İLKÖĞRETİM ÖĞRENCİLERİNE YÖNELİK SAĞLIK TARAMA SONUÇLARININ DEĞERLENDİRİLMESİ VE ÖĞRENCİLERE VERİLEN SAĞLIK EĞİTİMİNİN TARAMA SONUÇLARINA ETKİSİNİN BELİRLENMESİ

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Öz

Günümüzde okul sağlığı hemşireleri standart hemşirelik uygulamalarına ek olarak okul ortamının sağlık taramaları, vaka yönetimi, sağlık eğitimi ve danışmanlığı, sanitasyon ve güvenliği ile ilgili uygulamaları yapmalı ve girişimlerin sonuçlarını değerlendirmelidir. Bu araştırma, ilkokul öğrencilerinin sağlık taramalarını ve sağlık eğitiminin yapılan bu sağlık taramaları sonuçlarına etkisini belirlemeyi amaçlamıştır. Araştırma, ön test ve son test, tek gruplu yarı deneysel bir araştırma yöntemidir. Sırasıyla 406 ve 400 öğrenci ile ön test ve son test taraması yapılmıştır. Verilerin toplanması için Tarama Testi Formu kullanılmıştır. Okulda bulunan tüm öğrencilere temizlik alışkanlığı ve doğru beslenme konularında eğitim verildikten sonra sonuçlar değerlendirildi. Eğitim sonrasında saç hijyeninde düzelme, görme problemlerinde, ağız ve diş sağlığı problemlerinde azalma olduğu belirlendi. Bu sonuçlar, ekonomik olarak zayıf bölgelerde sağlık eğitimi desteğinin artırılmasının önemini göstermektedir.

Anahtar Kelimeler: Toplum sağlığı hemşireliği, sağlık eğitimi, halk sağlığı hemşireliği, okul sağlığı, tarama

EVALUATION OF HEALTH SCREENING RESULTS FOR PRIMARY SCHOOL STUDENTS AND DETERMINATION OF THE EFFECT OF HEALTH EDUCATION GIVEN TO STUDENTS ON SCREENING RESULTS

Abstract

Today, school health nurses should perform health screenings, case management, health education and counseling, sanitation and safety of the school environment in addition to standard nursing practices and evaluate the results of interventions. This research aimed to find out the health screenings of primary school students and the effect of health education on health screening results. The research is a pre-test and post-test, single-group quasi-experimental research method. Pre-test and post-test screening were conducted with 406 and 400 students, respectively. Screening Test Form was used to collect data. Cleaning habits and proper nutrition education were given to all students in the school and the results were evaluated. Head lice were detected in 14% of the students at the pre-health education school, and 89.2% had tooth decay and 32.5% had vision problems. After the training, it was determined that there was an improvement in hair hygiene, a decrease in vision problems, oral and dental health problems. These results show the importance of increasing the support of economically weak regions for health education

Keywords: Community health nursing, health education, public health nursing, school health, screening

1. INTRODUCTİON

The World Health Organization has defined health as a state of complete well-being (1). The purpose of health practices in schools is to ensure that all school-aged individuals reach the optimal health level in relation to this definition (2). The knowledge, behaviors, and attitudes of individuals toward the concept of health affect their health status. Therefore, health education has an important place in the health system. Health education is aimed to bring lifelong behavioral change to individuals.

The primary education stage forms the basis of the education system–at this stage, individuals. The basic knowledge, skills, and behaviors required to live in harmony in the family and society should be acquired. The most striking feature of the individual is acquired in the primary school period. Learning a new knowledge is easier for other individuals and for those eager to learn new things. Additionally, he has the ability to transfer his health slopes to the individuals around him (3). The school is effective in promoting positive health behaviors and providing health. School health services include all practices carried out for the evaluation and improvement of students' health. In this context, individuals who start school healthy will form the healthy society of the future. Protecting and improving them from today and preventing health problems that may occur is thought to be beneficial in terms of improving public health in order to reach the highest level of health physically, psychologically, and sociologically (4,5). Health problems are common in school-aged children. If these preventable health problems are not detected at an early stage, both the present and the future of children are at risk. Among the most common health problems in children during this period are problems with oral and dental health, vision, and hygiene. If these problems are not detected at an early stage, they may become more difficult or impossible to treat in the future (6).

