Child Health Promotion in Underserved Communities: Primary Results from the Cluster Randomized FAMILIA Trial

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INTRODUCTION

Preschool-based interventions offer promise to instill healthy behaviors in children. However, their efficacy in underserved communities is not well established.

OBJECTIVES

To assess the impact of a preschool-based health promotion educational intervention in an underserved community.

METHODS

The "Family-Based Approach in a Minority Community Integrating Systems-Biology for Promotion of Health" (FAMILIA) trial is a cluster-randomized controlled study involving 15 Head Start preschools in Harlem, NYC.

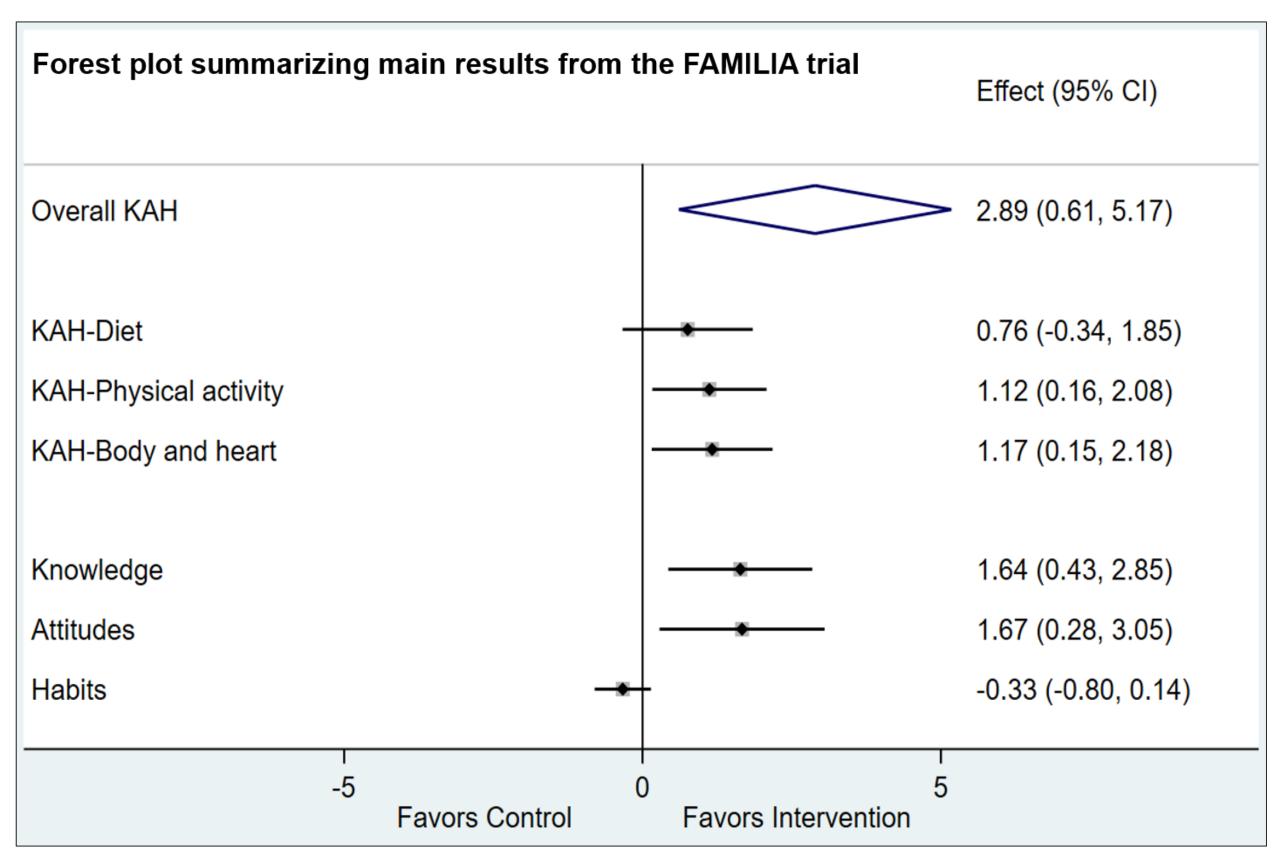
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- Schools and their children were randomized 3:2 to receive either 4-month (50 hours) educational intervention; or their standard curriculum (control).
- Primary outcome: change from baseline in the overall knowledge, attitudes, and habits (KAH) score of the children.
- Secondary outcomes: changes in KAH subcomponents and the test of emotion comprehension.
- Linear mixed-effects models were used to test for intervention effects.

RESULTS

We enrolled 562 preschool children 3 to 5 years old, 51% female, 54% Hispanic/Latino and 37% African-American:

- Compared to the control group, the mean relative change from baseline in the overall KAH score was ~2.2 fold higher in the intervention group (average absolute difference of 2.89 points; 95% CI: 0.61 to 5.17).
- Physical activity and understanding of the human body and heart components, and knowledge and attitudes domains, were the main drivers of the effect (p-value <0.05).
- Changes in emotion comprehension trended to favor intervened children as compared to controls.



Mean differences (95% confidence intervals) between children in the intervention and control groups in the changes of knowledge, attitudes and habits (KAH) score, and its components and domains; as derived from linear mixed-effects models. Score range (points): overall KAH (0-80); KAH-Diet (0-30); KAH-Physical activity (0-30); KAH-Body and heart (0-20); Knowledge (0-30); Attitudes (0-30); Habits (0-20). KAH: knowledge (K), attitudes (A), habits (H).

CONCLUSIONS

- The FAMILIA trial demonstrates that a multidimensional school-based educational intervention may be an
 effective strategy for establishing healthy behaviors among preschoolers from a diverse and socioeconomically
 disadvantaged community.
- As part of a long-term vision, we are conducting a long-term follow-up of the children to assess the sustainability of the intervention effects.