

Association between Social and Demographic Factors with Feeding Methods in 3-6-Years-Old Children

Maryam Gholamalizadeh,¹ Saeid Doaei,^{*2} Naser Kalantari,³ Bahram Rashidkhani⁴

1. Student's research committee, Faculty of Nutrition, Isfahan University of Medical Sciences, Isfahan, Iran
2. Department of Public Health, Faculty of Health, North Khorasan University of Medical Sciences, Bojnurd, Iran
3. Department of Nutrition Sciences, National Nutrition and Food Technology Research Center, Faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran
4. Department of Statistics, National Nutrition and Food Technology Research Center, Faculty of Nutrition Sciences and Food Technology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

| Article information | Abstract |
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| <p>Article history: Received: 18 June 2011 Accepted: 25 Aug 2011 Available online: 30 Oct 2012 ZJRMS 2013; 15(3): 51-54</p> <p>Keywords: Nutrition Social factors Demographic factors Preschool child</p> <p>*Corresponding author at: Department of Public Health, Faculty of Health, North Khorasan University of Medical Sciences, Bojnurd. E-mail: sdoaei@yahoo.com</p> | <p>Background: Healthy Nutrition has an important role in childhood. Food habits of a child probably will continue to adulthood and increase the risk of many chronic diseases. Role of parents in child nutrition as a food producer and eating pattern has recognized to most important factor of child nutrition. Recent studies have shown that the methods used by parents to child feeding have an important role in the child's diet and BMI. This paper aimed to investigate which parents use which types of parenting control practices to manage their children's nutrition.</p> <p>Materials and Methods: A cross-sectional survey of 208 parents with children aged 3-6 years was carried out in 30 primary schools. Measures included demographic and social factors and aspects of child feeding practices.</p> <p>Results: Results showed that stay at home mothers used more modeling practices. Mothers of sons used more pressure to eat than others. Older mothers used less pressure to eat. Mothers with higher BMI used more emotion regulation strategy and less modeling. And mothers with more education used more modeling.</p> <p>Conclusion: The results showed a significant relationship between demographic and social factors with aspects of the feeding practices.</p> <p>Copyright © 2013 Zahedan University of Medical Sciences. All rights reserved.</p> |

Introduction

Malnutrition is one of main problems in the developing countries and some area of developed countries [1]. WHO documents show that malnutrition is associated with half of death among the children in the worldwide and those children who survive from malnutrition, suffer from mental and physical disabilities [2]. In the other hands, obesity prevalence in children of developing and developed countries has become a public health problem [3]. Food habits in childhood probably will continue in adulthood. So, unhealthy diet in childhood can lead to hazards in the whole life span [4]. Children's diet in preschool ages may be affected by parents, friends and media [5]. The parent's influence in early childhood has been recognized as most important role, because they make foods, perform feeding and act as a model for their children [6, 7].

In preschool ages, parents feed their children with different practices [8]. The feeding practices used by parents affect on child's nutrition [9]. Many studies have shown that feeding practices are associated with child's ability in food intake regulation [5], food preferences [10], and calorie intake and body weight [11]. Parents with different social, economic and cultural status use different practices to child's feeding control [9, 12, 13].

So, the current study aimed to investigate the association between social and demographic factors with feeding practices in 3-6 years old children.

Materials and Methods

A cross-sectional study of 208 mothers with children aged 3-6 years was carried out in 30 primary schools across the Rasht, Iran. The study was performed from winter 2010 to summer 2011. In the predetermined day, children who had any form of congenital and metabolic diseases that interact with mother and child's eating behavior were excluded from this study. The final sample consisted of 208 participants.

General information questionnaire was used in order to collecting information of social and demographic factors. Mothers reported their own and their child's age, gender, height and weight. In addition, Mothers described the following: whether they were single parents, economic and educational situation and whether they were stay at parent's home. Aspects of child's feeding practices were assessed using Comprehensive Feeding Practices Questionnaire (CFPQ) after investigate of validity and reliability of questionnaire [14]. This questionnaire consist of 46 questions and the information related to

child authority, emotion regulation, encourage balance and variety, environment, using food as reward, involvement, modeling, monitoring, pressure, restriction for health, restriction for weight control and teaching about nutrition were collected. All control items were measured using 5-point Likert scales ranging from “Never” [1] to “Always” [5] or “Disagree” [1] to “Agree” [5]. The role of parental and child social and demographic factors in predicting child feeding practices was assessed using multiple block entry linear regression. Bonferroni correction coefficient was used to determine significance level at adjusted ($p=0.002$) [15].

