ISSN: 2383-2150; Journal of Education and Community Health. 2021;8(3):215-221. DOI: 10.52547/jech.8.3.215

Efficacy of Educational Intervention on Preventive Behavior against Head Lice Infestation in Girl School Students

ARTICLE INFO

Article Type
Original Research

Authors
Daneshvar S.[1] *MSc,*
Aivazi AA.[2] *PhD,*
Naghizadeh Jahromi MM.[3] *PhD,*
Ghazanfari Z.*[4] *PhD*

How to cite this article
Daneshvar S, Aivazi AA, Naghizadeh Jahromi MM, Ghazanfari Z. Efficacy of Educational Intervention on Preventive Behavior against Head Lice Infestation in Girl School Students. Journal of Education and Community Health. 2021;8(3):215-221.

ABSTRACT

Aims Despite progress in health and medical education, a head lice infestation is a common public health problem, the most prevalent problem in elementary school children. This study aimed to evaluate the efficacy of the educational intervention on adopting preventive behavior against head lice infestation among girl elementary school students.

Materials & Methods This study was semi-experimental research on elementary school girls in Eyvan, Ilam, Iran, in 2018. Data were collected by a researcher-made questionnaire and checklist behavior. Two girls' elementary schools were randomly selected from public elementary schools and randomly allocated to the intervention (N=95) and control (N=62) groups. The educational intervention was designed and implemented based on the health belief model in five 30-minutes sessions for the intervention group. One month after the intervention, the students in both groups were evaluated. Data were analyzed using SPSS 22 software via T-test, Chi-square, correlation, and regression.

Findings The results revealed significant differences in scores of knowledge, HBM constructs, and preventive behaviors in the intervention group after the intervention compared to before the intervention ($p<0.05$). Self-efficacy was a significant predictor for preventive behaviors of head lice ($B= 0.547$; $p<0.001$).

Conclusions The HBM-based health education improves students' HBM variables and preventive behaviors.

Keywords Head Lice; Parasite Infection; Health Education; Prevention; Students; Iran

[1]Department of Public Health, School of Health, Ilam University of Medical sciences, Ilam, Iran
[2]"Department of Vector Biology & Control, School of Health" and "Health and Environment Research Center", Ilam University of Medical sciences, Ilam, Iran
[3]"Department of Public Health, School of Health" and "Health and Environment Research Center" Ilam University of Medical sciences, Ilam, Iran
[4]Noncommunicable Diseases Research Center, Fasa University of Medical Sciences, Fasa, Iran

Correspondence
Address: Department of Public Health, School of Health, Ilam University of Medical Sciences, Ilam, Iran. Postal Code: 6939177143.
Phone: +98 (84) 2235735
Fax: +98 (84) 2235735
ghazanfari-z@medilam.ac.ir

Article History
Received: November 24, 2020
Accepted: May 4, 2021
ePublished: September 22, 2021

CITATION LINKS

[1] Prevalence of head lice in two socio-economically different schools in the center of ... [2] Prevalence of head lice infestation and its associated factors among primary school ... [3] Prevalence of head lice infestation and pediculicidal effect of permethrine shampoo in ... [4] Effect of a health education program on reduction of pediculosis in school girls at ... [5] Efficacy of peer education for adopting preventive behaviors against head lice infestation in ... [6] The effect of education based on Health Belief Model on preventive behaviors ... [7] Prevalence and predictors of pediculosis capitis among primary ... [8] Pediculosis capitis and relevant factors in secondary ... [9] Prevalence and Risk Factors Associated with Head Louse ... [10] Head lice infestation (pediculus humanus capitis) prevalence ... [11] Prevalence of pediculosis capitis among primary school ... [12] Evaluation of a health education program for head lice ... [13] Health behavior and health education: Theory, research, and ... [14] The effect of education intervention on students' knowledge, attitude and practice ... [15] Evaluation of health education program for reducing head lice infestation ... [16] Impact of theory-based educational intervention on explaining ... [17] Predictors of adoption of smoking preventive behaviors among ... [18] Factors associated to behavior disposal of garbage ... [19] Increasing mammography and cervical cancer knowledge ... [20] A brief intervention changing oral self-care, self-efficacy ... [21] Effectiveness of a breastfeeding self-efficacy intervention: Do ... [22] Self-efficacy, planning, or a combination of both? A longitudinal ... [23] Pediculosis capitis among primary school children and related ...

