

## Original Article

**Knowledge, Attitude and Practice on Healthy Diet among Mothers Feeding Their Children: An Urban School Based Study in Dhaka, Bangladesh**

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**Abstract**

**Background:** Research revealed that daily diet of school going children are still inadequate in nutrition with less consumption of fruits and vegetables and higher consumption of junk foods that are rich in fats, salt, and sugar. Those phenomena are related to mothers' knowledge, attitude, and practice on healthy diet. **Objective:** To determine knowledge, attitude, and practice on healthy diet among mothers feeding their school going children. **Methods:** This cross-sectional study was conducted between January and December of 2018 in some randomly selected schools under Dhaka City Corporation, Bangladesh. We adopted convenient sampling technique. A total of 120 mothers participated in this study who had school going children aged between six and eight years. A pre-tested, semi-structured questionnaire was used for data collection. The participants chose Bangla version for filling up the survey questionnaire. A modified Likert's scale was used. **Results:** Among the participants, 70(58.2%) were in 30-35 years and 50(41.8%) were in 36-40 years age group. All the mothers know the importance of feeding healthy food to the child; however, 72.5% could not mention specific description of constituents of a healthy diet. 89.2% of mothers have somehow control over her own food habit. Only 5.8% mothers learned new healthy cuisine in the previous week. 54.2% visited market at least once a week, while 23.3% mothers did not buy any fruits or vegetables, only 5.8% had grown and eaten from own gardens. 14.2% kept their children with them while cooking to show how healthy meal can be prepared. In the previous week, 14.2% of children took no fruits, 34.2% took 0.5 cup amount, 43.3% took one cup, 8.3% took two cups per day, while 12.5% children did not take any vegetables, 31.7% took 0.5 cup, 44.2% took one cup, 11.7% took two cups of vegetables per day. 11.7% children did not take any sugary drinks, 67.5% took one cup, 20.8% took two cups of sugary drinks per day in the previous week. 87.5% children did not visit market for at least once a week and their mothers did not encourage them to buy any fruit or vegetables. 97.5% mothers did not measure any calories and nutritional status over the week; however, only 2.5% measured at least once. None of the mothers cooked any healthy food at home. Only 17.5% of the mothers had discussion about eating fruits and vegetables. According to the respondents, 65% encouraged their children 21 times healthy feeding practice over the last week, 33.4% had 14-20 times and 1.6% less than 14 times in the previous week. **Conclusion:** Our study revealed that many mothers cannot define well what constitutes a healthy meal. They hardly cook healthy meal for their children and do not encourage them to eat fruits and vegetables. Most of them do not measure daily calories or show any interest to discuss nutritional topics with others.

**Keywords:** Healthy diet, knowledge, attitude, practice, mother, school going children

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**Introduction**

Bangladesh is a South Asian country undergoing rapid urbanization which results in changing

lifestyles and dietary habits.<sup>1,2</sup> The increasing problem of obesity has been observed in many countries including Bangladesh during last three decades. In city area there is less food scarcity

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in Bangladesh among middle and high socio-economic people. For that reason, we have seen a remarkable change among dietary habits of our children. The composition of our urban dietary habits has been shifting towards a diet which is higher in fat and protein but lower in carbohydrates, fiber and minerals.<sup>2,3</sup> Along with decrease physical activity, like outdoor games, swimming and increasing sedentary lifestyle in children as a result of increasing study load like coaching and amusements like using smart phones and tabs and watching television are linked to develop an overweight condition, obesity and non-communicable disease.<sup>4,5</sup> Underweight or overweight are an important public health problem, as these conditions tend to have a chronic character underweight overweight and cause a huge range of future morbidity, while overweight in children is associated with future cardiovascular diseases diabetes and psychosocial problems.<sup>6-9</sup> Nutritional knowledge of parents is very important to promote a healthy dietary practice from childhood, but only nutritional knowledge is not enough to change dietary practices. Response of parents is conceptualized as parental eagerness which refers to extent to parental intentionally bringing up its individuality, self-regulation and self-assertion by being modulated, supportive and acquiescent to children's special needs and demands. Parents rearing on children to become integrated into the family by their demands, supervision, disciplinary efforts, and willingness to confront the child who disobeys.<sup>10,11</sup> Inappropriate weight in childhood and adolescence are very common problems in the Western countries, South Asian developing countries are also facing the problems, where urbanization is ensuing at a great speed.<sup>2,3,5</sup>

As we have mentioned earlier that daily diet of school going children are still inadequate in nutrition with less consumption of fruits and vegetables and higher consumption of junk foods that are rich in fats, salt, and sugar. Those phenomena are related to mothers' knowledge, attitude, and practice on healthy diet. Those phenomena are related to mothers' knowledge, attitude, and practice on healthy diet.<sup>7,9,10-12</sup> Hence, we proposed this study to determine knowledge, attitude, and practice on healthy diet among mothers feeding their school going children in an urban setting.

