Original Article

Parental Feeding Practices among Young Children of Selected Wards of Biratnagar Metropolitan City

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ABSTRACT

Introduction: Traditionally, parenting style has been defined as a classification of attitudes and behaviors that distinguish the way that parents interact with their children across various domains of parenting. The eating behavior of children is not only influenced by feeding practices but also by their food preferences and weight, sooner or later. The objective of the study was to assess the parental feeding practices among young children.

Methods: A descriptive cross-sectional study was conducted in selected wards of Biratnagar Metropolitan city from 30th December 2018 to 25th January 2019. A total of 96 parents meeting the eligibility criteria were purposively selected. A validated standard ISS tool was used to assess the feeding practices. Student T-test and One-way ANOVA test were used to find out the association between the outcome variable with selected demographic variables.

Result: Restriction was the most frequently used feeding practice (20.17±3.330) by parents followed by rewarding (11.92±2.582). Restriction was significantly associated with ethnicity (0.010) while rewarding was not significantly associated with any socio-demographic variables. Higher mean restriction scores were found in children who were at risk of being overweight (21.20±3.011). Modeling was significantly associated (0.029) with the body mass index of the child.

Conclusion: The study concluded that most of the parents used restriction while feeding. Ethnicity was statistically significant with the use of restriction (p=0.010) and monitoring whereas use of pressure was statistically significant with primary care giver and religion.

Keywords: ISS, Parent, Parental feeding practice, Young Children

INTRODUCTION

Initially, parenting style had been defined as, the classification of behaviors exhibited by parents while interacting with their child across various domains of parenting. The definition of parenting style has now been narrowed down and focuses solely on parenting style related to a child's feeding behavior.[1]

The problem of overweight among children has been escalating over the past 3 decades. Several factors like parental education and income level, ethnicity, etc. correspond with the increased risk of being overweight among children.[2]

For children, eating is a social affair therefore they are influenced by others who eat in front of them, such as parents, other adults, peers, siblings, etc. This influence shapes the establishment of their own food predilection and eating practices.[3] However, when the child attends the age of three years, parental cues influence children's eating.[1]

Parents have a major role in a child's food consumption[4] therefore the strategies that parents use while feeding their child is a way to affect the child's eating.[5] Parents can mould their children's eating environments in multiple ways. For instance, by the foods that parents serve their children, eating with them, the amount of screen time in the home and the way parents interconnect with their children about eating.[3]

Behaviors that parents exhibit while eating can have great impact on their offspring's eating behavior, at least in young children.[6,7] Feeding practices that mothers adopt may influence the eating behavior of their children, their food choices as well as their weight in the short and long run.[8]

In recent times, various studies with regard to feeding practices of mother and childhood obesity have been studied. Extensive studies have been conducted regarding controlling domain (pressure, restriction and monitoring) of feeding practices. The former two, i.e. pressure and restriction might overrule child's response to hunger and feeling of fullness, which may lead to overeating and increase in body weight. Therefore these practices could be modified in order to promote healthy weight.[8]

It has been believed that controlling child's feeding imposes negative unfavorable outcomes for children's weight as it disrupts their response to internal cues of hunger and fullness. Some feeding practices ('pressure' and 'restriction') have received particular attention usually imposed by primary care takers (mother, father, grandparents, etc) which has ultimately shown to have increasing the intake of unhealthy food in children.[9]

The development of positive dietary behavior among young children is vital. Children might have immediate nutritional benefit if healthy eating habit is practiced from as early as 2-5 years of age. There will also be reduction in the risk of developing chronic disease.[10]

Hence, the objective of this study was assess the feeding practices adopted by parents to feed their young children as well as to find out the relationship between those feeding practices and selected demographic variables including child's BMI.

METHODS

A descriptive cross-sectional research design was used with the aim to assess the parental feeding practices adopted by parents of young children (3-6 years) in selected communities of Biratnagar. Simple random sampling was adopted to select the wards followed by purposive sampling to select the participants with sample size 96 based on study by Kroller and Warschburger[12]. A free access and reliable (internal consistency of 0.73 to 0.93)) ISS tool was used which consisted 21 items, containing six strategies (restriction, pressurizing, rewarding, modeling, monitoring and allowing the child more control about their food). All strategies were measured on a 5 point likert scale ranging from scores 21 being minimum to 105 being maximum. Parents who did not have any diagnosed psychiatric disorder were included whilst; children who were known to be suffering from any chronic illness were excluded.

Content validity was done for socio-demographic questionnaire by consulting with guide, co-guides and expertise consultation. Crown digital scale was used to measure the weight and stadiometer for the height of the children. The child was asked to remove any footwear and/or head ornaments before noting the measurement. The reading was noted to the nearest tenth of a centimeter.