Introduction

Public health is an important factor of development in each community [1]. Despite advances in health and medical education, external parasitic infestation still threaten the community's health as a public health concern [2]. Pediculosis Capitis, which causes head lice infestation, is an obligate blood-feeding human ectoparasite. Head lice are transmitted through direct (via head-to-head contact to an infected person) or indirect transmission by sharing clothing, hairbrushes, hats, towels, or other personal items of a person [3, 4]. Head lice are more prevalent in children aged 3-11 years and females than the others [5]. Schools, particularly elementary schools, have the main role in starting an epidemic of head lice [6]. Centers for Disease Control and Prevention (CDC) reported an estimation of 6 to 12 million infected cases among children 3 to 11 years old each year [7]. Different prevalences of head lice among elementary school children in the world have been reported. According to the results of a study [8], the prevalence of head lice infestation was estimated at 4.8%, 35%, 1.2%, 28.8%, and 29.7% in The Netherlands, Brazil, Turkey, Venezuela, and Argentina, respectively. In a systematic and meta-analysis study conducted to determine the prevalence of lice among elementary schools in Iran in 2015, head lice infestation prevalence was 6.1% for boys and 8.8% for girls [2]. Similar to differences observed in different countries, there is some variation in the prevalence rate of head lice between provinces of Iran, such as 13.28% in Qom [9], 13.5% in Hamedan [2], 1.8% in Kerman [2], and 3.2 % in North Khorasan Province [10].

Signs and symptoms of head lice infestation are pruritus, lymphadenopathy, and conjunctivitis. Also, allergic reactions have been reported among infected children. Chronic heavy infestation among school children may cause anemia. In addition to physical symptoms, head lice infestation also causes psychological stress because children believe that head lice infestation is due to being dirty [11].

Health education is central to promoting public awareness on the prevention of head lice infestation [12]. The first step in preparing any health education initiative will be to choose an acceptable education model. The Health Belief Model (HBM) is one of the oldest models in which behavioral science theories are used to avoid health issues, particularly disease prevention. This detailed model highlights the relationship between belief and behavior [13]. Constructions of HBM include perceived vulnerability (the subjective belief that one may take a disease or a health condition due to a particular behavior), perceived seriousness (subjective belief in the intensity of harm caused by a disease or a health issue due to a particular behavior), perceived obstacles (belief in the possible costs of a new behavior), perceived benefits (belly) Perceived benefits (beliefs about the advantages of the proposed method of minimizing the risk or seriousness of a disease or the destruction caused by particular conduct), cues to action (the accelerating force that makes an individual feel the need for a specific action) and self-efficiency (the understanding of a person's willingness to follow a new behavior) [5] (Figure1).

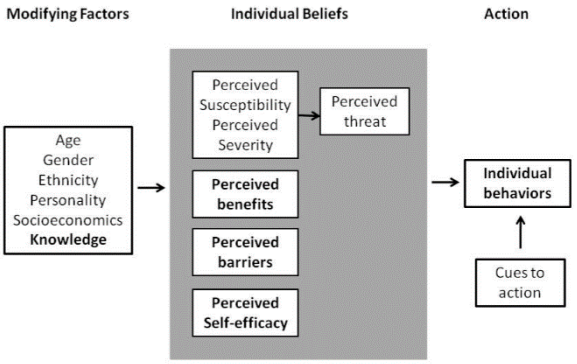

Figure 1) Health belief model components and linkages [13]

Since schools, particularly girls' elementary schools, are sites having the main role for starting an epidemic of head lice and concerning the physical, social, economic, and cultural consequences of head lice infestation, so this study was conducted to evaluate the efficacy of the educational intervention on adopting preventive behaviors of head lice infestation among girls in elementary school students.

Materials and Methods

This semi-experimental study was conducted in 2018 on girl elementary school students in Eyvan, Ilam, Iran. Sampling began in January 2017 and ended in May 2017. A list of public elementary schools for girls was received from the education department of Eyvan town. According to the determined sample size, two schools were assigned as the intervention and control groups among 19 girl elementary schools by simple random sampling. Simple random sampling was done via flip the coin. Allocation of groups was based on schools, not students, to avoid the dissemination from intervention to control group. All students in the fourth and fifth grades were assessed. Participants were selected based on inclusion criteria: signing informed consent by the student and her parents, being in the fourth and fifth grades, and exclusion criteria such as skin and fungal diseases. In general, 157 girl students of the fourth and fifth grades were studied (62 in the control group and 95 in the intervention group). Both schools had a part-time health instructor. The flowchart of the study steps can be seen in Figure 2.

