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## THE ROLE OF PARENTS IN THE ATTAINMENT OF WATER OR LIQUID CONSUMPTION BEHAVIOR IN CHILDREN

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### ABSTRACT

#### **Introduction**

Water is the most important source of life in our lives. Especially children are constantly tired of playing games and having fun. It is therefore expected that children will have more fluid consumption than adults.

#### **Aim of the study**

The aim of this study is to help parents determine the extent to which they control their children's water or fluid consumption, whether they are with food or water loss prevention, and how to develop benefit, attitudes and behaviors in order to give their children water consumption behavior.

#### **Material and methods**

In this study, the attitudes and behaviors of 591 parents of 100 children from almost every neighborhood living in Bitlis province center were investigated by a cross-sectional survey. The questionnaire consisted of two parts, the first part included questions about the parents' demographic structure and family structure, and the second part, questions about water and fluid consumption about 0-12 year old children. The questionnaire was applied and evaluated with the IBM SPSS Statistics 20® Packet Scheme for chi-square and frequency tests. A value of P <0.05 was considered statistically significant.

## Results

Mothers (54.2%) and fathers (45.8%) responded to the survey. The proportion of children consuming tea (69.9%), the ratio of children consuming water was 11.2%, the consumption of milk was 14.8% and the consumption of other liquid varieties was 4.1%. It has been determined that 64% of the children take and consume at least half a liter of water when going to the school. It was understood that 51.9% of the children drink 5 cups of water and 24.8% drink 3 glasses of water a day.

## Conclusions

The relationship between parents' educational status and how the child consumed the juice at breakfast, how to take the juice when going to the school and drink water, how the juice the child chose, how safe the preferred juice was and how to help the juice consumption was significant ( $P < 0.05$ ).

## INTRODUCTION

Water is the most important source of life in our lives. Water sources and liquids balance the human body. People depend on their movements and experience constant fluid loss. As such, it is necessary to drink water or drink liquid instead of the lost fluid. Especially children are constantly tired of playing games and having fun. It is therefore expected that children will have more fluid consumption than adults (1).

Water consumption may vary with each child's age, gender, height, level of activity, environmental factors (climate), and the type of dietary intake (2). Nevertheless, a water consumption that every child should absolutely take is controlled homeostatically.

Adequate total water intake has been proposed by some international authorities according to age and sex, and these amounts vary widely. The amounts of water proposed in the European Food Safety Agency (EFSA) (2) and the Institute of Medicine (IOM) (3) in the United States in 2010 for infancy and childhood are the values in Table 1. They have shown in their research that adequate water uptake varies depending on individual differences for water needs in response to environmental factors such as metabolism, environmental temperature and humidity (4,5). These variables also include individual factors such as age, body size, and physical activity level (6-9).

**Table 1. Recommended adequate intakes for total water (European Food Safety Authority and Institute of Medicine) In infancy and childhood (4,5)**

		European Food Safety Authority (EFSA) Total water intake (Adequate intake (mL/day))	Institute of Medicine (IOM) Total water intake (Adequate intake (L/day))
Early Childhood	0-6 months	680 mL/day (With breast milk )	0.70 mL/ day
	EFSA 6-12 months IOM 7-12 months	800-1000 mL/day	0.80 mL/ day
Childhood	EFSA 1-2 months IOM 1-3 yaş	1100-1200 mL/day	1.30 mL/ day
	2-3 months	1100-1200 mL/day	
	4-8 months	1600 mL/day	1.70 mL/ day
	9-13 months	Boys 2100 mL/day Girls 1900 mL/day	2.40 mL/ day 2.10 mL/ day
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The aim of this study is to help parents determine the extent to which they control their children's water or fluid consumption, whether they are with food or water loss prevention, and how to develop benefit, attitudes and behaviors in order to give their children water consumption behavior.

## MATERIALS AND METHODS

### *Study design, setting and Subjects*

This study was carried out with a cross-sectional survey of attitudes and behaviors of 591 parents, 100 families from almost every neighborhood living in Bitlis central districts, in children's control of water consumption. The questionnaire consisted of two parts. The first part consisted of the family structure with the demographic structure of the parents. In the second part, the questions about the water and liquid consumption about the children between 0-12 years were questioned. Parents must have at least one child to choose from among the limitations of the survey. One or two days after the parents' surveys were collected. Generally, weekly surveys were distributed. Parental age is not limited. 591 parents volunteered to work. A total of 25 participants were asked to respond to the questionnaire. In the questionnaire, the current family structure was assessed by questioning whether the educational status of the mother and father was significantly related to the socio-economic status of the family and the answers they gave.

