The validity and reliability of the Turkish version of the Family Nutrition and Physical Activity screening tool

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ABSTRACT

Objective: The aim of this study is to evaluate reliability and validity of the Turkish version of the Family Nutrition and Physical Activity (FNPA-TR) screening tool. This study was conducted as a methodological research. The data were collected between May and June 2018. The population of the study consisted of 1126 first and fourth grade students and their families in three primary public schools that represent three socioeconomic statuses (high, medium, low) in Istanbul, Turkey.

Materials and Methods: Data were collected from 727 students and their families with an introductory information form and the FNPA-TR screening tool. The validity of content scale was evaluated by comparing the relationship between FNPA-TR scores and answers given to non-scale questions measuring the eating behaviour. In this study, Cronbach's alpha, Kaiser-Meyer-Olkin, Varimax rotation and ICC coefficients statistical tests were used to measure validity and reliability.

Results: The Cronbach alpha coefficient for the internal consistency of the scale was 0.724. The test-retest reliability coefficient of the scale had a medium to very high level that ranged from 0.422 to 0.925. The Kaiser-Meyer-Olkin test result was found to be appropriate as 0.771.

Conclusion: The study shows that the FNPA-TR scale is a valid and reliable measurement tool for the Turkish population.

Keywords: Family nutrition, Childhood obesity, Physical activity

1. INTRODUCTION

Obesity has turned out to be a multi-component disorder with the interaction of genes and the environment. The risk of obesity can be passed from generation to generation as a result of biological factors and/or behavioral factors. Children are known to inherit some characteristics from their families, such as socioeconomic status, cultural norms and behaviors, and family eating and physical activity behaviors, which are effective in the development of obesity in children [1].

Childhood obesity is a growing health problem for Turkish society as well as it is all over the world. The prevalence of obesity has increased threefold since 1975. The prevalence of overweight and obesity in all over the world, increased from 4% in 1975 to

18% in 2016 among children and adolescents aged between 5 and 19 [2]. There is an increase in childhood obesity in Turkey, as it is in the world. According to the Turkey Monitoring Growth in School-Age Children Survey in 2009 (TOCBI), overweight and obesity were 14.3% and 6.5% respectively in children aged between 6 and 10 [3].

Obesity has short and long-term effects on the health of children and adolescents. Compared to normal-weight children, obese children may suffer from absenteeism due to medical checks, health limitations, and diseases. Overweight and obese children

are more likely to become obese adults and have a higher risk of morbidity, disability, and premature death in adulthood [4-6].

School-age children have less autonomy in their choices of diet and physical activity. Parents have a direct impact on the home environment that may predispose the child to over-eating and inactivity [7]. The World Health Organization (WHO), World Health Assembly 2016 report of the Commission on Ending Childhood Obesity draws attention to the obesogenic environment, which is defined as an environment that supports excess energy intake and sedentary life. Several factors such as commercial factors, agricultural policies, food systems, access to healthy food, the necessary infrastructure for a healthy environment, and the family environment (parental nutrition knowledge and behavior, family economy, family eating behaviors) affect the obesogenic environment [8].

There is considerable research into obesogenic environmental components. Herbenick et al., evaluated the risk of obesity in children using the Family Nutrition and Physical Activity Screening Tool (FNPA) and anthropometric measurements. In the study, children's scores from the FNPA scale were found to increase as a result of training about the obesogenic environment given to school-age children [7]. In another study employing the FNPA scale, the FNPA was emphasized as a useful measurement tool for clinicians and programs aiming to change family behaviors and home environment in the fight against obesity [9]. In a qualitative study assessing the obesogenic environment, five main themes were attained to prevent obesity. Two of these were "positive parenting practices" and "gardens, parks, sports halls, and school meals". These themes demonstrated the effect of parental attitudes and activity to prevent obesity [10]. In another qualitative study conducted to determine parental perceptions of healthy living (especially nutrition and activation) and the content of interventions to be conducted in the future to prevent obesity in children, the nutrition experiences of families were found to be effective and difficult to change. In the same study, it was recommended that increasing self-efficacy in cases such as physical activity should be included in the strategies of the families involved in focus groups [11].

In the 2016 report of the WHO World Health Assembly, the Commission on Ending Childhood Obesity, five propositions were developed to end childhood obesity. These were listed as improving healthy food intake; improving physical activity; prenatal and pregnancy care; diet and physical activity in early childhood; and health, nutrition, and physical activity for school-age children [8].