The first phase of data collection (pretest) was performed using a researcher-made questionnaire and a checklist for assessing behavior. The questionnaire consisted of four parts. The first part included 19 personal questions such as grade, family size, parent's job, and education. The second part

included ten questions about students' knowledge about lice and their prevention and transmission (for instance, head lice prefer more dirty and long hair). Responses options including yes, no, and I do not know, in which the score for the correct answer was one, and for the other ones was zero.

The third part of the questionnaire was related to the HBM constructs, including six questions for perceived susceptibility (for example, the probability of infection with head lice is high in my house and school), five questions for perceived severity (for example, infestation to head lice causes intense itching), seven questions for perceived benefits (for example, if I prevent from head lice infestation, I will have higher self-confidence), six questions for perceived barriers (for example, I do not have time to comb my hair when I'm in a hurry to go to school in the morning), and six questions for self-efficacy (for example, in public places like the school I can take care of my items well). Each item in the HBM scale was based on a 3-point Likert scale. These points including agree, neither agree nor disagree, and disagree from 3 to 1. Notably, scores have been reversed in all items of perceived barriers and item 4 of the self-efficacy variable. The fourth part consisted of seven questions to evaluate individual behavior towards head lice prevention (for example, in the past month, I used my items at home like a scarf, hairbrush, hat, and bedding) from always to never that were scored 3 to 1. To ensure the content and face validity of the questionnaire, a group of 10 experts (health education, medical entomology, and nursing) was asked to share their opinions and comments on the questionnaire items. In addition, 15 eligible students who were not included in the study were asked to read and answer the questions and confirm the item's clarity. The requisite changes were eventually made to the questionnaire, and the final version was selected for the research. After confirming the qualitative stage of content validity by expert professors, the indicators of CVR and CVI were calculated as 0.82 and 0.93, and finally, the validity of HBM scales was approved based on the opinions of 10 expert professors. The questionnaire's reliability was assessed by test-retest on a group of 15 fourth- and fifth-grade students (not included in the study). The correlation coefficients were 0.88, 0.95, 0.89, 0.94, 0.94, 0.79, and 0.85 for the knowledge, perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and behavior variables, respectively. Also, the calculated Cronbach's alpha was 0.85, 0.79, 0.76, 0.80, 0.74, 0.77, and 0.82 for the knowledge, perceived susceptibility, perceived severity, perceived barriers, perceived benefits, self-efficiency, and behavior subscales, respectively.

Approval for this research was acquired through the Ilam University of Medical Sciences Ethics Committee. The objectives of the study were outlined, and written informed consent was obtained from their parents. Confidentiality of information was ensured, and the participants were given authority to withdraw from the study if they encountered some difficulties that might have hindered their participation. The Head lice prevention program was held in five 30-minute sessions, one session per week, for the intervention school. The health education program was designed base on HBM.

To develop the educational material, valid national and foreign resources were used. In this phase, the cultural characteristics of the region were considered. To communicate with students, simple and understandable educational content was used. The program was implemented in a way that the required equipment was available in the school. The educational program in schools was implemented with teachers' cooperation after coordinating with the Department of Education and the school. The health education content was prepared and implemented by the researcher. During the program, the active participation of students in the process was obtained in the form of colloquy. To attract the students' attention to participate in the program, the educational program was explained to students, and then posters with the topic of head lice and the announcement of training sessions were installed in the corridor bulletin boards.

It should be noted that in designing these posters, we tried to use clear fonts and popular child-friendly cartoon characters that fit their age. The details of the educational program are presented in table 1. Three leaflets were used to help students easily and quickly understand the content using attractive child-friendly images and childish language. At the start of the study, Students were asked about the preferred cues to action. They noted that health educators and parents are the most important cues to action. We prepared educational materials such as pamphlets and booklets about head lice infestation for health educators during the sessions to empower them to guide students properly. Also, different educational material was provided in the form of video, animations, and booklet to share with parents in the school's educational channel. At the end of the study, the educational booklet of the taught materials was given to the control group.

