

Packaged ready-to-eat food consumption status of parents for their children and the factors that affect the consumption: Turkish case

Sibel Küçük¹, Dilek Uludaşdemir², Mibran Küçük³

¹Yildirim Beyazıt University Faculty of Health Sciences, Nursing Department, Ankara, Turkey; ²Research Assistant, Yıldırım Beyazıt University Faculty of Health Sciences, Nursing Department, Ankara, Turkey - E-mail: d.uludasdemir@gmail.com;

³Sincan Dr. Nafiz Korez Public Hospital, Nursing Department, Ankara, Turkey

Summary. *Aim:* Consumption of packaged ready-to-eat food is increasing steadily worldwide. Indeed, relevant literature highlights that package food could affect children's growth and development negatively because of the additive ingredients. *Methods:* This descriptive research aims to investigate packaged ready-to-eat food consumption status of the parents who had under 18 years old children, and lived in a region where middle and low income families live, and the factors that affect ready-to-eat food consumption. Quantitative data were collected using a questionnaire that consisted of 31 questions. Number, percentage, mean, standard deviation, Chi square tests were used to present findings. *Results:* The findings showed that although most of the parents expressed that packaged foods were harmful to health, parents kept package foods in their houses and they had a store for the package foods that they called junk food drawer. Parents bought packaged foods for their children for various reasons because of children's desire, the effect of the trade of the product and the effect of the label of the food. Parents' age, gender, education and income status and also the number of children parents had affected buying packaged ready-to-eat food and gender, education and income, the number of children parents affect the reason why parents buy packaged ready-to-eat food and participants' age affected the features considered while buying the packaged ready-to-eat food affect the. *Conclusion:* Raising awareness among the parents regarding the negative effects of packaged ready-to-eat food is significant, and activities to raise awareness should be disseminated in all units of the society that are concerning children.

Key words: packaged ready food, consumption, parent, children, nursing

Introduction

Nutrition is very important in infancy and childhood periods when growth and development process is rapid (1). Rate of packaged ready-to-eat food consumption is increasing because of various reasons, including improvement in the economy, social and cultural changes, being easy for transportation and buying, colored package and good taste (2,3). It is notable that some packaged ready-to-eat foods are lack of protein, vitamin, mineral and fiber but also included some additive nutrients as high level refined sugar,

white flour, trans fat, salt, food coloring and mono sodium glutamate which are lack of fiber and have high glycemic index (3,4). The relevant literature highlights that consumption of packaged ready-to-eat food affects mental health and could cause psychiatric stress and violence behavior (5).

Consumption of packaged ready-to-eat food is also common in our country, Turkey, like in various different countries all over the world (6). In Turkey, it is known that 64.0% of the children consumed fruit juices as additional food since the children are in their month after birth (7), 69,6% of school aged children

have junk food snacking habits and 7.5% of them were obese (7). Also, among the primary school children, 88% of the children consumed sugar-chocolate at least once or twice and more a week, 71.7% consumed crisps-potato, 40.4% consumed cola (8).

Given the alarming problem regarding the ready-to-eat food, there is an urgent need to raise awareness in the public worldwide. Transforming healthy nutrition to life style to reach expected quality of life during globalization process is significant (9). Thus, it is important to investigate parents' packaged ready-to-eat food consumption habits and disseminate information about the hazards of packaged ready-to-eat food for the healthy generations.

Methods

Aim and Design

This descriptive, cross-sectional study aimed to determine the ready-packaged food consumption of parents who had 18 aged and under children and the effective factors.

Sample and Setting

The data were collected using a questionnaire form in a middle and low-income level center of Ankara. The centers with income levels in Ankara city center were determined before the research started. The center district with low and middle income was selected randomly from between the 7 central districts determined. This center district was 524,222 total population (10). There was only a state hospital in the designated district. This hospital annual total outpatient population was 1.300.000 people approximately between January- December 2014.

Participant

The study were collected from 1,004 parents who had 18 aged and under children, accepted to participate. Firstly, adults over 18 years of age who were admitted to hospital for treatment were identified. Secondly, it was determined whether these adults had children under 18 years of age. Parents who were voluntary to participate in the research were identified. The study were finished with 1,004 parents.

