

Hemşirelik Öğrencilerinin Çocukluk Çağı Obezitesine Yönelik Tutum ve İnançlarının Çocukluk Çağı Obezitesini Önleme Stratejilerine İlişkin Yararlılık Algılarına Etkisi The Effect of Nursing Students' Attitudes and Beliefs on Childhood Obesity Prevention Strategies' Perceived Effectiveness

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Öz

Amaç: Bu çalışmada, hemşirelik öğrencilerinin çocukluk çağı obezitesine yönelik tutum ve inançlarının çocukluk çağı obezitesini önleme stratejilerine ilişkin yararlılık algılarına olan etkisini incelemek amaçlanmıştır.

Gereç ve Yöntem: Tanımlayıcı ve kesitsel tipteki çalışma 322 hemşirelik öğrencisiyle yürütüldü. Veriler 'Bilgi Formu', 'Çocukluk Çağı Obezitesinin Önlenmesi ile İlgili Eylem Planlarını Değerlendirme Formu' ve 'Hemşirelik Öğrencilerinin Çocukluk Çağı Obezitesine Yönelik Tutum ve İnançları Ölçeği' ile toplandı.

Bulgular: Öğrencilerin yaş ortalaması 21,26±1,89, %78,9'u kadın ve %55'i birinci sınıftır. Hemşirelik öğrencilerinin çoğu (%86) Sağlık Bakanlığı'nın oluşturduğu çocukluk çağı obezitesinin önlenmesi ile ilgili eylem planlarını yararlı bulmaktadır. Hemşirelik Öğrencilerinin Obez Kişilere Yönelik İnançlar Ölçek puan ortalaması ile çocukluk çağı obezite önleme stratejilerine ilişkin yararlılık algıları arasında anlamlı bir fark bulunmamaktadır.

Sonuç: Hemşirelik öğrencilerinin Sağlık Bakanlığı'nın oluşturduğu çocukluk çağı obezitesinin önlenmesi ile ilgili eylem planlarını yararlı buldukları ve çocukluk çağı obezitesine yönelik tutum ve inançlarının olumlu olduğu belirlendi. Ancak, tutum ve inançlarının, bu stratejilerin yararlılık algıları üzerinde anlamlı bir etkisi olmadığı görülmüştür. Hemşirelik lisans müfredatına çocukluk çağı obezitesinin önlenmesine yönelik eğitim programlarının eklenmesi ve bu programların öğrencilerin tutum ve inançlarını güçlendirecek şekilde düzenlenmesi önerilmektedir.

Anahtar kelimeler: Çocukluk çağı, hemşirelik öğrencileri, obezite, tutumlar

Abstract

Aim: To examine the effect of nursing students' attitudes and beliefs toward childhood obesity on their perceptions of the usefulness of childhood obesity prevention strategies.

Materials and Methods: A descriptive and cross-sectional study was conducted with 322 nursing students. Data were obtained through "Information Form," "Evaluation Form of Action Plans Related to Childhood Obesity Prevention," and "Attitudes and Beliefs of Nursing Students Towards Childhood Overweight."

Results: The mean age of the students was 21.26±1.89; 78.9% were female, and 55% were first-year students. Most nursing students (86%) found the action plans related to preventing childhood obesity created by the Ministry of Health useful. There was no significant difference between the mean score of the Beliefs of Nursing Students Towards Childhood Overweight and the perceptions of the usefulness of childhood obesity prevention strategies (p>0.05).

Conclusion: It was determined that nursing students found the action plans related to preventing childhood obesity established by the Ministry of Health beneficial, and their attitudes and beliefs towards childhood obesity were positive. However, their attitudes and beliefs did not significantly affect their perception of the usefulness of these strategies. Training programs for the prevention of childhood obesity should be added to the nursing undergraduate curriculum, and these programs should be designed to strengthen students' attitudes and beliefs.

