Prevalence of pediculosis among primary school children in Tunisia

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Abstract

Background: *Pediculus humanus capitis* (head lice) infestation is a global health concern, yet no study has examined its occurrence among primary school children in Tunisia.

Aim: To assess the prevalence of *Pediculus capitis* and its epidemiological characteristics among primary school children living in rural and urban areas of Monastir, Tunisia.

Methods: We used 2-step stratified cluster sampling to randomly select 2396 children from 14 primary schools in Monastir during the 2022/2023 academic year. Head lice infestation was assessed through visual inspection of the hair, and data on the socio-demographic characteristics, lifestyle and pediculosis history of the children were collected. We used SPSS version 20 to analyse the data and used descriptive statistics to rate the frequencies. Multivariate logistic regression was used to examine the association between pediculosis and the predictor variables.

Results: Overall infestation rate was 17.5% (95% CI 16.0–19.1%); infestation was 5 times higher among girls (29.1%) than boys (6.3%). Schoolchildren living in crowded family households, those in the third and fourth grades and whose parents had low education level were more exposed to infestation. Combing frequency, comb sharing and history of previous infestation had significant impact ($P < 0.05$) on the prevalence of pediculosis. Multivariate logistic regression showed gender and treatment outcome as the main potentiating factors.

Conclusion: These findings highlight the need for pediculosis prevention and integrated health promotion programmes among primary school children and their parents, teachers and nurses in Monastir and other parts of Tunisia.

Key words: *Pediculus capitis*, pediculosis, head lice, primary school, children, comb, Monastir, Tunisia

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Introduction

Human pediculosis is an infestation of the hairy parts of the body by the blood-sucking ectoparasite *Pediculus humanus*. Among its 2 subspecies, *Pediculus humanus capitis* (Anoplura: Pediculidae), commonly known as head lice, is the causative agent of pediculosis and one of the most widespread ectoparasites worldwide (*1*). Lice infestation impacts millions of people annually (*2*), causing physical, psychological and social burdens. It mainly affects 3–11-year-old girls through close contacts and personal items sharing (*3*).

Although not prioritized by the scientific community and healthcare sector, pediculosis often causes skin irritation, fatigue and delayed allergic reactions (*4,5*). The World Health Organization estimates that billions of people are at risk, particularly in developing countries (*6,7*). A meta-analysis of 201 studies revealed a 19% global prevalence, varying from 2% in Germany to 79% in Libya (*8*). This large variation in prevalence is the result of many factors such as eradication methods, interactions, school policies, lice resistance, awareness, sample size, diagnostic methods, season, socioeconomics, and geography (*9*). Studies in the Mediterranean Region have focused on West Asia, with a mean prevalence of 61%; Libya has the highest prevalence (78.6%), while France has the lowest (3.3%) (*10,11*). In the south of Mediterranean, data are limited to Egypt (3.7–60.6%), State of Palestine (41%) and Libya (78.6%) (*10,12-16*).

In Tunisia, pediculosis is not listed among the national disease control priorities, and no national programme is being implemented to control infestation. Parents of primary school children are often just informed and encouraged to take care of their children to prevent or control infestation. No study has been conducted to assess the prevalence and risk factors for this skin parasitic disease.

This study therefore aimed to assess pediculosis prevalence as well as its epidemiologic characteristics and risk factors among primary school children in Tunisia's rural and urban areas.

Methods

Study design and sampling

This cross-sectional study was conducted in Monastir Governorate of Tunisia during the 2022/2023 academic year. The governorate covers an area of 1019 km² and is divided into 14 delegations with 158 public primary schools (44 rural and 114 urban). The estimated number of school pupils is 63 339 [55 622 (87.82%) urban and 7717 (12.18%) rural) (*17*).

The study included primary school children aged 6–15 years. To ensure sample representativeness, 2-step, stratified, cluster sampling was used. A proportionate number of schoolchildren were selected from the urban and rural schools. First, primary schools were randomly selected, with each selected school serving as a cluster. Second, classes in the selected schools were randomly selected, with proportions reflecting the total number of children in the school. The sample size was calculated as indicated in the WHO health study manual (*18*) using the formula:

$$n = \left(\frac{Z^2 \cdot p \cdot (1-p)}{d^2} \right) \cdot K$$

where n is the sample size, Z is the confidence level at 95% (1.96), p is the expected prevalence (50%), d is the margin of error of 3.5% and K is the cluster effect of 2. Since data on pediculosis prevalence in Tunisia were unavailable, a prevalence of 50% was considered.