Data Collection

Data were collected between 01.09.2015 and 01.09.2016 using a questionnaire form. In the first part of the questionnaire, there were 31 questions, which aimed to obtain information regarding parents' sociodemographic characteristics, children's size. In the second part of the questionnaire, parents were asked about the types of packaged ready-to-eat food consumed by their children, the frequency of consumption, reasons for buying ready-made food and the factors affecting them to buy. The underlying reason to use the questionnaire was the aim to reach as many parents as possible.

Analysis

For statistical analysis frequency, percentage, mean, standard deviation and chi-square tests were used. It is accepted meaningful when p value is under 0.05. Evaluation was done by IBM SPSS Statistics 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows Version 21.0. Amornk, NY: IBM Corp.)

Ethical Approval

Prior to study, ethical permissions (Ankara Yildirim Beyazit University Ethical Committee, 28.08.2015/95) were taken. Participants signed a written consent form voluntarily after receiving sufficient explanation of the study purposes and procedure. The collected data were kept.

Results

Parents' median age was 33.91 ± 7.78 years old, had 1.84 ± 0.83 children and 2.4925 ± 1.1100 in average. Most of the parents were women (69.7%), and they graduated from high school (46.9%), had got 2 children (41.5%), and a housewife (48.9%). Also, 67.1% of the children were students. Findings showed that 80.2% of the parents had a 'junk food drawer' in their houses, 99.3% of them bought packaged/junk foods for their children during shopping, 46.7% bought packaged/junk foods because their children wanted. Although most of the parents (77.3%) admitted that packaged/junk foods were harmful, 54.8% parents bought them because they were affected from the brand of the prod-

uct, %47.3 parents. In addition, 40.6% of the parents stated that their children consumed ready-packaged food every day, and 51.0% of them added that their children were affected from their friends the most to eat packaged/junk foods. 58.6% of the parents admitted that they allowed their children to eat packaged/junk foods after meals (Table 1).

Parents stated that their children consumed chocolate, ready fruit juice, crisp, biscuit, ready cake, wafer, fermented food as pepperoni/salami and packaged ice-cream twice a week, most frequently, opened ice-cream, packaged ice-cream and packaged sweets once a week and parents reported that their children did not consume fizzy beverages (Table 2).

A significant correlation was found out when parents' age, gender, education, having children and buying packaged/junk food, are compared with parents' gender, education, monthly income, number of children and reasons of buying packaged/junk food. Also, with parents' age, the features of packaged/junk foods that parents considered while buying ($p < 0.05$, Table 3), there was a significant correlation.

Discussion

In Europe, as families' educational level increases, their high-energy food consumption increases. However, it is notable that families from all education level background consume high-energy food consumption, such as sugary-acid beverages, chips, sweet, and sugar, increases (11). Buying ready-packaged food was higher among women in this study. This finding is consistent with Yılmaz et al.,'s study which indicated that women are more effective in choosing junk food.¹² This study has shown that parents of every educational level and economic level tend to buy ready-packaged food. Younger age group and parents with high school graduation tend to take more of these kinds of foods. That parents who are young and female with two children affected ready-packaged food purchasing ($p < 0.05$) (Table 3).

Most of the parents reported that packaged ready-to-eat food was harmful to health. However, most of the parents kept packaged ready-to-eat food in their

Table 1. Features belong to the status of reading ready packaged food

Features (N=1004)	n	%
Being a "Ready (Junk) Food Drawer"	806	80.2
Going with the child to the shopping	867	86.4
Buying ready packaged food for child during shopping	1003	99.3
Reason for buying ready packaged food		
Child's asking	468	46.7
Rewarding of child	222	22.1
Temporizing of child	234	23.3
Preventing child's emulating by seeing from other children	80	8.0
Thinking that it is harmful for health		
Yes	776	77.3
No	174	17.3
No idea	54	5.4
Features in choosing food*		
Trade of food	550	54.8
Cost of food	314	31.3
Child's desire	308	30.7
Being saturator of food	214	21.3
Advertisement of food	178	17.7
Taste of food	155	15.4
Package type	71	7.1
Previous experiences	67	6.7
Information that taken from family and friends	21	2.1
Frequency of consumption		
Every day	280	27.9
Once in a week	408	40.6
Twice and more in a week	247	24.6
None	69	6.9
Factors that were thought as effective on consumption*		
Friends	512	51.0
Television advertisement	475	47.3
Siblings	151	15.1
Parents (Mother/father)	94	9.4
Consumption times in day		
Before meals	117	11.7
After meals	588	58.6
Any time in day/when child wanted	266	26.5
None	33	3.3
Frequency of consumption		
Every day	280	27.9
Once in a week	408	40.6
Twice and more in a week	247	24.6
None	69	6.9