Toruner et al., in their study comparing the status of measured body weight in children and the perceptions of parents, found that most parents did not notice obesity risk or obesity status in their children [12]. Since, families affect children's nutritional and physical activity behaviors and create an accessible social and physical environment, they are encouraged to be involved in the center of studies on the prevention of obesity in children [13,14,15]. For this reason, obesity screening strategies should also center on evaluating the family environment and their behaviors.

Assessing the nutritional and physical activity status of the family may be important in determining the causes of obesity in the child. We could not reach a reliable and valid screening tool to evaluate the nutrition and physical activity environment of the family in our country. This study aimed to adapt the FNPA Screening Tool to Turkish and evaluate its reliability and validity.

2. MATERIALS and METHODS

Design

A mix of probability sampling methods was used in this study, which was planned in the methodological type.

Language Adaptation

The items of the scale were translated into Turkish independently by three experts and then these texts were translated into English, the original language of the scale, separately by three different experts. Finally, a single translated text was created by comparing these translations by two researchers who have sufficient English language skills and are familiar with the measured concepts and the best Turkish translation form was determined for use in the study. To ensure the face validity of the translated text, the items were submitted to the opinions of three researchers with a background of the public health field, and the final version of the scale was obtained. The final form of the scale was named as "The Turkish Adaptation of the Family Nutrition and Physical Activity (FNPA-TR) Screening Tool". A pilot study was conducted in an elementary school to see how the items of the FNPA-TR worked in the field. For this application, 15 families with children aged between 6 and 10, who were literate, who had no difficulty filling out the form due to health reasons, and who could speak Turkish were reached, and the actual implementation was started after necessary revisions were made. As a result of the pilot study, it was determined that answering the tool took 5-10 minutes on average and there was no problem in understanding the items.

The content validity of the scale was evaluated by academicians who had expertise on the subject. The explanatory factor analysis was employed for determining the item-factor relationship, and the confirmatory factor analysis was used for calculating the extent to which the items and the sub-dimensions explained the original structure of the scale. The time interval test-retest method was used for reliability analysis. Intra-class correlation coefficients (ICC) were found to range from 0.422 to 0.925, and the scale was determined to vary between medium to high test-retest reliability. Cronbach's alpha coefficient related to the internal consistency of the scale was found to be 0.724.

The permission from Ihmels et al., who developed FNPA screening tool was obtained through e-mail [13]. The institutional permission of Istanbul Provincial Directorate of National Education and the approval of Non-Interventional Research Ethics Committee from a university in Istanbul (issue: 23.03.2018/490) were obtained. The verbal consent of the children and the written consent of the parents were obtained.

Sample

In the first stage of the sampling, schools were stratified according to their income levels, and among them, schools that were heterogeneous in terms of student profile and family profile were included in the study. The sample size was not calculated and it was aimed to reach all 1126 first and fourth-grade students and their families studying in three different primary schools with low, middle and high socioeconomic status in Uskudar, Istanbul.

There were 566 first-grade and 560 fourth-grade students in three selected public schools. Data forms were given to a total of 727 students and their families by researchers using face to face method, including 366 first–grade and 361 fourth-grade students, who agreed to participate in the study. Of the total students, 64.7% of the first-graders and 64.5% of the fourth-graders were contacted. The study was conducted with 591 students and their families who completed the data form and the questions were answered by the parents. Some of the questionnaire items were not responded by all participants, and therefore, % values were calculated over the participants who responded to the items.

Measures

The data were collected using a questionnaire consisting of two parts:

Part 1: It consisted of 39 questions including the descriptive information of the participants and information on nutrition and physical activity (parent height, weight, age, marital status, educational status, occupation, social security, the longest residence, number of households, family monthly income, presence of chronic disease, etc.).

Part 2: The Turkish adapted Family Nutrition and Physical Activity (FNPA-TR)Screening Tool : ABFA-TR is the Turkish version of the FNPA screening tool. The scale was developed in 2009 by Ihmels et al. [13].

This tool is an easy-to-use self-report scale designed to assess the family environment and behavioral factors that may cause the child to gain excess weight. The first version of the FNPA, which was created by identifying 10 main factors positively associated with overweight and obesity, was made up of a total of 21 questions. Then the number of items was reduced to 20 with the arrangements made in 2017 [16].