Based on this formula, a sample size of 1567 pupils was yielded as the minimum number of participants required for the study. Assuming a 20% nonresponse or incomplete questionnaire rate, the required sample size was increased to 1880 pupils. However, to ensure the power and validity of the study, the sample size was increased to 2396 primary school children (urban 1948 and rural 448).

Data collection

Fourteen primary schools (4 rural and 10 urban) and 105 classes (24 rural and 81 urban) were visited. Data were collected in classrooms during regular class periods using a questionnaire that was prepared in Arabic. The questionnaire covered 3 main parts: sociodemographic characteristics (age, gender, school grade, classroom load, family size, parents' occupation and education, and family income); hair quality (length and thickness); lifestyle (comb sharing, combing, head washing and head examination frequencies); and pediculosis-related characteristics (infestation history, treatment methods and treatment outcome of previous infestations).

A classroom was considered uncrowded if the number of children was <25 and crowded if the number was ≥25. Household income was classified according to the National Institute of Statistics classification (*19*): low income was defined as approximately 4465 dinars (equivalent to 1347 euros or 1464 dollars) annually.

Head lice infestation was assessed visually by experienced physicians and nurses, focusing on the occipital and nape areas. Active infestation included live lice or viable nits (lice eggs). The infestation severity was determined by counting the nymphs, adults and nits after a 20-fold combing of an infested hair section using a fine-toothed comb. A scale ranging from 1 to 4 was used to categorize infestation as low, moderate, severe, or very severe. Low infestation had 1–10 viable nits located less than 1 cm from the scalp, without adults or nymphs. Moderate infestation involved viable nits less than 1 cm from the scalp and 1–3 living adults or nymphs. Severe infestation included viable nits less than 1 cm from the scalp with 4–8 living adults or nymphs. Very severe infestation was characterized by nits covering almost the whole hair and more than 9 adults or nymphs. Positive cases were kept confidential and cross-referenced with the questionnaire to ensure accuracy.

Data analysis

Data were analysed using SPSS version 20 and descriptive statistics were used to rate the frequencies and unadjusted association for each variable. Chi-square was used to test the associations between head lice infestation and sociodemographic and/or lifestyle; $P \leq 0.05$ indicated significance. Z test was used to compare column proportions, univariate logistic regression explored associations between predictor variables and pediculosis and the Odds Ratio (OR) and 95% confidence intervals (CI) were determined. $P < 0.20$ variables were candidates for multiple logistic regression, for which a binary variable representing the presence or absence of infestation (Yes/No) was used as the dependent variable.

Ethics approval

The study protocol was approved by the Ethics Committee of the Faculty of Medicine, University of Monastir, Tunisia (IRB log number IORG 0009738 N°127/OMB 0990-0279). The legal representatives of all participants were informed about the project objectives and the research procedure. The research staff explained the purpose of the study and assured them of confidentiality of the children's information. Signed written informed consent was obtained from them and the parents or guardians of the children.

Results

Demographic characteristics

Of the 2396 primary school children examined, 1221 were male and 1175 were female, giving a male to female ratio of 1.04 (Table 1). They were aged 6–15 years, mean ± standard deviation (SD) 9.74 ± 2.16 and were in first to sixth grades (Table 2).

Prevalence and risk factors for head lice infestation

Table 3 presents the prevalence of pediculosis and its relationship with sociodemographic factors. The overall infestation rate was 17.48% (95% CI 16.0–19.1%). A total of 419 pupils were infested with at least one of the *P. capitis*

Table 1 Distribution of primary school children by school and residence, Monastir, Tunisia, 2023

