

Mother's Education and Food Intake of Preschool Children

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Abstract

Education plays a very important role in the feeding pattern in a household and in the prevention of malnutrition. Education of women is crucial for this. With the present low figure of female literacy, we have long way to go. The present study is aimed at studying the impact of mother education on the food intake of preschool children.

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Introduction

Healthy children are supreme wealth of the nation. So, nutrition of the preschool child is of paramount importance because the foundation for life time health, strength and intellectual vitality is laid during that period. It has also been organized that rapid physical, mental and emotional growth of children take place during that period.

A mother is the principal provider of the primary care that her child needs during the first six years of life. The type of care she provides depends to a large extent on her knowledge and understanding of some aspects of basic nutrition and health care. It is understandable that her education status has been reported to influence her child care practices.

Maternal education is associated with the level of provision of caring behaviours. Three such examples of caring behaviours are summarized below: breast feeding, health seeking behaviours and the level of child care giver interactions. The relationship between maternal education and breast feeding practice is complex. Education increases both the ability to earn income and the ability to appreciate the importance of care giving. The former tends to mitigate against breast feeding, particularly in urban areas, as the care giver's opportunity cost of times increases. The latter tends to promote care giving, particularly in supporting work place environment. (Dass. S.K:2003)

Key Terms

Preschool children – Age group of the preschool children in the present study is 2 to 5 years.

Mother's education - The mothers who had passed class Vth and above were treated as educated mothers because they can read and write. They can understand the messages disseminated by radio as well as printed media. Dropouts below class Vth were treated as uneducated mothers because they were ignored and unaware of the nutritional facts.

Objectives of the Study

The mother's influence on the children's nutrition and health is very strong and crucial to their growth and development. The present study is an endeavour to determine the impact of mother's education on the food intake of preschool children and compare it with the recommended allowance of Indian Council of Medical Research.

Methodology

The study was conducted in Saharanpur city. A multistage sampling technique was used for the selection of the sample. The total number 296 mothers were the sample of the study. The technique used for collecting information for the present study was 'Interview Schedule' which was prepared with the consultation of experts in the subject. The data collected from the population under study was statistically treated for analysing the result.

The mean daily food intake was calculated by taking the mean of three days' intake. The food groups included cereals, pulses, fruits, green leaf vegetables, roots and tubers, other vegetables, milk and milk products, sugar and jiggery and fats and oils. Average intake of the subjects was compared with the Recommended Dietary Intake of Swaminathan (2010).

Food and Feeding

Food and feeding during these highly significant years do not and cannot exist a part from growth and development. The whole process produces the whole person. Within this frame work we consider food and feeding as a vital part of the whole development of the child. (Williams, 1980).

The preschool child is beginning to form definite response to various types of foods:

- 1. Vegetables and fruits.** Of all the food groups, vegetables usually are less well liked by children, yet these foods contain many vitamins and minerals needed for growth. Parents need to consider the way these are prepared and served. Children usually dislike strong vegetables such as cabbage and onions. They have a keen sense of taste, so flavour and texture are important. They like crisp, raw vegetables. Tough strings cause problems, and tough parts are hard to manage and therefore should be removed. For example, it is easy to break a crisp piece of celery and remove the strings before giving it to the child. Children also react to the consistency of vegetables.
- 2. Milk, egg, and meat.** It is helpful when children can set their own goals in quantities of food. Portions need to be relatively small. Often children can pour their own milk from a small pitcher into a small glass and subsequently drink more. The quantity of milk needed usually declines during these years. The child will drink 2 or 3, rarely 4, cups of milk during the day. Smaller children like milk more lukewarm, not icy cold. Also, they prefer it in small glasses that hold about $\frac{1}{2}$ to $\frac{3}{4}$ cup rather than in large, adult-sized glasses. Egg is usually well liked if cooked with sufficient body to pick up with the

fingers, such as scrambled or boiled. Meat should be tender, and easy to chew or cut. Hence ground meat is popular.

3. **Grains.** The wide variety in which grains can be consumed adds to their appeal to children. They enjoy various bread forms, cereals, and crackers.
4. **Temperature.** Children prefer their foods lukewarm. Because of this, some foods may remain on their plates and become dry and gummy and so are refused; therefore, very small portions should be put initially.
5. **Single foods.** Children usually prefer single foods to combination dishes such as casseroles or stews. This is a period of language learning for children; identity of food is often lost in such combination dishes, and flavours are intermingled. Children prefer single foods that they can identify and that have retained characteristic texture, color, and form.
6. **Finger foods.** Children like food they can eat with their fingers. Frequently when appetites lag, fruit may be substituted for vegetables. Often a variety of raw fruit or raw vegetables cut in finger-sized pieces are offered to children for their own selection provides a resource of needed nutrition.