The conceptual framework of the scale consists of 10 sub-dimensions. Each item is rated on a four-point Likert type scale with options 1 = never / hardly ever, 2 = sometimes, 3 = often, 4 = usually / always. The scores that can be obtained from the scale vary between 1 and 80 points. The scale includes 10 sub-dimensions and two questions for each sub-dimension. Seven of the items (3, 4, 5, 7, 10, 13) were inversely coded.

The sub-dimensions are made of "Meals in the Family", "Family Eating Habits", "Food Choices", "Beverage Choices", "Limitation/ Rewarding", "Screen Time", "Healthy Environment", "Family Activity", "Child Activity", and "Family Planning / Sleep Pattern". The total score is calculated by summing the scores

obtained from each sub-dimension. The total score is then used to interpret the physical activity and nutritional status of the family. A high total score obtained from the scale refers to a high-risk family environment and behaviors, while a low total score means a more positive family environment and behaviors.

The data were collected by the researchers between May and June 2018. A pilot study was conducted. To collect the data, the field team handed out the informed consent and the questionnaire involving the FNPA-TR scale in sealed envelope to the children to be taken to their parents. The responses received in the week following the day the envelopes were delivered were collected back in an envelope. Children's height and weight data were collected according to the statements of the families.

Statistical Analysis

The internal consistency of the scale and the subscales was calculated using Cronbach's alpha coefficient. Explanatory factor analysis was applied to 20 questions on the scale. The Kaiser-Meyer-Olkin test was used to determine whether the factor analysis was appropriate for the data structure. Besides, Bartlett's test was used for correlations between questions. Principal Components method was used to obtain factor loads, and the Varimax rotation method was used for identifying meaningful factor loads. ICC coefficients were calculated to find out the test-retest reliability. p-values less than 0.05 were considered statistically significant.

3. RESULTS

In this study the data from a total of 591 students is used including 294 (49.7%) girls and 297 (50.3%) boys from 3 different schools located in an Anatolian side district of Istanbul city, who were enrolled in the first (n = 321, 54.3%) and fourth (n = 270, 45.7%) grades and who filled out the questionnaire completely. Data were collected from primary schools from three different socioeconomic regions of the district. Of the families participating in the study, 115 (19.5%) stated that their income was less than their expenses, 387 (65.5%) reported their income as equivalent to their expenses, and 83 (14%) said that their income was higher than their expenses. In addition, 506 of those who filled out the questionnaire forms were mothers (85.6%) and 46 (7.8%) were fathers.

The test-retest reliability of each item on the scale was analyzed using the intra-class correlation coefficient (ICC). The findings obtained from the analysis are given in Table I. The ICC coefficients were found to vary between 0.422 and 0.925, which indicated test-retest reliability varying from a medium to a high level (Table I).

Table I. Test-retest reliability results of scale items and sub-dimensions

Items and Sub-Dimensions	ICC	95 % Confidence interval for ICC		p
Items		Lower	Upper	
A1-1 and A1-2	0.846	0.731	0.912	**0.001**
A2-1 and A2-2	0.522	0.150	0.731	**0.006**
B3-1 and B3-2	0.777	0.611	0.872	**0.001**
B4-1 and B4-2	0.813	0.674	0.893	**0.001**
C5-1 and C5-2	0.614	0.327	0.779	**0.001**
C6-1 and C6-2	0.534	0.187	0.734	**0.004**
D7-1 and D7-2	0.545	0.206	0.740	**0.003**
D8-1 and D8-2	0.716	0.505	0.838	**0.001**
E9-1 and E9-2	0.556	0.225	0.746	**0.002**
E10-1 and E10-2	0.485	0.101	0.705	**0.010**
F11-1 and F11-2	0.422	-0.009	0.669	**0.027**
F12-1 and F12-2	0.729	0.527	0.845	**0.001**
G13-1 and G13-2	0.623	0.338	0.786	**0.001**
G14-1 and G14-2	0.754	0.570	0.859	**0.001**
H15-1 and H15-2	0.799	0.649	0.885	**0.001**
H16-1 and H16-2	0.814	0.675	0.893	**0.001**
I17-1 and I17-2	0.768	0.595	0.867	**0.001**
I18-1 and I18-2	0.925	0.869	0.957	**0.001**
J19-1 and J19-2	0.778	0.613	0.873	**0.001**
J20-1 and J20-2	0.772	0.603	0.870	**0.001**