Table 2. Frequency of ready packaged food consumption according to types

FOOD TYPE (N=1004)	Frequency of Consumption							
	Once in a week		Twice or more in a week		Ever day		None	
	n	%	n	%	n	%	n	%
Chocolate	250	24.9	421	41.9	268	26.7	65	6.5
Fizzy drink	214	21.3	229	22.8	258	25.7	303	30.2
Ready fruit juice	276	27.5	367	36.6	201	20.0	160	15.9
Crips	285	28.3	320	31.9	194	19.3	205	20.4
Biscuit, ready cake, wafer	307	30.6	396	39.4	204	20.3	97	9.7
Fermented meat products (pepperoni/salami/sausage)	309	30.7	358	35.7	203	20.2	134	13.4
Open aci-cream	367	36.6	270	26.9	180	17.9	187	18.6
Packaged ice-cream	258	25.6	261	25.9	255	25.4	230	23.0
Packaged sweet	405	40.3	286	28.4	133	13.3	180	18.0

Table 3. Comparing sociodemographic features of parents and variables related to ready packaged food

Variables	Taking status (n=1004)				Reason of taking (n=1003)				Considered points during taking (n=986)			
	Yes		No		Child's desire		Initiative of parent		Belong to prod-uct		Belong to child/parent	
	n	%	n	%	N	%	n	%	n	%	n	%
Age												
18-35 years	505	55.7	66	68.0	279	59.8	292	54.6	397	59.1	165	52.5
36-45 years	333	36.7	21	21.6	156	33.3	197	36.8	236	35.1	110	35.0
46-60 years	69	7.6	10	10.3	33	7.1	46	8.6	39	5.8	39	12.4
Analysis*	$X^2: 8.808; p: 0.012$				$X^2: 2.734; p: 0.255$				$X^2: 13.445; p: 0.001$			
Gender												
Women	623	68.7	76	78.4	355	75.9	344	64.3	477	71.0	207	65.9
Man	284	31.3	21	21.6	113	24.1	191	35.7	195	29.0	107	34.1
Analysis*	$X^2: 3.868; p: 0.049$				$X^2: 15.781; p: 0.000$				$X^2: 2.551; p: 0.126$			
Education status												
Literate/primary	307	33.8	34	35.1	178	38.0	162	30.3	229	34.1	104	33.1
High school	436	48.1	33	34.0	200	42.7	269	50.3	309	46.0	154	49.0
University/ postgraduation	164	18.1	30	30.9	90	19.3	104	19.4	134	19.9	56	17.8
Analysis*	$X^2: 11.224; p: 0.004$				$X^2: 7.472; p: 0.024$				$X^2: 0.978; p: 0.613$			
Income												
400-1500 Turkish Liras	167	18.4	20	20.6	85	18.2	102	19.1	120	17.9	65	20.7
1501-3000 Turkish Liras	594	66.3	65	67.0	292	62.4	366	68.4	443	65.9	201	65.3
3001-8000 Turkish Liras	146	16.1	12	12.4	91	19.4	67	12.5	109	16.2	48	15.3
Analysis*	$X^2: 1.033; p: 0.597$				$X^2: 9.078; p: 0.011$				$X^2: 1.159; p: 0.560$			
Number of children												
1 child	339	37.4	53	54.6	145	31.0	247	46.2	265	39.4	122	38.9
2 children	390	43.0	26	26.8	203	43.4	213	39.8	271	40.3	138	43.9
3 children	178	19.6	18	18.6	120	25.6	75	14.0	136	20.2	54	17.2
Analysis*	$X^2: 12.287; p: 0.002$				$X^2: 32.837; p: 0.000$				$X^2: 1.722; p: 0.423$			