### *Statistical analysis*

The questionnaire data were entered into Microsoft Excel by numbering and statistical evaluation of the data was performed by using the IBM SPSS Statistics 20® Packet Schedule and Chi-Square and Frequency tests. A value of  $P < 0.05$  was considered statistically significant.

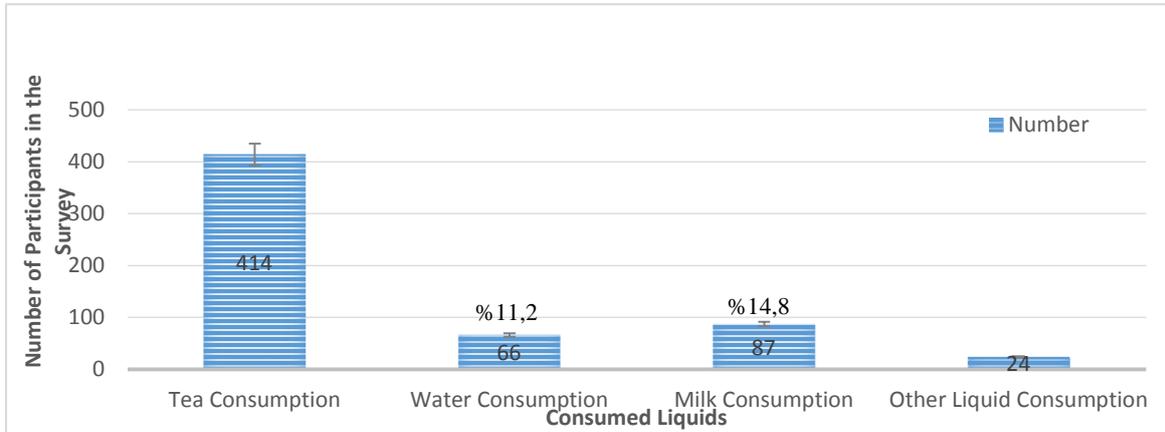
## RESULTS

### *Demographic Characteristics of Parents*

Mothers (54.2%) and fathers (45.8%) responded to the survey. The average age of the parents was determined to be  $32.81 \pm 7.06$ . It was determined that 22.5% of the parents were high school, 11.9% were university, 50.8% were primary school graduates, 34.5% of fathers were high school students, 22.7% were primary school students and 38.3% were university graduates. The proportions of the average number of children with 3 children were 34.5%, the proportion of children with 4 children was 19.1%, the proportion of children with 5 children was 7.6% and the rate of children with 6 children was 5.7%. It was determined that the proportion of parents who participated in the survey was 11.9% at the age of 1 year, 9.7% at the age of 2 years, and almost close to each other (6-9%). It was determined that the income status of the families was between 54.7% and 2000 TL, 85.6% shared the same house as parents and children, and 12.5% was the extended family type.

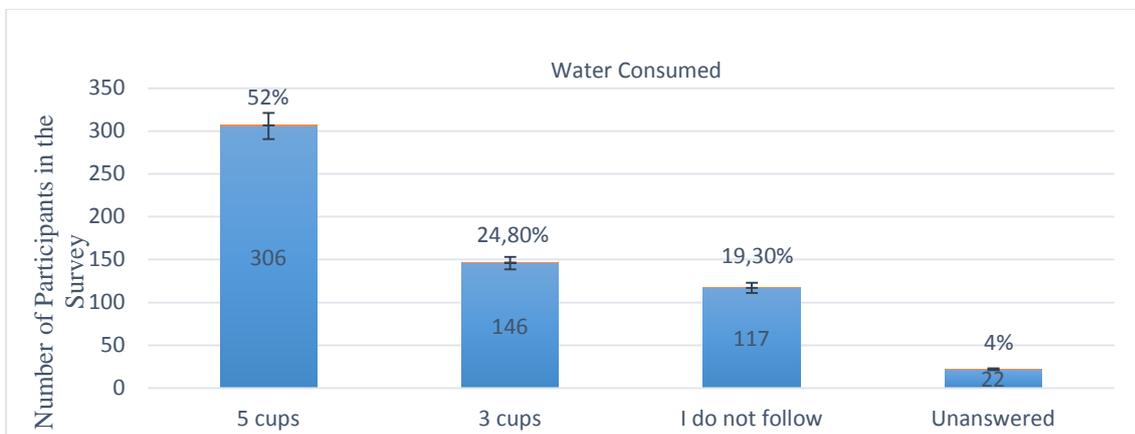
**Water or Liquid Consumption Situations of Children**

