

Cognitive Abilities among Adolescents: Role of Dietary Macro and Micro Nutrients

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Abstract

Cognitive abilities are recognized as a collection of higher-order functions that enable individuals to comprehend the world more effectively. Adolescence is regarded as a crucial stage in the lifespan development, during which inadequate nutritional intake (including both macronutrients and micronutrients) can lead to deficits in cognitive nurturing. Consequently, researchers are eager to investigate the effects of various dietary macronutrients and micronutrients on different aspects of cognitive abilities. This study aims to examine the specific dimensions of macronutrients and micronutrients that demonstrate a direct relationship with the cognitive development of adolescents. A correlational research design has been employed for this study. A sample of 250 individuals from the Delhi region of India has been selected for analysis. The results derived from correlation and regression analyses clearly show that macronutrients (Energy, Protein, Fats, and Carbohydrates) and micronutrients (Iron, Calcium, and Phosphorus) are significantly positively correlated with cognitive abilities (Awareness, Memory, Understanding, Reasoning Ability, Problem Solving Ability, and Overall Cognitive Ability Score) among adolescents. The regression analysis results further indicate that dietary nutrients such as Energy, Iron, Calcium, and Carbohydrates are significant predictors of Overall Cognitive Ability among adolescents, collectively accounting for 81.8% of the variance in Overall Cognitive Ability. This clearly demonstrates that dietary nutrients are essential key factors for the nurturing of cognitive abilities in adolescents.

Keywords

Nutrition, Cognition, Adolescents, Macro Nutrients, Micro Nutrients.