## Methods

This cross-sectional study was conducted between

January and December of 2018 in some randomly selected schools under Dhaka City Corporation, Bangladesh. Our study population was mothers of the school going children. However, we adopted convenient sampling technique. A total of 120 mothers participated in this study who had children aged between six and eight years. A pre-tested, semi-structured questionnaire was used for data collection. Questionnaire was formatted in both Bangla and English language. However, the participants chose Bangla version for filling up the survey questionnaire. A modified Likert's scale was used. Collected data were analysed by SPSS version 21.0. Socio-demographic variables and mothers' knowledge, attitude and feeding practice were analysed using descriptive statistics.

## Results

Among 120 participants, 70(58.2%) were in 30-35 years and 50(41.8%) were in 36-40 years age group. Among them, higher secondary passed 3.4%, while 35.3% had their university graduation, and 61.3% completed postgraduation. 6.7% had poor economic status, while 73.3% were semi-elite and 20% were from elite income group. Among them, 75% were Muslim, 14.2% Hindu, 7.5% Christian and 3.3% Buddhist (Table 1). All of the mothers know the importance of feeding healthy food to the children; however, 72.5% of them could not mention specific description of constituents of a healthy diet, 25% described that healthy diet may be a balanced diet which contains all major nutrients and 2.5% assumed that it is home-made diet which contains all micro-nutrients (Table 2). 89.2% of mothers have somehow control over her own food habit. 45.8% mothers did not visit market for at least once a week, while the rest 54.2% visited at least once a week. Among the respondents, 68.3% had 21 times healthy feeding practice over the last week, 25.9% had (15-20) times, 5% had (7-14) times and 0.8% less than 7 times. 94.2% mothers did not learn to cook any new healthy cuisine rather followed the same traditional method, while only 5.8% mothers learned new healthy cuisine in the last week. 23.3% mothers did not buy any fruit or vegetables, 69.2% bought (1-3) times and 7.5% bought (4-7) times any fruit and vegetables. 97.5% mothers did not measure any calories and nutritional status over last one week but 2.5% measured for at least once. 8.3% did not cook any healthy food, 9.2% cooked (2-4) times 82.5% cooked for (5-7) times. 90.8% did not have any discussion about eating fruits and vegetables

but 9.2% had discussion about eating fruits and vegetables. 94.2% had not eaten any fruits and vegetables from own garden while 5.8% had grown and eaten from own gardens. 85.8% mother did not keep their child with them while cooking but 14.2% kept their children with them while cooking (Table 3). In the previous week, 14.2% of children took no fruits, 34.2% took 0.5 cup amount, 43.3% took one cup, 8.3% took two cups per day, while 12.5% children did not take any vegetables, 31.7% took 0.5 cup, 44.2% took one cup, 11.7% took two cups of vegetables per day. 11.7% children did not take any sugary drinks, 67.5% took one cup, 20.8% took two cups of sugary drinks per day in the previous week. 87.5% children did not visit market for at least once a week and their mothers did not encourage them to buy any fruit or vegetables. 97.5% mothers did not measure any calories and nutritional status over the week; however, only 2.5% measured at least once. None of the mothers cooked any healthy food at home. Only 17.5% of the mothers had discussion about eating fruits and vegetables. According to the respondents, 65% encouraged their children 21 times healthy feeding practice over the last week, 33.4% had 14-20 times and 1.6% less than 14 times in the previous week (Table 4).

**Table 1.** Socio demographic characteristics of the respondents (n=120)

Variables	Frequency	Percentage
<i>Age group</i>		
30-35 years	70	58.2
36-40 years	50	41.8
<i>Education</i>		
Higher secondary	4	3.4
Graduation	42	35.3
Post-graduation	74	61.3
<i>Economic condition</i>		
Poor	8	6.7
Semi elite	88	73.3
Elite	24	20.0
<i>Religion</i>		
Muslim	90	75.0
Hindu	17	14.2
Christian	9	7.5
Buddhist	4	3.3

**Table 2.** Knowledge of the mothers regarding healthy diet (n=120)

Variables	Frequency	Percentage
Not able to define	87	72.5
Balanced diet which contains all major nutrients	30	25
Home-made diet which contains all micro-nutrients	3	2.5
Importance to feed healthy food to child	120	100

**Table 3.** Attitude of the mothers regarding healthy diet (n=120)

Variables	Frequency	Percentage
Control over mother's own food habit		
Very little	3	2.5
Somehow	107	89.2
Very much	10	8.3
Mother's own visit to market for last 1 week		
Not a single time	55	45.8
At least once a week	65	54.2
Mother's own healthy feeding practices for last 1 week		
21 or more	82	68.3
15-20	31	25.9
7-14	6	5
< 7	1	0.8
Learning of new healthy cuisine in last 1 week		
Yes	7	5.8
No	113	94.2
Buying seasonal fruits & vegetables in last 1 week		
Not a single time	28	23.3
1-3 times	83	69.2
4-7 times	9	7.5
Measuring calories & nutritional status in last 1 week		
Not a single time	117	97.5
At least once	3	2.5
Cooking habit at home in last 1 week		
Not a single time	10	8.3
2-4 times	11	9.2
5-7 times	99	82.5
Discussion about eating fruits and vegetables with others in last 1 week		

