Food Selection Acceptance: Activities for Promoting Pro-Vitamin A Foods among Young Children in Urban Slums

Madhavi Marathe[*], L.I. Bhattacharjee[**], Pradeep Sawardekar[***], Sunita Thorat[***], Gopa Kothari[***]

[*]S.N.D.T. Women's University, Mumbai (MS) INDIA.

[**]Institute of Nutrition Mahidol University, Salaya, THAILAND.

[***]Child Eye Care Charitable Trust, Mumbai (MS) INDIA.

[***]Corresponding Address:

drpnsk@gmail.com

Research Article

Abstract: **Introduction:** Dietary and eating habits are largely formed during early childhood and healthy eating habits acquired at this age will provide sustainable nutrition and dietary benefits. Educating children to eat, enjoy, and ask for foods that meet their needs becomes an integral part of improving the nutritional status of young children. **Objective:** To study the food selection acceptance for providing Pro-Vitamin A Foods among Young Children in Urban Slums. **Subjects and Methods:** The subjects for the study included 250 pre-school children aged 3 to 6 years. The spontaneous preferences of vegetables and fruits and acceptance for various preparations were studied among these young children. **Results:** Bright coloured fruits and vegetables were preferred over light to dull coloured ones by the children. A strong preference was observed for the bright coloured pro-vitamin A foods over the more familiar and commonly purchased and prepared other vegetables and fruits. Colours have shown to influence the spontaneous selection of the vegetables and fruits to a large extent. **Conclusions:** Children preferred deep orange and red coloured pro-vitamin A foods over light and dull coloured ones.

Keywords: Bright coloured fruits and vegetables. Pro-vitamin A foods

Introduction:

Dietary and eating habits are largely formed during early childhood and healthy eating habits acquired at this age will provide sustainable nutrition and dietary benefits. Educating children to eat, enjoy, and ask for foods that meet their needs becomes an integral part of improving the nutritional status of young children.

Vegetables and fruits are generally disliked by young children. The quantity and quality of early food experiences provide the substrate for learning about food and are critical in shaping children's food preferences and selection. [1]One of the ways of promoting intake of pro-vitamin A fruits and vegetables is using a food-based approach through effective nutrition communication. The present study was a preliminary attempt to understand the natural choice and spontaneous selection of fruits and vegetables by preschool children in an urban slum site in the city of Mumbai, Western India.

Subjects and Methods:

The study was undertaken under the aegis of the Child Eye Care Charitable Trust, an NGO, as part of nutrition education initiatives. The subjects for the study included 250 pre-school children aged 3 to 6 years. These children were selected from different pockets of the slums who either attended *Balwadis* (Preschool education centres) or whose mothers were recruited to participate in a nutrition education programme at the field site of the project.

The spontaneous preferences of vegetables and fruits and acceptance for various preparations were studied among these young children. A variety of locally available vegetables and fruits and those commonly consumed by the families were displayed on a table and each child was asked to select any number of fruits and vegetables, which he or she liked the most. This activity was successively repeated after a gap of three months in order to study selection of pro-vitamin A foods in detail.

Recipes based on yellow-orange vegetables and green leafy vegetables were developed and tested among the children to assess their acceptability. Food acceptance attributes for these preparations were studied in a sub-sample of 20 children.

Results:

It was noted that bright coloured fruits and vegetables were preferred over light to dull coloured ones by the children. Out of total 1500 pick-ups*, pro-vitamin A

rich foods received highest pick-ups (1286) while other fruits and vegetables were picked-up for less number of times (264). (*Pick-up: number of times a food was picked up). This is also evident form the **Figure 1** as greater proportion of pick-ups were received for bright coloured fruits and vegetables, which are known to be rich to fair sources of pro-vitamin A. However, among the pro-vitamin A foods, dark green leafy vegetables (DGLVs) (44.4%) and cabbage (35.6%) received relatively lower pick-ups.