Data were coded and entered to SPSS 22 and then analyzed using descriptive statistics (e.g., mean, SD and frequency) and inferential statistics (including Independent, Paired t-tests and Chi-square test, Pearson's correlation coefficient, and multivariate linear regression analysis). Normality was checked using the Kolmogorov-Smirnov test. All analyzes were performed at a significance level of 0.05.

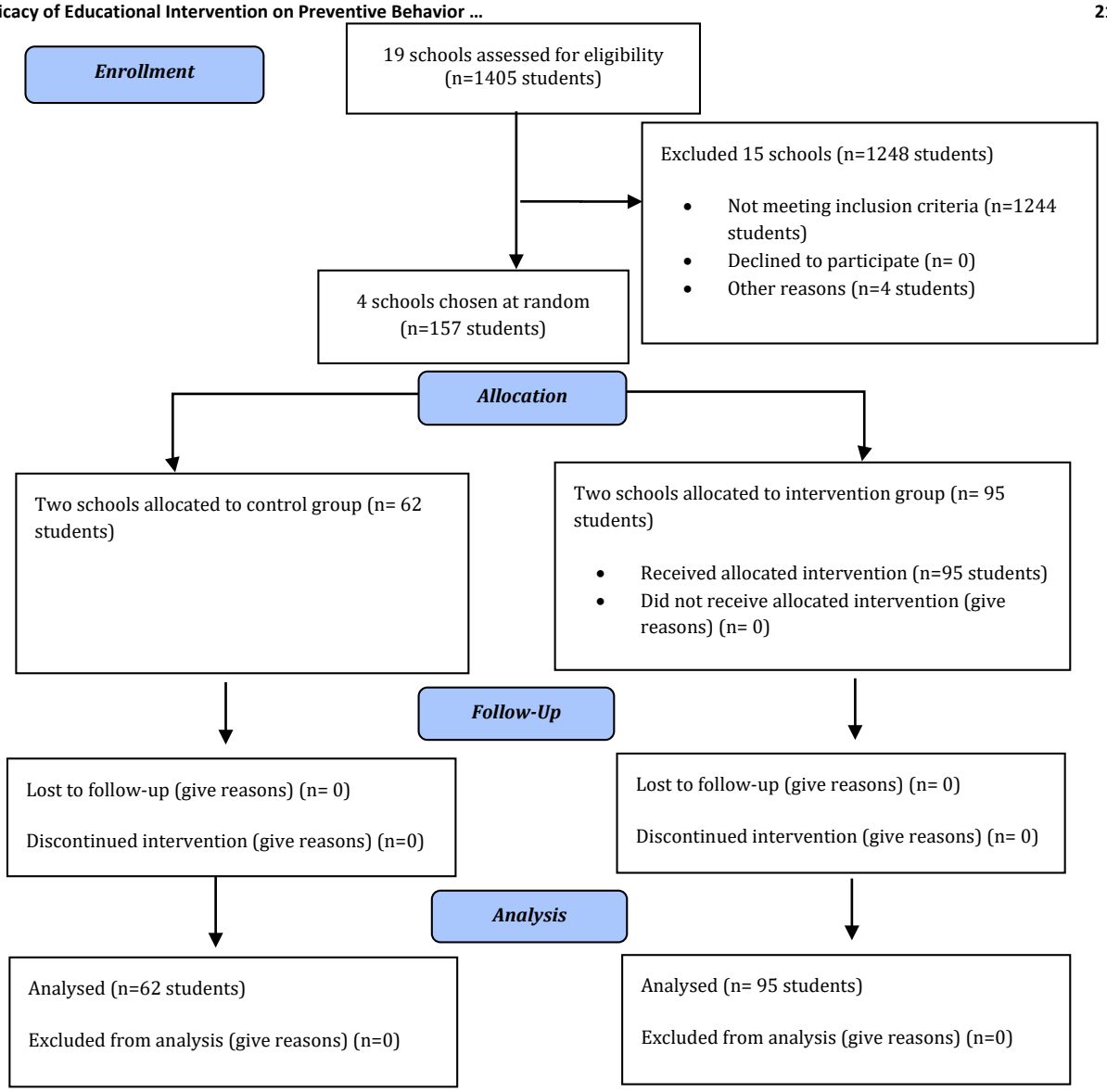

Figure 2) Flow chart for study

Table 1) Details of the educational program

Session	Objectives	A summary of topics and activities
1	Knowledge, perceived sensitivity, and severity	Giving some information about the causes, source, route transmission, symptoms, and complications of head lice infestation and reporting statistics about the prevalence of head lice. There were misconceptions among students about head lice, such as vinegar and mayonnaise and hair color in the treatment of head lice. To correct their misconceptions, some facts were included in their instructional material.
2	Perceived barriers	Listing the barriers mentioned by the students and explaining the ways to overcome them by the researcher. For example, some students had mentioned not using personal items because of not having them. In this case, the researcher provided a hairbrush for them. In another example, students pointed out the lack of a separate personal place to keep their clothes. In this case, Students were instructed to put their clothes in nylon bags and place them in their desk drawer.
3	Perceived benefits	Giving a simple and understandable explanation to raise the students' perceived benefits. For example, students were told that if they took preventive behaviors, they would have more friends, and if they or others had head lice infestation, they could prevent it from being transmitted.
4	Self-efficacy	Students were advised to perform personal health behaviors during the program, such as taking a shower regularly, getting a frequent haircut, and combing hair several times a day, and were verbally encouraged to perform these behaviors. Another action was that health educators asked parents to complete a checklist for students recording personal health behaviors and presenting it to school at the end of the month. Fs who had done personal health behaviors were encouraged to continue their behaviors, and students who did not follow these behaviors were provided with corrective feedback to change behavior.
5	Review	Review previous sessions and answer questions about head lice infestation

Findings