	School	No. of visited classes	No. of inspected pupils (%)		No. infected with pediculosis n (%)	
			Male	Female	Male	Female
Rural	School 1	6	47	48	3 (6.4)	16 (33.3)
	School 2	6	71	61	0 (0)	15 (24.6)
	School 3	6	45	44	3 (6.7)	10 (22.7)
	School 4	6	65	67	4 (6.2)	18 (26.9)
Total	4	24	228 (50.9)	220 (49.1)	10 (4.4)	59 (26.8)
Urban	School 5	10	138	122	12 (8.7)	41 (33.6)
	School 6	8	115	103	7 (6.1)	22 (21.4)
	School 7	7	70	83	2 (2.9)	25 (30.1)
	School 8	6	55	50	4 (7.3)	23 (46.0)
	School 9	6	73	67	7 (9.6)	26 (38.8)
	School 10	6	78	60	4 (5.1)	15 (25.0)
	School 11	10	104	113	11 (10.6)	32 (28.3)
	School 12	10	145	138	7 (4.8)	29 (21.0)
	School 13	8	90	83	4 (4.4)	35 (42.2)
	School 14	10	125	136	9 (7.2)	35 (25.7)
Total	10	81	993 (51.0)	955 (49.0)	67 (6.7)	283 (29.6)
Total (rural + urban)	14	105	1221 (51.0)	1175 (49.0)	77 (6.3)	342 (29.1)
			2396		419 (17.5)	

Table 2 Age distribution of primary school children, Monastir, Tunisia, 2023

	Minimum	Maximum	Mean	Standard deviation
Age (years)	6	15	9.74	2.16
Age of infested (years)	6	15	9.52	2.15

life cycle stages. The average age of infested children was 9.52 ± 2.15 (± SD) (Table 2).

Seventy-seven boys (6.3%) and 342 girls (29.1%) were infested and the difference was statistically significant ($P < 0.001$). The highest infestation rate was observed among the third (20.6%) and fourth grade children (20.4%) and among children living in families with ≥6 members (21.6%). There was a statistically significant association between head lice infestation rate and grade level ($P = 0.036$) and between head lice infestation rate and living in large families ($P < 0.001$). High prevalence of infestation was observed among children whose parents had lower education levels, were self-employed or unemployed, and these differences were statistically significant (Table 3).

Of the 1502 pupils from low-income families, 270 (18%) were infected. Among the 740 pupils from medium-income families, 129 (17.4%) were infected, and among the 121 children from high-income families 16 (13.2%) were infected. The difference was not statistically significant ($P = 0.415$).

Univariate analysis showed that prevalence of head lice was affected by gender, grade level, number of household members, and parent's education and occupation. Female children had 6.1 times (OR = 6.1; 95% CI 4.69–7.93) higher odds of being infested than males. Grade level was a significant variable for pediculosis especially for children in the third (OR = 0.57, 95% CI 0.40–0.83) and fourth grades (OR = 0.58; 95% CI 0.40–0.82). Children living in families with ≥6 members had 2.06 times (OR = 2.06; 95% CI 1.10–3.85) higher odds of being infested than those living in families with <3 members.

The severity of infestation varied among the children; 21 (5%) had very severe infestation, 59 (14.1%) had severe infestation, 110 (26.3%) had moderate infestation, and 229 (54.7%) had low infestation.

Among the assessed lifestyle behaviours and practices, pediculosis was significantly associated with combing frequency. Infestation rate was highest among children who combed their hair everyday. Children who shared their comb with other family members had a significantly higher pediculosis rate (21.1%) and had 1.63 (OR =1.63; CI 1.31–2.02) times higher odds of being infested than those who did not share comb (14.1%).

For hair length, 9.3% of children with short hair were infested, while 21.3% and 27.3% of those with medium and long hair, respectively, were infested. Children with long hair had 3.67 (OR = 3.67; 95% CI 2.76–4.88) times higher odds of having pediculosis than those with short hair.

Table 3 **Prevalence of head lice with sociodemographic and other characteristics, Monastir, Tunisia, 2023**

