

## Ready to Use Therapeutic Food (RUTF) in the Management of Severe Acute Malnutrition in India

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National Family Health Survey-3 estimates that 8 million under-five children in India are suffering from severe acute malnutrition. These children have high mortality rates in range of 20-30%. They suffer from severe acute malnutrition due to the cumulative effects of poor diet, lack of health services, and diseases, such as diarrhea(1).

All children with severe acute malnutrition do not require hospital admission except those suffering from complications. Home-based management with Ready-to-Use Therapeutic Food (RUTF) has been found to be associated with better outcome than standard therapy in the hospital(1-3).

Home-based management has many advantages as the children have reduced exposure to hospital-acquired infections and receive continuity of care after discharge. It also benefits by increasing the time available to mothers to spend with family and reduces the risk of possible neglect of siblings. Also, mothers are able to look after other family responsibilities simultaneously(1,2). An essential component of home-based management for children with severe acute malnutrition is administration of RUTF, to meet their routine nutritional requirements and support catch-up growth. WHO has recommended that such RUTF should be produced locally by each country, keeping in view the International Standards(4).

Presently, we do not have indigenously made RUTF which meets the requisite criteria *viz.*, (i) caloric dense, high in proteins, vitamins and minerals; (ii) simple to deliver and administer; (iii)

easy to use; (iv) fast acting; (v) affordable and acceptable cost; (vi) should not require trained staff to administer (parents can deliver it to a child); (vii) culturally acceptable; (viii) packed in single-serve packets (each packet may contain fixed amount of calories 400- 500 calories); (ix) requires little preparation before use; (x) adequate shelf life and stability; (xi) can be stored in varied climatic conditions and temperature; (xii) resistant to bacterial contamination; and (xiii) does not cause addiction to child.

In this issue of *Indian Pediatrics*, Dube, *et al.*(5) have compared the acceptability and nutrient contents of an "imported RUTF" with *Khichri* (rice and green gram gruel), a routine food given to young children. This pilot study is methodologically sound and provides limited data to start large studies on the acceptability of imported RUTF in India. This study documents that both the foods were accepted well by the malnourished children. Also, the RUTF was more energy dense, and rich in proteins, vitamins and minerals, comparatively. However, to document the results of acceptability, only two feeds of each food were given to the children. The number of observations was small to make adequate interpretations.

Dube, *et al.*(5) have also suggested that large scale evaluations of the imported RUTF may be done in India. We need a cautious approach while accepting this suggestion as our administrative system is porous and there is a chance of commercial exploitation of malnutrition by vested interests. They may ensure continued high imports of RUTF in the name of treatment of children with severe acute

malnutrition, while making efforts to ensure that development of indigenous RUTF is delayed.

What we need is to evaluate imported RUTF by carefully planned multicentric efficacy and effectiveness trials. If the results are positive, we must get this technology transferred to India, as done by some countries in Africa (Niger, Congo, Malawi, and Ethiopia). If these countries can manufacture RUTF indigenously, then India can also do it. Recently, India had transfer of technology of manufacturing dispersible zinc tablets from France. These tablets are being used successfully in children with acute diarrhea. We must adopt a similar strategy for the imported RUTF. We do have the nutrient composition of WHO recommended RUTF for home-based management of children with severe acute malnutrition. What we need is the development of RUTF from indigenous foods available. This will be cost effective and also sustainable.

Large, global and National food corporations that see children's hunger and malnourishment as a source of profits may try to influence government policy towards providing their products based on imported technology. Children's hunger can be converted into corporate profits in many ways. Recently, the biscuit manufacturers tried to replace foods with biscuits in the Mid Day Meal Scheme. We must take precautions so that commercial exploitation of malnutrition does not take place.

Indian health and nutrition scientists should decide what Indian children should eat-products from India, or from corporate driven bodies from abroad.

The trial with available data from two feedings suggests a nutritional superiority of "imported RUTF food" or food with a nutrition composition

based on WHO recommendations. To preclude the possibility of commercial exploitation of malnutrition, it is time that an indigenously manufactured ready to use therapeutic food be produced in partnership with industry and food technological institutes and pilot tested on a programmatic scale. If Africa can do it, India surely can!

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