Among the participating students, no students were left off during the study, and the response rate of the trial was 100%. Generally, 62 participants in the control group and 95 participants in the intervention group were analyzed. There were no statistically significant differences between the two groups regarding demographic characteristics (Table 2).

Table 2) Frequency distribution of demographic characteristics of research samples

Variables		Control (n=62)		Intervention (n=95)		p-value
		N	%	N	%	
Grade	Fourth	25	40.3	47	49.5	0.261
	Fifth	37	59.7	48	50.5	
Father's occupation	Unemployed	7	11.3	8	8.4.0	0.100
	Private	41	66.1	50	52.6	
	Employee	14	22.6	37	39.0	
Mother's occupation	Housekeeper	55	88.7	85	89.5	0.880
	Employee	7	11.3	10	10.5	
Father's level of education	Guidance	21	33.9	30	31.6	0.369
	Diploma	30	48.4	39	41.0	
	Collegiate	11	17.7	26	27.4	
Mather's level of education	Guidance	31	50.0	45	47.4	0.605
	Diploma	23	37.1	32	33.7	
	Collegiate	8	12.9	18	18.9	
Pervious morbidity in family	Yes	3	4.8	1	1.0	0.320
	No	58	93.6	93	98.0	
	I don't know	1	1.6	1	1.0	

There were significant decreases in the control group before and after intervention for knowledge, susceptibility, and benefit, while significant increases were found in the intervention group between before and after intervention for all variables (p<0.001; Table 3).

Table 3) Comparison of the Mean±SD score of knowledge, health belief model constructs, and behavior before and after the intervention

Variables		Before	After	p-value
Knowledge	Control	5.21±1.64	4.52±1.91	0.001
	Intervention	5.21±1.63	9.08±1.30	<0.001
	p-value	0.997	<0.001	
Susceptibility	Control	14.29±2.04	12.76±2.69	<0.001
	Intervention	14.37±2.69	16.29±1.80	<0.001
	p-value	0.837	<0.001	
Severity	Control	12.15±2.27	12.13±2.42	0.965
	Intervention	11.80±2.16	14.13±1.27	<0.001
	p-value	0.340	<0.001	
Barriers	Control	9.05±2.16	8.95±2.46	0.776
	Intervention	8.91±2.23	6.42±0.85	<0.001
	p-value	0.691	<0.001	
Benefits	Control	18.76±1.71	16.95±2.75	<0.001
	Intervention	17.36±2.90	20.00±1.41	<0.001
	p-value	0.001	<0.001	
Self-efficacy	Control	14.74±1.92	14.61±2.21	0.649
	Intervention	15.75±1.89	17.57±0.75	<0.001
	p-value	0.001	<0.001	
Behavior	Control	18.21±2.27	18.84±2.09	0.084
	Intervention	19.42±1.89	20.78±0.060	<0.001
	p-value	0.001	<0.001	

The mean difference between pretest and posttest was calculated for the intervention and control groups. Then an independent samples t-test showed a statistically significant difference for each variable, including knowledge and HBM variables, between the intervention and control groups (p<0.001). Of course, the mean score of all variables in the intervention group was increased, while knowledge, perceived susceptibility, and perceived benefits decreased significantly in the control group.