Characteristics		Total		Pediculosis capitis		χ^2	*P* value	OR (95%CI)
		N	%	N	%			
Age (years)	6–8	687	31.2	129[a]	18.8	9.55	0.08	0.65 (0.48–0.89)
	9–11	948	43.1	178[a]	18.8			0.65 (0.48–0.87)
	12–15	566	25.7	74[b]	13.1			1.00
Gender	Male	1221	51.0	77[a]	6.3	215.72	<0.001**	1.00
	Female	1175	49.0	342[b]	29.1			6.1 (4.69–7.93)
Grade level	First	413	17.2	72	17.4	11.92	0.036*	0.70 (0.48–1.01)
	Second	266	11.1	47	17.7			0.69 (0.45–1.04)
	Third	360	15.0	74[b]	20.6			0.57 (0.40–0.83)
	Fourth	441	18.4	90[b]	20.4			0.58 (0.40–0.82)
	Fifth	449	18.7	76	16.9			0.72 (0.50–1.05)
	Sixth	466	19.4	60[a]	12.9			1.000
No. of students in class	<25	1172	49.0	200[a]	17.1	0.24	0.618	1.05 (0.85–1.30)
	≥25	1222	51.0	218[a]	17.8			1.000
Residence	Urban	1948	81.3	350[a]	18.0	1.66	0.197	1.20 (0.90–1.60)
	Rural	448	18.7	69[a]	15.4			1.000
No. of household members	≤3 persons	102	4.3	12[a]	11.8	15.60	<0.001**	1.00
	4-5 persons	1464	61.1	228[a]	15.6			1.38 (0.39–1.32)
	≥6 persons	830	34.6	179[b]	21.6			2.06 (1.10–3.85)
Father's education level	Low	846	47.6	162[a]	19.1	7.30	0.026*	1.00
	Medium	639	36.0	94[b]	14.7			1.37 (1.04–1.81)
	High	291	16.4	40[b]	13.7			1.48 (1.02–2.16)
Mother's education level	Low	880	47.7	173[a]	19.7	8.85	0.012*	1.00
	Medium	584	31.7	88[b]	15.1			1.37 (1.04–1.82)
	High	379	20.6	52[b]	13.7			1.53 (1.09-2.15)
Father's occupation	Jobless	54	2.3	14[a]	25.9	7.06	0.029*	1.00
	Self-employed	2199	92.2	389[a]	17.7			1.62 (0.87–3.02)
	Governmental employed	132	5.5	14[b]	10.6			2.95 (1.29–6.71)
Mother's occupation	Housewife	852	35.8	126[a]	14.8	7.61	0.022*	1.19 (0.80–1.77)
	Self-employed	1304	54.8	253[b]	19.4			0.85 (0.58–1.24)
	Governmental employed	222	9.3	38	17.1			1.00
Family income	Low	1502	63.6	270[a]	18.0	1.76	0.415	1.00
	Medium	740	31.3	129[a]	17.4			1.03 (0.82–1.30)
	High	121	5.1	16[a]	13.2			1.43 (0.83–2.47)
Daily combing	Yes	2151	90.0	391[a]	18.2	7.95	0.005*	1.82 (1.19–2.77)
	No	239	10.0	26[b]	10.9			1.00
Comb-sharing	Yes	1121	47.2	237[a]	21.1	20.30	<0.001**	1.63 (1.31–2.02)
	No	1254	52.8	177[b]	14.1			1.00
Bed sharing	Yes	1885	79.4	338[a]	17.9	1.01	0.313	1.00
	No	488	20.6	78[b]	16.0			1.14 (0.87–1.50)
Bathing frequency per week	1	1331	56.7	242[a]	18.2	1.26	0.531	1.00
	2	792	33.7	137[a]	17.3			1.06 (0.84–1.33)
	>2	224	9.5	34[a]	15.2			1.24 (0.84–1.83)
Hair length	Short	1004	42.3	93[a]	9.3	91.19	<0.001**	1.00
	Medium	823	34.7	175[b]	21.3			1.39 (1.08–1.78)
	Long	546	23.0	149c	27.3			3.67 (2.76–4.88)
Hair thickness	Thin	1373	58.4	230[a]	16.8	0.63	0.425	1.09 (0.88–1.35)
	Thick	977	41.6	176[b]	18.0			1.00

Table 3 Prevalence of head lice with sociodemographic and other characteristics, Monastir, Tunisia, 2023 *(concluded)*

Characteristics		Total		Pediculosis capitis		χ^2	*P* value	OR (95%CI)
		N	%	N	%			
History of infestation	Yes	1071	45.9	251[a]	23.4	46.19	<0.001**	2.11 (1.69–2.62)
	No	1262	54.1	160[b]	12.7			1.00
Treatment type	Medical	814	65.4	174[a]	21.4	3.42	0.180	1.49 (0.96–2.32)
	Traditional	317	25.5	74[a]	23.3			1.33 (0.82–2.16)
	Both	114	9.2	33[a]	28.9			1.00
Result of treatment	Good	1079	88.7	211[a]	19.6	42.83	<0.001**	1 .00
	Bad	138	11.3	61[b]	44.2			3.26 (2.26–4.71)
Frequency of checks	Everyday	1039	55.9	222[a]	21.4	6.76	0.080	1.00
	Every 10–15 days	350	18.8	60	17.1			1.31 (0.95–1.80)
	Rarely	290	15.6	53	18.3			1.21 (0.87–1.69)
	Never	180	9.7	26[b]	14.4			1.60 (1.03–2.50)

**Significant; **Very significant.*

Regarding the history of infestation, 23.4% of children with history of infestation were infested, compared to 12.7% of those without history of infestation. Children with history of infestation had 2.11 (OR = 2.11; 95% CI 1.69–2.62) times higher odds of having pediculosis than those without history of infestation.