Nurses have an important role in determining and solving the health problems of children and young people, who are an important part of the society, in the foundation of a healthy generation in the future (7). School-aged children play a key role in solving health problems, as supported by the study of Meydanlioglu et al. (5). In addition to standard nursing practices, the nurses who work as school health nurses today perform the following tasks: health screenings, immunization and immunization follow-up, case management, management and control of drug use, health education and consultancy, sanitation and safety of the school environment, and evaluating the results of the initiatives (5,7).

School health is an important concept that includes the adoption of the understanding of health and the provision of effective health education, which is necessary for the protection of students' health at every stage of education and training. Accordingly, all practices made to purify from all kinds of dirty environment that may adversely affect health are called hygiene (8). Monitoring the growth of students is another important point to be considered in health screenings conducted within the scope of school health. This criterion is accepted as an important public health finding in terms of public health monitoring (9). In this direction, the aim is to determine the health screening of students in a primary school in a rural area and the effect of health education on health screening results.

1.2. Hypotheses

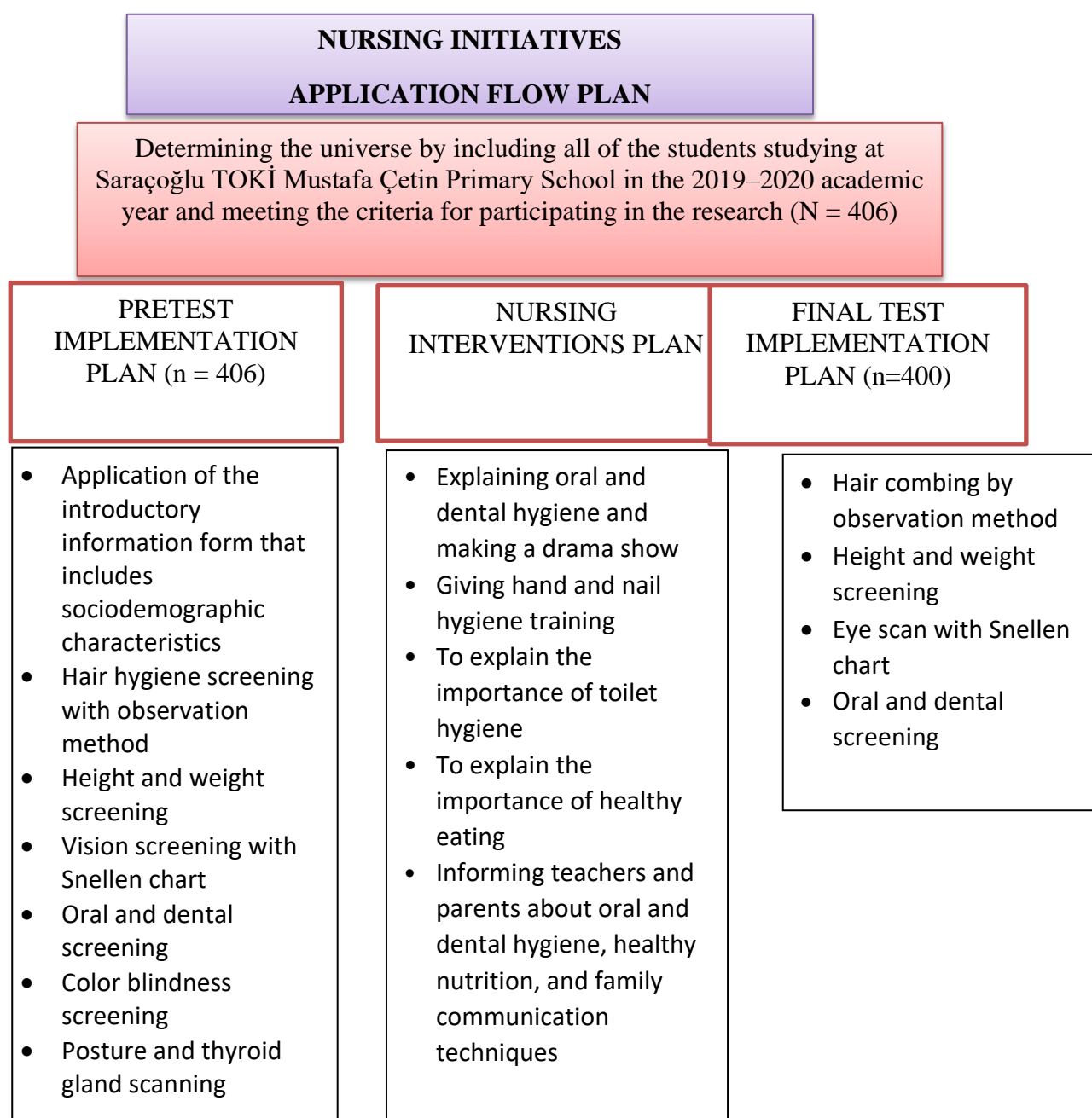**H₁.** Hygiene screening results of children from families with low economic status are negative.