Keywords: Attitudes, childhood, obesity, nursing students

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Summary Statement**1. What is known about this topic?**

- Childhood obesity is a global public health problem and has an increasing prevalence.
- Nursing students' attitudes and beliefs towards childhood obesity play an important role in the fight against obesity.
- The existing literature shows that the attitudes and knowledge levels of nursing students and professionals towards obesity are inadequate.

2. Conclusions of this article

- Nursing students find the action plans for the prevention of childhood obesity established by the Ministry of Health useful.
- Nursing students' attitudes and beliefs towards childhood obesity are generally positive.
- There is no significant difference between the demographic characteristics or educational status of the students and their attitudes and beliefs towards childhood obesity.

3. Contributions of this article

- The findings suggest that education programmes for the prevention of childhood obesity should be included in the nursing curriculum.
- It is important to align with policies and strategies that can positively affect students' attitudes and beliefs towards childhood obesity.

Introduction

Chronic non-communicable diseases represent a global public health issue.¹ Although obesity, which is one of these diseases and a significant problem of the past century, is generally perceived as an adult disease, the increasing prevalence of obesity among children and adolescents, particularly in underdeveloped and developing countries, indicates that childhood obesity will become a global public health problem.^{2,3} The prevalence of childhood obesity is increasing worldwide, and the World Health Organization (WHO) considers obesity one of the most critical public health problems.^{4,5} According to the latest World Health Organization (WHO) reports, obesity has nearly tripled since 1975. It is reported that 39 million children under the age of 5 are overweight or obese.⁶ The burden of obesity in the pediatric population is steadily increasing^{7,8}, and it is predicted that the COVID-19 pandemic, due to social isolation and limited physical activity, may contribute to an increase in childhood obesity.⁹ Furthermore, it is projected that the prevalence of obesity will double by 2025. According to prevalence studies conducted in Turkey, between the ages of 6 and 16, 10.3-17.6% of children are reported to be overweight, and 1.9-7.8% are reported to be obese.¹⁰ The prevalence study in Turkey is called the Childhood Obesity Surveillance Initiative (COSI-TUR).¹¹ According to the COSI-TUR 2016 data, 14.6% of 7-8-year-old children attending the second grade of primary school in Turkey are overweight, and 9.9% are obese. These findings indicate that one out of every four children in the 7-8 age group in Turkey is overweight or obese. When compared with the COSI-TUR 2013 study, these data show a 19.3% increase in obesity in children over three years, with a particularly alarming increase among girls.^{11,12}

Childhood obesity can lead to the early onset of cardiovascular diseases,

musculoskeletal disorders, metabolic syndrome, type 2 diabetes, cerebrovascular diseases, and various cancers (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon).^{13, 14} Obesity also negatively impacts children's psychosocial well-being, causing anxiety, depression, stress, low self-esteem, body image disturbances, bullying, social withdrawal, and reduced quality of life.^{8, 15} Moreover, the peer pressure and bullying that obese children face impede their socialization and academic achievement.³ Given these adverse effects, preventing, early diagnosing, and treating childhood obesity are vital to avoiding obesity-related complications in both childhood and adulthood.¹⁶ The World Health Organization (WHO) highlights that creating supportive environments, fostering communities, and promoting healthier food choices and regular physical activity can help prevent obesity.⁶

Addressing childhood obesity is a significant public health issue that requires collaboration among families, healthcare professionals, and community stakeholders.¹⁷ Nurses, who frequently care for obese children and have ongoing interactions with them, are essential in preventing, treating, and managing obesity across all stages of healthcare services (preventive, curative, and rehabilitative).^{16, 18} Due to their ongoing participation, nurses are in a unique position to educate and model good food and physical exercise for kids, families, and communities, hence lowering the risk of obesity. Thus, it is essential that nurses create, put into practice, and assess efficient plans for treating, preventing, and controlling pediatric obesity.¹⁹⁻²⁰