A higher prevalence of pediculosis (28.9%) was observed among individuals who used both medical and traditional treatments than those who solely used traditional treatment (23.3%) or medical treatment (21.4%).

For the result of treatment, 19.6% of children with good treatment results were infested, compared to 44.2% of those with bad treatment results. Children with bad treatment results had 3.26 (OR = 3.26; 95% CI 2.26–4.71) times higher odds of developing pediculosis than those with good treatment results.

Table 3 presents the results of the multivariable logistic regression for predicting head lice infection among the children. Among the 12 adjusted variables in the multivariate logistic regression model, only gender and treatment outcome showed significance in the final model. Specifically, girls exhibited 7-fold higher likelihood of infestation than boys (95% CI 3.79–13.53; $P < 0.001$). Children who underwent unfavourable treatment were approximately 2.47 times more susceptible to infestation than those who received effective treatment (95% CI 1.50–4.06; $P < 0.001$).

Discussion

Human pediculosis is a significant public health concern affecting millions of people across the globe (*20*). During recent decades, there has been a notable increase in pediculosis cases worldwide, primarily attributed to 3 factors: improper use of pesticides, emergence of louse resistance to traditional pesticides and misdiagnosis (*21*).

In the Monastir Governorate of Tunisia, the prevalence of pediculosis among primary school children was 17.48%, similar to those reported in Syria (14.3%), Thailand (15.1%), Turkey (16.6%), and Egypt (16.7%) (*22-25*). It was higher than in France (3.3%) (*11*) and Spain (9.39%) (*26*) and lower than in some Mediterranean countries like Egypt (60.6%) (*13*), State of Palestine (41%) (*14-16*) and Libya (78.6%) (*10*).

The National Pediculosis Association of the United States of America defines the threshold for an epidemic as 5% infection (*27*). Therefore, if no control action is undertaken by the public health authorities, pediculosis could reach epidemic proportions among primary school children in Monastir Governorate.

Various studies have explored the prevalence of head lice among schoolchildren in different regions of the world, no previous research has addressed the subject in Tunisia, resulting in a knowledge gap. Therefore, our study broke new ground by investigating the occurrence and epidemiologic characteristics of human head lice infestation in Tunisia. The data presented in this study provide a unique addition to existing knowledge.

Our study did not identify a significant difference between head lice infestation and age, however, children aged 6–8 and 9–11 years had a higher infestation rate than those aged 12–15 years. This may be because younger children rely more on their mothers for hair wash and combing, while older children more often comb by themselves. Younger children tend to maintain closer relationships and actively participate in social activities with their friends, and this may have contributed to the higher infestation rates. A study from Jordan reported that younger children aged <9 years had a higher infestation rate (*28*). In contrast, a survey conducted in Greece reported that the risk of infestation increased by 15% with each additional year of age (*29*).

In this study, we observed that girls had a significantly higher infestation rate (29.1%) than boys (6.3%) and there was a remarkable significance in the correlation between gender and occurrence of head lice infestation

($P < 0.001$). This finding closely aligns with an earlier report (*30*) and may be attributed to many factors like hair length, behaviour and closer interactions among girls (*31*). However, another study in the Islamic Republic of Iran reported no gender-related association (*32*). It is important to highlight that wearing hijab could be a potential significant factor for pediculosis prevalence among girls. Although this was not assessed among the 1167 females included in our study, only 2 of them wore hijab and they had no pediculosis.

The infestation rate was higher among urban dwellers, although the difference was not statistically significant and may have been influenced by sampling methods and school distribution. In Libya, lower prevalence among urban dwellers was attributed to improved socioeconomic conditions (*10*).

We observed a significant relationship between parental education level and infestation rates. Children of highly educated parents experienced lower prevalence, as reported by a previous study (*31*). Parents' occupation had impact on pediculosis prevalence; children of self-employed mothers and/or unemployed fathers had higher infestation rates. This may be because of the limited awareness, unavailability of parents and limited resources to effectively take care of their children. This finding is consistent with the results of Morales et al in Spain (*33*). In line with a previous study conducted in Turkey, families with low income were predisposed to pediculosis (*34*), but we did not observe a statistically significant difference in our study.