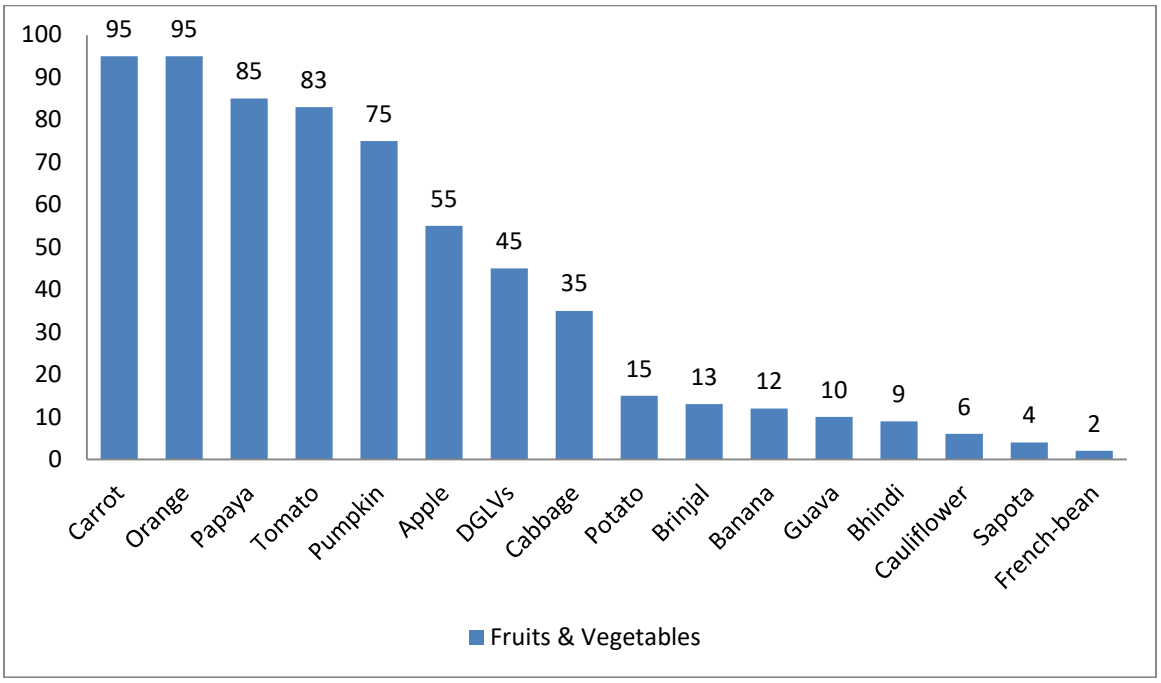

Fig 1: Selection of Vegetables and Fruits

A strong preference was observed for the bright coloured pro-vitamin A foods over the more familiar and commonly purchased and prepared other vegetables and fruits. Brighter coloured foods are selected more times that the lighter, dull coloured foods and brighter colours were children's First to Third choices in most of the cases as evident from **Figure 2**. According to the order of selection, the maximum pick-ups for each colour varied according to the brightness. Orange was at the first position while deep-orange foods at second position. Red colour at fifth position while green and other colours were at sixth to eight positions. **(Figure 2)**. Thus colours have shown to influence the spontaneous selection of the vegetables and fruits to a large extent.

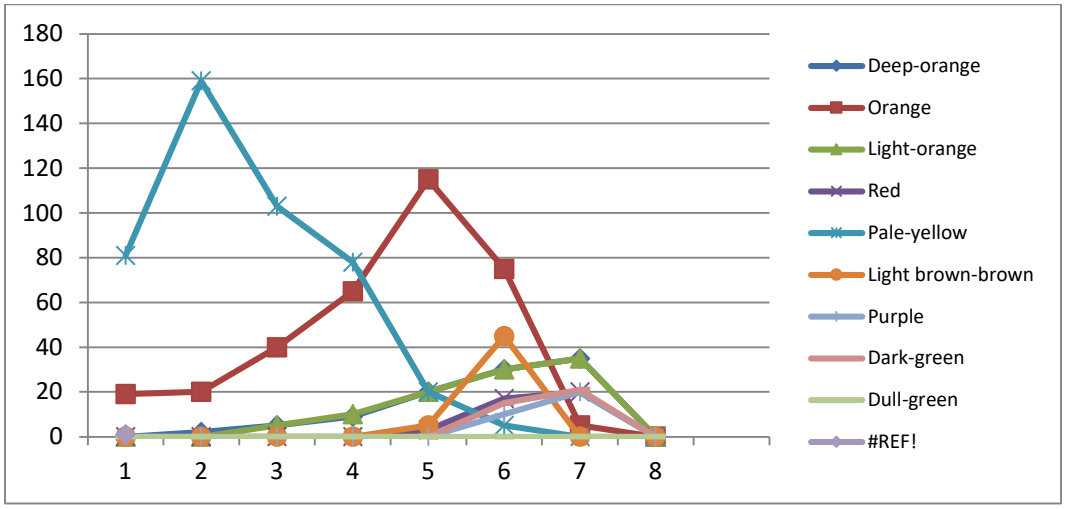

Fig 2: Order of selection in colour range

Selection of pro-vitamin A foods also revealed similar findings. Majority of the children selected orange at first and second position which was followed deep-orange coloured foods viz. papaya and carrot. Selection of pumpkin and tomato shown similar trend while DGLVs and cabbage were selected by relatively less proportion of children and were the last choices in majority of the cases. Similar findings were also observed in an earlier study by Verghese.[1]

Acceptability of a variety of recipes tested among the children showed that majority of the children (96%) liked the preparations and said that would eat these at home when prepared. Among the DGLVs were more acceptable than the ones with DGLV in whole and raw form. Majority of the preparations were eaten by all and there were no left-overs.

Conclusions and Implications:

These findings clearly showed that children preferred deep orange and red coloured pro-vitamin A foods over light and dull coloured ones. Exploiting the potential of natural and attractive colours of pro-vitamin A rich vegetables and fruits to promote wise food selection among young children can prove to be advantageous.

Colourful, handy recipes prepared with Yellow-orange vegetables and DGLVs in combination with other staple ingredients will add colour to the meal and motivate the child to eat. They can be given pieces of raw carrot, tomato or fruits like papaya, orange, mango when cheaply available in season as children like foods that can be picked up with the fingers. It is also likely that children can influence purchase and selection of foods in market by picking up or asking for attractive pro-vitamin A foods thus, motivating mothers to purchase the same. Thus, potential use of natural and attractive colours of provitamin A rich vegetables and fruits in nutrition education can promote these foods.

Food selection and acceptance activities helped to provide some preliminary basis for planning innovative dietary intervention activities for young children in the community, especially targeted towards addressing vitamin A nutrition.

Reference:

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