*Pearson Chi Square test

house and they had a storage space called “Packaged ready-to-eat food drawer” in Turkey (Table 1). In other words, children had storage that children can reach the packaged ready-to-eat food whenever they wanted. Recently, Ministry of National Education in Turkey has introduced certain inhibitions on selling ready package food, such as fried, crisp, chocolate, wafer, sugar, cake and beverages with sweetening, at school canteens with an aim to keep the children away from these foods (13). However, not only the school environment but also the home environment seems to play an important role in the consumption of ready-to-eat foods. Even if the children can not reach the school, we think they can easily consume these ready-to-eat foods at their home. It is important to determine the prevalence of such practices by parents. Because determining the prevalence can assist to the identification of risks and the work done to gain the right consumption habits.

The main reasons why parents chose pre-packaged foods are the brand and price of the product and also the children’s desire (Table 1). When the findings obtained in this study compared with Bal et al.’s findings (2006), their findings showed that 16.6% of the consumers preferred to buy the foods because they were influenced from the brand of the product (14) which is fewer than what is found in the represent research. The findings in the present study revealed that there was a significant difference among 18-35 age group of young parents who selected pre-packaged foods considering the characteristics of the product as shown in Table 3 ($p = 0.001$). Young parents were paying attention to the product feature in selecting ready-to-eat foods for their children. Consumption habits are shaped beginning from childhood stage. It is stated that shopping behaviors of parents could affect consumption behaviors of children (15).

In this study, the findings showed that the parents were shopping with their children and 90.3% of them bought ready-packaged food for their children while shopping (Table 1). Consumption habits are shaped from childhood. Parents’ attitudes may have an effect on the children’s consumption behavior towards the ready-packaged food. Some of the parents were aware of their own effect on their children, and they thought that their children were affected by themselves as mother and father while they were asking

for these products (Table 1). Women mostly bought these foods because of their children’s desire and parents who were graduated from high school and had 1501-3000 Turkish liras income and parents with only one child bought these foods because of their own initiative (Table 3). There was a significant difference among gender, education, income and number of children ($p < 0.05$, Table 3) regarding reasons why parents bought ready-packaged food. We thought ready-packaged food intake rates together with the parents’ children, were important.

In the present study, according to the parents, the two most important reasons why their children consumed ready-packaged food were their children’s friends and TV adverts (Table 1). In the literature, there is a discussion that TV adverts promote the consumption of the packaged ready-to-eat food, and, with repeated messages, the adverts made the consumption of the packaged ready-to-eat food becomes as if they were normal to eat (16) although these foods increased the sugared food consumption among children (17). In Turkey, advertisements affected food shopping and mostly junk foods, such as chocolate, wafer, crisps, drinks and fizzy drinks were bought (9).

In Sweden, 24% of the pre-school children’s daily energy is consumed from ready-to-eat foods, such as packaged ready-to-eat foods, sweet, cake, candy and crisps (18). However, in Turkey, children start to their additional nutrition with some foods as fizzy drinks in the 13th month, ready fruit juice in the 10th month and chocolate, crisps, wafer in the 11.7 month after birth (9). 42.3% of the 7-14 aged children consumed ready-packaged food at least once in a week (8). Although some parents stated that they did not allow their children to drink fizzy drinks, the findings showed that children consumed chocolate, fizzy drink, ready fruit juice, crisps, biscuit, cake and wafer at least once a week (Table 2). That sugared beverages and fruit juices have high fructose and starting to consume of these foods increases risk in term of health (19). Daily and weekly consumption of packaged ready-to-eat food is significantly associated with psychiatric stress in children (5). Parents are not aware of the potential risks, the frequency of ready-packaged food consumption was a considerable amount and even after meals, children consumed these types of foods mostly chocolate,

fizzy drinks, fruit juice, and packaged ice-cream after meals almost every day.