Pretesting of the tool was done by taking 10% of study sample which was not from the study population and necessary modification was made after pretesting. Data collection was done after obtaining the ethical clearance from IRC board of BPKIHS and approval from the concerned authority of Biratnagar. Data was collected after obtaining informed written consent and assent from participants. Privacy, confidentiality of information and autonomy of participation was maintained throughout and after the study by using the information for the research purposes only.

Collected information was entered in Statistical Package for Social Sciences (SPSS) version 11.5. Descriptive statistics (mean, median and standard deviation (SD)were used to analyze the socio-demographic data. Inferential statistics like Student T-test and One-way ANOVA were applied to find out the association between outcome variable with selected demographic variables including child's BMI. After analysis of data, the results were presented through tabulations.

RESULTS

Characteristics of participants

The mean age of fathers was 35.82 ± 7.17 whereas mothers had the mean age of 30.99 ± 5.955. Twenty six percent of the children were 5 years of age.

Majority (45.8%) of parents had two children. The number of male children (60) was high compared to the female (36). More than half (53.1%) of the parents were Brahmin and Chhetris whereas 83.3% them followed Hindu religion. Most of the parents had higher secondary education (45.8% fathers and 44.8% mothers). Majority (78.1%) of the parents were above poverty line. More than half of the participants (52.1%) lived in extended family. Majority of the children (46.9%) had normal BMI.

Table. 1 Parent's Response on Various Statements towards Feeding Practices (n=96)

Statements	Disagree	Slightly disagree	Neutral	Slightly agree	Agree
1. I have to be sure that my child does not eat too many sweets (candy, ice cream, cake or pastries).	0 0%	4 4.2%	10 10.4%	23 24.0%	59 61.5%
2. I have to be sure that my child does not eat too many high fat foods.	1 1.0%	9 9.4%	16 16.7%	29 30.2%	41 42.7%
3. I have to be sure that my child does not eat too much of her favorite foods.	5 5.2%	6 6.2%	9 9.4%	46 47.9%	30 31.2%
4. I intentionally keep some foods out of my child's reach.	1 1.0%	3 3.1%	13 13.5%	29 30.2%	50 52.1%
5. If I did not guide or regulate my child's eating, she would eat too many junk foods.	1 1.0%	1 1.0%	1 1.0%	20 20.8%	73 76%
6. If I did not guide or regulate my child's eating, she would eat too much of her favorite foods.	1 1.0%	1 1.0%	1 1.0%	13 13.5%	80 83.3%
7. I offer sweets (candy, ice cream, cake or pastries) to my child as a reward for good behavior.	13 13.5%	4 4.2%	23 24.0%	40 41.7%	16 16.7%
8. I offer my child her favorite foods in exchange for good behavior.	2 2.1%	4 4.2%	7 7.3%	53 55.2%	30 31.2%
9. I encourage my child to eat something by using food as a reward (for example, "If you finish your vegetables, you will get some fruit").	2 2.1%	3 3.1%	15 15.6%	31 32.3%	45 46.9%
10. I promise my child something other than food if he or she eats (for example, "If you eat your beans, we can play ball after dinner").	3 3.1%	3 3.1%	14 14.6%	28 29.2%	48 50.0%
11. I have to be especially careful to make sure my child eats enough.	1 1.0%	1 1.0%	3 3.1%	14 14.6%	77 80.2%
12. If my child says "I'm not hungry", I try to get her to eat anyway.	3 3.1%	5 5.2%	4 4.2%	38 39.6%	46 47.9%
13. If I did not guide or regulate my child's eating, she would eat much less than she should.	1 1.0%	2 2.1%	1 1.0%	16 16.7%	76 79.2%

	Never	Rarely	Sometimes	Mostly	Always
14. How much do you keep track of the sweets (candy, ice cream, cake, pies or pastries) that your child eats?	0 0%	0 0%	25 26.0%	50 52.1%	21 21.9%
15. How much do you keep track of the snack food (potato chips, cheese balls) that your child eats?	0 0%	3 3.1%	21 21.9%	43 44.8%	29 30.2%
16. How much do you keep track of the high fat foods that your child eats?	2 2.1%	1 1.0%	29 30.2%	47 49.0%	17 17.7%
17. How often do you allow your child to eat as much as he or she wants?	0 0%	4 4.2%	50 52.1%	34 35.4%	8 8.3%
18. How often do you allow your child to eat what he or she wants to eat?	0 0%	2 2.1%	65 67.7%	25 26.0%	4 4.2%
19. How often do you permit your child to decide whether he or she gets a second or third helping?	0 0%	6 6.2%	53 55.2%	25 26.0%	12 12.5%
20. How often do you offer your child food that you find especially important or healthy?	0 0%	0 0%	1 1.0%	30 31.2%	65 67.7%
21. How often do you eat something that you would like your child to eat as well?	0 0%	4 4.2%	44 45.8%	34 35.4%	14 14.6%

Table 1. Illustrates the parent's response on various statements towards feeding practices where it shows that 83.3% of parents agreed that if they did not guide or regulate their children's eating, they would eat too much of their favorite foods. More than half (55.2%) slightly agreed that they offer their child's favorite foods in exchange for good behavior. Majority (77%) agreed that they have to be especially careful to make sure that their child eats enough. More than half (52.1%) responded that they mostly keep track of the sweets that their child eats. Most of the parents (67.7%) responded that they sometimes allow their child to eat what their child wants to eat and again 67.7% parents responded that they always offer their child the food that they find especially important or healthy.