p<0.05

As a result of the factor analysis applied to the 20 items on the scale, the Kaiser-Meyer-Olkin test result was found to be 0.771. As this value was greater than 0.50, the scale was determined to be appropriate for the factor analysis. Besides, the Sphericity test showed that the correlation matrix was not spherical (p <0.0001). This result indicated that the correlations between the scale items were significant and appropriate for factor analysis. Furthermore, it was concluded that there was no need to eliminate any items from the scale because all diagonal elements of the anti-image matrix were greater than 0.50. The factor analysis revealed that there were 7 factors with eigenvalues greater than 1. The scale exhibited a 7-factor structure explaining 58.1% of the variance in the sample. An analysis explaining 50-75% of the total variance is considered a valid analysis [17]. After obtaining factor loads, they were rotated using the Varimax rotation method, and 7 significant factors were obtained accordingly (Table II).

The first factor consisted of "Child Activity" with two items, "Family Activity" with two items, and the "How often does your family allocate time for physical activities (walking, running, etc.) item of the "Healthy Environment" sub-scale with two items. Its factor loads varied between 0.674 and 0.802, and it explained 18.657 % of the total variance.

The second factor consisted of "Meals in the Family" with two items and "How often does your child consume fruit and vegetables together with meals and as snacks (except for juice)?" item of the "Food Choices" with two items. Factor loads varied between 0.577 and 0.714, and it explained 9.417 % of the total variance.

"Sleep Pattern" sub-group made up the third factor that consisted of 2 items. Also, it explained 7.922% of the variance.

The "How often is fast-food consumed in your family?" item of the "Family Eating Habits" sub-group, the "How often does your family consume packaged fast-food? (frozen food, food heated in microwave, etc.)" item of the "Food Choices" sub-group, and the "How often does your child consume soda or sweetened beverages? (plain or fruit soda, cold tea, juice, energy drinks, etc.)" of the "Beverage Choices" sub-group made up the fourth factor. Factor loads were 0.645 and 0.768 and 0.555. It explained 6.036 % of the total variance.

 The fifth factor consisted of the "How often does your family control your child's consumption of sugar, chips, and cookies?" item of the "Limitation/Rewarding" and the two items of the "Screen Time" sub-group. Factor loads were 0.686-0.638 and 0.571. It explained 5.582% of the total variance.

As for the sixth factor, it was made up of the "How often does your child eat while watching TV (including meals and snacks)" item of the "Family Eating Habits" sub-group and the "How often does your child spend time on his computer, mobile devices, and game systems in his/her bedroom?" item of the "Healthy Environment" sub-group. Factor loads were 0.675 and 0.728. It explained 5.391% of the total variance.

Finally, the seventh factor was found to consist of the "How often does your child consume low-fat milk at meals or with snacks? (1% fat or skimmed milk, flavored milk, soy milk, almond milk, etc.)" item of the "Beverage Choices" sub-group and the "How often does your family use sweets, ice-cream, or other foods as a reward?" item of the "Limitation/Rewarding" sub-group. Factor loads were 0.627 and 0.576 and it explained the 5.066% of the variance. The factor structure of the items of the FNPA-TR, variance levels, and the item-total correlation values are presented in Table II.

Table II. *Factor structure of FNPA-TR scale, rotated factor loads, variance explanation shares and item total correlation values*