Notwithstanding the growing incidence of pediatric obesity, there is a dearth of research on nurses' perspectives and understanding of fat children.²¹ Previous research suggests that nurses frequently lack knowledge about pediatric obesity or harbor prejudices against overweight people.^{18, 22} These prejudices can significantly impact the quality of care provided. Nurses' negative attitudes towards obese children can lead to treatment bias, reduced empathy, and a lack of appropriate intervention strategies, ultimately affecting the physical and psychological well-being of these children.¹⁸ Negative biases may result in missed opportunities for early intervention and inadequate health education and support, which are crucial in managing and preventing obesity.²² This study aims to fill the gap in understanding nursing students' attitudes and beliefs toward childhood obesity and to assess how these perceptions influence their views on the effectiveness of obesity prevention strategies. By identifying and addressing these biases early in their education, nursing programs can better prepare future nurses to provide unbiased, empathetic, and effective care to obese children. Understanding these perspectives is essential to improving the care and support nurses provide to children with obesity, thereby contributing to more effective prevention and management

strategies in clinical practice.²⁰⁻²³ Therefore, it is essential to raise awareness about childhood obesity and the importance of preventive action plans during undergraduate education. This study aimed to investigate the attitudes and beliefs of nursing students toward childhood obesity and their impact on the students' perceived effectiveness of childhood obesity prevention strategies.

Methods

Study design and participants

This study was carried out using a descriptive and cross-sectional design. This study was conducted with nursing students between January 2023 and June 2023 at Trakya University, Faculty of Health Sciences, Department of Nursing, and Koç University. The study population consisted of a total of 904 students. In this study, using the values Power ($1-\beta$ err prob) = 95%, α err prob = 0.05, population size = 904, and population proportion = 50%, it was calculated that 270 students should be included in the research. Considering possible data losses, the sample size was increased by 20%, and a total of 324 students were targeted to be reached. The sample size was calculated using G-Power 3.1.9.4 software. The study's inclusion criteria were enrolling in a nursing program, completing the research forms accurately and fully, and participating in the study voluntarily. The study's exclusion criteria were failure to complete the research data, withdrawal from the study, and not being voluntary participation. A post hoc analysis was performed to calculate the study's power using G-Power 3.1.9.4 software. Based on the effect size $w=0.3$, α err prob=0.05, sample size=322, $df=1$, and power was calculated ($1-\beta$ err prob)=0.99, Noncentrality parameter $\lambda=28.980$ and critical $\chi^2=3.84$

Data Collection Tools

Information Form

The questionnaire prepared based on the literature includes nine descriptive questions regarding the age, gender, year of study, involvement in nutrition-related courses, participation in activities related to childhood obesity prevention, and other relevant factors of nursing students.^{11, 16, 20, 22}

Evaluation Form of Action Plans Related to Childhood Obesity Prevention

The Action Plan for the Prevention of Childhood Obesity 2019-2023 was prepared by the General Directorate of Public Health of the Ministry of Health in Turkey, specifically the Department of Healthy Nutrition and Active Living.¹¹ The Ministry has developed strategies for preventing childhood obesity under eight main headings. A questionnaire was provided to nursing students, asking them to assess the usefulness of these action plans by categorizing them as "Beneficial," "Partially Beneficial," or "Not Beneficial" based on the eight strategy

headings.

Attitudes and Beliefs of Nursing Students Towards Childhood Overweight

Tsai et al. (2018) created the measure used in this study to assess nursing students' attitudes and ideas on pediatric obesity. This child-specific version is based on Allison's Attitudes Towards Obese Persons Scale (ATOP) and the Beliefs About Obese Persons Scale (BAOP). Semerci et al. established the scale's reliability and validity in Turkey.²⁴ The Likert scale, which has 19 components, has five points: 1 for strongly disagreeing, 2 for disagreeing, 3 for being undecided, 4 for agreeing, and 5 for strongly agreeing. The self-concept category (items 1, 2, 3, 4, 6, 7) and the social interactions category (items 5, 8, 9, 10, 11, 12, 13) comprise the two categories in the kid version of ATOP.