Packaged ready-to-eat foods which contain basic nutrients, such as fewer amounts of protein, vitamin, mineral, but more amounts of food additives, such as salt, sugar and fat (20) contain very different chemical components (21). It is known that oils as palm oil, salt, nitrite, nitrate, sodium and potassium salts that in the content of the packaged ready-to-eat foods could bring about cancer and cardiovascular diseases (22-26) and taking an excessive amount of monosodium glutamate could lead to a toxic and dependent effect (27). In the present study, the findings showed that 35.7% of the parents allow their children to consume processed foods, such as pepperoni, salami and sausage, twice and more in a week (Table 2). Although the hazards of the processed additives are known, it is notable that parents allowed their children to eat the processed foods.

As a result, the findings in the present study suggest that parents from all ages, education level and income status tend to consume ready foods for their children and most of the Turkish families also have ready foods. Parents think that their children's friends and television advertisements affect children's ready food consumption. The main aim of the child health nurse is to ensure that children and adolescents grow up in the community healthily in term of physical, emotional and social aspects (28). Given that nutrition has an important role in the children's growth and in childhood, inadequate nutrition in this period causes various health problems and may affect an individual's life negatively (1). Thus, child health nursing should inform the parents and children about possible dangers of prepackaged food and their consumption habits. In addition, activities should be organized to gain healthy eating habits. The reasons for the ready food consumption should be determined by more comprehensive research. While the trend of natural food consumption in the world is increasing, it should be investigated why ready food consumption in Turkey is high.

It is important to raise public awareness of the consequences of ready-foods consumption. For this purpose, regular multidisciplinary (health, education, media, etc) trainings and evaluation of the results of the trainings can be suggested.

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References

1. Erkan T, Yalvaç S, Erginöz E, Cokugrasli FC, Kutlu T. The evaluation of nutritional status of children, by anthropometric measurements, attending the day nursery of Cerrahpa Medical School *Turkish Archives of Pediatric*, 2007;42:142-147 <http://dergipark.ulakbim.gov.tr/tpedar/article/view/5000002267>
2. Yazicioglu I, Isin A, Koc B. The Reasons of University Students' Preference to Fast Food Products. *Journal of Tourism and Gastronomy Studies* 2013; 1(1): 36-41. http://www.jotags.org/Articles/2013_vol1_issue1/2013_vol1_issue1_article05.pdf
3. Ashakiran DR. Junk foods and their impact on health. *Journal of Krishna Institute of Medical Sciences University* 2012;1(2):7-15. <http://www.jkimsu.com/jkimsu-vol1no2/jkimsu-vol1no2-RA-1-7-15.pdf>
4. Jonhson S, Sahu R, Saxena P. Nutritional analysis of junk food. *Centre For Science And Environment* 2012; 41:3-24 http://www.cseindia.org/userfiles/Nutritional_Analysis_Junk_Food.pdf
5. Zahedi H, Kelishadi R, Heshmat R, Motlagh ME, Ranjbar SH, Ardalan G, Payab M, Chinian M, Asayesh H, Larijani B, Qorbani M. Association between junk food consumption and mental health in a national sample of Iranian children and adolescents: The CASPIAN-IV study. *Nutrition*, 2014;30:1391-1397
6. School-Age Growth Monitoring of Children Project Research Report in Turkey, Ministry of Health, General Directorate of Primary Health Care Services, Hacettepe University Faculty of Health Sciences, Nutrition and Dietetics Department, Ministry of Education, Ministry of Health Publication No: 834, Ankara, 2011 http://beslenme.gov.tr/content/files/yayinlar/kitaplar/diger_kitaplar/tocbi_kitap.pdf
7. Savashan C, Oktay S, Aydogan U, Erdal M. Obesity frequency in school children and related risk factors. *Turkish Family Practice Journal* 2015;19 (1):2-9
8. Kutlu R, Civi S. The Assessment of Nutritional Habits and Body Mass Indexes of the Students Attending a Private Primary School. *Firat Medical Journal*, 2009;14(1): 18-24. http://www.firattipdergisi.com/pdf/pdf_FTD_533.pdf
9. Turkey Nutrition and Health Research, 2010. Raport of Nutrition Status and Habits Evaluation .T.R. Ministry of Health, Hacettepe University, 2010,1-636 http://www.sagem.gov.tr/TBSA_Beslenme_Yayini.pdf
10. Data of improvement levels belong to Ankara province center of Turkey Statistics Institute (TSI, 2016). (Data was sent in electronic environment by TSI)

