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Socio-Psychological Predictors of Students' Preventive Behaviors Against Pediculosis; the Health Belief Model Approach

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ABSTRACT

Aims Head lice infestation is a common and significant health issue among students and in school settings. It is particularly more prevalent in children aged 5-13 years. This study aimed to investigate the determinants of preventive behaviors against pediculosis based on the theoretical framework of the health belief model among students in the urban areas of Heris County.

Instrument & Methods This descriptive-analytical correlational study was conducted with 1,000 students in urban schools in Heris County, East Azerbaijan. Data were collected through a census of all fourth and fifth-grade students in elementary schools. The research instrument was a questionnaire designed based on the health belief model, which had been validated, and its reliability was confirmed in previous studies. After the students completed the questionnaires, the data were analyzed using SPSS 16 by ANOVA and multiple linear regression.

Findings Fourth-grade students demonstrated higher awareness (p=0.027) compared to fifth-grade students. Perceived susceptibility (p=0.001) and perceived barriers (p=0.004) were significantly (p=0.0001) higher in individuals with no history of pediculosis infestation compared to those with a history of pediculosis infestation. Except for the perceived severity construct, all components of the health belief model had a significant correlation with preventive behaviors against pediculosis. Furthermore, awareness (p=0.0001), self-efficacy (p=0.0001), perceived barriers (p=0.0001), gender (p=0.0001), and maternal education (p=0.024) were identified as key predictors of these behaviors, and these parameters collectively accounted for 21.5% of the variance in behavior changes (R2=0.215).

Conclusion Awareness, self-efficacy, and perceived barriers play a significant role in adopting preventive behaviors against pediculosis infestation.

Keywords Pediculosis; Health Belief Model; Students; Head Lice

CITATION LINKS

[1] An epidemiological study of Pediculus ... [2] The biology and taxonomy of head and body lice-implications ... [3] Prevalence of head lice infestation and its associated factors ... [4] The survey of pediculosis prevalence on Gonabad primary ... [5] Epidemiological aspects of pediculosis capitis and ... [6] Effect of designed health education program on knowledge ... [7] An epidemic of pediculosis ... [8] The epidemiology of pediculus is humanus capitis infestation ... [9] The prevalence of pediculosis capitis and its associated risk factors in primary ... [10] A guide to medical ... [11] Pediculosis ... [12] Taking a closer look at ... [13] Principle of health ... [14] Epidemiology of pediculosis and its associated risk factors ... [15] Prevalence of pediculosis ... [16] Epidemiology of pediculosis capitis among schoolchildren ... [17] Head pediculosis in schoolchildren in ... [18] Prevalence of head lice infection among primary ... [19] Head lice infestation (pediculosis) and its ... [20] The prevalence of head lice (pediculus humanus capitis) ... [21] Preventive behaviors of female elementary students in regard to pediculosis ... [22] Evaluation a health education program ... [23] Knowledge, attitudes and practices ... [24] Head lice among primary school children ... [25] A survey of prevalence of pediculosis ... [26] Pediculosis capitis and its associated ... [27] Epidemiology of head louse infestation and related ... [28] Study of effective factors on prevalence of head ... [29] Role of health beliefs in preventive behaviors ... [30] The role of health beliefs ... [31] Uptake of the human papillomavirus ... [32] Using the health belief model to examine ... [33] Health belief model factors in mammography ... [34] Study of pediculus capitis prevalence in primary ... [35] Predictors of adoption of smoking preventive ... [36] Measuring Health Belief Model components ... [37] Survey of prostate cancer-preventive ... [38] Factors predicting the standard ... [39] Utilizing the Health Belief Model to predict ... [40] The effect of health education based on health belief model (HBM) ... [41] Evaluating the health belief model ...

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Introduction

Public health and well-being are of paramount importance in any society, as the progress of communities is closely tied to the overall health of their individuals. Among the factors that threaten community health, infestations by insects, particularly ectoparasites, remain a significant health issue despite advancements in healthcare and medical sciences, continuing to pose a health challenge [1]. Lice, specifically Anoplura (Phthiraptera), are obligate blood-sucking parasites that infest mammals, including humans. Over 550 species have been described worldwide, many of which are host-specific, targeting particular mammals [2]. Infestations of lice on the body, head, or pubic area are referred to as pediculosis [3]. Head lice (*Pediculus humanus capitis*), body lice (*Pediculus humanus corporis*), and pubic lice (*Phthirus pubis*) are all blood-sucking ectoparasites that affect humans [4]. Among these, body lice are known to transmit diseases, such as epidemic typhus, relapsing fever, and trench fever, while head lice are not known to be disease vectors.

