

Family-based therapy for Internet addiction among adolescents and young adults: A meta-analysis

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Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 February 2024 and was last updated on 07 February 2024.

INTRODUCTION

Review question / Objective Review the efficacy of family-based therapy on Internet addiction in adolescents and young adults.

Condition being studied Internet addiction has been identified as a major public health problem that is more prominent in adolescents and young adults. Some researchers have indicated certain advantages of family-based therapy over other treatments in participants with IA, but no conclusive evaluation reported in previous systematic reviews.

METHODS

Search strategy Using a combination of three sets of search terms (Internet addiction, family therapy, and adolescents).

Participant or population (1) The main participants were adolescents (aged 10-19) and youth (aged 15-24) with IA, and their family members were involved in the family-based therapy group (World Health Organization, 2019).

Intervention Family-based intervention (including any components to change parenting behaviour, parental or sibling behaviour, or family communication and interaction) was used in the study.

Comparator comparison group could be no treatment, waiting list, or alternative care.

Study designs to be included RCT or controlled experimental trials, and intervention.

Eligibility criteria The language of the study was English or Chinese. excluded if (1) the study design was a case study or pre-post-test study. (2) The effects of family intervention were not able to be separated from the study. (3) The comparison group was another family-based study. (4) Only adolescents or parents were included in the experimental group. (5) No sufficient data were reported for data analysis, and no data was available after contacting authors.

Information sources PubMed, EMBASE, CINAHL, Cochrane Library, ProQuest, Web of Science, PsycINFO, Psychology and Behavioral Sciences Collection, EBSCOHost Academic Search Ultimate, APA PsycARTICLES, and ScienceDirect. Commonly used Chinese databases were also included: WANFANG, CNKI, and Airiti Library.

Main outcome(s) The severity of IA or the rate of IA was the primary outcome to be evaluated. All results were included for data analysis if an outcome was measured using different instruments. For instance, widely used instruments assessing IA are Young's Diagnostic Questionnaire and Young's Internet Addiction Test (IAT). Some studies might focus on participants with gaming disorders using the Game Addiction Screening Test (GAST) or other specific questionnaires.

Additional outcome(s) All other outcomes showing effects of IA-related mental health problems (anxiety, depression, et al.) were included as secondary outcomes, including Zung Self-Rating Anxiety Scale (SAS), Screen for Child Anxiety-Related Disorders (SCARED), Zung Self-Rating Depression Scale (SDS), Hamilton Depression Rating Scale (HAMD), and more. Some studies discussed family function (e.g. Family Assessment Device, FAD), family communication and relationships (e.g. Parent-Adolescent Communication Scale, PACS; Parent-child relationship survey, PCRS) as the second outcomes.

Quality assessment / Risk of bias analysis The methodological quality of the included studies was assessed using the Cochrane risk of bias tool for randomized trials (Ro B 2.0) and ROBINS-I for nonrandomized studies.

Strategy of data synthesis Meta-analysis was performed using RevMan 5 and Stata 12.0. A fixed effect model is applied if the included studies are statistically homogeneous ($I^2 < 50\%$). Otherwise, a random effect model is employed since significant heterogeneity is suspected. Effect sizes were determined using Cohen's d and were classified as

small (0.20 to 0.30), medium (approximately 0.5) and large (above 0.80). Egger's test was used to test for funnel plot asymmetry in publication bias.

Subgroup analysis Subgroup analysis was performed among different population categories (inpatient & community) and therapeutic methods (comparable group).

Sensitivity analysis Sensitivity analysis was conducted to examine the impact of each individual study, research design and participants of included studies, and various aspects of study quality. Meta-regression was also used to examine the origin of heterogeneity among effect sizes.

Language restriction English & Chinese.

Country(ies) involved Macao, China.

Keywords Internet addiction; meta-analysis; adolescents; young adults; family-based therapy; treatment.

Contributions of each author

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