H₂. The health screening results of children from families with low economic status are negative.

H₃. Health education given to primary school students affects the screening results.

2. MATERIAL and METHODS

2.1. Study Design and Sample

This research is a pretest and posttest semi-experimental model with a single-subject group. Between September 2019 and March 2020, School was an elementary school located in a rural area in Turkey. The universe of this research consisted of 406 students attending education in this school in the 2019–2020 academic year. It aimed to reach the entire universe instead of choosing samples from the universe. The whole universe was reached in the pretest phase of the study. However, in the posttest phase, a total of 400 students were included in the posttest group since 40 students transferred to another school during the academic year and 20 students had attendance problems (Figure 1).

NURSING INITIATIVES

APPLICATION FLOW PLAN

Determining the universe by including all of the students studying at Saraçoğlu TOKİ Mustafa Çetin Primary School in the 2019–2020 academic year and meeting the criteria for participating in the research (N = 406)

PRETEST IMPLEMENTATION PLAN (n = 406)	NURSING INTERVENTIONS PLAN	FINAL TEST IMPLEMENTATION PLAN (n=400)
• Application of the introductory information form that includes sociodemographic characteristics • Hair hygiene screening with observation method • Height and weight screening • Vision screening with Snellen chart • Oral and dental screening • Color blindness screening • Posture and thyroid gland scanning	• Explaining oral and dental hygiene and making a drama show • Giving hand and nail hygiene training • To explain the importance of toilet hygiene • To explain the importance of healthy eating • Informing teachers and parents about oral and dental hygiene, healthy nutrition, and family communication techniques	• Hair combing by observation method • Height and weight screening • Eye scan with Snellen chart • Oral and dental screening

Figure 1. Nursing initiatives implementation flow plan

All students who regularly attend school and who had no communication problems and whose parents gave their consent were included in the study. Students who could not attend school were excluded from the study. All students were included in the experimental group because a rapidly infectious bit parasite was detected in certain students during the screenings.

2.2. Measures

Collection of data: The research data were collected within four months. A total of 29 teachers, including 20 classroom teachers, two vice principals, one principal, one English teacher, one physical education teacher, and one guidance teacher, were working at the school. The pretest and posttest data were conducted with the screenings made by the researchers under the supervision of the teachers. Additionally, the Introductory Information Form was filled with a face-to-face communication technique.

Screening tests application form: This form developed by the researchers by scanning the literature consists of a total of six screening phases including height, weight, oral hygiene, scalp hygiene/lice-dandruff, and Snellen/vision tests. It was used by the researchers to determine the results of the scan by selecting the "yes" or "no" options.