In recent years, the prevalence of body lice has decreased, particularly in affluent societies, due to improved living standards. However, head lice infestations continue to be reported worldwide. Although head lice have a global distribution, they are more commonly found in temperate regions, and their annoyance and discomfort can be compared to mosquito-related problems in tropical areas. Factors, such as population growth and poor hygiene exacerbate lice infestations, with a higher prevalence observed in densely populated, impoverished communities. These infestations affect all social and economic strata during epidemics [2, 3]. The prevalence of head lice infestations in children aged 5 to 13 years is higher than in other age groups, with a greater incidence in girls than in boys. Schools, especially elementary schools, play a significant role in the occurrence of head lice epidemics [5]. Among children and women, having a dense head of hair is associated with a higher risk of lice infestation compared to other age groups [6]. The prevalence of lice infestations in elementary schools in developed countries is estimated to be between 2% and 10% [7]. Unfortunately, lice infestations in Iran have emerged as a public health issue alongside other infectious diseases in some regions due to factors such as uncontrolled population growth, rural-to-urban migration, settlement in marginalized areas, and the establishment of satellite towns with minimal sanitary facilities [8]. It is estimated that lice infestations affect between 6 to 12 million individuals worldwide annually [9-14]. Studies conducted outside of Iran have reported the prevalence of head lice infestations among elementary school students as a parameter. For example, in 2011, a study conducted among 940 students in a rural area of Yucatan, Mexico, reported a prevalence of 13.6% for head lice infestations [15]. In 2012, the prevalence of head lice infestations in Thailand was reported to be 32.23% [16]. Results from studies conducted in 2015 in the European Union and Norway have reported head lice infestation prevalence rates of 3.44% and 1.2%, respectively [17]. The prevalence of head lice infestations in Iran varies across different regions. For instance, the prevalence of head lice infestation in female elementary school students in Qom is 6.7% [9], while in Sari County, it is 65.1% [14]. In the counties of Tonekabon and Pakdasht, and in Qom Province, the reported prevalence rates are 74.5%, 3.1%, and 3.13%, respectively [1, 9, 18]. In Kalaleh and Bonab counties, the rates are 28.6% and 82.2%, respectively [19, 20]. A systematic review and meta-analysis conducted in 2015 to determine the prevalence of head lice among Iranian elementary school students reported a prevalence of 1.6% for boys and 8.8% for girls [3]. Individuals affected by pediculosis may experience irritation, sensitivity, and fatigue due to the entry of foreign insect saliva proteins into the host's body through insect bites. The repeated injection of louse saliva can lead to severe allergies, such as intense itching. Scratching the site of the bite can result in skin inflammation and may also lead to secondary infections, such as fungal and bacterial infections, which can cause the development of yellow ulcers and swelling of lymph nodes (lymphadenopathy) around the neck and behind the ears [9]. In addition to the health issues associated with pediculosis, individuals affected by this condition may also face social difficulties, including feelings of shame and inferiority, psychological disturbances, depression, insomnia, decreased academic performance, and a loss of social status among their peers [10].

The most significant mode of transmission for infestation is through direct head-to-head contact with an infected person. Additionally, infestation can occur indirectly through contact with infested clothing, personal items (combs, towels, etc.), or bed and furniture covers infested with lice or eggs [11]. The most important prevention methods for avoiding head lice infestation include practicing personal hygiene (particularly regular bathing), refraining from sharing personal items (such as combs, brushes, and hats), promptly reporting cases of infestation to the nearest healthcare facility, using insecticidal shampoos by those affected and their family members, and educating the community in infested areas while promoting overall hygiene [12].

One of the most effective and widely used psychosocial approaches for describing health-related behaviors, which has been successfully applied to various health-related topics for nearly half a century, is the health belief model (HBM). The HBM is a psychological framework that describes and predicts health behaviors by emphasizing

individuals' attitudes and beliefs. It was developed in the 1950s by a group of social psychologists to explain the reasons behind people's lack of participation in disease prevention or diagnosis programs [13]. Given the importance and vulnerability of elementary school-aged children, as well as the high prevalence of head lice infestations in the research area, along with the physical, psychological, social, and economic consequences associated with it, this study aimed to investigate the determinants of preventive behaviors against pediculosis in second-grade students in urban areas of Heris County, East Azerbaijan Province of Iran, using the theoretical framework of the HBM for the first time.

