

Interventions to improve treatment adherence among adolescents: A meta-analysis

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Abstract

AIM: To examine the overall effectiveness of interventions designed to improve medical treatment adherence among adolescent patients.

METHODS: PubMed and PsycINFO databases were searched to retrieve and analyze empirical journal articles (from 1948-2013). Only peer-reviewed, English language journals that defined a measure of adherence (or compliance), assessed an intervention aimed at improving adherence among adolescents, and provided information to calculate an r effect size were included. Studies were excluded if they lacked assessment of the effectiveness of interventions on improving adherence in adolescents as compared to no interventions or standard care. Case studies or journal articles that examined substance abuse or psychological disorders were also excluded. Analyses were conducted with fixed and random-effects methods, and moderators of intervention efficacy were also examined.

RESULTS: For each study that met the inclusion criteria

($n = 45$), an effect size r , reflecting the strength and direction of the interventions' relationship to adherence was recorded; a positive r indicated that the intervention increased adolescent adherence, whereas a negative r indicated that the intervention decreased adolescent adherence. The overall effectiveness of adolescent adherence interventions was positive and significant (unweighted mean $r = 0.27$, 95%CI: 0.21-0.33, $P = 0.001$). Moderator analyses at the fixed effects level revealed that interventions were less effective when adolescents reported their adherence behaviors, when the type of adherence regimen was a medication regimen, and when the type of intervention was cognitive-modification based.

CONCLUSION: These findings contribute to understanding interventions for enhancing adolescent adherence. Future research should continue to examine the specific challenges faced by adolescents and create targeted interventions.

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Key words: Adolescent; Adherence (compliance); Intervention; Meta-analysis

Core tip: Estimates of nonadherence among the adolescent population range from 25%-70%, depending on the disease or condition. Intervention components in patient samples vary widely across studies; thus, it is important to systematically identify elements of interventions that are most effective. Meta-analytic techniques were used in this study to provide a comprehensive, quantitative summary of empirical studies evaluating the effectiveness of interventions aimed at improving treatment adherence among adolescents. This meta-analysis showed that interventions were effective, specifically when the type of regimen was behavioral, whereas cognitive-based interventions were less effective.

