

Head Lice Prevalences in the Primary School First Classes in the Sakarya Söğütlü Dispensary Region

SAKARYA SÖĞÜTLÜ SAĞLIK OCAĞI BÖLGESİNDEKİ İLKOKUL BİRİNCİ SINIFLARDA BAŞ BİTİ PREVALANSI

Fulya PAYZIN*

* MD.Söğütlü Dispensary, Sakarya, TÜRKİYE

SUMMARY

By the investigation performed on 214 first class pupils in the Sakarya Söğütlü Dispensary region, a lice or nit has been observed at the heads of 73 (34.1%) primary school children. The most observed disease among other systemic examinations was noticed to be pediculosis capitis. 54.2% of the children included to the investigation were boys and 45.8% were girls. Pediculosis capitis was noticed in the rate of 54.0% at girls and in the rate of 17.2% at boys. The hair length was also determined to be an increasing factor of the head lice occurrence frequency. It was seen that with the sharing of beds the risk was not increasing but was emerging when a school bank was shared by more children. There was no significant relation between bath periods and head lice occurrences. Of the children, 43.0% had a head lice past and in 90.2% of these children the head lice and nits were noticed by their mothers.

Key Words: Head lice, Prevalance

T Klin J Med Sci 1995, 15:57-60

Head lice are parasites, 1.5-3 mm in length, yellow-red or sometimes gray in color. They may be motionless in cold areas but very active at body temperatures. The most convenient places for them to live are those with 28°-37°C in warmth and 50-70% in moisture. A grown female lice lays a day 3-10 nits under the hair. These nits can be seen with the eye (0.7-1 mm in size), are bright yellow colored and oval or drop shaped, and grasp tightly the hair. They are called as "nit" among people. In 7-9 days the parasites come off the nits; the average life time of them is 30-45 days (1-3).

Geliş Tarihi: 03.01.1994

Yazışma Adresi: Fulya PAYZIN
Söğütlü Oispensary
Sakarya, TÜRKİYE

T Klin Tıp Bilimleri 1995, 15

ÖZET

Sakarya Söğütlü Sağlık Ocağı bölgesindeki 214 ilkokul birinci sınıf öğrencisi üzerinde yapılan araştırmada 73(%34.1) çocuğun başında bit veya sirke görülmüştür. Yapılan diğer sistem muayeneleriyle saptanan hastalıklar arasında en sık görülen pediculosis capitistir. Araştırmaya katılan çocukların %54.2'si erkek, %45.8'i kızdır. Pediculosis capitis kızlarda %54.0, erkeklerde %17.2 oranında bulunmuştur. Saç uzunluğunun da baş biti görülme sıklığını olumlu yönde etkilediği saptanmıştır. Çocukların yataklarını paylaşmaları ile riskin artmadığı, fakat okul sırasının daha çok kişiyle paylaşımı ile arttığı görülmüştür. Banyo sıklığı ile baş bitlenmesi sıklığı arasında anlamlı bir ilişki olmadığı tesbit edilmiştir. Araştırmaya katılan çocukların %43.0'ında daha önceden de baş biti görüldüğü ve bu grubun %90.2'sinde baştaki bit veya sirkenin anneleri tarafından farkedildiği saptanmıştır.

Anahtar Kelimeler: Bas biti, Prevalansı

T Klin Tıp Bilimleri 1995, 15:57-60

Pediculosis capitis is most commonly noticed at pre- or primary school children (1,3,4). In comparison to men, it is rather the case at women, at long-haired people and of groups with a low socio-economical standard (3,6). Although head lice may be seen at any population, they are less noticed at the black race (3-5,7). In winter, during the war period and disasters the frequency of their occurrence increases (15).

The exact frequency among the society is unknown (1). The lice infestation on the world is believed to be at least 300 millions (3,8). It is known that only in America 6 millions of people were infected in the year 1975 (9). The head lice infestation has been rising on the world since the 60's (8). In the epidemiological studies performed throughout various regions of Turkey, the head lice prevalences have been determined as 16.58% (10), 24.4% (11), 2.1%, 3.8% and 14.8% (1,2).

The most common way of contagion is the touch from hair to hair (3). Clothes, hair brushes and combs, hats etc. cause a direct or indirect contagion (1-3). Frequently the back of the neck, the ear and the temporal regions are hold (1-3). Lices are active and can be seen if looking nearer (3). Their primary symptom is itching. At itch-caused lesions; bacterial infections, impetigo and folliculitis are noticeable. Symptoms similar to eczema may come into existence (2,3).