Instrument and Methods

Study design and sample

This descriptive-analytical correlational study was conducted on 1,000 elementary school students, both girls and boys, in urban areas of Heris County in 2019-2020. Data collection was carried out through a census of all fourth and fifth-grade students in urban elementary schools. The inclusion criterion was the consent of the students or their parents.

Instrument and data collection

The researcher visited the selected schools and distributed questionnaires among the students. Data collection was performed using a self-report questionnaire. The questionnaire consisted of 65 items and six sub-scales designed to measure the components of the HBM. All questions were multiple-choice with three options. The sub-scales included awareness regarding head lice infestation, which consisted of 31 items (with scores ranging from 0 to 62), perceived susceptibility and perceived severity regarding head lice infestation, each consisting of six items (with scores ranging from 0 to 12), perceived benefits of preventive behaviors against head lice infestation, which consisted of seven items (with scores ranging from 0 to 14), perceived barriers to preventive behaviors against head lice infestation, consisting of nine items (with scores ranging from 0 to 18), and perceived self-efficacy for performing preventive behaviors against head lice infestation, consisting of six items (with scores ranging from 0 to 12). To assess preventive behaviors, four multiple-choice questions were used, with scores ranging from 0 to 17. The highest score for each question was assigned to the option deemed by the researcher to represent a preventive behavior. In this research, both content and form methods were employed to establish the validity of the questionnaire, while the internal consistency method (Cronbach's alpha) was used to assess the reliability of the questionnaire [21].

Data analysis

After the students completed the questionnaires and coding was performed, data analysis was conducted using descriptive statistics, such as frequency, mean, and standard deviation, as well as the Pearson correlation coefficient. Multiple linear regression was employed to investigate the predictors of preventive behaviors using the constructs of the HBM. All statistical analyses were conducted using SPSS version 16 at $p<0.05$.

Findings

The mean age of the students included in the study was 11.02±0.55 years, ranging from a minimum of 10 to a maximum of 12 years. Regarding the occupation of their fathers, 45% were self-employed, while 92% of the mothers were housewives. In terms of education, 62% of the fathers and 66% of the mothers had elementary education. Concerning birth order, 47% of the students were fourth-born (Table 1).

Table 1. Frequency of demographic characteristics of study samples

Parameter	Categories	Values
Gender	Male	512(51)
	Female	488(48)
Education level	Fourth grade	508(50)
	Fifth grade	492(49)
Students' age (year)	10	204(20)
	11	570(57)
	12	226(22)
Father's education	Elementary	620(62)
	Middle school and high	380(38)
Mother's education	Elementary	663(66)
	Middle school and high	337(33)
Father's occupation	Worker	327(32)
	Employee	219(21)
	Self-employed	454(45)
Mother's occupation	Housewife	928(92)
	Employee	72(7)
Number of family members	4	470(47)
	5	308(30)
	≥6	140(14)

Students in the fourth grade had higher levels of awareness ($p=0.027$) compared to students in the fifth grade, and this difference was statistically significant. Additionally, the constructs of awareness ($p=0.001$), perceived severity ($p=0.026$), perceived barriers ($p=0.0001$), and behaviors ($p=0.0001$) were significantly associated with the father's occupation. In other words, the level of awareness in students whose parents were employees was higher than that of those with self-employed or worker parents. Awareness ($p<0.001$), perceived severity ($p=0.03$), perceived barriers ($p=0.001$), and behaviors ($p=0.007$) were also significantly associated with the history of lice infestation in the students' parents. This means that the history of lice infestation in students' parents had an impact on the constructs of awareness, perceived severity, and perceived barriers in students. The constructs of perceived barriers ($p=0.05$) and behaviors ($p=0.01$) showed a significant difference based on maternal education. Furthermore, there was a significant difference in the mean scores of perceived barriers ($p=0.004$), perceived susceptibility ($p=0.001$), and behaviors ($p=0.05$) between students with a history of lice infestation and those without a history (Table 2).

