Continued Promise of School Breakfast Programs for Improving Academic Outcomes

Breakfast Is Still the Most Important Meal of the Day

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A groundbreaking study,1 published in this journal nearly 25 years ago, documented improved academic outcomes among low-income schoolchildren who received school breakfast via the School Breakfast Program (SBP) vs those who did not, including significantly decreased tardiness and absences and improved performance on standardized tests of academic achievement. Since that time, the empirical study of school breakfast initiatives has increased substantially, with several literature reviews2-4 documenting the importance of breakfast for a variety of health and academic outcomes.

In this issue, Anzman-Frasca and colleagues5 at Tufts University provide even more evidence about the importance of school breakfasts. Their study used a large sample of elementary schools to examine outcomes of a Breakfast in the Classroom (BIC) intervention as a strategy to increase participation in the SBP and several key academic outcomes. They found that the BIC intervention significantly improved rates of participation in the SBP and student attendance. Although Anzman-Frasca and colleagues did not replicate previous findings that breakfast improved academic achievement, this should not be interpreted as a lack of benefit for breakfast programs. Indeed, a recent comprehensive review7 found that 21 prior studies—many of which used high-quality experimental designs to evaluate breakfast interventions—reported that consumption of breakfast can significantly improve students’ performance on standardized tests of mathematics and reading. Most important, these effects appear to be most reliable for habitual breakfast consumption, and breakfast interventions appear to require at least 1 month, but generally durations of several months, to produce significant improvements in students’ grades and standardized achievement test scores.2 This is not particularly surprising, considering that achievement tests assess the culmination of knowledge and skills acquired by students in the duration of a school year; therefore, the effect of a breakfast intervention on longer-term achievement outcomes is unlikely to be discernible before such programs are fully implemented.

In the current study, academic achievement was measured with standardized tests administered in spring 2013, which was concurrent with the time of year when participation in the SBP peaked.2 Given the likelihood that program implementation may need to be sustained for several months to affect achievement tests, another interesting approach would be to examine test scores during a subsequent school year when the SBP intervention is relatively mature, thus allowing the intervention dosage to be high and sustained during most of the school year.

The significant improvement in attendance rates in this study5 is consistent with many other studies showing improvements in proximal factors associated with academic success, such as attendance. Breakfast programs have also reduced tardiness,6 another key factor that improves academic outcomes by increasing students’ readiness to learn. Other work has contributed to the understanding of mechanisms through which breakfast may ultimately benefit academic achievement, such as increasing on-task behavior while students are in the classroom.7 There is also some limited evidence of improvements in prosocial behavior among students as a result of participating in breakfast programs,8 but few studies have yet systematically examined the possible benefits of breakfast on the social and emotional development of children. Along these lines, there is also a plausible possibility that classroom breakfast provision models, in particular, could increase connectedness among students, as well as their teachers. Given that school connectedness is consistently associated with better outcomes,9,10 this possibility is significant and promising, but it has not yet been rigorously evaluated. Well-powered studies of these important student-level outcomes would be innovative and would improve our understanding of the variety of benefits of the SBP.

Given that breakfast can promote behavioral, cognitive, and physical benefits, resulting in improved health and academic outcomes for children and adolescents, a key question is how to improve the stubbornly low rates of student participation in the SBP. As of the 2012-2013 school year, on average only 52% of lower-income students (ie, those eligible for free or reduced-price meals) actually received breakfasts through the program.11 Reasons that eligible students do not participate include issues such as stigma and the practical difficulty of getting to school in time for breakfast before classes begin (ie, due to bus schedules). Alternative delivery strategies, such as grab-and-go meals or BIC, have been increasing in popularity because of their ability to address these barriers. This is a substantial contribution of Anzman-Frasca and colleagues in demonstrating a large improvement in rates of participation in the SBP because of the BIC provision model. This difference is not only statistically significant but also practically significant and impressive in magnitude. By May of the school year, participation increased to more than 90% of students with the BIC program compared with fewer than half of students in schools with a traditional SBP provision strategy. This documentation of the improvement in par-
Beginning in the 2012-2013 school year, such as offering more
low-glycemic-load breakfasts increase time on task and cognitive
performance while at school. This is particularly relevant
given ongoing changes to school meals standards that aim to
improve the nutritional characteristics of the meals, which have
generally been too high in sugar and fat content. The US
Department of Agriculture, the agency that sets requirements for
meal patterns and nutritional content of foods and beverages
provided via the SBP, issued new requirements for breakfasts
beginning in the 2012-2013 school year, such as offering more
fruit and only lower-fat milks. Additional requirements will be
generally too high in sugar and fat content. The US De-
improvement in the nutritional characteristics of the meals, which
have gradually phased in; for example, as students return to school
this fall, all grain products must be whole-grain rich. The revised
standards have the potential to increase health outcomes, as
well as potentially improving academic outcomes, because
breakfasts that comply with the new standards may have a lower
glycemic index than did previous meals. Undoubtedly, more
work is needed in this area, and detailed studies will be essential
for understanding how the nutritional composition of school
meals affects students' academic outcomes. In addition, gather-
ing student-level data on consumption may help to develop
a more nuanced understanding of how individual variations in
breakfast habits might facilitate academic success. Although
such data are expensive to collect, owing to the costs of collect-
ing student-level data while also implementing breakfast pro-
grams in a sufficient number of schools to allow for adequately
powered analyses, the burden of such research studies is worth-
while because of the high value of the data to be obtained.
Finally, innovative breakfast programs, with their wide reach
and high implementation rates, have the potential to ad-
address the achievement gap in the United States. The differences
in academic achievement between white children and black and
Latino peers are substantial and persistent. Although pov-
erity and race/ethnicity overlap, with black and Latino children
being disproportionately represented in disadvantaged neigh-
borhoods and schools, the achievement gap reflects more than
just the economic challenges facing children of color in this
country. Simply providing universal-free breakfast at schools
that serve primarily black and/or Latino children is unlikely to
be a panacea, but if unique breakfast provision models are used,
the availability of breakfast to all children could be an effective
component of school reforms to level the academic playing field
and address the achievement gap. Comprehensive school sup-
port systems, including financial and technical support for
schools, communities, and families, will be needed to address
this unacceptable societal inequity, but promoting a school cul-
ture that nourishes children physically has much promise for
promoting equitable health and academic outcomes among all
children.

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