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### Nutritional Preferences of Preschool Children for Breakfast

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## RESEARCH ARTICLE

## NUTRITIONAL PREFERENCES OF PRESCHOOL CHILDREN FOR BREAKFAST

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**Abstract**

**Background:** It is stated that children who are acquainted with healthy foods early on are more likely to make healthy food choices in their lives and that parents play important roles in the development of nutritional preferences.

**Aim:** The main purpose of the present study was to identify children's breakfast habits and what they know about this topic, and see if they transfer all this into life.

**Method and Material:** In this study, the case study design is used because the aim is to describe and interpret from a holistic perspective children's preferences for breakfast. The study was conducted with a total of 30 children from the morning group. For one week, the children were offered a breakfast buffet containing food from each food group and what the children ate was observed. The structured individual interviews planned with 30 children were carried out with only 28 children on the grounds that two children were of Syrian origin and could not speak Turkish at an adequate level.

**Results:** It was observed that the majority of the children (93.3%) stated that they like to have breakfast. The proportion of children who stated that they did not like to have breakfast was 3.4% while the proportion of children who were undecided was 3.3%. According to the findings obtained from the observations, the children finished all the food they put on their plates. In other words, every child tends to take as much food as he/she can eat.

**Conclusions:** As a study conclusion, those children that stated they choose their preferred food and beverages at breakfast according to what they like know the correct foods, which they called "healthy," but do not choose them. It is thought that the reason the children gave the desired answer stems as much from the role of the researcher as it does from the wish to give an adult the "correct" answer.

**Keywords:** Nutrient, frequency of breakfast, social learning, preschool.

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## INTRODUCTION

Childhood is a critical period in which nutritional habits start being acquired.<sup>i</sup> From the perspective of physical development, early childhood experiences can form an important life trajectory in terms of ideal weight status.<sup>ii</sup> In adults and children alike, if any of the nutritional elements found in food is not taken in at all, or if too much or too little is taken in, this can disrupt health by affecting growth and development.<sup>iii</sup>

It is stated that children who are acquainted with healthy foods early on are more likely to make healthy food choices in their lives and that parents play important roles in the development of nutritional preferences.<sup>iv, v, vi</sup> However, the size of portions that need to be given to children are not sufficiently known by the parents. Research shows that parents are generally carefree about portions and often make decisions about portion size based on child characteristics such as the child's appetite.<sup>vii, vii</sup>

The planning and frequency of meals in children's nutrition is an important topic. Basically, when the literature is examined, breakfast is often considered to be one of the most important determinants of health. In the compilation study conducted 61% of the children stated that they had breakfast; 55% stated that they skipped breakfast.<sup>viii</sup> Behaviorally, studies have focused mainly on food intake and body mass index. The body mass index (BMI) of people who have breakfast turned out to be lower than that of those who do not. So, obese individuals are more likely to skip breakfast.<sup>ix, x</sup> While it is observed that individuals with normal or low BMI receive more balanced energy during the day, by skipping breakfast obese individuals do not attach importance to this.<sup>xi</sup> When long-term effects are considered, academic performance and cognitive skills are remarkable. It is observed that people who consume cereals at breakfast every day have less depression and are emotionally less troubled.<sup>xii</sup> In a study examining the relationship between the frequency of breakfast and IQ scores in Chinese children, it was found that children who had breakfast frequently had higher scores than those who had breakfast occasionally.<sup>xiii</sup> Research on the nutritional habits of American children shows that on average, they consume more fat and add sugar and consume less fruits and vegetables than recommended. The omission of breakfast is one of many factors contributing to obesity in childhood, and about

40% of American two-to-five-year-olds are overweight or at risk of being overweight.<sup>xiv</sup>

The main purpose of this study is to identify children's breakfast habits and what they know about this topic, and see if they transfer all this into life. In doing so, the aim is to instill healthy eating habits in children. The goal is to identify the educational requirements in developing a healthy eating program by studying breakfast habits. To this end, the basic aim of the study was to determine what children eat when developing a program aimed at what preschool children ought to eat for breakfast and instilling this habit.

In order to achieve the goal of the study, it was determined that the question "What are the nutritional elements of preschool children?" would be the basic problem sentence for the study.

Sub-problems are expressed as:

- 1- Do children prefer a carbohydrate-heavy diet?
- 2- Do children prefer a protein-heavy diet?
- 3- Do children show a tendency towards fatty and sugary foods?
- 4- Do the children's preference for liquids at breakfast favor milk or drinks with a high sugar content?
- 5- Do children prefer to eat mainly fruits and vegetables?
- 6- Is there a difference between the foods that children put on their plates and the foods they prefer to eat for breakfast?