Table 2. Comparison of health belief model constructs' scores by demographic parameters

Parameter	Awareness	Perceived susceptibility	Perceived severity	Perceived barriers	Perceived benefits	Self-efficacy	Behaviors
Education grade							
Fourth grade	65.00±12.68	72±13	73.00±15.25	59.23±15.30	80.82±17.00	79.89±17.27	69.41±13.98
Fifth grade	63.5±11.5	72.30±14.42	73.96±16.62	60.18±15.76	79.21±17.77	79.99±16.50	69.97±13.83
p-value	0.027*	0.799	0.386	0.331	0.143	0.932	0.525
Father's education							
Elementary	63.81±12.32	72.17±13.57	74.15±15.63	60.41±15.50	79.59±17.04	80.18±16.42	69.23±13.59
Middle and high school	65.29±11.86	72.20±14.05	72.47±16.39	58.53±15.52	80.73±17.97	79.54±17.64	70.43±14.38
p-value	0.06	0.973	0.10	0.06	0.31	0.56	0.18
Mother's education							
Elementary	64.27±12.34	72.05±13.70	73.73±15.67	60.37±15.23	79.90±16.97	79.64±16.39	68.90±13.69
Middle school and high	64.55±11.82	72.45±13.86	73.09±16.45	58.38±16.03	80.27±18.24	80.53±17.83	71.23±14.20
p-value	0.73	0.66	0.55	0.05*	0.75	0.43	0.01*
Father's occupation							
Worker	38.62±97.11	47.72±03.14	88.74±23.16	03.62±21.16	50.78±74.17	18.79±68.16	30.67±52.14
Employee	93.65±13.11	70.72±30.14	15.71±40.16	73.56±91.14	93.81±51.17	64.80±42.17	27.72±62.13
Self-employed	05.65±61.12	73.71±28.13	66.73±39.15	44.59±08.15	20.80±03.17	15.80±79.16	16.70±33.13
p-value	0.001*	0.62	0.026*	0.0001*	0.075	0.57	0.0001*
Mother's occupation							
Housewife	64.41±12.22	72.20±13.51	73.57±15.65	59.90±15.34	80.15±17.03	80.21±16.53	69.49±13.82
Employee	63.86±11.43	71.99±16.63	72.76±19.33	56.99±17.68	78.43±21.68	76.46±20.81	72.22±14.75
p-value	0.69	0.89	0.67	0.12	0.42	0.07	0.10
Students' previous history of infestation							
Yes	64.39±12.42	75.27±12.93	74.53±15.49	62.79±15.15	81.06±16.65	80.53±17.32	67.96±12.78
No	64.36±12.11	71.54±13.83	73.30±16.03	59.05±15.54	79.81±17.55	79.82±16.80	70.05±14.10
p-value	0.97	0.001*	0.34	0.004*	0.37	0.61	0.05*
Parents' previous history of infestation							
Yes	60.19±12.36	73.79±14.17	76.30±14.94	64.56±16.22	79.43±16.68	77.58±16.99	66.62±12.35
No	64.90±12.04	71.98±13.69	73.16±16.03	59.07±15.34	80.10±17.49	80.24±16.86	70.08±14.04
p-value	<0.001	0.18	0.03	0.001	0.69	0.11	0.007

*p<0.05

Table 3. Correlation between components of the health belief model and preventive behaviors against pediculosis infestation in the studied students

Parameter	7	6	5	4	3	2	1
1- Awareness	0.336 0.0001	0.315 0.0001	-0.33 0.0001	0.425 0.0001	0.425 0.0001	0.326** <0.001	1
2- Perceived susceptibility	0.146 0.0001	0.327* 0.0001	-0.028* 0.385	0.0001	0.379 0.0001	1	
3- Perceived severity	0.030 0.337	0.288** 0.0001	0.118 0.0001	0.478 0.0001	1		
4- Perceived benefits	0.241 0.0001	0.514 0.0001	-0.042 0.181	1			
5- Perceived barriers	-0.273 0.0001	0.014 0.665	1				
6- Perceived self-efficacy	0.299 0.0001	1*					
7- Behaviors	1						

** Significant at 0.01

* Significant at 0.05

Table 4. Correlation between demographic parameters and preventive behaviors against pediculosis in the studied students