Data Collection Procedure

This study was conducted between January 2023 and June 2023 with nursing students at Trakya University, Faculty of Health Sciences, Department of Nursing and Koç University Faculty of Nursing. Written permissions were obtained from the university to notify the researchers of suitable class days for data collection from students at both universities. On the specified dates provided by the institutions, nursing students were informed about the purpose and scope of the research in the classroom. If students had any questions about the research, the researchers answered them. Informed consent was obtained from the voluntarily participating students. The "Introductory Information Form," the "Assessment Form for Evaluation of Childhood Obesity Prevention Action Plans," and the "Attitudes and Thoughts of Nursing Students Towards Childhood Obesity Scale" were completed by students with an average of 5-10 minutes and were administered in the classroom. They were informed that they could withdraw from the research at any time. It aimed to receive 324 students, but the study was completed with 322 students' results. Two students did not complete the data collection forms. We received %99,38 of the sample size.

Data Analysis

The data were analyzed using the licensed IBM SPSS 28 package program (IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp.). Descriptive characteristics of the students were evaluated using numbers, percentage distributions, means, standard deviations, median, and interquartile range. The normality of the data was assessed using the Shapiro-Wilk test. The appropriate tests were used based on the results of variance homogeneity for the scale score means. Mann-Whitney U test, Kruskal-Wallis H test, and Bonferroni-corrected Mann-Whitney U tests were used. The results were evaluated at a significant level of $p < 0.05$ with a confidence interval of 95%.

Ethical Approve

Ethics Committee (No: 2022.214.IRB3.097, date: 16.06.2022) permission was taken from a university ethics board, and written institutional permissions were obtained from the Dean of the Faculties. This study was conducted following the Helsinki Declaration. Nursing students were informed about the purpose and process of the research. Verbal and written consent was obtained from students, and they were told they could withdraw from the study anytime.

Results

Table 1 presents the descriptive characteristics of nursing students. The mean age of the students was 21.26 ± 1.89 . 78.9% were female, and 55% were first-year students, and 44.7% of students had taken a course related to nutrition, 53.7% of the students knew childhood obesity, 93.2% of students had not participated in activities to prevent childhood obesity. Finally, 78.6% of the students stated that activities aimed at preventing childhood obesity were beneficial.

Table 1. The descriptive characteristics of nursing students (n=322)

Variables	MMMMMMM \pm SD
Age	21.26 \pm 1.89
Gender	n (%)
Female	254 (78.9)
Male	68 (21.1)
Class	
First	177 (55.0)
Second	90 (28.0)
Third	43 (13.3)
Fourth	12 (3.7)
Taking a course related to nutrition	
Yes	144 (44.7)
No	178 (55.3)
Having knowledge about childhood obesity	
Yes	173 (53.7)
No	149 (46.3)
Participating in activities aimed at preventing childhood obesity	
Yes	22 (6.8)
No	300 (93.2)
Belief in the effectiveness of activities aimed at preventing childhood obesity	
Yes	253 (78.6)
No	69 (21.4)

SD: Standard deviation, n: number, %: percent

Table 2 presents nursing students' opinions regarding the usefulness of action plans for preventing childhood obesity as determined by the Ministry of Health. 89.8% of the students expressed that strategy 1, 91.3% found strategy 2, 95.0% considered strategy 3, 92.9% believed in the effectiveness of strategy 4, 86.0% supported strategy 5, 88.2% endorsed strategy 6, 91.6% acknowledged the usefulness of strategy 7, and 88.5% stated that strategy 8 was beneficial.