Asking children to consume water or liquid daily at breakfast, (69.9%) tea consumption, 11.2% of children consuming water and 14.8% of those consuming milk were observed at breakfast (Figure 1).



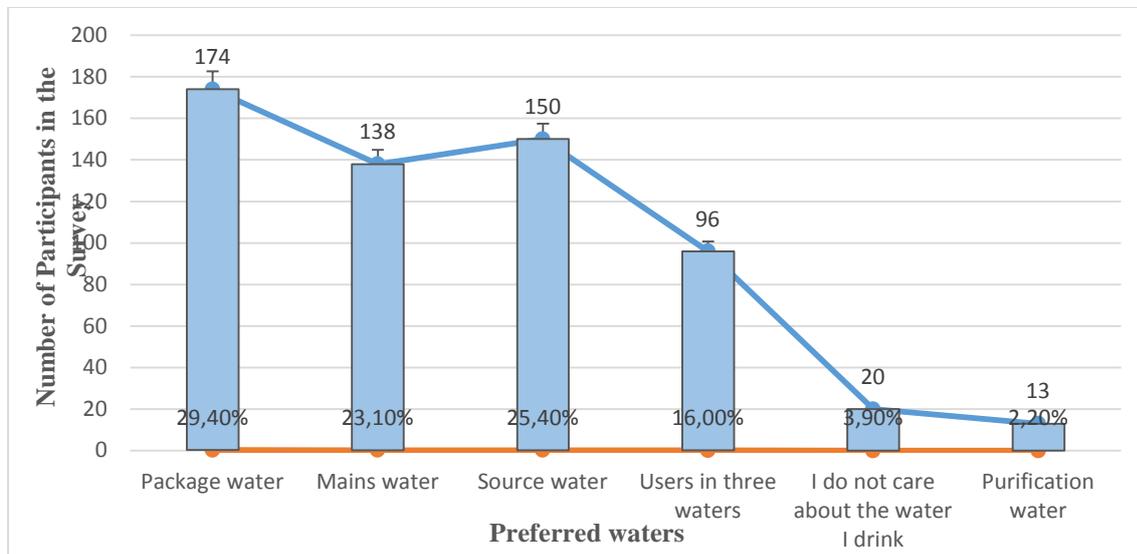
**Figure 1. Consumption Distribution of Children Consumed at Breakfast**

Parents are children; 1 cup of 25.8%, 8.3% of them consumed 2 glasses of water In breakfast, 1 cup of 78% and 2 cups of 22% at lunch, 78.2% of them drink 1 cup and 22.8% drink 2 glasses of water at dinner. They also stated that 64% of the children took at least half a liter of water and consumed this water when going to the school. The conclusion was that 51.9% of the children were drinking 5 cups a day, 24.8% drinking 3 glasses of water and 19.3% of the parents not following water consumption of children (Figure 2).



**Figure 2. Quantities of Water Consumed by Children in a Day**

Parents of children; It was determined that 29.4% used ready water, 23.1% used tap water, 25.4% used spring water, 16% used all three water, 3.9% did not care about water selection and 2.2% used purification device (Figure 3).