Our findings showed different infestation rates among grade levels; children in the third and fourth grades experienced the highest prevalence and this could be due to poor hygiene practices and higher social interactions. In contrast, a survey conducted in Islamic Republic of Iran reported that fifth grade pupils had the highest frequency of head lice infestation, while a lower frequency of infestation was observed among those in lower grades (*9*).

A remarkably high prevalence of infestation was observed among children from households with many siblings (4–5 and ≥6 siblings) ($P < 0.001$). Sayyadi et al reported no significant statistical relationship between pediculosis and family size (*35*). Less attention to hair care and increased interaction between siblings may have promoted the transmission of ectoparasites (*30*).

A significant association between pediculosis and daily hair combing and a higher prevalence was observed among daily combers. This contradicts previous studies suggesting that combing is an effective preventive measure against head lice (*9,36,37*). Limited sample size and/or the false participant response to this embarrassing question may be responsible for such discrepancy. However, maintaining good hair care and personal hygiene are essential in reducing lice infestation (*30*).

We found a strong association between lice infestation and comb-sharing ($P < 0.001$) and, to a lesser extent, bedroom sharing ($P = 0.313$). These practices may be influenced by family and socioeconomic factors. In the rural areas of Tunisia, sharing bedrooms and clothes is common and this can aid lice transmission. A similar study in Egypt supports this finding, with significant connections between head lice prevalence and behaviours like sharing headwear, towels, clothes, and beds (*27*). However, an epidemiological study in Asadabad, Islamic Republic of Iran, reported no significant association between comb-sharing and head lice infestation (*38*).

The number of infested children was not proportional to the number of baths per week ($P = 0.531$). This is consistent with the results of Kassiri and Kateki in Islamic Republic of Iran (*39*). Having a bath and access to tap water in houses can play a significant role in reducing the likelihood of head lice infestation.

In our study, we found a significant association between hair length and pediculosis, particularly among individuals with medium and long hair, potentially contributing to higher infestation rates among females. This finding is consistent with a previous report (*9*) but contradicts a recent Spanish study, which reported a higher prevalence among schoolchildren who had short hair (*33*). No significant relationship was found between hair thickness and lice infestation as reported by Soultana et al (*29*), although it was unexpected that individuals with thick hair had higher infestation rates.

The frequency of pediculosis occurrence was linked to past occurrence of the disease. The recurring infestations could be a consequence of misidentification, not following the right medical or hygiene advice, use of low-quality medical products, use of traditional remedies, or resistance of ectoparasites to the available treatments (*40*). Many of the children attempted both medical and traditional treatments, possibly due to heightened resistance of head lice to the medical or traditional products used, as observed in the final model of the study ($P < 0.001$). Although hair check frequency did not show a significant correlation with infestation, regular checks could aid early detection and enhance control of infestation.

Limitations of the study

The limitations of this study include the potential oversight of minor infestations and the lack of socioeconomic and cultural data for some participants. Because we used a cross-sectional method, we could not establish causal relationships. However, the strength of the study is that it is the first community-based examination of head lice infestation in Tunisia, which had a substantial sample size and provided head hygiene guidance to participants during the screenings.

Conclusion

The prevalence of pediculosis among primary school children was 17.48%, and it was 5 times more common

among girls than boys and more frequent among those in third and fourth grades and <12-year-old children. The infestation rate was approximately equal among urban and rural dwellers. Based on our findings, crowded families, low education level of parents, daily combing, comb-sharing, long hair, history of previous infestation, and poor treatment outcome are considered as risk factors. These findings highlight the need for pediculosis prevention and integrated health promotion programmes among primary school children and their parents, teachers and nurses in Monastir and other parts of Tunisia.

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Prévalence de la pédiculose chez les enfants des écoles primaires en Tunisie

Résumé

Contexte : La pédiculose de la tête (l'infestation par des poux de tête) est un problème de santé mondial. Pourtant, aucune étude n'a examiné sa prévalence chez les enfants des écoles primaires en Tunisie.

Objectif : Évaluer la prévalence de la pédiculose de la tête et ses caractéristiques épidémiologiques chez les enfants des écoles primaires vivant dans les zones rurales et urbaines de Monastir (Tunisie).