Results

Parent and child general characteristics are shown in table 1. The sample consisted of 124 boys and 84 girls who had a mean age of 4.7 years. The majority of parents had job, were married and had a university degree. The most mothers would be classified as overweight or obese. In terms of the child feeding practices, mean score of any subscale of CFPQ was determined. Higher scores for the feeding scales reflected greater use of scales [13].

Table 1. Parent and child demographics (n =208)

| Child gender | N(%) | Mean± SD |
|--|-----------|------------|
| boy | 124 (60) | |
| girl | 84(40) | |
| Child age (years) | | 4.7±88 |
| Child birth weight | | 3.4±43 |
| Child BMI (kg/m ²) | | 17.73±5.86 |
| Mother age(year) | | 31.67±4.59 |
| Mother height (m) | | 157±32 |
| Mother weight (kg) | | 71.54±1.72 |
| Mother BMI(kg/m ²) | | 33.22±3.07 |
| Single parent status | | |
| Yes | 18(3.5) | |
| No | 184(96.5) | |
| Mother highest certified educational qualification | | |
| <diploma | 4(1.9) | |
| diploma | 84(40.4) | |
| >diploma | 120(57.7) | |
| Father highest certified educational qualification | | |
| <diploma | 21(9.6) | |
| Diploma | 51(25) | |
| >diploma | 136(65.4) | |
| Mother's smoking | | |
| Yes | 0(0) | |
| No | 208(100) | |
| Father's smoking | | |
| Yes | 52(25) | |
| No | 156(75) | |
| Parent's income | | |
| Low | 4(1.9) | |
| Medium | 95(45.7) | |
| High | 93(44.4) | |
| Stay at home mothers | | |
| Yes | 52(25) | |
| No | 156(75) | |

The frequency that mothers used each feeding practices is shown in table 2. The most commonly used feeding practice was environmental control, encourage to balance, modeling and teaching about nutrition.

Table 3. The role of demographics in predicting parental control practices

| | Emotion regulation | Modeling | pressure to eat | Restriction for Health |
|-----------------------------------|--------------------|----------|-----------------|------------------------|
| | B | B | B | B |
| Stay at home | 0.527 | 1.184* | 0.159 | -0.747 |
| Child gender | -.1.042 | 0.994 | -2.297* | 0.477 |
| Mothers age (year) | -0.124 | -0.028 | -.0307* | 0.250* |
| Mother's BMI (kg/m ²) | 0.093* | 0.019 | 0.031 | 0.002 |
| Mother Education | 0.160 | 1.328* | -0.631 | 0.245 |

About a half of the sample reported using food as reward and restriction for weight control and only a minority used emotion regulation. Linear regression was used to predict feeding practices using parent/child demographics as independent variables. The results showed that a similar profile of mothers tended to use similar feeding practices. Results showed that stay at home mothers used more modeling practices. Mothers of sons used more pressure to eat than others. Older mothers used less pressure to eat and more restriction to health. Mothers with higher BMI used more Emotion regulation strategy and less modeling. Mothers with more education used more modeling. Significant results are shown in table 3.

Table 2. Describing parental control practices

| Child's control | N(%) |
|--------------------------------|-----------|
| Low | 72(36.4) |
| Med | 8(3.8) |
| high | 128(61.5) |
| Emotion regulation | |
| Low | 180(86.5) |
| Med | 24(11.5) |
| high | 4(2) |
| Encourage balance and variety | |
| Low | 4(1.9) |
| Med | 0 |
| high | 204(98.1) |
| Environment | |
| Low | 1(5) |
| Med | 7(3.4) |
| high | 200(96.1) |
| Food as reward | |
| Low | 76(36.5) |
| Med | 36(17.3) |
| high | 96(46.2) |
| Involvement | |
| Low | 4(1.9) |
| Med | 20(9.6) |
| high | 184(88.5) |
| Modeling | |
| Low | 0(0) |
| Med | 16(7.7) |
| High | 192(92.3) |
| Monitoring | |
| Low | 20(9.6) |
| Med | 12(5.8) |
| High | 176(84.6) |
| Pressure | |
| Low | 132(63.5) |
| Med | 12(5.8) |
| High | 64(30.7) |
| Restriction for Health | |
| Low | 40(19.2) |
| Med | 28(14.5) |
| High | 136(66.3) |
| Restriction for weight control | |
| Low | 96(46.2) |
| Med | 16(7.6) |
| High | 96(46.2) |
| teaching about nutrition | |
| Low | 5(2.4) |
| Med | 0(0) |
| High | 203(97.6) |