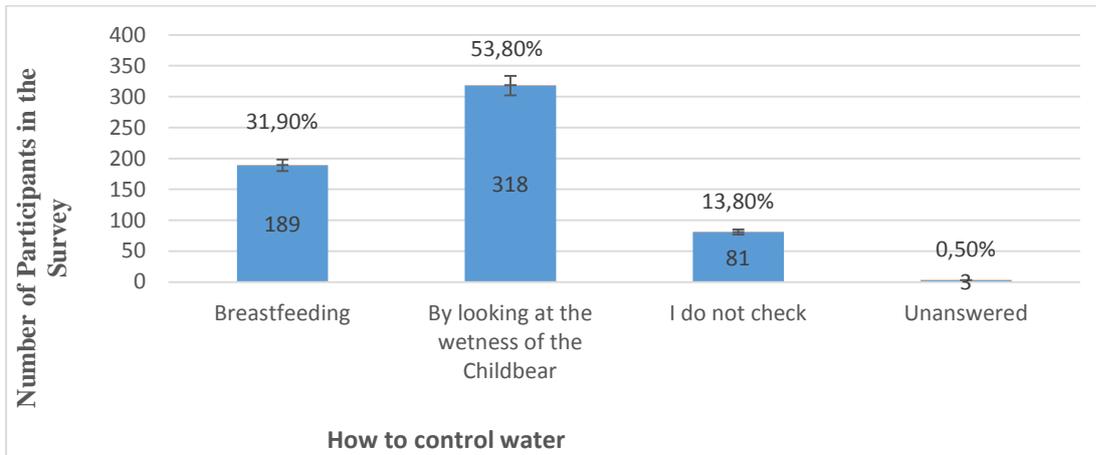


**Figure 3. Parents' Water Preferences for Their Children**

Parents with 0-12 month infants found that 74.76% gave 1 bottle of water besides mother's milk, 25.24% gave only breast milk. Parents with infants aged 12-24 months found that 44.45% of them did not give water unless they wanted to give the child, 10.1% of them do not know how much they drink, and 44.45% of them drink themselves. Parents with 2-6 year-old children stated that 60.36% wanted to drink when they were thirsty, 4.92% drink 2-3 glasses of water, 29.12% drink themselves, and 5.5% of parents do not know how much water their children drink. It was understood that 37.2% of the parents told their children how they helped their children about water consumption, 21.9% of them were encouraging children to drink water by leaving water in the jug. Parents found that 53.8% of their children were drinking themselves when they were hungry, 7.8% were not paying attention, 5.9% were drinking water when they reminded them, 30.3% of the children did not follow water consumption, 43.4% were drinking glasses or water.

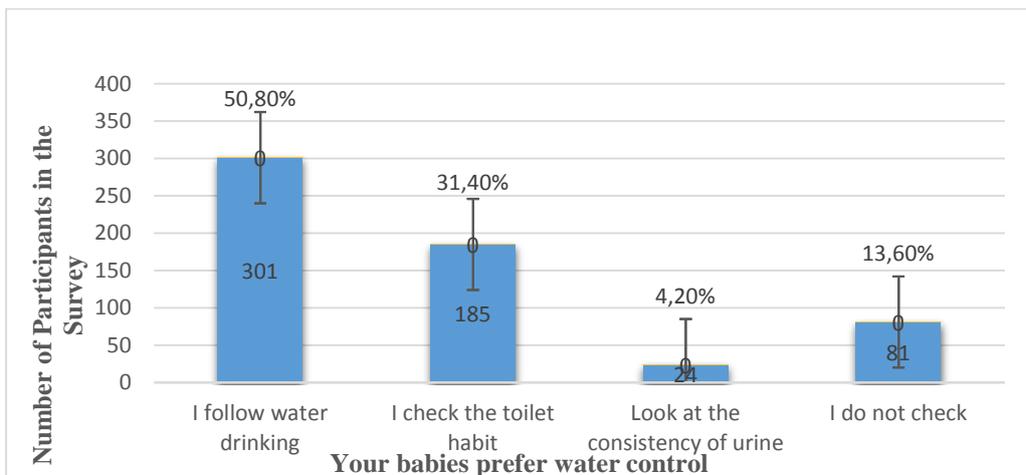
When parents are asked to drink their children or the amount of daily fluid consumption they need to drink; I knew that 54% of the children who were 0-6 months old had to drink 680 milliliters (about 3 cups of water), 30.8% did not know. I knew that 49.6% of the children between 6-12 months needed to drink 800-1000 milliliters of water (about 4-5 glasses of water), 31.9% did not know. I knew 55.1% of the children 1-3 years of age should drink 1100-1200 milliliters (about 5-6 glasses of water), 30.5% did not know. I knew 63.6% of children aged 4-8 should drink 1100-1200 milliliters (about 5-6 glasses of water), 20.3% did not know. I responded that I knew 51.3% of the children aged 9-13 years and 21% of the men 2100, and 1900 milliliters (about 10 cups) of water should be drunk, and 37% did not know it.