The results showed a significant, positive relationship between self-efficacy and behavior (Table 4). In other words, by adding one score to the self-efficacy variable, 0.547 is added to the variable behavior score (Table5).

Table 4) Inter correlation between knowledge and HBM constructs before the intervention

Variables	1	2	3	4	5	6	7
7-Behavior	0.131	0.020	0.040	0.000	-0.090	0.499*	1
6-Self-Efficacy	0.158*	0.067	0.213*	0.011	0.044	1	
5-Benefits	0.114	0.129	0.172*	0.039	1		
4-Barriers	0.049	0.022	0.178*	1			
3-Severity	0.357*	0.293*	1				
2-Susceptibility	0.126	1					
1-Knowledge	1						

*p<0.05

Table 5) Results of regression analysis to predict preventing behaviors of head lice infestation using pretest data

Variables	Unstandardized Coefficients		t-value	p-value
	B	Std. Error		
(Constant)	10.702	2.247	4.764	<0.001
Susceptibility	0.016	0.069	0.232	0.817
Severity	-0.094	0.081	-1.167	0.245
Barriers	0.009	0.070	0.132	0.895
Benefits	-0.088	0.060	-1.470	0.144
Knowledge	0.121	0.099	1.214	0.227
Self-Efficacy	0.547	0.080	6.852	<0.001
Father's occupation	0.197	0.277	0.710	0.479
Mather's occupation	0.176	0.524	0.336	0.738
Father's level of education	0.082	0.257	0.318	0.751
Mather's level of education	-0.060	0.257	-0.235	0.815
Family size	0.192	0.165	1.165	0.246

R^2= 0.282

Concerning the cues to action, physicians (87.2%), parents (83.5%), health educators (61%), health education media such as radio and TV programs (36%), teachers (23%), and friends (18%) were the most considerable sources to receive information in the prevention of head lice infestation, respectively.

Discussion

In this study, the efficacy of the educational intervention was evaluated on adopting preventive behaviors of head lice infestation among girl's elementary school students at Eyvan city. The study's findings highlighted the significant efficacy of educational intervention based on the HBM on students' preventive behaviors of head lice infestation.

The students' knowledge of the head-to-head contact role in lice transmission, the cause of head lice infestation, and their treatment was significantly low

before the intervention. Most previous studies have reported a low level of knowledge among students regarding this issue [6, 12, 14]. However, the mean knowledge score was significantly increased in the intervention group compared to the control group after the intervention ($P < 0.001$). It seems that the use of simple and comprehensible content and their repetition and reinforcement for learners have had a great impact on increasing knowledge. This finding is similar to the results of previous studies [12, 15].

In the current study, the student's beliefs have been improved in the intervention group through applying HBM constructs such as perceived susceptibility, severity, benefits, barriers, and self-efficacy. Despite the control group, the changes witnessed in the intervention group were potentially attributed to the educational intervention presented in this study. The findings of other studies [5, 12, 16] are consistent with this result.

In the intervention group, the mean score of behavior effectively increased by teaching students about head lice. While in the control group, no remarkable change in behavior was observed. It appears that enhancing the knowledge and attitude of learners and explaining the methods of preventing head lice has had a significant impact on the individuals' behavior of the study subject. Similar results were published by previous studies on head lice infestation preventive behaviors [5, 16]. Also, Zareban *et al.* and Gholamnia Shirvani *et al.* showed improvements in students' preventive behaviors from head lice following their educational intervention [12, 15].

A significant positive correlation has been shown between the preventive behaviors of head lice infestation and the self-efficacy variable. According to regression analysis, self-efficacy was determined as the only predictor of preventive behaviors of head lice infestation. This result is similar to the study by Moshki *et al.*, who used the health belief model for improving the preventive behaviors of head lice infestation [5], and the study by Panahi *et al.* [17], and Nejaei *et al.* [18]. As the main explanation construct, self-efficacy has gained much support as an intermediary in behavioral change in head lice studies [19-22].