The preschool period is one of increasing growth for the child. Lifetime food habits are forming. Food continues to play an important part in developing personality, and group eating becomes significant as a means of socialization. The child learns food patterns at the family table or in group situations away from home. For example, if the family is vegetarian, they will need to give special attention to the child's energy and protein needs for growth. The child may be involved in a nursery or preschool situation in which group eating occurs. Food habits of pre-schoolers are greatly affected by peer modelling, and food preferences grow according to what the peer group is eating. In such situations the child learns a widening variety of family food habits and forms new social relationships. (Williams, 1989)

Activity associated with food

Young children begin to associate certain foods with social occasions. They know that a birthday means there will be cake and ice cream; going to Grandma's house for dinner means whole-wheat rolls, fresh out of the oven. Sometimes food is used inappropriately to reward, punish, or bribe a child, or it is sometimes used as a substitute for meaningful relationships. Trying to bribe a child with food conveys the message that some foods are more desirable than others. This is particularly the case if, for instance, a child is told that he can have a dish of ice cream after he eats all his vegetables. A study of preschool children showed that when food was presented to children as a reward, their preference for the food increased. Sugary foods, candies,

cakes, and cookies used as rewards relay messages such as “I love you” and “You’ve been good”. A child may feel an increased sense of self-esteem when he eats “rewards” foods. Eating, on the other hand, becomes an experience when food is used as a punishment. It is inappropriate to require a small child to sit at the table until the last spoonful of food is consumed.

Play and Imitative Behaviour

The pre-schooler, like the toddler, imitates adult behaviour. In his play he acts out real-life situations, such as grocery shopping. If he observes good food habits he is likely to imitate them and integrate them into his own behaviour patterns. Unfortunately, he is also likely to adopt food habits if these are what he sees. Parents who observe their children playing can learn much about their own behaviour and about how their children perceive them. It is not unusual to see a small child admonishing his teddy bear for not eating his vegetables or sending a doll to bed without supper for misbehaving. Parents can consider whether they want to convey these messages or ideas to their children.

Sibling Relationships

Relationships with siblings become increasingly important as a small child grows. A pre-schooler may emulate an older brother or sister. If he sees his siblings eating a variety of wholesome foods he is likely to do the same. A pre-schooler needs praise for his own accomplishments rather than having his behaviour compared to the achievements of his older siblings.

Stress

When under stress, a child may revert to earlier forms of behaviour, including changing eating behaviour. For instance, when a new baby joins the family, the young child may suddenly ask for a bottle or to nurse from his mother’s breast. Some other situations that may be stressful are illness, moving to a new home, and breakup of a family.

Preschool Programs

Many preschool children are enrolled in nursery or day-care programs. If food is served, both the manner in which it is presented and the kinds of food offered are significant. A preschool program may broaden a child’s acceptance of foods and reinforce positive food habits. If children eat in groups they learn that meal-time is an opportunity for socializing and sharing with others. When selecting a nursery school or day-care centre, concerned parents inquire about the school’s philosophy and attitude toward food as well as the foods provided for meals and snacks. Observing children at snack and meal-time gives a good indication of the manner in which food

is presented to children and the amount of emphasis placed on developing sound food habits. Sample meal and snack plans may reveal whether or not a child will be offered a nutritious variety of foods.

Many day-care facilities participate in the Child Care Food Program. One of the domestic food programs sponsored by the USDA. This program provides cash and commodity assistance for meal service (breakfast, lunch, and dinner) for needy and non- needy children in non-profit day-care centres and in family and group day-care homes. Meals provided must meet federal guidelines, which are similar to those for the National School Lunch Program. Recent cutbacks in this program could result in decreased nutritional quality of food served to children in day-care facilities. (Sutor, 1984).

Results and Discussion

The ultimate aim of consuming food is to maintain health. There is no single food stuff which can contribute all the nutrients needed by the body. Only the judicious can provide all the nutrients in required amount. The various food groups are cereals, pulses, leafy vegetables, other vegetables, roots and tubers, milk and milk products, fats and oil, sugar or jaggery, egg, meat or fish. These all should be present in the balanced amount.

The information regarding daily mean food intake of children has been depicted in table I.

Table I Food intake of preschool children

Food groups	Daily mean food intake (g)		Excess/deficient	Percent of excess/deficient
	Mean	RDA		
Cereals	66.74	145	-78.26	53.97
Pulses	19.43	55	-35.57	64.67
Green leafy vegetables	3.67	62.5	-58.83	94.12
Roots and tubers	49.76	15	+34.76	231.73
Others vegetables	14.28	25	-10.72	42.88
Fruits	50.52	100	-49.48	49.48
Milk and milk products	383.57	600	-216.43	36.07
Fats and oils	16.88	22.5	-5.62	24.97
Sugar and jiggery	12.78	35	-22.22	63.48

RDA = Recommended Dietary Allowances (Swaminathan 2010)

Table I shows that the diet of preschool children was lacking in cereals, pulses, green leafy vegetables, other vegetables, other vegetables, fruits, milk and milk products, fats and oils, sugar. The intake of roots and tubers was in excess in the diet of all preschool children.