How do you control the water that should normally be taken in infants? Breastfeeding was 31.9%, by looking at the wetness of the childbear was 53.8%, and I did not control it at 13.8%. Did not respond if they were 0,5% of participants (Figure 4).



**Figure 4. Parents' methods of using their baby's water controls**

How do you control parental water that your children should normally drink? 50.8% followed by drinking, 31.4% from the going to the toilet, 4.2% from the urine, and 13.6% They did not control it. (Figure 5).



**Figure 5. Parents' methods of using their children's water controls**

It is important to understand the educational status of the parents and the amount of water consumed by the child during the breakfast, the water intake and drinking of the water while going to the school, how the child chooses the water he drinks, how safe the preferred water is, how much water he consumes during the day, how much water the child consumes during the day, and whether the children know the amount of water consumption and the behavior of assisting the child in water consumption were found to be significant ( $P < 0.05$ ). It was found that the difference between the number of children in the family and water selection, control, amount of liquid to drink and water consumption behaviors were significant ( $P < 0.05$ ), The difference between the income status and the water selection, control, amount of liquid to drink and water consumption behavior was also found to be significant ( $P < 0.05$ ).

## DISCUSSION AND CONCLUSION

Water is the largest percentage of the human body, and about one man makes up 65% of his body weight and 60% of the girls, and according to age, size and sex; Girls have a slightly higher body fat percentage and less water than men (10). Dewatering mechanisms (because of their large surface area relative to the body mass ratio) are particularly important for children because they have relatively high fluid loss and high activity levels. The thirst signal is triggered when there is a 1-2% reduction in body mass and when the kidneys are concentrated in the urine (10, 11). Fluid consumption behaviors in children can develop in the age groups that begin to walk, and teaching at an early age is vital (12).

It is important that good fluid intake in children has immature thirst. Children sometimes do not even know that they are thirsty and come to their minds when they see the surroundings or when they see the water in their parents' room or kitchen. In this regard, it has been observed that children are behaved to acquire drinking behaviors in the manner of modeling. Poor fluid intake can affect children's cognitive functioning and bladder control. Adequate fluid intake is necessary to ensure healthy organ function, including the urinary tract, heart, lungs, muscles, digestive system, and brain (13). When you breathe, you lose water from the urine, skin, and stools in sweat (14). How much water is lost; Age, body size, physical activity, health and environmental conditions. There is no longer a long-term storage of water in the body, so the lost water must be completed. A 1% loss of body water is normally compensated within 24 hours; There may be a decrease in physical and cognitive performance if there is more loss. Fluid intake affects the composition and volume of urine and how often the child can go to the toilet. Good fluid intake also helps to increase bladder capacity and helps a child develop a full bladder sensation and develop night and day bladder control (15, 16). Frequent urination and good fluid intake may also reduce susceptibility to urinary tract infections (17).

It is known that only 29% of primary school children meet the minimum amount required for fluid intake, others consume less fluid, and a child's fluid intake behavior is affected by the peer group. Schools play an important role in helping children develop healthy fluid intake. Almost every student in our work has seen at least half a liter of water with controls. The school has vital preventive measures to promote good fluid intake behavior in school children in order to facilitate easy access to water at school and to encourage water or fluid intake throughout the day. Children receiving too little fluid at school can cause their cognitive function to diminish as adults, which can adversely affect their education (11). Surveys Children between the ages of 7 and 10 show that they drink about seven times as much water as water (18). In order to encourage children to drink water, schools should provide easily accessible fresh water or water baths and potable water instead of the wash basin water or taps in the area where the washbasins and toilets co-exist.

The water needs of the living creatures are manifested by a physiological impulse, since childhood, this urge is shown and the water needs to be met in some way. Particularly parents should be prepared to become more conscious about this issue and should help children to preserve water or liquid balance. Although our study showed that the controls were monitored more healthily, depending on the education, they reflected on the results that parents did not pay attention to their children's water consumption behaviors as well as the desired level. Very little work is done on water consumption in our country. Similar work can be done in different regions in our country.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## ACKNOWLEDGEMENTS

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