Pretest Phase: After collecting sociodemographic data by the researchers, the students' hair was opened for a hair hygiene screening for three days, and they were checked for presence of lice and dandruff. Mouth and teeth scanning were performed; height was taken using a two-meter tape measure; digital scale was used to determine the weight; and Snellen chart, light source, gloves, and abeslang were used for vision screening. Moreover, color images were used by the researchers to detect color blindness for color blindness screening; upon physical examination, posture and thyroid gland size were checked, and the scans were completed.

Nursing initiatives applied to students: All students who attended the school were provided training by the researchers to improve oral and dental health and general hygiene. These trainings were made using slide shows and various entertaining materials. Additionally, education was transformed into a drama with a theater show, and the importance of hand washing and hair and toilet hygiene was explained. In addition to hygiene, students were given training on correct eating patterns for a day so that they could develop healthy habits. Cardboard costumes were created by drawing food. Nutrition education was also given in the form of a drama with these costumes. At the end of the training, packaged fruits were distributed to the students to encourage healthy eating. In the attempts made for the teachers, information on how the screening tests were performed was included. Moreover, families were invited to the school, and trainings were held on oral and dental hygiene, healthy eating, and family communication techniques. Posters were prepared within the scope of related topics and hung in the teachers' room. In order to ensure that the trainings are permanent, a health board covering all the trainings given was created, and brochures were distributed. Hygiene kits including toothpaste, toothbrushes, and anti-lice shampoo were distributed to students whose problems were detected at the end of the screening.

Posttest Phase: Four months after the pretest screening, students were screened for hair hygiene, height, weight, eye problem, and mouth and dental hygiene with the help of similar materials within the scope of the posttest. The screenings were conducted for one class hour (40 min) in each classroom. The obtained screening results were reported to the classroom teachers and guidance teacher.

2.3. Analytic Strategy

Data obtained for statistical analysis was considered statistically significant with $p < 0.05$ using the IBM SPSS Statistics20.0 package program. As regards the demographic characteristics, the numerical values were checked for the normal distribution. Percentage, dependent group t-test,

and chi-square, Fisher Exact, and Pearson chi-square tests, and Kruskal Wallis were used in the analysis of the study.

3. RESULTS

In the study conducted with primary school first, second, third, and fourth grade students, 406 and 400 students were reached in the pretest and posttest stage, respectively.

Table 1. Sociodemographic Characteristics of the students included in the pretest and posttest

Socio-demographic Data		n	%	n	%
Class	1st Class	124	30.5	124	31
	2nd Class	96	23.6	92	23
	3rd Class	99	24.4	97	24.3
	4th Class	87	21.4	87	21.7
Age	7-8	220	54.2	216	54
	9-10	183	45.1	181	45.3
	11-12	3	0.7	3	0.7
Sex	Girl	208	51.2	207	51.8
	Boy	198	48.8	193	48.2
Income rate	Income less than expense	201	49.5	199	49.8
	Income equal to expense	202	49.8	198	49.5
	Income more than expenses	3	0.7	3	0.7
Father Education	Not finished primary school	76	18.7	75	18.8
	Primary school graduate	319	78.6	314	78.5
	High school graduate	11	2.7	11	2.8
Mother's Education	Not finished primary school	241	59.4	239	59.8
	Primary school graduate	160	39.4	155	38.8
	High school	5	1.2	6	1.4
Father's Profession	Jopless	30	7.4	30	7.5
	Worker	276	68	271	67.8
	Officer	3	0.7	3	0.8
	Self-employment	97	23.9	96	23.9
Mother's Profession	Jopless	384	94.6	379	94.8
	Worker	22	5.4	21	5.2

When the sociodemographic characteristics of the students are examined according to the pretest findings, 30.5%, 23.6%, and 24.4% were in the first, second, and third grades, respectively. When the age groups were evaluated, 54.2% were determined to be in the 7–8-year age group and 45.1% were in the 9–10-year age group, and 51.8% of them were female students and 48.2% were male students. For socioeconomic status, 49.5% and 49.8% of the students had a bad income and a medium level of income, respectively. Regarding the father's educational status, 18.7%, 78.6%, and 2.7% of them did not finish primary school, were primary school graduates, and were high school graduates, respectively. On the other hand, 59.4% of their mothers did not complete primary school, 39.4% were primary school graduates, and 1.2% were secondary school graduates. Demographic variables were re-evaluated during the posttest as 6 students were enrolled in another school after the pretest screening. There was no significant demographic change between the two screening stages (Table 1).

