

Dietary Diversification and Nutritional Education: A Strategy to Improve Child Food Security Status in the Rural Mozambique

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Abstract : Nutrient deficiencies due to a diet low in quantitative and qualitative terms, are prevalent throughout the developing world, especially in sub-Saharan Africa. Children and women of childbearing age are especially vulnerable. Limited availability, access and intake of animal foods at home and lack of knowledge about their value in the diet and the role they play in health, contribute to poor diet quality. Poor bioavailability of micronutrients in diets based on foods high in fiber and phytates, the low content of some micronutrients in these foods are further factors to consider. Goats are deeply embedded in almost every Sub-Saharan African rural culture, generally kept for their milk, meat, hair or leather. Goats have played an important role in African social life, especially in food security. Goat meat has good properties for human wellbeing, with a special role in lower income households. It has a high-quality protein (20 protein g/100 meat g) including all essential amino acids, good unsaturated/saturated fatty acids relationship, and it is an important B-vitamin source with high micronutrients bioavailability. Mozambique has major food security problems, with poor food access and utilization, undiversified diets, chronic poverty and child malnutrition. Our objective was to design a nutritional intervention based on a dietary diversification, nutritional education, cultural beliefs and local resources, aimed to strengthen food security of children at Barrio Broma village (15°43'58.78"S; 32°46'7.27"E) in Chitima, Mozambique. Two surveys were conducted first of socio-productive local databases and then to 100 rural households about livelihoods, food diversity and anthropometric measurements in children under 5 years. Our results indicate that the main economic activity is goat production, based on a native breed with two deliveries per year in the absence of any management. Adult goats weighted 27.2 ± 10.5 kg and raised a height of 63.5 ± 3.8 cm. Data showed high levels of poverty, with a food diversity score of 2.3 (0-12 points), where only 30% of households consume protein and 13% iron, zinc, and B12 vitamin. The main constraints to food security were poor access to water and low income to buy food. Our dietary intervention was based on improving diet quality by increasing the access to dried goat meat, fresh vegetables, and legumes, and its utilization by a nutritional education program. This proposal was based on local culture and living conditions characterized by the absence of electricity power and drinkable water. The drying process proposed would secure the food maintenance under local conditions guaranteeing food safety for a longer period. Additionally, an ancient local drying technique was rescued and used. Moreover, this kind of dietary intervention would be the most efficient way to improve the infant nutrition by delivering macro and micronutrients on time to these vulnerable populations.

Keywords : child malnutrition, dietary diversification, food security, goat meat

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