Variables	Frequency	Percentage
No discussion	109	90.8
At least one discussion	11	9.2
Eating fruits & vegetables from own garden in last 1 week		
Not a single time	113	94.2
At least once in a week	7	5.8
Cooking healthy food by mothers keeping children with them in last 1 week		
Not a single time	103	85.8
At least once	17	14.2

**Table 4.** Feeding practice by the mothers regarding healthy diet (n=120)

Variables	Frequency	Percentage
Fruits intake (cup)/day in last 1 week		
0	17	14.2
0.5	41	34.2
1	52	43.3
2	10	8.3
Vegetables intake (cup)/day in last 1 week		
0	15	12.5
0.5	38	31.7
1	53	44.2
2	14	11.7
Sugary drinks intake (cup)/day in last 1 week		
0	14	11.7
1	81	67.5
2	25	20.8
Encourage child's visit to market for last 1 week		
Not a single time	105	87.5
At least once a week	15	12.5
Encourage child's practice of buying any seasonal fruits & vegetables in last 1 week		
Not a single time	105	87.5
At least once a week	15	12.5
Measuring calories & nutritional status in last 1 week		
Not a single time	117	97.5
At least once	3	2.5
Discussion about eating fruits & vegetables with others in last 1 week		
No discussion	99	82.5
At least one discussion	21	17.5

Variables	Frequency	Percentage
Encourage child's own healthy feeding practices in last 1 week		
21	78	65
14-20	40	33.4
< 14	2	1.6

## Discussion

In the region of South Asia, in most families, women still have primary responsibility for feeding children. Bangladesh is not an exception to this practice. However, with urbanization related changes in employment patterns and family structure left women with less time to devote to this activity.<sup>2</sup> In our study, 72.5% could not mention specific description of constituents of a healthy diet even though they are educated, living in urban areas where resources are much more available than that of rural areas. 97.5% mothers did not measure any calories and nutritional status of the meal served to their children and only 17.5% of the mothers had discussion about eating fruits and vegetables.

However, in a similar study done in India, a South Asian country, reported favourable knowledge, attitude towards dietary practices among majority (56%) of the mothers.<sup>12</sup> In Nepal, another South Asian country, study revealed that half of the mothers had “good” knowledge and attitude; however, most (90%) of them had “poor” practice.<sup>13</sup> In Oman, study revealed that higher healthy eating attitude were found in mothers with high education level and mother without a job (homemaker).<sup>14</sup> In a Dutch study, home availability, food consumption rules and parental consumption mediated the association between maternal education level and children's fruit and vegetable consumption and healthy eating.<sup>15</sup> Furthermore, another Dutch study showed that mothers with a high educational level more often limited their children's intake of unhealthy foods (e.g. sweets, sugary drinks, junk foods), which signifies health and taste considerations between mothers with a low and high education and knowledge.<sup>16</sup> It was observed that mothers with education and good knowledge showed better practice in diet management for their children.<sup>12-16</sup> Moreover, authoritative parenting practices which are warm, protective, and supportive, are positively related to parental attempts to encourage the child to eat fruits, vegetables, and dairy.<sup>10,11</sup>

Maternal knowledge, their attitude, and practices have an impact in changing the child's nutritional pattern.<sup>12-16</sup> It is important that mothers have knowledge on healthy meal, nutritional importance of fruits and vegetables, which in-turn can help them to have good attitude towards the dietary practices and change harmful practices to prevent malnutrition as well as promotion of healthy eating behaviour among their children.<sup>12,15,17</sup>

This study has some limitations. Its cross-sectional nature makes it difficult to establish causality. The use of urban settings may affect the generalisability of the findings to other settings. Social desirability and recall bias may be present due to the use of a self-report instrument that required participants to recall. However, the findings will add evidence regarding feeding practices on young children and thereby help us increase our understanding of the current feeding practices and design interventions to improve the practice.

## Conclusion

Our study revealed that many mothers cannot define well what constitutes a healthy meal. Most of them do not cook healthy meal for their children or encourage them to eat fruits and vegetables in their daily meal. Most of them do not measure

daily calories given to the children. They hardly show interest to discuss nutritional topics with others. We know that childhood obesity can cause lifelong overweight, obesity and the risk of non-communicable diseases with adverse health effects, and children's behaviour is mostly shaped by their mothers' practice and motivation. Hence, knowledge, attitude, and practice on healthy diet among mothers is essential. Our health education unit as well as public health nutrition department should address this problem, and bring about changes in knowledge, life-style modification, and community participation to ensure healthy feeding practice for children.

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**Ethical approval:** The study was approved by the Institutional Review Board (IRB) of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh.

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**Authors' contribution:** Concept and design of the study: TS, BKP; Data collection: TS, NJ, FN, MR; Data analysis: TS, MH; Manuscript writing, revision and finalizing: TS, BKP, TI, NJ, FN, MR, MH.



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