Picky Eating Behaviors in Children and Family Stress

SUMMARY

Picky or fussy eating behaviors in children can often increase stress levels within a family. Abbott Nutrition conducted a survey study about picky eating behaviors, nutritional intakes, and family stress levels related to mealtime occasions in approximately 1,100 children. The data from this survey study is presented in this article.

SCIENTIST BIOGRAPHY

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INTRODUCTION

Although food intake, for both children and adults, is determined by many factors (market supply, economy, cultural norms, eating behavior, consumer marketing campaigns, etc.), of these factors, the parental role is considered essential for instilling good eating habits during childhood. Parents help shape the development of their child's acceptance of foods by determining which foods are offered and the social context for eating meals. [1] Parental attitudes toward feeding and mealtime occasions can help determine how a child internalizes his or her attitudes and ensuing behaviors related to eating. If parents exhibit symptoms of anxiety, nervousness, unease or worry during mealtimes, it is more likely that a child may demonstrate similar negative symptomology; and, as a result, the risk for feeding difficulties, acute or chronic, may increase. The routine of eating is one of the first habits a child learns. Developing healthy eating behaviors will not only pave the way for acquiring other habits later on, such as studying in academic subjects, but it may also decrease the likelihood of the child becoming a picky eater (PE). Eating is a behavior of children that parents worry about the most. There are intrinsic ideas related to the physiological act of eating, such as: "If my son doesn't eat, he will get sick or not grow properly, and I will be the one responsible for this" or "Why can't my child eat foods that their friends/siblings will eat readily, without argument?" [2]

Because of concerns about proper or healthy eating habits for their child(ren), many parents are accommodating and allow various marginal eating behaviors with their children. An example of this permissive parental behavior would be a seven-year-old child whose diet is limited to a mere ten foods. Additionally, parents may develop strategies for increasing the amount or quality of food consumed; however, if parents are not careful, prodding, rewards or punishment to encourage eating can backfire and exacerbate the picky eating phenomenon.[1, 3] Recent research by Webber, et al. showed distinct differences in maternal strategy within families of children according to differing eating behaviors or related perceptions.[4] This research found that parents were more likely to be restrictive in meals if a child was more responsive to food cues and were more likely to use pressuring strategies if a child was fussier or easily sated. Galloway et al. found that children who were pressured to eat at home had lower body mass index percentile scores.[1] Additionally, these same authors found that children were more likely to increase their intake of an unfamiliar food if they were not pressured to eat it.[1]

One of the primary purposes for this cross-sectional survey study was to confirm the impact of picky eating behaviors on family stress in the home, mainly related to meal time occasions.

STUDY POPULATION

There were 2,428 children between 36 and 78 months of age who were approached for participation from seven private schools in Madrid, Spain. Of the 1,382 subjects that provided informed consent, 198 of these subjects were not eligible for analysis due to one or more excluded criteria, and 94 of these subjects were not eligible for data analysis due to incomplete data collected; the final sample size for analysis was 1,090 subjects. Of the 1,090 subjects, 55.7% (n=607) were boys and 44.3% (n=483) were girls; this distribution was statistically different ($p<0.001$). Exclusion criteria were: history of an acute or chronic condition that may affect feeding habits or nutritional status; child had taken any medications to modify appetite or nutritional supplements, including iron, on a daily basis for more than two weeks during the past month prior to screening visit; or child was currently being treated for a feeding problem, i.e., nutritional intervention or nutritional supplementation.

The criteria for classifying a child as a picky eater in this study was consumption of less than 65% of the average daily recommended intake for at least four out of six food groups. This classification was loosely based on the enKid Spanish pediatric study that defined nutritional risk categories using 2/3 of Reference Nutrient Intake (RNI) values.[5] The six food groups are meat (including fish and eggs); vegetables; fruit; dairy; starch carbohydrates (pasta, bread, rice); and legumes. These classification criteria divided the sample into two groups: 81.6% HE (n=889) and 18.4% PE (n=201). As described by Leal et al., this criteria was utilized due to lack of a validated definition for picky eating behavior(s).[6] While this definition is not validated for detecting true picky or choosy eating behaviors, it was corroborated by eating behavior data presented in the Leal paper. The picky eaters had significantly greater scores for the following eating behaviors from the Children's Eating Behaviour Questionnaire (CEBQ): food fussiness; slowness in eating; satiety responsiveness; desire to drink; and enjoyment of food.[6, 7]

STUDY MEASURES AND ANALYSIS

As described previously by Leal et al., study information was collected from the parents such as the informed consent, medical history, dietary history, eating behaviors, and demographics.[6] School personnel were trained by a clinical research organization on the study protocol, proper use worksheets, informed consent procedures, maintenance of essential study documents and any other study procedures at, or before, study initiation. This survey study was approved by school authorities and filed with the Fiscalía de Menores de Madrid (Minor's Prosecuting Office in Madrid). For the classification of subjects as picky eaters (PE) or healthy eaters (HE), the nutritional intake of the students was collected and analyzed via three-day food records.

