Clinical Research (Including Outcomes of Interventions)

Do healthy dietary interventions improve pediatric depressive symptoms? A systematic review and meta-analysis

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Introduction: There exists a limited body of conflicting literature related to pediatric nutritional interventions and depression. Dietary recommendations have been proposed as a way of impacting current and future mental health.

Objective This meta-analysis aims to determine the efficacy of child and adolescent dietary interventions on depression.

Methods: Systematic searches in electronic databases and grey literature were conducted. After screening 6,725 citations, 17 studies were included in this systematic review. Quality assessment was performed using the Cochrane risk of bias tool and the Joanna Briggs Institute Critical Appraisal Tool for Quasi-Experimental Studies. A meta-analysis of Hedges' *g* values was calculated using the Hartung-Knapp-Sidik-Jonkman method. Publication bias was assessed with funnel plots and the Egger's test.

Results: The results of the meta-analysis of the RCTs (k=7) demonstrated a non-significant effect of dietary interventions (g=0.12 [95%CI: -0.19; 0.87] p =0.374) while the results of the pre-post intervention studies (k=9) demonstrated a small significant effect favoring dietary intervention for reducing depression (g = -0.45[95%CI: -0.64; -0.27] p= 0.001). Publication bias was not detected by Egger's test or by funnel plot asymmetry.

Conclusions: The current meta-analysis demonstrates that 'healthy' dietary interventions among children or adolescents in the community have little impact on non-clinical depression.

Significance: Further confusion will persist until more well-designed studies in pediatric nutritional psychiatry research focusing on depression are conducted.

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