Table 2. The opinions of nursing students regarding the usefulness of action plans for the prevention of childhood obesity (n=322)

Strategies	Useful n (%)	Partially Useful n (%)
<i>Strategy 1:</i> Supporting a healthy start to life	289 (89.8)	33 (10.2)
<i>Strategy 2:</i> Promoting healthy environments in schools and pre-schools	294 (91.3)	28 (8.7)
<i>Strategy 3:</i> Informing and empowering families	306 (95.0)	16 (5.0)
<i>Strategy 4:</i> Ensuring healthy choices are easy choices	299 (92.9)	23 (7.1)
<i>Strategy 5:</i> Reducing marketing pressure on children	276 (86.0)	46 (14.0)
<i>Strategy 6:</i> Providing leadership and coordination to enhance physical activity	284 (88.2)	38 (11.8)
<i>Strategy 7:</i> Supporting the development of children and adolescents	295 (91.6)	27 (8.4)
<i>Strategy 8:</i> Supporting surveillance, monitoring, evaluation, and research	285 (88.5)	37 (11.5)

n: number, %: percent

The overall scale score average for the students is 60.56 ± 4.60 . The average score for the ATOP is 38.84 ± 3.47 . The average score for the self-concept subscale is 17.36 ± 2.76 . The average score for social relationships is 21.48 ± 3.55 . The average score for the BAOP scale is 21.71 ± 3.83 .

Table 3 compares the descriptive characteristics of nursing students and the mean scores of the "Attitudes and Beliefs Scale Toward Childhood Obesity in Nursing Students." It was determined that there is no statistically significant difference between the student's gender, the status of taking a nutrition-related course, knowledge about childhood obesity, beliefs regarding the effectiveness of activities aimed at preventing childhood obesity, and the scale mean scores.

A significant difference was found between the total mean scores and student classes ($t=11.988$; $p=0.007$). A Bonferroni-corrected Mann-Whitney U test was conducted to determine which grade the difference originated from. It was determined that first-grade students had significantly higher total mean scores than other grade students. However, no significant difference was found among second, third, and fourth-grade students ($p>0.05$) (Table 3).

There was a statistically significant difference between the participation status of students in activities aimed at preventing childhood obesity and the mean score of the "Self-Concept" subscale ($t=2415.000$; $p=0.034$). Students who participated in activities aimed at preventing childhood obesity had a higher mean score of the "Self-Concept" subscale compared to non-participating students (Table 3).

Table 4 compares the nursing students' beliefs and attitudes regarding the effectiveness of action plans for preventing childhood obesity and the mean scores on the scale. The analysis showed no statistically significant difference between the student's beliefs about the effectiveness of action plans for preventing childhood obesity and the scales' mean scores ($p>0.05$).

Table 3. Comparison between the descriptive characteristics of nursing students and the mean scores of the Attitudes and Beliefs Scale Towards Childhood Obesity in Nursing Students (n=322)

	Total		<i>Self-concept</i>		<i>Social relationships</i>		Beliefs	
Gender	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)
Female	60.62±4.53	61(58-63.25)	17.32±2.70	17(16-19)	21.58±3.55	22(19-24)	21.71±3.82	22(10-24)
Male	60.33±4.87	61(57-64)	17.51±2.99	18(16-19.75)	21.10±3.56	21.50(19-24)	21.72±3.86	23(19-24)
Test*, p	8456.000; 0.791		8146.000; 0.469		8153.500; 0.477		8309.500; 0.630	
Class								
First ^a	61.24±4.63	62(58.50-64)	17.47±2.99	17(16-19)	21.90±3.59	22(19-24.50)	1.86±4.10	23(20-24)
Second ^b	59.38±4.99	60(56.75-63)	17.07±2.58	17(15.75-19)	20.77±3.81	21(18-23)	21.53±3.74	22(20-24)
Third ^c	60.46±3.13	60(58-63)	17.58±2.31	18(16-20)	21.16±2.76	22(20-23)	21.72±2.90	22(20-24)
Fourth ^d	59.66±3.96	59(56.50-62)	17.08±2.06	17.50(15.25-19)	21.66±2.90	21(20-23.75)	20.91±3.42	21.50(18.25-23)
Test**, p	11.988; 0.007 ***a>b; a>c; a>d		2.414; 0.491		5.589; 0.133		1.625; 0.654	
Taking a course related to nutrition								
Yes	60.26±4.78	61(57-64)	17.31±2,96	18(16-20)	21.33±3.65	21.50(19-23.75)	21.61±3.71	22(20-24)
No	60.80±4.45	61(58-63)	17.39±2.59	17(16-19)	21.60±3.48	22(19-24)	21.80±3.92	22(20-24)
Test*, p	12456.500; 0.664		12801.000; 0.985		12382.500; 0.600		12399.000; 0.613	
Knowing childhood obesity								
Yes	60.80±4.52	61(58-64)	17.41±2.95	18(16-20)	21.60±3.60	22(19-24)	21.78±3.72	23(20-24)

