INPLASY PROTOCOL

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Effectiveness of Illness Management and Recovery Program on people with severe mental illnesses: A systematic review and meta-analysis

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Review question / Objective: This review aimed to build on the previous reviews to provide an updated examination of the efficacy of IMR in improving personal recovery outcomes in people with SMIs. The specific research question identified: (1) How effective are IMR programs in improving mental health-related outcomes in people with SMIs compared to standard care or other interventions?

Information sources: Through Boolean search terms, seven databases (CINAHL, Embase, ProQuest, PsycINFO, PubMed, Scopus, and Web of Science) were included, given the coverage of multiple disciplines (Scopus and Web of Science) and specific disciplines, including biomedical (Embase, ProQuest, and Pubmed), nursing and allied health (CINAHL), and psychology (PsycINFO).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 October 2022 and was last updated on 02 October 2022 (registration number INPLASY2022100005).

INTRODUCTION

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Condition being studied: People with severe mental illnesses.

METHODS

Search strategy: A search strategy was formulated to identify studies on IMR programs for people with SMIs. All available and relevant primary studies were then identified through the search with specific keywords and Medical Subject Headings (MeSH) terms from the database's inception to ensure a comprehensive and updated search (Tam, Lo, Khalechelvam, Seah, & Goh, 2017). The keywords included 'illness management and recovery', 'IMR', 'mental disorders' [MeSH], 'mental illness', 'schizophrenia', 'bipolar', and 'psychosis'. Through Boolean search terms, seven databases (CINAHL, Embase, ProQuest, PsycINFO, PubMed, Scopus, and Web of Science) were included, given the coverage of multiple disciplines (Scopus and Web of Science) and specific disciplines, including biomedical (Embase, ProQuest, and Pubmed), nursing and allied health (CINAHL), and psychology (PsycINFO). No limits were applied to the publication types and years to maximize the number of articles generated. Publications that cited previous reviews (McGuire et al., 2014; Whiteman et al., 2016) focusing on IMR were also retrieved to ensure that there was no omission of additional studies. The review was limited to English as the team had no access to interpreters.

Participant or population: Participants in the included studies were adults (at least 16 years of age) who were diagnosed with schizophrenia, schizophreniform, schizoaffective, bipolar, or mood disorders. The diagnosis may be either: (i) a standardized criterion such as the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) or the International Classification of Diseases (ICD-10) or (ii) a psychiatrist's diagnosis.

Intervention: The included studies were randomized controlled trials (RCTs) examining the efficacy of IMR in people with SMIs. The studies were required to have adhered to the standardized curriculum-based IMR program based on the principles of recovery, which mainly focus on mental illness psychoeducation, cognitive-behavioral approaches to

medication adherence, relapse prevention plan development, social skills training, and skills to cope and manage symptoms (Mueser et al., 2006).

Comparator: Studies with no compactor (participants receive no intervention), a passive comparator (usual care or wait-list control group), or an active comparator (other interventions) were included.

Study designs to be included: The included studies were randomized controlled trials (RCTs) examining the efficacy of IMR in people with SMIs. The studies were required to have adhered to the standardized curriculum-based IMR program based on the principles of recovery, which mainly focus on mental illness psychoeducation, cognitive-behavioral approaches to medication adherence, relapse prevention plan development, social skills training, and skills to cope and manage symptoms (Mueser et al., 2006).

Eligibility criteria: Participants in the included studies were adults (at least 16 years of age) who were diagnosed with schizophrenia, schizophreniform, schizoaffective, bipolar, or mood disorders. The diagnosis may be either: (i) a standardized criterion such as the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) or the International Classification of Diseases (ICD-10) or (ii) a psychiatrist's diagnosis.

Information sources: Through Boolean search terms, seven databases (CINAHL, Embase, ProQuest, PsycINFO, PubMed, Scopus, and Web of Science) were included, given the coverage of multiple disciplines (Scopus and Web of Science) and specific disciplines, including biomedical (Embase, ProQuest, and Pubmed), nursing and allied health (CINAHL), and psychology (PsycINFO).

Main outcome(s): The primary outcomes for this review were changes in global functioning and personal recovery. The secondary outcomes include but are not limited to the following aspects; specific

areas of functioning such as social functioning, specific areas of personal recovery such as hope and perceived social support, substance abuse, quality of life, and knowledge of the illness.

Data management: All retrieved records from the database and cited reference searches were uploaded into EndNote X9, and duplicate records were removed electronically.

Quality assessment / Risk of bias analysis: The risk of bias (ROB) of the included studies was evaluated independently by two reviewers (Authors 1 and 3) based on the Cochrane Risk of Bias assessment tool (Higgins, 2020), which includes areas such as allocation concealment, blinding of outcome assessment, blinding of personnel, incomplete outcome data, random sequence generation, and selective reporting. Each domain of bias was rated 'low risk,' 'high risk,' or 'unclear risk' for each study, and any disagreements were consensually resolved through discussion. A ROB summary graph was then generated by the Review Manager 5.4 software (RevMan, 2020).

Strategy of data synthesis: Post-program measurements were extracted from each study for comparison. For each continuous outcome, the mean difference (MD) and its 95% confidence intervals (CIs) were computed as measures of treatment effect. Statistical heterogeneity between studies was examined with the Chi-square test and I2 statistics. A statistically significant Chi-square P value (P < 0.10), accompanied by an I2 statistic of at least 50%, was interpreted as evidence of significant heterogeneity. The fixed-effect model was used for homogeneous studies; otherwise, the Restricted Maximum Likelihood random-effects model was used (Viechtbauer, 2005). The aggregated effect sizes method was chosen over other methods for studies with effect size multiplicity issues due to the small number of studies examined in each meta-analysis in this review (Tanner-Smith & Tipton, 2014). The effect sizes in all meta-analyses were measured using Hedges' g statistic

(Hedges, 1981). All data were analyzed using RStudio software (RStudio Team, 2022) and Review Manager 5.4 software (RevMan, 2020).

Subgroup analysis: No sub-group analysis.

Sensitivity analysis: The aggregated effect sizes method was chosen over other methods for studies with effect size multiplicity issues due to the small number of studies examined in each meta-analysis in this review (Tanner-Smith & Tipton, 2014). The effect sizes in all meta-analyses were measured using Hedges' g statistic (Hedges, 1981). All data were analyzed using RStudio software (RStudio Team, 2022) and Review Manager 5.4 software (RevMan, 2020).

Language restriction: English articles only.

Country(ies) involved: Singapore.

Keywords: Illness management and recovery program; severe mental illness; psychoeducation; psychosocial treatment.

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Author 1 - Yong Shian Goh - Author 1 conceptualise the entire idea; conducted the all screening; data extraction, data analysis and drafted the manuscript.
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