Parameter	9	8	7	6	5	4	3	2	1
1- Education level	0.02 0.52	0.029 0.361	-0.02 0.40	-0.04 0.18	-0.02 0.363	-0.062 0.051	0.434 0.0001	0.965	1
2- Gender	0.167 0.0001	0.074 0.02	-0.04 0.16	-0.09 0.002	-0.05 0.08	-0.04 0.203	-0.078 0.013	1	
3- Age	0.069 0.02	0.051 0.10	-0.003 0.91	0.004 0.90	0.005 0.87	-0.033 0.30	1		
4- Father's education	0.042 0.18	-0.07 0.027	0.23 0.0001	0.11 0.0001	0.56 0.0001	1			
5- Mother's education	0.079 0.01	-0.088 0.006	0.268 0.0001	0.08 0.007	1				
6- Father's occupation	0.082 0.009	-0.035 0.27	-0.02 0.47	1					
7- Mother's occupation	0.051 0.10	-0.053 0.09	1--						
8- Number of family members	-0.04 0.2	1							
9- Behaviors	1								

The Pearson correlation coefficient showed a significant correlation between awareness, perceived susceptibility, perceived benefits, perceived barriers, self-efficacy, and preventive behaviors against pediculosis infestation. Additionally, there was a significant correlation between awareness and perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and self-efficacy (Table 3). Furthermore, the Pearson correlation coefficient indicated a significant positive correlation between gender, age, mother's education, and father's occupation with preventive behaviors (Table 4).

In the first phase of regression analysis, to predict behaviors using the constructs of the HBM, it was determined that among the constructs of the HBM, awareness, self-efficacy, and perceived barriers were predictors of preventive behaviors (p=0.0001). Their predictive power for behavior changes was 19.3% (R^2=0.193; Table 5). In the second phase of regression analysis, to predict behaviors using demographic parameters, gender (p=0.0001), father's occupation (p=0.003), age (p=0.007), and mother's education (p=0.009) were identified as predictors of preventive behaviors, accounting for 5.1% (R^2 = 0.051) of the behavior changes (Table 6).

Table 5. Regression model findings for predicting pediculosis preventive behaviors

Parameter	B	SE	Beta	t	p-value	R	R^2
Constant	51.20	3.31	-	15.47	0.0001		
Awareness	0.216	0.037	0.19	5.91	0.0001		
Perceived self-efficacy	0.199	0.025	0.242	7.98	0.0001	0.440	0.193
Perceived barriers	-0.189	0.027	-0.212	-6.96	0.0001		

Table 6. Regression model findings for predicting preventive behaviors for pediculosis by demographic parameters

Parameter	B	SE	Beta	t	p-value	R	R^2
Constant	36.23	7.65	-	4.73	0.0001		
Gender	5.19	0.86	0.18	5.99	0.0001		
Father's occupation	1.48	0.49	0.093	2.99	0.003	0.22	0.051
Age	1.76	0.65	0.083	2.68	0.007		
Mother's education	2.38	0.91	0.081	2.61	0.009		

Table 7. Regression model findings for ultimate predictors of preventive behaviors for pediculosis

Parameter	B	SE	Beta	t	p-value	R	R^2
Constant	43.38	3.65	-	11.87	0.0001		
Awareness	0.21	0.036	0.19	6.03	0.0001		
Self-efficacy	0.18	0.025	0.22	7.55	0.0001		
Perceived barriers	-0.18	0.027	-0.202	-6.71	0.0001	0.215	0.46
Gender	3.83	0.78	0.138	4.87	0.0001		
Mother's education	1.87	0.82	0.064	2.26	0.024		

In the final phase of regression analysis, to predict behaviors using all research parameters, it was found that the parameters of awareness (p=0.0001), self-efficacy (p=0.0001), perceived barriers (p=0.0001), gender (p=0.0001), and mother's education (p=0.024) were determined to be the ultimate predictors of behaviors. In total, these parameters predicted only 21.5% (R^2=0.215) of the behavior changes (Table 7).

Discussion

This study aimed to investigate the determinants of preventive behaviors against pediculosis based on the HBM among 1,000 fourth- and fifth-grade elementary students in urban areas of Heris County. Given the effectiveness of the HBM in various studies, it was also employed to examine the determinants of preventive behaviors against pediculosis.