No	60.28±4.69	60(57.50-63)	17.30±2.53	17(16-19)	21.34±3.51	21(19-23.50)	21.64±3.96	22(19-24)
Test*, p	11589.500; 0.118		12153.500; 0.374		12590.000; 0.719		12301.500; 0.478	
Participating in activities aimed at preventing childhood obesity								
Yes	61.90±4.85	62.50(60-65.25)	18.45±2.80	19(16.75-20)	21.36±3.81	21.50(18.75-24)	22.09±2.97	22(20-24)
No	60.46±4.57	61(58-63)	17.28±2.74	17(16-19)	21.49±3.54	22(19-24)	21.69±3.88	22.50(20-24)
Test*, p	2512.500; 0.061		2415.000; 0.034		3211.500; 0.833		3178.000; 0.771	
Belief in the effectiveness of activities aimed at preventing childhood obesity								
Yes	60.63±4.78	61(58-64)	17.31±2.81	17(16-19)	21.60±3.63	22(19-24)	21.71±3.96	22(20-24)
No	60.30±3.87	61(57-63)	17.53±2.55	17(16-19)	21.04±3.26	21(19-22)	21.72±3.30	22(19-24)
Test*, p	8035.000; 0.310		8428.000; 0.659		7756.000; 0.154		8552.000; 0.795	

M: Mean, SD: Standard Deviation, *: Mann Whitney U Test, **: Kruskal Wallis H test, ***: Bonferroni-corrected Mann Whitney U Test, Q1-Q3 (25%-75%): Interquartile Range

Table 4. Comparison between the nursing students' beliefs and attitudes regarding the effectiveness of action plans for preventing childhood obesity and the mean scores on the scale

<i>Variables</i>	Total score		<i>Self-consept</i>		<i>Social relationships</i>		Beliefs	
Strategy 1	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)	M± SD	Median (Q1-Q3)
Useful	60.55±4.67	61(57-63)	17.29±2.78	17(16-19)	21.53±3.63	22(19-24)	21.71±3.92	22(20-24)
Partially useful	60.69±4.05	61(58.50-64)	17.93±2.57	18(15.50-9.50)	21.00±2.750	21(19-23)	21.75±2.92	22(20-24)
Test*, p	4638.500; 0.797		4288.500; 0.340		4266.000; 0.319		4572.000; 0.696	
Strategy 2								
Useful	60.56±4.65	61(57.75-63.25)	17.35±2.80	17(16-19)	21.56±3.60	22(19-24)	21.64±3.92	22(20-24)
Partially useful	60.53±4.18	60(59-64)	17.46±2.25	18(15.25-19)	20.60±2.88	21(19-22)	22.46±2.56	23(21-24)
Test*, p	3636.000; 0.930		3672.000; 0.995		3151.000; 0.235		3442.500; 0.597	
Strategy 3								
Useful	60.56±4.67	61(58-64)	17.35±2.79	17(16-19)	21.46±3.57	22(19-24)	21.74±3.81	22(20-24)
Partially useful	60.50±3.05	60(59-63.50)	17.56±2.06	18(16.25-19)	21.81±3.27	21(19-5.75)	21.12±4.12	22.50(20-24)
Test*, p	2357.000; 0.802		2307.000; 696		2382.000; 0.855		2334.500; 0.753	
Strategy 4								
Useful	60.62±4.64	61(58-64)	17.41±2.80	17(16-19)	21.40±3.50	22(19-23)	21.80±3.85	22(20-24)