For the purpose of this study, family stress was defined as symptoms of anxiety, nervousness or unease caused by difficulties with children in the family, particularly with children who are picky eaters and related to mealtime occasions. To measure this variable, the family stress questionnaire was designed by psychologists Ramos-Paul and Cardona, also study authors. The two psychologists designed the questionnaire by combining data from other validated tools and from their personal expertise and experience with children. This tool is a Likert-type of scale with 5 answers ranging from "fully disagree" to "fully agree" for each of 12 questions that parents completed based on their degree of agreement-disagreement with the idea described. The 12 questions were designed to encompass common behaviors related to picky eating and the responses therein. This tool is presented in **Table 1** exactly as it was presented to parents for the collection of this data.

One of the major hypotheses for this research was that there would be a relationship between picky eating behaviors and family stress in the home. Other goals for the study were to determine the relationship between picky eating and nutritional intake to a measure of attention, previously presented by Leal et al.[6] Qualitative variables were described using frequency and percentages. To analyze differences in family stress between PE children and HE children for the Cumanin age ranges (described in months), a Chi-square test was used to compare the "relevant" proportion of responses between the groups.[8] Cumanin is a validated battery of tests used in Spain for child development assessments in children ages 36-78 months.

RESULTS

Baseline characteristics of subjects were presented previously.[6] For the family stress data as a mean global score, there were statistically significant differences between PE and HE groups (p=0.020). Additionally, based on an initial subset of subjects (n=251), a cut-off point of ≥ 26 was established on the scale (12-60) as "relevant", and the difference between the percentage of individuals with relevant stress in both groups (PE and HE) is statistically higher in the PE group (p=0.007) as shown in **Figure 1**. This difference between the two groups is especially evident in the 49-54 month age group as shown in **Figure 2** (p=0.003), but not easily explained in a survey type of study.

DISCUSSION

The results from this cross-sectional survey study show distinct differences in mealtime stress between the two groups of children. Families with picky eaters are more likely to be talking about food constantly; parents are more likely to feel responsible for their child's behavior; mealtimes are more likely to end in long quarrels; and, parents are more likely to characterize their child based on their food consumption behaviors [9]. Stress in the family related to picky eating behaviors can aggravate a child's relationship with his or her family and food itself. For example, previous research has shown that parental pressure on a child to eat during mealtimes can lead to negative results and more pickiness, a seemingly counterproductive cycle.[10] A recent longitudinal study found that both child and maternal temperaments had an effect on picky eating behavior, especially maternal negative affectivity.[11]

Because of the cyclical nature of picky eating, a behavioral intervention with PE children and their family could be very productive. The following recommendations can be utilized by parents who have a PE child.[2]

- Focus on the PE child's positive behaviors, rather than the negative.
- Create a calm setting for mealtimes, at the same time each day, eating meals as a family and without distractions.
- Include new foods repeatedly but with patience, without forcing but without giving alternatives, until the child tries a small amount of the food that he or she does not like, then praise him or her for taking that positive step.
- Combine small portions of new foods with others that the child likes.
- School meals may be a good opportunity to increase the variation of foods in the child's diet through imitation of his or her fellow students.
- Allow the child to help prepare the family meal so that he or she feels responsible for it.
- Prepare the food attractively.
- Avoid distractions at meals, to help increase attention of the child to their internal signs of hunger and fullness.
- Find time to have fun with the child, when food is not the center of attention.
- Refrain from discussing the eating problem behavior in front of the child to avoid giving attention to the child and their behavior, so the child cannot use to his or her own advantage (gaining more attention, etc).

CONCLUSION

In conclusion, this study showed a relationship between family stress and children who do not meet their daily nutritional recommendations. The study data shows that parents of children who do not consume enough of specific food groups feel stress over mealtime occasions, as demonstrated by statements in the study family stress tool, such as “I feel myself getting more anxious as meal time approaches” or “Meals always end in a quarrel”. Because of possible deleterious effects of picky eating behaviors over time, it is important to modify or improve these behaviors, especially for the health of the family and their relationship with their child(ren). Additionally, negative eating behaviors appear to be cyclical if parents react adversely with controlling, threatening, angry, or permissive actions. Picky eating behaviors do tend to decrease with age; however, some children continue to retain undesirable eating behaviors later in life with possible effects on physical, mental, and psychosocial facets of a child’s life.[12, 13] Picky eating behaviors should be considered worthy of discernment, and a strategy should be developed for modifications and improvement.

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