Mean food intake of the preschool children of uneducated and educated mothers

Mother being the real teacher, preacher and being closest to the children in the families, can provide greater care especially in developing and establishing their food habits and to more so if she is educated and nutritionally oriented. Mean food intake of the preschool children of uneducated and educated mothers is discussed as under.

Cereals

It was observed from table II that the daily mean intake of cereals which constitute by far the most important group of food stuffs was found more (70.38 ± 27.91) among the preschool children of educated mothers as compared to the daily mean intake of cereals among the preschool children of uneducated mothers (59.4922.58). Statistically this difference was found significant ($P < 0.05$).

Pulses

Pulses are the major sources of protein in India diets. The mean intake of pulses in the diet of preschool children of educated mothers (21.9313.60) was higher than the preschool children of uneducated mothers (14.4411.12). When computed statistically, this difference was found highly significant ($P < 0.05$).

Green leafy vegetables

Green leafy vegetables are rich sources of calcium, iron, β -Carotene vitamin C, riboflavin and folic acid. The quantity of green leafy vegetables consumed by the preschool children of educated mothers (4.0112.31) was more than the preschool children of uneducated mothers (2.9811.63). However, statistically ($P > 0.05$) this difference was found insignificant.

Roots and Tubers

Roots and tubers are the richest sources of energy among vegetables. Besides energy, they may also provide β -Carotene (carrot), vitamin C (potato) and calcium (tapioca). In the present study all the respondents were consuming roots and tubers in their daily diet but this consumption of roots and tubers was found more in case of preschool children of educated mothers (51.2751.46). Non-significant ($P > 0.05$) difference was observed in the intake of roots and tubers among the preschool children of educated and uneducated mothers.

Other Vegetables

This group belongs to those vegetables which are not covered under green leafy vegetables and roots and tubers. The mean daily intake of those vegetables by

the preschool children of educated mothers and uneducated mothers was 16.6124.30 and 9.6515.83, respectively. This difference was found significant at 5 percent level of significance.

Fruits

Fruits are generally good source of vitamin C. In addition, they also provide β - Carotene, energy and iron. The daily mean intake of fruits among the preschool children of educated mothers was 70.7187.07 which was higher than the preschool children of uneducated mothers (10.3537.61). This difference was found highly significant ($P < 0.05$).

Milk and milk products

Milk is not only good source of protein, but it also provides calcium and riboflavin. Among preschool children of educated mothers the mean daily consumption of milk and milk products was 449.22200.85 and among the preschool children of uneducated mothers it was 252.93149.10. However, this difference was found highly significant ($P < 0.05$).

Fats and oils

Fats and oils serve mainly as sources of energy and provide the essential fatty acid. Butter and ghee and vanaspathi are good sources of vitamin A (about 2500 I.U. per 100.00 g). The daily intake of fats and oils among the preschool children of educated mothers was 18.127.36 where as in case of preschool children of uneducated mothers it was 14.417.37. When computed statistically, this difference was found significant at 5 percent level of significance.

Sugar and Jaggary

They serve mainly as a source of energy. The daily intake of sugar and jaggary by the preschool children of educated and uneducated mothers was 12.545.97 and 13.2611.14, respectively. However, this difference was found insignificant ($P > 0.05$).

The significance of mother's education cannot be overestimated. The change of attitudes, food habits, and way of cooking among mother's is a basic concept of education. Education of mothers, acts as an instrument by which desirable changes can be brought about in the diet of preschool children. Mother's education, to a considerable extent is responsible for improving food intake of preschool children.

Table II Food intake of the preschool children of uneducated and educated mothers

Food groups (gram)	Daily mean food intake of preschool children of				Value of t and p	
	Uneducated mothers (n=99)		Educated mothers (n=197)		T	p
	Mean	S. D.	Mean	S. D.	T	p
Cereals	59.49	22.58	70.38	27.91	3.368	<0.05
Pulses	14.44	11.12	21.93	13.60	4.741	<0.05
Green leafy vegetables	2.98	11.63	4.01	12.31	0.692	>0.05
Roots and tubers	46.77	50.35	51.27	51.46	0.715	>0.05
Others vegetables	9.65	15.83	16.61	24.30	2.587	<0.05
Fruits	10.35	37.61	70.71	87.07	6.595	<0.05
Milk and milk products	252.93	149.10	449.22	200.85	8.605	<0.05
Fats and oils	14.41	7.37	18.12	7.36	4.090	<0.05
Sugar and jaggery	13.26	11.14	12.54	5.97	0.724	>0.05

According to **Table II** it was found that mean food intake of all the children of educated mothers was more than the mean food intake of all the children of uneducated mothers. Except for the intake of sugar which was more in the diet of the children of uneducated mothers. The difference was found to be significant at 5 percent level of significance regarding cereals, pulses, other vegetables, fruits, milk and milk products, fats and oils.

Conclusion

Mothers will not change their beliefs and habits concerning food unless they are educated. Only educated mothers know the benefits of nutritious foods, good child feeding practices and improved preparation and preservation of foods. By using nutritious local foods and good feeding practices it is possible to improve the health of undernourished children at little or no extra expense to the family.

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