

Impact of School Feeding Programs on Educational, Nutritional, and Agricultural Development Goals: A Systematic Review of Literature

Summary

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Background

In 2007, the FAO estimated that 923 million people in the world, many of whom were children, were chronically hungry. There is evidence to suggest that malnutrition and micronutrient deficiencies during infancy and childhood can have life-long adverse effects on physical and mental well-being, causing stunted growth, lower immunity to diseases, and higher risk of mortality. In turn, these factors can affect performance at school, leading to lower productivity and wages in later life. Food for Education (FFE) programmes have been widely implemented in areas suffering from high levels of poverty and malnutrition, whereby food is provided to children or their parents in exchange for school enrolment and attendance. Such initiatives aim to increase parents' incentives to send their child to school, alleviate a child's short-term hunger, and improve nutritional status. In recent years, policy makers have encouraged the use of locally produced food in these programmes, thus providing a regular source of income for local farmers. FFE programmes therefore have the potential to address not only problems of nutrition, health, and education, but also contribute to local agricultural development.

Research objectives

To undertake a systematic review of the literature on Food for Education (FFE) programmes, to establish their effectiveness in improving physical, health-related, cognitive, and school-related outcomes for school-aged vulnerable children, and to understand the factors behind the success or failure of a FFE programme. The review also considers the cost-effectiveness and sustainability of FFE programmes, including whether it is feasible to procure the food locally.

Methodology

The author included studies which assessed the impact of interventions that provided a meal or a snack to children (either through provision of food at school or through take-home rations) on physical growth outcomes, health and nutrition outcomes, educational or cognitive outcomes, or measures of spillover effects on other family members. Studies were included only if they clearly demonstrated a strategy for identifying a rigorous counterfactual, based on randomised control trials, quasi-experimental, or non-experimental designs. The target population was children living in low-income countries and economically or socially disadvantaged children in higher-income countries. The author included studies covered by the period 1980-2011, and he contacted authors and checked reference lists for additional studies. The author used narrative synthesis. He reports study findings in terms of four different outcome categories: health and nutrition outcomes, anthropometric outcomes, cognitive outcomes, and behavioural outcomes.

Findings

Headline Findings: a summary statement

The evidence suggests that Food for Education (FFE) programmes can have a positive effect on the micronutrient level, school enrolment and attendance of targeted children. The review did not find any consistent effects on cognitive outcomes, such as performance at school, and the prevalence of underweight, wasting, and stunting.

Evidence Base

Twenty-six studies were included in the review, 19 of which related to school feeding programmes only, one which related to take-home food rations, and six which considered the two interventions together. All of the studies focused on primary-age children, and one study also included secondary school children. Thirteen of the studies were located in Asia, six in sub-Saharan Africa, five in Latin America and the Caribbean, and three in high income countries (the USA, Wales, and Australia). One study included pupils from both Australia and Indonesia, and one focused on outcomes from 32 sub-Saharan African countries. The evidence base consists of a mix of study designs, including 11 randomised studies, 4 quasi-experimental studies and 11 observational studies.

Implications for policy and practice

Health and nutrition outcomes: Twelve studies examined outcomes related to anemia, calories, nutrient status, and morbidity and illnesses. The author found positive effects of FFE programmes on the well-being of beneficiary children across all of these outcomes, apart from nutrient status.. Studies suggest increased levels of micronutrients such as vitamin A and iron, and overall increases in caloric intake. Three FFE programmes which measured rates of morbidity and illness in children participating in the programmes reported reduced rates, and several studies also reported significant decreases in anemia rates.

Anthropometric outcomes: Nine studies assessed the effect of FFEs on anthropometric outcomes, such as wasting, stunting, and underweight. The author did not identify consistent effects across programmes. Take-home rations, usually nutritionally fortified beverages and snacks, were reported to have significantly improved weight and/or height indicators. Few in-school feeding programmes were found to have significant positive effects on these outcomes. The author suggests that this may be because the studies of these programmes were too short in duration for an impact to be observed.

Cognitive outcomes: Fourteen studies examined cognitive outcomes. The author found no consistent positive effects of FFE programmes on children's performance at school, except for improvements in tests of language and English skills. .

Behavioural outcomes: Fifteen studies assessed behavioural outcomes. The author concludes that the evidence on FFE programmes is most conclusive in terms of their positive effects on school enrolment and attendance, and more so for girls than for boys. This conclusion is in agreement with two previous reviews, Jomaa et al. (2011) and Bundy (2009). There is also some suggestion from the evidence that FFE programmes can have a positive effect on school-dropout rates.

Implications for further research

The author suggests that future research should be focused on filling the two major gaps in the literature identified by his review: that is, the relationship between FFEs, sustainability, and agricultural development, and the lack of information on the cost-effectiveness of FFEs.

Quality assessment

The review has clear inclusion criteria, and the author went some way to identify studies not discovered in the initial search, by contacting experts and searching reference lists of included studies. However, the review has some major limitations. The author did not undertake a quality assessment of the included studies, and so the review gives no indication of the risk of bias of included studies and thus the validity of the review findings. It appears that a meta-analysis may have been possible in this review, but this was not carried out. In addition, only one person undertook the review, and therefore no independent screening or data extraction was conducted, thereby creating a greater likelihood of bias in the results. The author does not report this as a limitation.