## Research Model

Qualitative research method was used in this study. Case study design, one of the qualitative research designs, was determined as the study design.<sup>xv</sup> The aim of the case studies, which can be carried out using both quantitative and qualitative approaches, is to reveal the results of a particular situation.<sup>xv</sup> Four types of patterns are mentioned in case studies in which a holistic analysis of one or more situations within their own boundaries (environment, time, etc.) was made. These are: The holistic single-state pattern; the mixed single-state pattern, the holistic multi-state pattern, and the mixed multi-state pattern.<sup>xv</sup> In this study, the holistic single-state pattern was used because a single analysis unit was studied holistically.

### Study Group

The study was conducted in an independent kindergarten affiliated with the Izmir Provincial Directorate of National Education. The main factor in conducting the research in this particular kindergarten is that the school is situated in a location populated by socioeconomically middle-class families and offers breakfast meals to the children in the form of an open buffet. The study was conducted with a total of 30 children from the morning group with the necessary permission obtained from their families and the school. For one week, the children were offered a breakfast buffet containing food from each food group (carbohydrate, protein, fruit & vegetable, fat & sugar, drink) and what the children ate was observed. The structured individual interviews planned with 30 children were carried out with only 28 children on the grounds that two children were of Syrian origin and could not speak Turkish at an adequate level.

### Work Status

In this study, in which the holistic single-state pattern was used, the foods preferred by the children at the open buffet breakfast given at a kindergarten affiliated with the Izmir Provincial Directorate of National Education were evaluated.<sup>xv</sup>

The dual-education school provides breakfast and a midday meal to its students. Intermediate meals are provided in the classroom through parent-teacher cooperation. The open buffet breakfast that forms that study's status was created using the budget of the independent kindergarten where the study took place in consultation with nutrition and dietary specialists. The children are able to take as much as they want from the food and beverages arranged on the table in the kitchen with nobody intervening. Breakfast includes carbohydrates, protein, fruits/vegetables, and foods from the fat/sugar group and beverages such as milk, herbal tea, juice, and water. The carbohydrate group includes bread; the protein group includes eggs and cheese; the fruits/vegetables group includes cucumbers, tomatoes, carrots, and parsley; the fats/sugar group includes chocolate spread, butter, sesame, and grape syrup.

### Data Collection Tools

The observation technique was used in order to see from a

broad perspective what foods the children preferred for breakfast. At the same time, the observations were recorded on camera after having obtained the necessary consent from the families. In order to find out what the children prefer to have for breakfast, the interviews were conducted before the open buffet breakfast began. The semi-structured individual interview form was used in the interviews.

Since the children were observed in their school dining hall, the observation carried out was of the unstructured field study kind. The observer assumes the role of participant in this type of observation and the participant makes observations.<sup>xv</sup> An observation form developed jointly with field experts was used so as to prevent data loss. In addition to the observations recorded with the camera, the school administration gave the necessary permissions to take individual photographs of the children with their breakfast plates. In keeping with the code of ethics, the children's faces were deleted from the photographs and each plate was coded separately for each child.

### Data Collection Process

Interviews lasted approximately 3 minutes with each child. In order to avoid data loss, the answers were written down. The environment in which the interview was conducted was a room agreed on with the school administration. The room was quiet and well lit with its temperature preset so as not to affect the children's interview answers. The two researchers were present in the interview room; one conducted the interview while the other took notes.

The two researchers were also present during the observation. One researcher filled out the observation form while the other recorded with the camera. The researchers and the school staff did not intervene while the children were choosing what they wanted for breakfast. Each child sitting at the table was photographed together with their breakfast plate. In this way the foods preferred by each child were classified over the course of five days of observation.

### Data Analysis

The data obtained in the research were analyzed using content analysis, which is frequently used in the qualitative analysis

method. In the content analysis, the data is brought together using concepts and themes, and the concepts and themes created are intended to be understood and interpreted by the readers.<sup>xv</sup> In the preparation phase of this process, students are coded as "Ö1 through Ö28" in order to prevent ethical problems. At the coding stage, the data set was read without interruption and the meaningful data units on the data set were tagged with appropriate concepts or words and a list of codes was created. At the theme-forming stage, the codes were reviewed by the researchers and it was discussed which themes could be obtained by bringing together which codes. The data were organized by associating every piece of data with the resulting themes and codes. When interpreting and reporting the findings, the findings were defined and interpreted by taking suitable quotes and descriptions.

## FINDINGS

The findings of the study are presented by associating the semi-structured interviews conducted with the participants with the unstructured field observations.

### Breakfast perception and food preference

When the findings about the perception of breakfast were examined, it was observed that the majority of the children (93.3%) stated that they like to have breakfast. The proportion of children who stated that they did not like to have breakfast was 3.4% while the proportion of children who were undecided was 3.3%. In observations, it was determined that all children attended the breakfast time at the school and that they did not show any reluctance during this time. According to the findings obtained from the observations, the children finished all the food they put on their plates. In other words, every child tends to take as much food as he/she can eat.