Table 2. The Variables Affecting Students' Hygiene Screening Results

Variables	Head Lice (n)		Dandruff (n)		Tooth Decay (n)	
	Yes	No	Yes	No	Yes	No
Income rate						
Income less than expense	48	153	39	162	179	22
Income equal to expense	9	193	33	169	181	21
Income more than expenses	-	3	-	3	2	1
X^2/p	**31.995*/0.000**		1.882*/0.402		1.128*/0.569	
Mother's Education						
Not finished primary school	49	192	42	199	216	25
Primary school graduate	8	152	29	131	141	19
High school	-	5	1	4	5	-
X^2/p	**22.490*/0.000**		0.049*/0.976		1.375*/0.503	
Father's Profession						
Jopless	5	25	8	22	28	2
Worker	41	235	55	221	245	31
Officer	-	3	-	3	2	1
Self-employment	11	86	9	88	87	10
X^2/p	1.841*/0.606		**9.082*/0.028**		1.773*/0.621	
Class						
1st Class	26	98	27	97	117	7
2nd Class	3	93	33	63	83	13
3rd Class	16	83	11	88	90	9
4th Class	12	75	1	86	72	15
X^2/p	**17.965*/0.000**		**45.977*/0.000**		**8.315*/0.040**	
Gender						
Girl	39	169	43	165	183	25
Boy	18	180	29	169	179	19
X^2/p	**7.842*/0.005**		2.525*/0.112		0.616*/0.432	

*Chi-square and fisher exact test, $p < 0.05$ significance results are bold.

When the factors affecting the results of hygiene screening of these students with less socioeconomic level are evaluated; 48 children with less income had lice. Of the children whose mothers had never been to school, 49 student were found to have lice. Considering the class level, it was determined that 26 first-year students had the most lice problems, and when the classes were evaluated in general, it was determined that there were more lice in girls ($p < 0.05$). When hair hygiene screening is evaluated in terms of the presence of dandruff; More dandruff was detected in children of worker father and children who went to the second grade. When oral and dental hygiene is evaluated; It was determined that 117 of the first-year students had dental caries and hygiene problems, and these problems were an important difference ($p < 0.05$), (Table 2).

Table 3. Comparison of the Students' Height and Weight Averages According to Some Variables

Variables	Pretest				Posttest			
	Height		Weight		Height		Weight	
	Mean±SD	Mean Rank	Mean±SD	Mean Rank	Mean±SD	Mean Rank	Mean±SD	Mean Rank
Income rate								
Income less than expense	120.67±9.71	141.67	23.33±2.08	167.33	126.38±8.03	189.04	26.12±5.55	196.00
Income equal to expense	124.07±8.08	190.22	24.89±5.11	200.97	128.23±6.57	212.93	26.58±5.16	205.20
Income more than expenses	126.20±6.75	217.63	25.22±4.94	206.55	123.00±9.16	140.33	25.33±1.15	188.50
Significance (p)	**0.042**		0.772		0.079		0.717	
Mother's Education								
Not finished primary school	123.60±5.12	170.80	24.72±4.57	202.19	127.21±7.13	198.87	26.28±5.63	196.99
Primary school graduate	124.93±7.69	207.87	25.00±5.17	202.68	127.40±7.86	203.65	26.35±4.90	203.47
High school	124.86±7.14	201.28	28.20±4.26	285.10	126.20±5.71	180.20	29.20±3.96	275.40
Significance (p)	0.706		0.292		0.853		0.297	
Father's Profession								
Jopless	120.67±9.71	141.67	23.33±2.08	167.33	128.37±5.29	219.18	26.50±5.29	208.72
Worker	125.09±7.37	202.24	24.88±4.97	199.18	127.16±7.12	198.09	26.10±5.29	194.80
Officer	126.17±7.92	224.28	25.59±5.13	216.88	123.00±9.16	140.33	25.33±1.15	188.50
Self-employment	124.97±7.92	202.57	24.97±5.16	203.28	127.36±8.15	203.33	27.01±5.56	214.40
Significance (p)	0.612		0.583		0.620		0.525	