Discussion

The present study aimed to explore the association between social and demographic factors and feeding practices in 3-6-years-old children. In terms of the frequency of mother feeding practices, the results showed that the most commonly used approaches were environmental control, encourage to balance and variety, modeling and teaching about nutrition.

Previous research in England indicated most commonly used approaches were modeling, attempts to influence the child's attitudes and norms, and use of moderate pressure [16]. Although the results from the current study indicated that modeling practices were used frequently, but other frequent practices in these two studies were not same. Pressure to eat practice was explored in our study, but this was commonly used only in 30% of mothers. Although in the England study, about half of participants were boys. In the attention of results of present study, mothers of boys used the pressure practices more frequently than others.

So, the differences between the rates of frequency of pressure to eat practices may be due to children gender.

The results of another study on the differences of French and American societies showed that American mothers had higher BMI and use of foods for non-nutritive purposes was more prevalent in the US mothers [17]. The results from the current study support this and illustrate that higher BMI is associated with increased use of food as rewards.

In terms of association of social-demographic factors with child's food intake, the results showed that a similar profile of mothers tended to use similar feeding practices. In this study, some of the socio-demographic factors were significantly associated with child feeding practices. Stay at home mothers used more modeling than working mothers. Previous research in England indicated most commonly used approaches by stay at home mothers were covert and overt control [13].

However, in this study, they applied the Child Feeding Questionnaire (CFQ) to data gathering and its subscales are somewhat different with our questionnaire subscales. In CFQ questionnaire, child feeding practices are divided in two sections, compulsory and non-compulsory. In general, it seems that stay at home mothers allocate more time for her child's nutrition and they try to provide better nutrition to her child with non-compulsory practices.

The results of current study have shown that mothers who had sons used more pressure to eat than others. In one study the association between parents' attitude and ideas and their child feeding practices were examined and it's reported that mothers are worry about daughter's weight more than sons and mothers who had daughter used more control of accessibility to foods practices than others. However, there isn't any significant difference between other feeding practices and child gender [18].

In our study, we found no association between child gender and control of accessibility to foods practices and it's inconsistent with this study. However, this study was carried out on 2-6 years old children and involves

younger population than our study which may influence child feeding practices.

Mothers who were older used more restriction to health and less pressure to eat than others. Previous studies have shown that older parents used more covert and overt control than pressure to eat [13]. This results show that increase of mother's age cause lower use of compulsory practices and higher use of covert control practices such as restriction [19].

Mothers who had lower BMI used more modeling and less emotion regulation with foods. In a previous study it was reported that mothers with lower BMI used more covert and overt control than others [13]. As previously mentioned, the questionnaire used to evaluation of feeding practices were different, but in both studies mothers with lower BMI used more non-compulsory practices than compulsory practices. In another study mother's BMI was associated with child feeding practices and mothers who had higher BMI used less child control than others.

In current study, we found no association between child authrity and mother's BMI. However, in the earlier study, the children age range was 1 to 10 years and this wide range may be the cause of existing differences in the feeding practices used by mothers.

Mothers with higher education used more modeling than others. Results of similar studies have shown that education levels have an inverse relationship with compulsory practices and higher educated mothers prefer covert and overt controls [13, 20].

The results of our study show a significant relationship between demographic and social factors with aspects of the child feeding practices.

In conclusion, the results show that mothers use several different strategies to feeding their children. Some of socio demographic factors were also related with feeding practices. There are, however, some problems with the current study that need to be addressed. The study was also cross sectional in design, which has implications for understanding causality and the relationship between variables. Longitudinal studies are needed to address this possibility.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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