11. Fernandez-Alvira JM, Mouratidou T, Bamman K, Hebestreit A, Barba G, Sieri S, Reisch L, Eiben G, Hadjigeorgiou C, Kovacs E, Huybrechts I, Moreno L. Parental education and frequency of food consumption in European children: the IDEFICS study. *Public Health Nutrition*, 2012;16(3):487-498. doi: 10.1017/S136898001200290X. Epub 2012 Jun 12
12. Yılmaz E, Oraman Y, İnan IH. Determination of consumer behaviour dynamics relating to food products: "Trakya region example". *Journal of Tekirdağ Agricultural Faculty* 2009;6(1):1-10.
13. Ministry of National Education. Occupational and Technical Education General Directorate. Circular instruction in examination of food that will sell at school canteens and food units in terms of hygiene (2016). <http://mevzuat.meb.gov.tr/html/kantingidahijyen/genelge.pdf> date: 20.01.2017
14. Bal HSG, Göktoğla ZG, Karkacier O. The Examination of Consciousness Level of Consumers About Food Safety (A Case of Tokat Province). *Economy of Agriculture Journal* 2006;12(1):9 -18.
15. Gulerarslan A. Children as consumer and effects for family purchase decisions. *Journal of Selçuk Communication* 2011;6(4):126-137.
16. Dixon HG, Scully ML, Wakefield MA, White VM, Crawford DA. The effects of television advertisements for junk food attitudes and preferences. *Social Science & Medicine*, 2007;65:1311-1323.
17. Murray R, Battista M. Managing the risk of childhood overweight and obesity in primary care practice. *Curr Probl Pediatr Adolesc Health Care* 2009;39:146-65. DOI: 10.1016/j.cppeds.2009.03.002
18. Garemo M, Arvidsson-Lenner R, Strandvik B. Swedish pre-school children eat too much junk food and sucrose. *Acta Paediatrica* 2007;96: 266-272.
19. Isguzar Y, Akbulut G. High-fructose consumption and cancer. *Zmir Kâtip Çelebi University Journal of Health Sciences Faculty* 2016;1(2):35-40.
20. Datar AB, Nicosia N. Junk food in schools and childhood obesity. *Journal of Policy Analysis and Management*, 2012;31(2): 312-337.
21. Maffini MV, Neltner TG, Vogel S. We are what we eat: Regulatory gaps in the United States that put our health at risk. *PLoS Biol* 2017; 15(12): e2003578. <https://doi.org/10.1371/journal.pbio.2003578>
22. Macit S, Sanlier NPalm oil and health. *Journal of Tourism and Gastronomy Studies*, 2014;2(1):13-20.
23. Yıldız E. *Cancer and nutrition*. Ankara: Klasmat Publication, 2008. Available at: 20.02.2017 http://diyabet.gov.tr/content/files/yayinlar/kitaplar/hastaliklarda_beslenme/c5.pdf
24. Sezer C, Ogun M, Güven A. Determination of some chemical characteristics of salami and sausage. *Kafkas University Veterinary Faculty Journal*, 2013;19(1): 69-75.
25. Cakmak O, Isleyen A, Usca A. N-Nitroso Compounds and their Effects on Public Health. *TAF Preventive Medicine Bulletin*, 2009;8(6):521-528.
26. WHO. Guideline: Sodium intake for adults and children. Geneva, World Health Organization (WHO), 2012.
27. Rohmawati W, Istianingsih Y, Nurdiana N, Barlianto W, Dwijayasa PM. Vitamin c-e and monosodium glutamate-induced ovarian toxicity. *Cukurova Medical Journal* 2014;39(3):517-524.
28. Toruner EK, Buyukgonenc L. *Child health basic nursing approaches*, 1th edition. Ankara, Gökçug Publishing, 2015:21-33

Correspondence:

Dilek Uludaşdemir

Faculty of Health Science, Yıldırım Beyazıt University, Ayvalı Mah. Gazze Cad. No: 7 Etlik-Kecioren Ankara - Turkey

Phone: +90 312 906 20 00/1915

E-mail: d.uludasdemir@gmail.com