Kruskal Wallis, p<0.05 significance results are bold

It is known that height growth and weight in children are affected by nutritional status. Nutritional adequacy in this group differed according to income level. Considering this situation, the income status of the family, the profession of the father and the education level of the mother were evaluated. As a result of the comparison, it was seen that the average height of the children of families with lower income than their expenditure was 120.67±9.71, and the average weight was 23.33±2.08. It was determined that the average height of the children of mothers who did not finish primary school was 123.60±5.12, and the average weight was 24.72±4.57. When father education is evaluated; It was determined that the average height of the children of unemployed fathers was 120.67±9.71, and the average weight was 23.33±2.08. These values at the end of the study were the values with the lowest average height and weight. As a result of the comparison made according to income level, there was a significant difference between the average height of the students (p<0.05), (Table 3).

Table 4. Comparison of Students' Pretest and Posttest Development Screening Averages

Screenig Type	Pretest		Posttest		Testing and Significance
	Min-Max	X± SD	Min-Max	X± SD	
Height	104-145	124.8±7.32	107-141	127.27±7.39	t= -43.367 p= 0.000[a]
Weight	14-45	24.93±4.93	15-47	26.34±5.34	t= -19.464 p= 0.000[a]

[a] **t-test in dependent groups (p <0.05).**

According to the results of the height and weight screening at the pretest stage, the average height and weight of the students were 124.8 ± 7.32 and 24.93 ± 4.93, respectively. In the final stage, the average height and weight were 127.27 ± 7.39and 26.34 ± 5.34, respectively. A significant difference was found between pretest and posttest screening results (p < 0.05) (Table 4).

Table 5.Comparison of Pretest and Posttest Screening Results of Students

Screenig Type		Pretest		Posttest		Significance	
		n	%	n	%	X^2	p
Dandruff	Yes	72	17.7	53	13.2	1.001	0.317[a]
	No	334	82.3	347	86.8		
Lice	Yes	57	14.0	4	1.0	7.698	**0.01[b*]**
	No	349	86.0	396	99.0		
Tooth Decay	Yes	362	89.2	340	85	1.354	0.245[a]
	No	44	10.8	60	15		
Eye Problems	No problem	274	67.5	365	91.3	3.862	0.209[b]
	20-30 ft	121	29.8	31	7.8		
	40-50 ft	11	2.7	4	0.9		

[a] Chi-square, [b] Fisher Exact test, [*]p<0.05

According to the data obtained from the screening criteria in the pretest phase, 17.7% of the students were determined to have intense dandruff and 14% had lice. According to the results of oral and dental health screening, 89.2% had decayed teeth. According to the data obtained from the students' visual scans, 29.8% and 2.7% were determined to have vision problems between 20 ft and 30 ft and between 40 ft and 50 ft, respectively (Table 5).

According to the data obtained from the screening criteria in the last test phase, 13.2% and 1% of the students had dandruff and lice, respectively. When the results of the students regarding oral hygiene are examined, 60% had decayed teeth. According to the visual screening results, 7.8% and 0.9% of them had problems in their vision range of 20–30 ft and 40–50 ft. The students who had tooth decay and vision problems were treated after the pretest screening. When the pretest-

posttest scans were compared, it was determined that the rate of head lice decreased, and this was a significant difference (p<0.05). In the statistical analysis of other variables, no significant difference was found between the pre-test and post-test screening results (p > 0.05) (Table 5).

4. DISCUSSION

In this study, the effect of health education given to primary school students on health screening was investigated and was discussed with the findings of similar studies through a literature review. When the results were evaluated, the results supporting the H1, H2 and H3 hypotheses created for the research were determined.