Méthodes : Un échantillonnage en grappes stratifié en deux étapes a été utilisé pour sélectionner aléatoirement 2396 enfants dans 14 écoles primaires de Monastir au cours de l'année scolaire 2022-2023. L'infestation par des poux de tête a été évaluée par inspection visuelle des cheveux et des données sur les caractéristiques sociodémographiques, ainsi que sur le mode de vie et les antécédents de pédiculose des enfants ont été collectées. Les données ont été analysées à l'aide du logiciel SPSS version 20, et des statistiques descriptives ont été utilisées pour évaluer les fréquences. La régression logistique multivariée a été utilisée pour examiner l'association entre la pédiculose et les variables prédictives.

Résultats : Le taux global d'infestation était de 17,5 % (IC à 95 % : 16,0-19,1 %) ; l'infestation était cinq fois plus élevée chez les filles (29,1 %) que chez les garçons (6,3 %). Les écoliers vivant dans des logements familiaux suroccupés, ceux des troisième et quatrième années du primaire et dont les parents avaient un faible niveau d'éducation étaient plus exposés à l'infestation. La fréquence du peignage, le partage de peigne et les antécédents d'infestation précédente avaient un impact significatif (p < 0,05) sur la prévalence de la pédiculose. La régression logistique multivariée a montré que le genre et le résultat du traitement étaient les principaux facteurs potentialisateurs.

Conclusion : Ces résultats soulignent la nécessité de programmes de prévention de la pédiculose et de promotion de la santé intégrés destinés aux enfants des écoles primaires, ainsi qu'à leurs parents, enseignants et infirmiers à Monastir et dans d'autres régions de la Tunisie.

معدل انتشار داء القَمْل بين أطفال المدارس الابتدائية في تونس

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الخلاصة

الخلفية: تُمثِّل الإصابة بقمل الرأس قلقًا صحيًّا عالميًّا، ومع ذلك لم تبحث أي دراسة في حدوثه بين أطفال المدارس الابتدائية في تونس.

الأهداف: هدفت هذه الدراسة الى تقييم معدل انتشار قمل الرأس بين أطفال المدارس الابتدائية الذين يعيشون في المناطق الريفية والحضرية في مدينة المنستير بتونس، وخصائصه الوبائية.

طرق البحث: استخدمنا طريقة جمع العينات العنقودية الطبقية المكونة من خطوتين لاختيار 2396 طفلًا بصفة عشوائية من 14 مدرسة ابتدائية في مدينة المنستير خلال العام الدراسي 2022/ 2023. وقُيِّمت الإصابة بقمل الرأس من خلال المعاينة البصرية للشعر، وجُمعت بيانات عن الخصائص الاجتماعية السكانية، ونمط الحياة، وتاريخ إصابة الأطفال بداء القَمْل. واستخدمنا الإصدار 20 من برنامج SPSS لتحليل البيانات، واستخدمنا الإحصاءات الوصفية لتقييم معدلات التواتر. واستُخدم الانحدار اللوجستي المتعدد المتغيرات في دراسة الارتباط بين داء القَمْل ومتغيرات عوامل التنبؤ.

النتائج: بلغ معدل الإصابة الإجمالي 17.5% (فاصل الثقة 95%، 16.0–19.1%)؛ وكان معدل إصابة الفتيات (29.1%) أعلى بمقدار 5 مرات من معدل إصابة الفتيان (6.3%). وكان أطفالُ المدارس الذين يعيشون في أسر معيشية مزدحمة، وأولئك الذين هم في الصفين الثالث والرابع، وأولئك الذين كان مستوى تعليم آبائهم منخفضًا، أكثرَ عرضة للإصابة. وكان لتواتر تمشيط الشعر، وتبادل أمشاط الشعر، وتاريخ الإصابة السابقة أثر كبير (القيمة الاحتمالية < 0.05) على معدل انتشار داء القَمْل. وأظهر الانحدار اللوجستي المتعدد المتغيرات أن نوع الجنس والمخرجات العلاجية هما العاملان الرئيسيان المحتملان في حدوث معدل الانتشار هذا.

الاستنتاجات: تسلط هذه النتائج الضوء على الحاجة إلى الوقاية من داء القَمْل، وإلى برامج متكاملة لتعزيز الصحة في صفوف أطفال المدارس الابتدائية وآبائهم ومدرسيهم وممرِّضيهم في مدينة المنستير ومناطق أخرى من تونس.

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