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Does school breakfast make a difference? An evaluation of an in-school breakfast programme in South Africa

Tessa Hochfeld, Lauren Graham, Leila Patel, Jacqueline Moodley, Eleanor Ross*

Centre for Social Development in Africa, University of Johannesburg, PO Box 524 Auckland Park 2006, Johannesburg, South Africa

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ABSTRACT

This article describes an evaluation of an in-school breakfast feeding programme in Johannesburg, South Africa based on a public-private partnership. The purpose of the evaluation was to determine whether there were any changes in the anthropometric and school performance outcomes of children receiving the breakfast feeding programme. The evaluation included a three-phase approach to establish a baseline of learners in relation to performance and nutritional status; an interim phase; and final phase to ascertain any changes after the introduction of the breakfast programme. Triangulation of the anthropometric and qualitative research suggests that children benefitted from the public-private social investment scheme.

1. Introduction

Since the demise of apartheid and the introduction of a constitutional democracy in 1994, South Africa's political transformation has not been matched by social and economic transformation, with the majority of the country's residents continuing to live in poverty. Despite constitutional guarantees of children's rights to basic nutrition, Oxfam (2014) reported that one in four South Africans suffer hunger on a regular basis, while in 2010 two-thirds of South Africa's children continued to live below the poverty line (Hall and Wright, 2010). This article describes a unique school breakfast programme involving a partnership between government and the private sector in addressing child hunger, and investing in human capital development. We outline the benefits and the positive perception stakeholders have of the scheme. Although direct attribution cannot be made, the findings indicate positive trends that suggest the benefits of providing a school breakfast in addition to the nationally state provided school lunch, although further research is required.

1.1. Background to the study

Nutritional deprivation in childhood can have severe and long-lasting negative effects on the physical and intellectual development of children (Agüero et al., 2006). Hence school nutrition programmes are considered important social investments in child well-being that are likely to yield positive long-term benefits in the nutritional status of children and in improved school enrolment, attendance, achievement and in terms of other observable variables such as test scores; attention span; memory; and cognitive, psychomotor and mental development (Devereux and Sabates-Wheeler , 2011; Agüero et al., 2006; World Bank, 2006; World Food Programme, 2009; Bundy et al., 2009; World Health Organization, 2007; Bennett, 2003; Buhl, 2010).

School nutrition programmes not only reduce short-term hunger and allow for better micronutrient intake, they have also been shown to prevent stunting (Gelli, 2010: 8), and increase children's caloric and micronutrient intake (Adelman et al., 2008) which in turn increases weight gain and/or capacity for activity and improved learning (Briggs, 2008). School nutrition programmes also endeavour to break the intergenerational cycle of child vulnerability due to poverty and income inequality (Devereaux and Sabates-Wheeler, 2011). As such they represent important social investments in the early years of a child's life (Patel, 2015).

Approximately 66 million primary school age children go to school hungry in the developing world, and 23 million of these children are located in Africa (World Food Programme, 2011). The consequences of undernourishment include low school performance, low attendance, increased risk of exiting school early (Bennett, 2003) and negative health outcomes related to nutrient deficiencies. Investments in nutrition at the school level are therefore likely to have positive and multiplier effects in the life of a child.

* Corresponding author.
E-mail addresses: tessah@uj.ac.za (T. Hochfeld), lgraham@uj.ac.za (L. Graham), lpatel@uj.ac.za (L. Patel), jmoodley@uj.ac.za (J. Moodley), eross@uj.ac.za (E. Ross).

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Hunger and malnutrition are key factors that not only affect children's immediate health and development over the long term but also hinder their ability to benefit from educational opportunities. It is well known that hunger impairs children's ability to concentrate in class and therefore perform complex tasks (Faber and Wenhold, 2007; Grantham-McGregor in Gelli, 2010; Buhl, undated). In addition, micronutrient deprivation, also known as 'hidden hunger' because the symptoms do not manifest themselves physically, makes children more vulnerable to infectious diseases, harms normal physical and mental development and can result in disability and even premature death (Jamieson et al., 2011; Gelli, 2010; Adelman et al., 2008). Micronutrient deprivation also effectively reduces children's cognitive abilities (Gelli, 2010). Children in these circumstances have significant attention deficits, distractibility and energy depletion (Richter et al., 1997) and are thus more likely to underperform, attend school irregularly, enrol late and/or drop out of school (Faber and Wenhold, 2007). The consequences of poor educational performance mean hunger also imposes a burden on the developing world by reducing people's productive capacity.

School feeding programmes therefore act both as a social safety net that assists impoverished children and a means to help children to access and stay in school and perform better. Their underlying principle is that they attract children to school by providing nutritious meals in exchange for school participation.

