

Link Between Nutrition, Physical Activity, and Academic Achievement

By: Sigrid Quendler - Vienna University, Austria - August 2002

Introduction

Educators and health professionals have long believed that nutrition and physical activity affect the learning ability of children. It has been documented that children from all socioeconomic backgrounds experience poor nutrition and lack of physical activity, putting them at risk for serious health problems.¹ This risk has become evident with the rise in childhood chronic diseases such as obesity, heart disease, type 2 diabetes, and hypercholesterolemia, all of which are potential consequences of poor nutrition and lack of physical activity. There has been a lack of empirical evidence to support the notion held by most health and education professionals that poor nutrition and physical activity affect learning and achievement, as most of the existing studies are not generalizable to the general population. This article reviews the contemporary literature supporting the link between nutrition, physical activity and academic achievement.

Physical Activity

From 1991 to 1999, the percentage of students who attended daily physical education classes declined from 42% to 29%.² Nearly half of young people ages 12-21 do not engage in physical activity on a regular basis. A lack of physical activity is consistently related to overweight as well as lower levels of self-esteem and higher levels of anxiety and stress.³ Although it has been well documented that overweight increases the risk for cardiovascular disease and premature death, it has only recently been shown that overweight children achieve lower scores in standardized achievement tests.⁴

Recent studies indicate that providing more opportunity for increased physical activity leads to improved test scores. For example, a reduction of 240 minutes per week in class time for academics to permit increased physical activity leads to consistently higher mathematics scores.⁵ In addition, students who have participated in a breakfast or physical activity program are calmer in class and more energetic when studying.⁶

Nutrition

Numerous studies demonstrate that malnutrition, even with no clinical signs, affects intelligence and academic performance.⁷ Students with the lowest amount of protein in their diet had the lowest achievement scores,⁸ and those with iron deficiency demonstrated shortened attention span, irritability, fatigue, and difficulty concentrating.⁹ Even moderate undernutrition (inadequate or suboptimal nutrient intakes) can have lasting effects and compromise cognitive development and school performance.¹⁰

Many children from low-income families are not getting enough to eat each day owing to a lack of resources. By contrast, children from middle and upper income levels consume enough food but their diets are high in fat, sugar, and sodium and they do not participate in physical activity.¹ As a result of this combination, many children today face an increased risk for undernutrition and certain chronic diseases. Participation in a school breakfast and physical activity program has been shown to increase school performance (as measured by mathematics, reading, and writing test scores) and to reduce absenteeism and tardiness.^{11,12}

Conclusion

Studies suggest that poor nutrition and lack of physical activity lead to lower academic achievement. Undernourished children tend to attain lower scores on standardized tests, have

low energy, are more irritable, and have difficulty concentrating, all of which interferes with learning.¹³ Physically inactive children are more likely to become sick, to have increased absenteeism and tardiness, and to have lower math scores. Educators and health professionals agree that poor eating habits and lack of physical activity affect academic performance.¹

References

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