The proportion of boys and girls in this study was almost equal; Most of them had a middle income. (Table 1). In our research, students' hygiene screenings were evaluated according to their socio-demographic characteristics. As a result, it was determined that the incidence of lice was significantly higher in children with less income and maternal education, in 1st class, and in girls. In terms of dandruff, it was determined that the incidence of dandruff was high in children whose fathers were a worker and who were in the 2sd class (p<0.05) (Table 2). Head lice is a common parasitic disease that can often be seen in places where people gather, such as schools and nursing homes. Saraswat et al. (2021) conducted a study to determine socio-economic and lifestyle risk factors in children aged 5-15 years. He stated that the age group most affected by head lice was the 5-7 age group, 59% of their parents did not receive formal education, and 34% had less per capita income (10) Khamaiseh et al. (2018) conducted a study to determine the prevalence of pediculosis capitis and its risk factors in a primary school in Southern Jordan. As a result of the study, they stated that girls had significantly more lice. They stated that the risk factors for this are less economic conditions, insufficient education of parents and poor hygiene conditions (11). It is seen that the literature information also supports the results of this research. We think that the high prevalence of lice in girls is due to their longer hair. We believe that economic problems may be a risk factor due to difficulties in accessing cleaning materials and hot water. The fact that the children of the parents who did not receive the cleaning education given in the official education life are in the risk group also explains the importance of the parent education level.

According to the hygiene results of the study, the oral health of the 1st grade students was significantly worse than the others (P<0.05). Of the 124 students at this grade level, 117 had at least one decayed tooth (Table 2). A study was conducted to determine the prevalence of tooth decay and its relationship to dental care habits in Northwest Ivory Coast. In this study, researchers stated that the prevalence of dental caries in children aged 4-15 was 77.2% (12). Alraqiq et al. (2021); They stated that 78% of the first year students had an average of 3.7 decayed teeth. They also stated that the most caries occurred in children with economic problems (13). The literature results support the results of this research. It is thought that the reason why dental caries is more common especially in first-year students may be due to the weaker motor development of the students in this age group and the inability to perform their self-care adequately. In addition, it is assumed that dental caries is treated in advanced stages or caused by the loss of carious baby teeth.

In this study, primary school children were scanned for growth and development. At the end of the research, it was determined that income level had an effect on growth rates. It was determined that students with less economic level had the lowest average height (p < 0.05) with 120.67 ± 9.71 and, the lowest average weight with 23.33 ± 2.08 (p > 0.05). In both pretest and posttest results, it was determined that the average of the children of mothers who did not have formal education and unemployed fathers was lower (p > 0.05), (Table 3). In the study of Beckmann et al., with South African students aged 5-12; it was found by them that 9% of the children were stunted. They determined that the average height of the children was 124.70 ± 9.20, and the average of the weight was 25.40 ± 6.9. They stated that while there was a significant relationship between problems such as low food level and unsafe food in children and stunting, it was not related to socioeconomic level. However, at the end of the study, children living in low-income and middle-income countries

were encouraged to eat (14). This suggestion supports our research. The reason for the difference is thought to be due to the difference between the participants with low economic status. Casale and Desmond stated that the differences in height increase decrease with age, and they stated that the problem of stunting doesn't last throughout life (15).

Based on the developmental screening results of the students in the pretest phase, considering the living conditions related with the demographic characteristics, the average height and weight of the students were 124.8 ± 7.32 and 24.93 ± 4.93, respectively, and the average height and weight of the students increased to 127.27 ± 7.39 and 26.34 ± 5.34, respectively, and a significant difference was found between the pretest and posttest screening results ($p < 0.05$), (Table 4). In a study conducted by Digrak et al. with students between the ages of 6–9 years in a primary school, the average height for girls and boys was 131.21 ± 8.72 cm and 132.24 ± 8.20 cm, respectively, and the average weight was 30.14 ± 7.87 kg and 30.88 ± 8.11 kg for girls and boys, respectively (16). When the results of the study are compared with the results of our study, the difference between the average results of the students included in the study and the study group in the same age group is striking. This situation shows that the educational initiatives implemented in our study can be effective especially in schools with low- or medium-income students.