The finding of this study showed that the health belief model is a proper framework to promote preventive behaviors of head lice infestation in students. Therefore, to enhance preventive behaviors of head lice infestation in schools, It is essential that needs are identified based on the health belief model at first, and then a health education program is tailored for the target community. Health officials must take training courses and provide instructions to participants as needed to get frequent haircuts, comb hair many times a day, change clothes on a regular basis during the day, and take a regular shower.

Results of the study revealed a decrease in the mean scores of students' knowledge, perceived susceptibility, and perceived benefits in the control group in the posttest compared to the pretest. In this study, the pretest and posttest were conducted in January and April 2018. Because during the initial assessment of students (pretest), because of the high prevalence of head lice infestation in cold months of the year, examinations and pieces of training are also performed by health educators in schools, perhaps the simultaneity of these two processes has led to the sensitization of students. Perhaps this factor can be a reason for the high scores in the initial assessment and justify the decreasing trend of knowledge, susceptibility, and perceived benefits. Of course, the carelessness of fourth and fifth-grade students in answering questions may also be another factor in justifying the reduction trend.

Similar to the study of Hazrati Tappeh *et al.*, no significant relationship had between the prevalence rate of head lice infestation and educational level and occupation of parents. Parents with high levels of education may also be at risk similar to other parents because of being busy or having inadequate knowledge about the disease and their prevention [23].

One of the limitations of this study was that all the participants were students studying in the two elementary schools of Eyvan city, and they may differ from the other students around the country in various factors, for instance, their socio-economic conditions; thus, it is impossible to generalize the results current study to all other students from different cities around Iran. Also, the subjects' sensitivity and the social stigma regarding head lice have made the researcher practice much more sensitivity in data collection and, in particular, examining the head. The researcher tried to behave so that students' friends have not come to know about their classmates' infestation. Otherwise, this could lead to the social isolation of the infected students. Future intervention studies should utilize the structural equation modeling approach to approve the efficacy of the HBM in the field of head lice infestation.

Conclusion

Educational intervention based on HBM promotes preventive behaviors against head lice infestation among girl elementary school students.

Acknowledgments: We express our gratitude to the Deputy of Research at the Ilam University of Medical Sciences and those who helped us conduct this study.

Ethical Permissions: Approval for this research was acquired through the Ilam University of Medical Sciences Ethics Committee (Code: Ir.Medilam.Rec.1395.208). This trial was recorded at the Iranian registry of clinical trials (IRCT2017072235224N1).

Conflicts of Interests: This article results from the MSc thesis approved by the Ilam University of Medical Sciences.

Authors' Contribution: Daneshvar S. (First Author), Introduction Writer/Methodologist/Discussion Writer/ Main Researcher (35%); Aivazi AA. (Second Author),

Methodologist/Assistant Writer (15%); Naghizadeh Jahromi MM. (Third Author), Statistical Analyst (15%); Ghazanfari Z. (Forth Author), Introduction Writer/Methodologist/Discussion Writer/Main Researcher (35%)

Funding/Support: This study was performed with the financial support of the Research Deputy of Ilam University of Medical Sciences.

References

1- Karakus M, Arici A, Toz SO, Ozbel Y. Prevalence of head lice in two socio-economically different schools in the center of Izmir city, Turkey. Turkiye Parazitol Derg. 2014;38(1):32-6.

2- Moosazadeh M, Afshari M, Keianian H, Nezammahalleh A, Enayati AA. Prevalence of head lice infestation and its associated factors among primary school students in Iran: A systematic review and meta-analysis. Onsog Public Health Res Persepct. 2015;6(6):346-56.

3- Soleimani-Ahmadi M, Jaberhashemi SA, Zare M, Sanei-Dehkordi A. Prevalence of head lice infestation and pediculicidal effect of permethrine shampoo in primary school girls in a low-income area in southeast of Iran. BMC Dermatol. 2017;17(1):10.

4- Yingklang M, Sengthong C, Haonon O, Dangtakot R, Pinlaor P, Sota C, et al. Effect of a health education program on reduction of pediculosis in school girls at Amphoe Muang, Khon Kaen province, Thailand. Plos One. 2018;13(6):0198599.

5- Moshki M, Zamani-Alavijeh F, Mojadam M. Efficacy of peer education for adopting preventive behaviors against head lice infestation in female elementary school students: A randomised controlled trial. Plos One. 2017;12(1):0169361.