1.2. Nutrition in South Africa

While South Africa is food secure at a national level, profound inequality within the country means that many South Africans remain food insecure (Buhl, 2010). For example, there is notable inequity in access to nutrition between rural and urban populations with 26.5% of South African children in rural areas being stunted compared to 16.7% in urban areas (Labadarios et al., 2000). There is inequity in access to nutrition between and within population groups, and there is a clear link between poverty and stunted or underweight people in South Africa, as well as evidence of various micronutrient deficiencies (Vorster, 2010).

Further, there is a co-existence of under-nutrition and obesity in households and, as a result, a prevalence of diseases related to both under-nutrition and obesity exists (Bradshaw et al., 2006). The seeming contradiction is attributed to low-quality staple foods consumed by poor households, primarily a maize-based diet that is inadequate in energy and nutrients (Faber and Wenhold, 2007). In addition, research suggests a relationship between chronic early malnutrition and later obesity, especially amongst black women (Vorster, 2010).

1.3. The benefits of school feeding programmes

Among the benefits of school feeding programmes is that, firstly, they impact positively on the physical health of school going children by improving their nutritional status, reducing short-term hunger and allowing for better nutrient intake (Gelli, 2010). Secondly, school feeding also increases calorie consumption, which benefits children who are undernourished through weight gain and/or increased capacity for activity (Adelman et al., 2008). A study in Bangladesh on the introduction of a fortified snack in schools showed an increase in Body Mass Index (BMI), linked to increased energy consumption as compared to control schools (Ahmed, 2004). Increased calorie consumption at school can however also lead to increases in obesity as was the case in Chile (McEwan, 2013) where the school feeding programme was not adjusted when household income levels rose, facilitating better consumption at home for children. Finally, micronutrient fortification of foods has been linked to improved learning capacity (Briggs, 2008). The Bangladesh study (Ahmed, 2004) showed that children in treatment schools had lower dropout rates, increased school attendance and better performance in math test scores. Micronutrient fortification is also cost effective in relation to the impact it has on children.

1.4. School nutrition in South Africa

In South Africa, a publicly funded National School Nutrition Programme (NSNP) addresses the link between nutrition and education. It also forms part of a social investment policy designed to yield long-term positive social and human capital returns (Patel, 2015). The NSNP provides one meal per school day to 8.8 million primary and secondary school children across the country (Department of Basic Education, 2014). Regulations stipulate that this meal should consist of a starch, protein, and a fruit or vegetable serving; standard menus and preparation guidelines are provided.

The programme focuses on learners in the poorest three fifths of all state schools. In South Africa in the school setting it is common to see children from poor families arriving in class without having eaten since the previous day (Richter et al., 1997). Even when food is available, it is frequently of a poor nutritional quality (Faber and Benadé, 1999), and in South Africa, nutritional deficits play a significant role in poor school attendance and punctuality, as well as poor school performance (Napier et al., 2009).

The NSNP targets all learners in a school, instead of only selecting the poorest ones, thereby avoiding stigmatisation. Despite the national expansion of the scheme and other social protection mechanisms, child hunger still remains a significant problem due to high rates of unemployment and poverty (Hall and Wright, 2011).

While the NSNP evaluates its performance in terms of the number of learners provided with meals, the number of schools served, and the functioning of the programme, it does not provide any information on the impact of the NSNP on the nutritional status of children and on school performance.

1.5. ***A*** *private in-school breakfast programme*

In order to scale up the impact of school nutrition provision in the country, a private non-profit Foundation initiated and implemented an in-school breakfast programme as part of a Corporate Social Investment (CSI) strategy to fill the current gap in the government nutrition programme, which can only provide one meal a day to learners. The breakfast consists of a fortified cooked porridge daily, with one of 5 different porridge types served each weekday morning. As the variously oats, maize, wheat, and sorghum based porridges are all fortified with essential vitamins and minerals, it is suitable for children who are under-weight as well as those who are over-weight or obese, as both conditions have been linked to poor nutrient intake. In South Africa many obese children are fed a predominantly starch-based diet of maize meal which is a staple food in the country but lacks the necessary micronutrients needed for healthy growth and development (Bradshaw et al., 2006). Besides the provision of a nutritious breakfast, the programme also supports the installation or upgrading of kitchen facilities, nutrition education, skills and community development as well as job creation.

In July 2011, the Foundation launched its pilot in-school breakfast programme in six schools (five primary and one combined school) in Alexandra, Johannesburg. This community is located in one of the poorest areas in Johannesburg with 70% of households being moderately or severely food insecure (De Wet et al., 2008).