity occurring. The pooled prevalence of having two or more physical conditions was 25%, three or more psychiatric conditions was 14%, and the mean number of conditions was 1.41 in adults with SMI. There was tentative evidence suggesting that being outside of North America and Europe and being under 40 years old could be important moderating factors.

Commentary

Using a modified Joanna Briggs Institute critical appraisal tool for systematic reviews, this review met 8 out of the 9 criteria assessed. The only area of concern was regarding the lack of testing of the methodological quality of the included studies. Due to the lack of this assessment of the effects of the quality of the included studies, it is difficult to assess exactly what the impact of the individual quality of studies included in specific meta-analyses would have had on the results. This may have been an important moderating factor as within all comparisons within this review there was substantial heterogeneity which reduces the certainty in these estimates presented. Overall, from a methodological standpoint of evidence synthesis, this systematic review presents a comprehensive overview regarding the question of interest.

However, regarding the certainty in the estimates due to the substantial heterogeneity (inconsistency), notably wide confidence intervals in all estimates (imprecision) and wide variation in included studies quality, it is difficult to establish/classify the certainty in the estimates presented. Although it is evident that there are notable increase odds of SMI to present with physical multimorbidity compared to those without SMI. In a previous systematic review in this area, which included a notably smaller number of studies, a similar odds ratio of 1.84 was found of the odds of an individual with SMI to have a physical multimorbidity compared to individuals without (4). Despite minor uncertainties in the presented estimates, physical and psychiatric multimorbidity is highly prevalent in adults with SMI and should be a key consideration in both clinical management and service provision.

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Competing interests: The author has no conflicting interests