6- Panahi R, Ghajari H, Teymouri P, Moradi M, Ghaderi N, Zarei Vero O, et al. The effect of education based on Health Belief Model on preventive behaviors of head lice infestation in sixth grade female students in Marivan city, Iran. RAHVARD SALAMAT. 2019;4(1):48-57. [Persian]

7- Lye MS, Tohit NF, Rampal L. Prevalence and predictors of pediculosis capitis among primary school children in Hulu Langat, Selangor. Med J Malaysia. 2017;72(1):12-7.

8- Omidi A, Khodaveisi M, Moghimbeigi A, Mohammadi N, Amini R. Pediculosis capitis and relevant factors in secondary school students of Hamadan, west of Iran. J Res Health Sci. 2013;13(2):176-80.

9- Saghafipour A, Zahraei-Ramazani A, Vatandoost H, Mozaffari E, Rezaei F, KaramiJooshin M. Prevalence and Risk Factors Associated with Head Louse (pediculus humanus capitis) among primary school girls in Qom province, central Iran. Int J Pediatr. 2018;6(4):7553-62. [Persian]

10- Firoozfar F, Moosa-Kazemi SH, Bahrami A, Yusuf MA, Saghafipour A, Armoon Z, et al. Head lice infestation (pediculus humanus capitis) prevalence and its associated factors, among the Kormanj tribes in north Khorasan province. Shiraz Med J. 2018;20(4):80292. [Persian]

11- El-Sayed M, Toama MA, Abdelshafy AS, Esawy AM, El-Naggar SA. Prevalence of pediculosis capitis among primary school students at Sharkia governorate by using dermoscopy. Egypt J Dermatol Venerol. 2017;37(2):33-42.

12- Gholamnia Shirvani Z, Amin Shokravi F, Ardestani MS. Evaluation of a health education program for head lice infestation in female primary school students in Chabahar city, Iran. Arch Iran Med. 2013;16(1):42-5. [Persian]

13- Glanz K, Rimer BA, Viswanath K. Health behavior and health education: Theory, research, and practice. San Francisco: Jossey-Bass; 2008.

14- Jadgal MS, Sadeghi S, Zareipour M, Karimi T, Tatari M, Habibpour Z, et al. The effect of education intervention on students' knowledge, attitude and practice about pediculosis. RAHAVARD SALAMAT. 2018;3(3):37-45. [Persian]

15- Zareban E, AbbaszadeBezi M, Movadi M, Mehrjoofard H, Ghafari H. Evaluation of health education program for reducing head lice infestation among primary school girls. J Birjand Univ Med Sci. 2006;13(1):25-31. [Persian]

16- Sharifat R, Mohamadian H, Cheragi M, Malehi AS. Impact of theory-based educational intervention on explaining preventive pediculosis infestation behavior among primary school students. Electronic Physician. 2017;9(4):4101-7.

17- Panahi R, Ramezankhani A, Tavousi M, Osmani F, Niknami S. Predictors of adoption of smoking preventive behaviors among university students: Application of health belief model. J Educ Community Health. 2017;4(1):35-42. [Persian]

18- Nejaei A, Babaiy S, Zareipour M. Factors associated to behavior disposal of garbage in health staff based on health belief mode. J Res Environ Health. 2018;3(4):312-20. [Persian]

19- Kessler TA. Increasing mammography and cervical cancer knowledge and screening behaviors with an educational program. Oncol Nurs Forum. 2012;39(1):61-8.

20- Schwarzer R, Antoniuk A, Gholami M. A brief intervention changing oral self-care, self-efficacy, and self-monitoring. Br J Health Psychol. 2015;20(1):56-67.

21- Otsuka K, Taguri M, Dennis CL, Wakutani K, Awano M, Yamaguchi T, et al. Effectiveness of a breastfeeding self-efficacy intervention: Do hospital practices make a difference. Matern Child Health J. 2014;18(1):296-306.

22- Luszczynska A, Hagger MS, Banik A, Horodyska K, Knoll N, Scholz U. Self-efficacy, planning, or a combination of both? A longitudinal experimental study comparing effects of three interventions on adolescents' body fat. Plos One. 2016;11(7):0159125.

23- Tappeh KH, Chavshin A, Hajipirloo HM, Khashaveh S, Hanifian H, Bozorgomid A, et al. Pediculosis capitis among primary school children and related risk factors in Urmia, the main city of west Azarbaijan, Iran. J Arthropod Borne Dis. 2012;6(1):79-85. [Persian]