Factors	Levels of variance	1	2	3	4	5	6	7	Item total correlation values
Family Activity									
How often does your family encourage your child to be physically active?		0.802							0.318
How often does your child engage in physical activity with at least one of the other family members?		0.716							0.275
Children's Activity									
How often does your child engage in physical activities in his spare time?		0.705							0.273
How often does your child participate in regular sports or physical activities with a coach or team leader?	18.657	0.692							0.308
Healthy Environment									
How often does your family make time for physical activity (family walking, running, etc.)?		0.674							0.250
Meals in Family									
How often does your child have breakfast at home or at school?			0.714						0.461
How often does your child eat at least one meal a day with at least one other family member?			0.577						0.372
Food selections	9.417								
How often does your child consume fruits and vegetables during meals or snacks? Except fruit juice			0.681						0.480
Family Planning / Sleep									
How often does your child follow his or her sleep habits or time?	7.922			0.855					0.591
How often does your child get enough sleep at night?				0.803					0.527
Eating Habits in Family									
How often is fastfood consumed in your family?					0.645				0.405
Food selections									
How often does your family consume packaged ready-to-eat food (frozen foods, microwave-heated foods, etc.)?	6.036				0.768				0.584
Beverage Selections									
How often does your child consume soda or sweetened drinks (plain or fruity soda, cold teas, juice, energy drink, etc.)?					0.555				0.323
Limitation / Rewarding									
How often does your family supervise your child's consumption of candy, chips and cookies?						0.686			0.495
Display Time									
How often does your child spend less than 2 hours a day on the screen? (television, computer, gaming systems, any mobile devices with visual screens etc.)	5.582					0.638			0.433
How often does your family monitor the time your child spends on the screen?						0.571			0.352
Eating Habits in Family									
How often does your child eat while watching TV (including meals or snacks)?							0.675		0.567
Healthy Environment	5.391								
How often does your child spend time in the bedroom on computer, mobile devices, etc.?							0.728		0.609
Beverage Selections									
How often does your child consume low-fat milk during meals or snacks? (1% or skimmed milk, flavored milk, soy milk, almond milk etc.)	5.066							0.627	0.543
Limitation / Rewarding									
How often does your family use sugar, ice cream or other foods as a reward for good behavior?								0.576	0.462

In the additional analyses conducted to evaluate the content validity, the relationships between the scale score and the answers given to questions which were not included in the questionnaire and which provided information about the feeding behavior of the family were investigated. When these relationships were evaluated, the mean score of those who had regular breakfast was significantly higher (p = 0.001). The mean scale score was significantly higher in subjects who did not eat snacks and junk food (p = 0.001). The mean scale score was found to be significantly higher in subjects who had regular meal hours (p = 0.001). There was no significant relationship between the number of meals a day and the scale score (r = 0.074, p = 0.075). As the number of meals a week eaten together with the family increased, the scale score increased significantly as well (r = 0.167, p = 0.001) (Table III).

Table III. Comparison of answers given to various questions in terms of total FNPA-TR scale score

	n	Mean ± SD	p
Regular Breakfasts			
Yes	468	59.21±6.88	0.001
No	106	53.18±5.54	
Junk Food and Snacks Consumption			
Yes	148	55.61±6.77	
No	108	61.20±7.76	0.0001
Sometimes	321	58.12±6.48	
Do you eat meals at regular times?			
Yes	395	59.72±6.92	
No	40	51.90±6.17	0.001
Sometimes	143	55.19±5.62	
Gender			
Female	294	58.44±6.43	0.230
Male	297	57.74±7.70	
Grade			
1st Grade	321	57.19±7.36	0.001
4th Grade	270	59.15±6.62	
Income			
Income is less than expense	115	56.13±7.37	
Income is equivalent to expense	387	58.51±6.92	0.001
Income is more than expense	83	58.63±6.88	

p<0.05

4. DISCUSSION

This study investigated the validity and reliability of the Turkish adapted version of the "Family Nutrition and Physical Activity Screening Tool" (FNPA) [15], which was developed to evaluate the home environment and family nutrition and physical activity practices and behaviors that may be associated with childhood overweight and obesity. The study supported the original FNPA findings

The time interval test-retest method was used for reliability analyses. The intra-class correlation coefficients (ICC) were

found to range between 0.422 and 0.925 and have a medium to very high test-retest reliability. Cronbach's alpha coefficient related to the internal consistency of the scale was found to be 0.724. Cronbach Alpha value between 0.71–0.91 indicates that the scale has a good level of reliability [18].

Explanatory factor analysis was employed for determining the item-factor relationship and confirmatory factor analysis was used for calculating the extent to which the items and the factors in the scale explained the original construct of the scale. As a result of the factor analysis conducted to determine the factor construct of the scale, the scale was determined to consist of 7 factors. The item-factor distribution was as follows. Factor 1: child activity (1,2), family activity (1,2), and healthy environment (2); factor 2: meals in the family (1,2), and food choices (2); factor 3: sleep pattern (1,2); factor 4: family eating habits (2), food choices (1), and beverage choices (1); factor 5: limitation / rewarding (1) and screen time (1,2); factor 6: family eating habits (1) and healthy environment (1); factor 7: beverage choices (2) and restriction / rewarding (1) (Table IV). In factor analyses conducted to examine the psychometric properties of the original FNPA scale, 7 factors met the minimum eigenvalue criterion of 1.0.