Partially useful	59.82±4.15	59(57-62)	16.65±2.10	17(15-19)	22.56±4.16	23(19-25)	20.60±3.39	21(18-23)
Test*, p	2924.500; 0.231		2781.000; 0.124		2931.500; 0.237		2697.500; 0.083	
Strategy 5								
Useful	60.58±4.69	61(57.50-63)	17.31±2.83	17(16-19)	21.60±3.52	22(19-24)	21.66±3.92	22(20-24)
Partially useful	60.44±4.03	60(58-64)	17.64±2.30	18(16-19)	20.73±3.72	20(19-23)	22.06±3.19	23(21-24)
Test*, p	5224.500; 0.942		5008.500; 0.626		4547.000; 0.172		4781.500; 0.357	
Strategy 6								
Useful	60.52±4.63	61(58-63)	17.34±2.83	17(16-19)	21.54±3.55	22(19-24)	21.63±3.87	22(10-24)
Partially useful	60.84±4.38	60(58-64.25)	17.47±2.20	18(16-19)	21.00±3.58	21(19-24)	22.36±3.47	23(20.75-24.25)
Test*, p	5259.000; 0.799		5303.500; 0.863		4893.000; 0.349		4661.500; 0.170	
Strategy 7								
Useful	60.66±4.68	61(58-64)	17.34±2.77	17(16-19)	21.51±3.56	22(19-24)	21.79±3.87	22(20-24)
Partially useful	59.51±3.50	59(57-62)	17.51±2.70	18(15-19)	21.11±3.48	21(19-23)	20.88±3.22	21(19-23)
Test*, p	3238.000; 0.107		3866.000; 0.800		3618.500; 0.430		3284.500; 0.129	
Strategy 8								
Useful	60.53±4.73	61(57.50-63)	17.34±2.86	17(16-19)	21.57±3.56	22(19-24)	21.6±3.96	22(19.50-24)
Partially useful	60.78±3.48	61(58-64)	38.24±3.44	18(16-19)	20.75±3.45	21(19-23)	22.54±2.51	23(21-24)
Test*, p	5178.000; 0.859		5136.000; 0.796		4607.000; 0.210		4502.000; 0.145	

M: Mean, SD: Standard Deviation, *: Mann Whitney U Test

Discussion

This study aimed to examine the effect of nursing students' attitudes and beliefs toward childhood obesity on their perceptions of the usefulness of childhood obesity prevention strategies. This study was conducted at Trakya University, Faculty of Health Sciences, Department of Nursing, and Koç University Faculty of Nursing. The fact that nursing students find the action plans related to preventing childhood obesity by the Ministry of Health beneficial reflects their interest and responsibility towards public health. The findings of this research are consistent with the literature, indicating that nursing students perceive the action plans for preventing childhood obesity as useful. Many studies have shown that nursing students perceive the action plans to prevent childhood obesity as beneficial.¹⁸⁻²¹ In a study conducted by Tsai et al., it was found that nursing students had a positive attitude toward interventions to prevent childhood obesity and believed that these action plans were effective.²¹ These findings support the notion that nursing students find the action plans for the prevention of childhood obesity beneficial and consider them to be effective. These findings highlight the importance of addressing this issue in nursing education and emphasize the benefits of implementing such action plans.