When the pre-test and post-test findings of the students on dandruff and lice were examined, the effectiveness of the training given after the first screening was observed. The spread of the bit was significantly reduced. There was a decrease in dandruff hair and an increase in shinier hair (Table 5). When the results of the medical screening in school-aged children in Turkey were examined, the findings of problems with general hygiene in which the hair is determined that hygiene takes place (5). A study conducted by Guler and Kubilay to determine physical care problems in primary school children concluded that while 26.2% of the students had dandruff on their hair, 15.4% had dirty hair (17). Approximate similarities were observed between this study and the findings of our research, but lice were not mentioned. In a descriptive study by Gucuk et al. with 1854 students, they stated that they detected lice in the scalp in 0.1% of the students (18). In this research, the bit rate was seen to be much higher. This difference shows the importance of considering the sociodemographic characteristics of the local population when planning screening and interventions for school health nurses.

In the research, when the pretest and posttest screening findings for oral and dental health were examined, 89.2% of the students were seen to have carious teeth in the pretest, and this level decreased to 85% according to the posttest findings (Table 5). In the research conducted by Kocoglu and Emiroglu, two observations were made regarding the oral and dental hygiene of the students: 85.18% of the students in the first follow-up and 60% of the students in the second follow-up (19). In another study conducted by Altug et al. on oral and dental hygiene with 1.526 students, 71.6% of the students were found to have one or more decayed teeth (20). The results of this study are similar to the literature data. However, in our study, the number of students with caries did not show a significant decrease compared to the pre-test. It was observed that this was due to the fact that the students with more than six caries started the treatment and the process was not completed yet. For this reason, it is estimated that the decrease in the number of decayed teeth will continue in the future.

Vision problem, which is one of the most common problems in school-aged children, is a problem closely related to school success (21). When the students' vision problems are examined, according to the pretest screening results, visual problems were detected in 30.7% of them, while this problem persisted in only 13.5% of the students in the posttest ($p > 0.05$). The decrease in the number of students with vision problems was observed. The reason for this decrease was that some students started treatment after education and family interviews. The study conducted by Yildirim et al. stated that 9.1% of the students had visual defects. While the visual acuity problem was mentioned in 3% of the children in the school screening study conducted by Gucuk et al., a study by

Cumurcu et al. reported the strabismus rate as 3.02% (2,18,22). When this research is compared with the results of the study in the literature, the rate of students with vision problems is seen to be much higher. Further research is needed to understand the reason for this.

5. CONCLUSION

After the health education given to students studying at the primary school where the study was conducted, a statistically significant difference was found between the pretest and posttest height and weight averages of the students. Significant differences were found in dandruff and lice results according to income level, mother's education, father's occupation, class level and gender. The large decrease in the levels of decayed teeth and vision scans was found. In line with these results, the importance of health education that school health nursing or primary health services will provide in schools is seen. For this reason, planning health education for schools at regular intervals, using visual-based materials, will increase the permanence, considering that the socioeconomic welfare level of families affects the results of health education and the applicability of education. In planning the initiatives for this situation, the parameters to be monitored and examined while making health screenings for students should be detailed with further research. In order to carry out these practices, it is recommended to bring school health nursing to the agenda and to have at least one school health nurse in all schools.

Limitations of the Study

At the beginning of the study, the experimental and control groups were planned to be determined using the student randomization method. However, all students were included in the intervention group due to the fast-spreading characteristic of the detected bit parasite. Therefore, the research, which was planned to be experimental, was completed as a quasi-experimental research. Since the region where the research was conducted is of low socioeconomic level, families experienced deficiencies in the continuity of the practices which was recommended during the health education.

Human Subjects Approval Statement

After the necessary permission was obtained from the Institutional Review Board (Decision number: 2020/01/01), a work permit was obtained from the institution. Since the participants in the study are under the age of 18 years, a written consent was obtained from the families of the students included and participated in the study. The screening results were shared with students, teachers, and parents. Clinical Trials have been registered (NCT04690712).

Conflict of Interest

We have none to declare.

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