Regarding the relationship between the components of the HBM and demographic parameters, students' awareness of pediculosis was found to be at a moderate level. This result is consistent with the findings of studies by Zareban *et al.* [22], Gholamnia Shirvani *et al.* [6], and Moshki *et al.* [21], which also report moderate levels of awareness among students regarding pediculosis. A study conducted by Heukelbach and Ugbomoiko in a village in Nigeria shows very low awareness about transmission and treatment methods among the study group [23]. Another study by Magalhães *et al.* in southeastern Angola among elementary school children revealed that 56.7% of the students had no knowledge about the treatment of pediculosis. All of these studies indicate a lack of knowledge among students in this area [24]. The results of the current study indicated that fourth-grade students had higher awareness than fifth-grade students, and there was a significant relationship between awareness, perceived severity, perceived barriers, and preventive behaviors with the father's occupation. In other words, the level of awareness was higher in students whose parents were employees compared to those with self-employed or worker parents. These findings are consistent with the results of studies conducted by Noroozi *et al.* [9], Poorbaba *et al.* [25], Rafie *et al.* [26], Rafinejad *et al.* [27], Saghafipour *et al.* [8], and Soleimanizadeh & Sharifi [28].

The findings of this study also demonstrated significant correlations between all components of the HBM, except for perceived severity, and preventive behaviors against pediculosis. These results align with the findings of Baghianimoghadam *et al.* [29] and Mazlomi *et al.* [30], investigating preventive behaviors against type 2 diabetes. Furthermore, the study results showed a significant correlation between perceived susceptibility and self-efficacy. This finding is consistent with the results of Vermandere *et al.* [31], Grace-Leitch *et al.* [32], and Consedine *et al.* [33].

The results of this study demonstrated a significant correlation between awareness and perceived severity with self-efficacy. This finding is consistent with the findings of Morowati Sharifabad *et al.* [34] and Moshki *et al.* [21] on preventive behaviors against

pediculosis. Additionally, there was a significant correlation between perceived severity and perceived susceptibility, which aligns with the findings of Panahi *et al.* [35].

In the present study, significant correlations were observed between perceived barriers, perceived benefits, self-efficacy, and perceived severity. This corresponds to the results of Namdar *et al.* [36] and Didarloo *et al.* [37], which focused on adopting preventive behaviors against cervical cancer. Moreover, a significant correlation was found between preventive behaviors and self-efficacy, which was consistent with the findings of studies conducted by Khodaveisi *et al.*, investigating predicting factors for adhering to infection control standard precautions among pre-hospital emergency staff [38], the study by Panahi *et al.* on preventive behaviors against smoking among students [35], and the study by Namdar *et al.* [36].

In this research, the perceived barriers of students and their behaviors showed a significant relationship with the mother's education level, which is in line with the results of Modaresi *et al.* [18], Motevalli Haghi *et al.* [14], Noroozi *et al.* [9], Poorbaba *et al.* [25], Rafie *et al.* [26], Rafinejad *et al.* [27], and Saghafipour *et al.* [8], on the epidemiology of pediculosis (head lice) and its associated factors among female elementary school students in Qom Province. These findings also correspond to the results of Soleimanizadeh & Sharifi [28].

Finally, the regression analysis identified awareness, self-efficacy, perceived barriers, gender, and the mother's education level as the ultimate predictors of preventive behaviors. This finding is consistent with the results of the study by Namdar *et al.*, on the utility of the HBM constructs in predicting preventive behaviors against cervical cancer and introduced perceived barriers as the ultimate predictors of behaviors [36]. Additionally, it aligns with the findings of Mehri and Mohagheghnejad [39] and Mazaheri *et al.*, on the impact of health education based on the HBM on promoting preventive behaviors against dental caries among students [40]. It also corresponds to the study by Tanner-Smith and Brown [41] in the United States, as well as Didarloo *et al.*'s research, on the relationship between HBM constructs and the intention to vaccinate against human papillomavirus among female students, identifying self-efficacy as the ultimate predictor of behaviors [37]. These results are also consistent with the findings of the study conducted by Poorbaba *et al.*, on investigating preventive behaviors against pediculosis among female students in Gonabad, where perceived barriers were identified as the ultimate predictor of preventive behaviors [25].

There are several limitations to this study. First, the use of self-report questionnaires, given the young age of the fourth and fifth-grade students, may introduce errors in completing the questionnaires. Additionally, the reliance on the HBM without considering parameters outside of this theoretical framework can be regarded as another limitation of this study. Therefore, it is essential to develop appropriate educational programs based on the HBM, which can have a more substantial impact on preventive behaviors against pediculosis. Given the influential role of healthcare workers, teachers, and parents in promoting preventive behaviors against head lice infestation among students, it is recommended to design and evaluate effective interventions aimed at enhancing the health literacy of parents and school staff.

Conclusion

Awareness, perceived barriers, self-efficacy, gender, and the mother's education level are significant ultimate predictors of preventive behaviors.

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