In this study measuring the attitudes and thoughts of nursing students towards childhood obesity, the mean total scale score of the students was found to be 60.56 ± 4.60 . These results indicate nursing students' positive attitudes and thoughts toward childhood obesity. Despite the responsibility of nurses to provide care for overweight/obese children and promote behavior change, research conducted in various countries indicates that a significant number of nursing professionals feel uncomfortable or unable to provide weight management services.^{25, 26, 27, 28} In a study conducted by Tsai et al., it was found that nursing students had a positive attitude toward interventions to prevent childhood obesity. However, they had knowledge gaps regarding how to provide care to a child with obesity.²¹ In contrast, Darling and Atav stated that undergraduate nursing students had more negative attitudes towards obese individuals compared to students studying social sciences.¹⁸ Considering these differences in the literature and the active role of nursing students in the prevention and management of childhood obesity, nursing curricula should focus more on educational leaders who model positive attitudes and beliefs towards obese individuals. This way, nurses can acquire sufficient knowledge and skills regarding childhood obesity starting from their undergraduate education.^{20, 21} In conclusion, it is recommended to implement action plans that enhance the attitudes and thoughts of nursing students towards childhood obesity, as their active involvement in combating obesity is crucial for prevention of obesity-related health issues.

This study's findings indicate that nursing students' attitudes and thoughts toward childhood obesity do not vary based on their demographic characteristics or educational status. However, comparisons between classes revealed that first-year students had higher mean scores in the Attitudes and Beliefs of Nursing Students Towards Childhood Overweight than other classes. This indicates that first-year students have more positive attitudes and thoughts towards childhood obesity. First-year students may be new to their careers and have less experience. Therefore, they may have fewer stereotypes and prejudices. As they reach more advanced grades, students may gain more clinical experience, and these experiences may lead to some biases. All these results highlight childhood obesity as a significant public health issue that requires the attention and collaboration of families, healthcare professionals, and other stakeholders in the community.¹⁷ Among healthcare professionals, nurses play a crucial role in preventing, treating, and caring for disease at all stages of healthcare (preventive, curative, rehabilitative).^{16, 18} To ensure that children can continue their lives as healthy individuals, nurses, and nursing students need to develop, adopt, and implement policies that strengthen intersectoral collaboration for achieving a healthy society.

There was no statistically significant difference between nursing students' total mean scores on the 'Attitudes and Beliefs Scale towards Childhood Obesity' and their perceptions of the effectiveness of action plans for childhood obesity prevention. Most students believe these action plans are beneficial, suggesting they have a potential impact. Nurses play a significant role in preventing and managing obesity as they are at the forefront of healthcare services.²⁷ Therefore, nursing students need to be knowledgeable about effective policies and strategies and support these plans.¹⁸ Various literature highlights the importance of nursing students and professionals having sufficient education and knowledge about obesity.^{18, 21} Nurses are recognized to play a crucial role in combating childhood obesity. Hence, nursing students' positive views on the Ministry of Health's action plans demonstrate their potential to be more informed and prepared.

Limitations

The sample of this study consisted of nursing students. The lack of homogeneity in the students' demographic characteristics may limit the generalization of the research findings. Studies with a broader sample with diverse and homogeneous participants can provide more comprehensive results. This study has a cross-sectional design, meaning the data were collected simultaneously. Such a design may limit the determination of causal relationships. Future research can be conducted using longitudinal designs or experimental studies to understand the cause-and-effect relationships of the results better.

Conclusion

The objective of this study was to examine the attitudes and beliefs of nursing students regarding childhood obesity and their influence on the students' perceived effectiveness of childhood obesity prevention strategies. The findings indicated that while nursing students generally exhibited positive attitudes and beliefs regarding childhood obesity and the importance of prevention strategies, these attitudes and beliefs did not significantly impact their perceptions of the usefulness of the prevention strategies. This indicates that while nursing students are cognizant of the importance of addressing childhood obesity, their attitudes and beliefs do not necessarily enhance their evaluation of the effectiveness of existing preventive measures. Therefore, it is imperative to integrate comprehensive educational programs into nursing curricula that not only inform students about childhood obesity but also emphasize the practical application and efficacy of prevention strategies to ensure they are adequately prepared to support and implement these measures in their future professional practice.

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