Table 2 Mean Scores and SD for ISS Domains **(n=96)**

ISS domains	No: of items	Mean ±SD
Restriction	6	20.17 ±3.330
Rewarding	4	11.92 ±2.582
Pressure	3	10.67 ±1.639
Monitoring	3	8.77 ±1.981
Child's control over foods	3	7.25 ±1.642
Modeling	2	6.27 ±0.968

Table 2. shows that restriction is the most frequently used domain (20.17±3.330) by parents while feeding their young child followed by rewarding (11.92 ±2.582).

Table 3. Correlation between Various Domains of Feeding Practices and Child's Age (n= 96)

Age of the child	Domains of ISS tool											
	Restriction		Rewarding		Pressure		Monitoring		Child's control		Modeling	
	R value	P value	r value	P value	r value	P value	r value	P value	r value	P value	r value	P value
	-0.132	0.199	0.045	0.664	0.208	0.042	-0.195	0.057	0.019	0.856	0.144	0.162

Table 3. shows that there is insignificant negative correlation between age of the child and restriction as well as monitoring domain. There is significant positive correlation between pressure and age of the child.

DISCUSSION

Socio-demographic characteristics of the parents revealed that mean age of mother was lower (30.99±5.955) than the studies conducted by Katja Kroller and Petra Warschburger[12,5](34.2±5.4) whereas the mean age of father in this study was higher (35.82±7.176) compared to the mother's mean age (30.99±5.955). This may be because, in developing countries like Nepal, females are married early compared to males and the incidence of teenage pregnancy is escalating.

Majority of the primary care givers were mothers (85.4%) followed by grandparents (14.6%). The study showed no paternal involvement in feeding children. This may also be because females in countries like ours are more involved in household chores and males are more involved in outdoor activities.

In this study majority of the parents had two children (45.8%) which is a similar finding with a previous study in which majority of the mothers had two or more children (86.6%).[13] While analyzing the socio-demographic characteristics of the participants, it revealed that there was predominance of parents from upper caste groups (53.1%) and those who followed Hindu religion (83.3%) in accordance to population distribution of the community.

The results of this study revealed maximum use of restrictive feeding practice by parents. In contrary to finding of this study, a study done by KatjaKroller and Petra Warschburger in 2008 revealed that mothers frequently used modeling, monitoring and child's control.[5] A systematic review done by N. Sholimet. Al in 2015 stated that using restriction while feeding is associated with eating trait of a child and also could affect chils's weight.[14]

Child's control over feeding was significantly associated with per capita income ($p = <0.05$) in current study which is in contrast to a study which states that there is no significant effect of family income (below/above poverty threshold: ($p = 0.70$)) on the use of feeding strategies.[5]

This study also shows significant association of monitoring child's feeding with ethnicity and mother's education level. This finding is consistent with a finding from a previous research, which showed that more monitoring of children's food intake was reported by mothers with greater level of education than by mothers with lower educational level ($p < 0.01$).[5]

In the study, significant association has been found between "pressure" domain of ISS with primary care giver. This may be due to challenges experienced by primary caregivers while feeding a child or may be due to lack of information related to feeding practices. Whereas again in the same study it also shows the significant association of modeling with primary care giver and which could be because they might not have wanted to admit to be engaging in socially unacceptable behavior, so they might have provided responses that were more in line with social expectations than with reality.

The study revealed that there is significant positive correlation between pressure domain of ISS with age of the child. This result is inconsistent with the results of a study which reveals that child's age is not significantly correlated with feeding practices.[17] Children of 3-6 years of age often prefer play over

food. They are usually busy playing and exploring because of which parents might have to apply pressure while feeding them.

CONCLUSION

The study concludes that restrictive feeding practices are mostly used by parents while feeding their young children. The study also revealed that majority of the mothers are the primary caregivers. Study also showed that age of mother and child's sex are not associated with feeding practices whereas all other selected socio-demographic variables are significantly associated with different domains of parental feeding practices. Because this study was cross-sectional in nature, a strong causal relationship could not be established between feeding practices and other variables under study; therefore, a longitudinal study in future could help identify the relationship based on which parent training regarding modification of feeding practices could be planned.

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