A significant correlation was found between the total scale score and the BMI of the child (-0.03), the mother (r = – 0.15), and the father (r = – 0.02). This weak correlation was likely to stem from the large sample size. Similar relationship between the BMI of the child and FNPA scores was observed in the original validity study (r = .10.17, p <0.01) and in another study conducted on different age groups (first-grade students: r = −0.17; tenth-grade students: r=−0.15) [12, 14]. Another study showed a negative correlation between age and gender-adjusted FNPA scores and BMI, BMI at the 95th percent, BF %, and all fat prevention measures, including the waist [9].

In the present study, a significant relationship was found between the BMI of the parents and the BMI of the child. Studies show that the environment shared by individuals and their behaviors as well as genetic factors affect the relationship between the BMI of the parents and the child [19-21]. This finding on the relationship between parent BMI and child BMI emphasizes the need for a family-based approach to the prevention of childhood obesity. There was also a significant relationship between the BMI of the mother and the FNPA total score. Parents' behaviors related to nutrition and physical activity are positively related to their own weight management as well as the obesogenic environment in the family and the nutritional quality and/or weight status of children [9, 14, 22, 23]. Williams et al., also found a relationship between the parent's BMI and the family FNPA score and reported that a large proportion of families with a low or normal weight parent had high FNPA scores, and a smaller proportion of families with overweight or obese parents had high FNPA scores [24].

A large portion of studies on childhood obesity has reported an inverse relationship between socioeconomic status (SES) and childhood obesity [25, 26]. However, there are studies showing that the relationship between SES and obesity is directly proportional. These studies have mentioned that in

addition to SES, factors such as ethnic inequalities, parental education, family income, and changes occurring over time may be effective on obesity [27, 28]. In the present study, the mean BMI of children was observed to be higher in schools with high and middle socioeconomic levels compared to the low ones. In addition, the mean child BMI was higher in families reporting higher income than their expenses.

Evaluations of the mean BMI should include not only SES or family income but also environmental, biological, and socio-cultural factors. As studies on inequalities addressing childhood obesity have focused on individual behaviors, maternal education, SES, family behaviors, sedentary behaviors, snacks between meals, eating habits such as consumption of fast-food and sweetened drinks, physical activity, and breastfeeding, the potential effects of social environments on obesity are still unclear [7, 10]. Although, ethnicity is stated to have a role in this difference [11, 29], this study did not include any elements of ethnicity.

The evaluation of cultural and living conditions suggests that children of families with high income and SES have no financial barriers to access to unhealthy snacks such as fast-food, chips, and sweet foods, as well as access to high-tech technology such as television, computer games, and telephones; consequently, these conditions result in decreased physical activity, and they are thought to be effective in the emergence of these results.

The results of the study showed that the higher the socioeconomic status of the schools was, the higher their FNPA total scores were. Also, the mean scale score was found to be significantly higher in those who had regular breakfast, who did not eat junk food and snacks, and who had regular meals. Regular breakfast and eating regular meals were reported to be factors that decreased the rate of obesity in children.

The obesity epidemic makes it essential to improve our understanding of the effect of food environments on children. As healthy habit formation at an early age is essential in primary prevention of obesity, it is necessary to control nutritional behaviours, familial factors and physical activity levels. This tool can be used to evaluate environmental factors affecting obesity to create programs to prevent obesity, as well as other anthropometric measurements such as waist-to-height ratio, BMI and waist circumference.

Studies are carried out to increase adequate and balanced nutrition and physical activity in the prevention of childhood obesity. Parents have a direct impact on the home environment which may predispose their children to excessive food intake, excess energy intake, and inactivity. It is important to provide a healthy family environment that improves eating behaviors and physical activities of children and to take part in their lives as the right role model. Developing and using measurement tools related to the family environment as an element of the obesogenic environment is among important steps to be taken to fight obesity. In conclusion, the Turkish version of the FNPA is a valid and reliable screening tool and it captures various aspects of the home environment rather than just physical activity or diet. We think FNPA will meet the need for a reliable obesogenic environmental assessment in our country.

Compliance with Ethical Standards

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