When the food preferences of the children were examined, three different themes were obtained: food, beverage, and school breakfast preferences. Food and school breakfast themes were investigated in four sub-themes: carbohydrate, protein, fruit/vegetable and fat/sugar. The beverage theme was examined in four sub-themes: milk, herbal tea, fruit juice, and water. During the interviews, the majority of the children stated that

they preferred carbohydrates, protein, and fruits/vegetables for breakfast. In interviews with children, a total of nine (9) children said that "eggs" were their favorite food. This was followed by toast and cheese with six (6) children. However, when evaluated in terms of general categories, it was found that the children's basic preference was carbohydrates (21 children). No child stated that he/she preferred food from the fat/sugar group for breakfast. However, observation results paint a different picture. It was observed that children prefer foods from the carbohydrate and fat/sugar group during the breakfast buffet. In particular, it was found that they preferred to spread chocolate or jam on bread. It was determined that foods in the protein group were the least preferred foods. One of the findings of the observations is that children are influenced by each other's preferences. It was determined that they opted for similar foods to those taken by the children before them or with them at breakfast.

The vast majority of the children stated they preferred fruit juice (15 children) or milk (14 children) to drink at breakfast. In the observation results, it can be seen that the children's preferences favor fruit juice. It was observed that children who stated they preferred milk for breakfast during the interview actually mainly preferred fruit juice or herbal tea, and not milk during breakfast. It was determined that the children's expressed preferences during the interviews do not match their observed preferences. During the interview, the children gave the desired answers, but during a real breakfast they preferred food groups such as fat/sugar, which should be consumed less frequently. This situation shows us that children are aware of the food groups that they need to consume frequently and at breakfast, but they prefer to eat according to their eating habits. This suggests that nutrition education given to children remains only at the level of knowledge and is not transferred to behavior.

### Reasons for food preference

When the reasons of food preferences of children were examined, two different themes were obtained: food and beverage preferences. The theme of food choices is evaluated in four sub-themes: liking food, finding food healthy, parental influence, and

the desire to consume different foods. The theme of the beverage preferences was examined in three sub-themes: liking food, finding food healthy, and other.

In the interviews, 14 of the children stated that they prefer their favorite foods for breakfast. Factors such as liking the food or liking its taste lead to food preference:

*"Eggs, chocolate bread, cucumbers, olives, and juice because they taste so sweet, which is why I always take them, but I do take greens from time to time."* [Ö18]

As a result of the observations, it was observed that Ö18 preferred chocolate bread, cucumber, olives, and fruit juice, matching the responses in the interviews. However, as he stated, he chose "greens" only on the first day. After Ö18 chose "greens" it was observed that students Ö19, Ö20, and Ö21, who were standing behind Ö18 in line and saw what was on his plate, took the same vegetables. This shows that children are influenced by each other's preferences, and that this can be affected by people in their daily lives.<sup>xvi</sup>

The proportion of children who stated they choose the food they like is followed by children who stated they preferred for breakfast food they think is healthy. It was seen that the children expressed the reasons for their preferences using such terms as "growing strong," "it has vitamins," and "growing up" instead of the concept of "healthy."

*"Walnuts. Because it strengthens our muscles."* [Ö3]

*"...Because I have to eat them or I won't grow."* [Ö12]

*"Pizza the most, I am going to grow; I won't stay small."* [Ö15]

Among the responses that were seldom given were those given by children who preferred what their parents prefer, and by children who named one thing while actually wanting to consume something else.

*"Pasta soup. Because I eat pasta every day while drinking its soup."* [Ö22]

*"Because my mom and dad love eggs."* [Ö2]

When it came to beverage preference it was mainly stated that they choose the beverage they do because they like it. This proportion is followed by the proportion of children who stated they chose a particular beverage because they consider it healthy. Unlike food preferences, it can be seen that children qualify the drinks they prefer as "healthy." Meanwhile, 15 of the

children stated their preferred beverage was milk because it is "healthy."

*"I want to drink milk. Because it is healthy to drink milk."* [Ö4]

*"Milk and juice. Because if I drink it I won't grow but if I drink it I will grow, if I don't drink it I won't grow."* [Ö12]

In the observation results, it can be seen that children frequently prefer fruit juice to milk.

The reasons why children chose the beverage they did are grouped into two separate responses, unlike the variety seen in the reasons for choosing food. The children did not show any tendency to say something like it is healthy for any beverage other than milk, and they stated they like it as their reason for choosing it.

## CONCLUSION AND SUGGESTIONS

Those children that stated they choose their preferred food and beverages at breakfast according to what they like know the correct foods, which they called "healthy," but do not choose them. It is thought that the reason the children gave the desired answer stems as much from the role of the researcher as it does from the wish to give an adult the "correct" answer. However, the fact that information has not been transformed into behavior is a very important result for the study. In this context, activities should be prepared such that the correct knowledge held by the children can be converted into behavior. In order to enable children to learn in line with their life experiences, institutions could be advised to offer alternative nutritional options on certain days of the week. In addition, it is important to make sure that the education programs implemented in early childhood are skill-based and that they are supported by making observations with regard to behavioral development.

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