The aim of this study is to determine the head lice frequency and the relations of sex, hair length, the sharing of beds and class banks, bath periods and previous lice complaints with this frequency among primary school first class pupils in the Söğütlü county.

TOOL-METHOD

The Type of the Study and its Universe

The study is performed in March, April, May and June of 1993 on 11 first class pupils, being in the environment of the söğütlü dispensary, by examining them one by one. It is a defining investigation made with a face to face inquiry technic. All of the first class pupils, these who were present at the examination days in the school were included to the study. Pupils who were absent at that day were absent at that day were called to the dispensary, examined and applied the inquiry. 214 children in total, of which 116 (54.2%) were boys and 98 (45.8%) were girls, have been examined. 9 of the children being absent at that moment and not replying to the call for the dispensary were not included to the investigation.

The examination has been performed in the type of a systemic examination. Especially the temporal and occipital region was investigated for a head lice. Children with a living nit and/or head lice have been evaluated in the pediculosis capitis group.

The Söğütlü county is situated 17 kms far from Sakarya and has 17 settlement regions. The mean livelihood of the people is agriculture and cattle-dealing, and their socio-economical problems are of medium degree. The hygienic conditions in some regions are very hard, and a primary school is not found in every village. Children are collected by services and led to only one primary school.

Data Suorcces of the Study

This study was carried out together with the pupil health check of the Ministry of Health. The health check pupil examination from of the Ministry of Health presented in enclosure 1, was prepared -including all necessities- by appmying the inquiry questions presented in enclosure 2.

The investigation has been performed with a doctor and two midwife nurses, a total of three people.

Data Analysis

The statistical relation among the groups was tested with a Ki-square test. A Yates correction was made in four eyed orders where the observed frequency was less than 25.

FINDINGS

In 73 of the 24 examined children, a head lice and/or a nit has been determined. It was found out that pediculosis capitis was the most noticed disease that were determined after a systemic examination done with 34.1% in frequency.

Of the children included to the study, 116(54.2%) were boys and 98 (15.8%) were girls. The two groups were classified according to their hair lengths being shorter or longer than the shoulder level. According to this, 155(72.4%) children were evaluated as shord-haired and 59(27.6) as long-haired. It has been determined that 122 (57.0%) of the children included to the investigation had no head lice past but 92(43.0%) of them owned such a past. That among children with a head lice past in 83(90.2%) of them their mothers, in 6(6.5%) of them their teachers, and in 3(3.3%) of them the health personnels have noticed the head lice or nit, was also remarked (Table 1).

When the relation between head lice occurrence frequency and sex was investigated, a head lice at the rate of 54.0% at girls and at the rate of 17.2% at the boys was determined (Table 2). It was remarked that at girls, in comperison to boys, the rate of head lice

Table 1. The distribution of the children with a previous head lice story in terms of the person noticing the lice or nit

Noticing Person	Number	Percent (%)
Mother	83	90.2
Teacher	6	6.5
Health Personnel	3	3.3
Total	92	100.0

Table 2. The relation between head lice occurrence frequency and the sex of the children being investigated

Sex		Head Lice		Total
		having	not having	
Male	Number	20	96	116
	%	17.2	82.8	100.0
Female	Number	59	45	98
	%	54.0	46.0	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

X-30.556, p<0.05

was much greater which is statistically significant ($\chi^2=30.556, p<0.05$).

A head lice was noticed at 55.9% of the long haired and at 25.8% of the short haired when the effect of hair length upon the head lice occurrence frequency was investigated (Table 3). It has been determined that there is a statistically significant relation between the hair length and head lice occurrence frequency ($\chi^2=17.333, p<0.05$).

When the relation between the head lice occurrence frequency and the sleeping alone or sharing his bed of the child with other children was investigated, a head lice at the rates of 37.3% at children sleeping alone and at 32.9% at children sharing beds was determined (Table 4). The difference between the rates is statistically not significant ($\chi^2=0.204, p>0.05$).

The bath period constituted the two groups where the first group consisted of children taking a both once a week or less, and the second was the group of children taking a both more than once a week. According to this classification, when the relation between head lice occurrence frequency and bath period was investigated, a head lice at the rates of 35.8% in the first group and at 20.8% in the second group was determined (Table 5). The difference was statistically not significant ($\chi^2=1.521, p>0.05$).

Table 3. The relation between head lice occurrence frequency and the hair length among children being investigated

Hair length		Head Lice		Total
		having	not having	
Short	Number	40	115	155
	%	25.8	74.2	100.0
Long	Number	33	26	59
	%	55.9	44.1	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

$\chi^2=17.333, p<0.05$

Table 4. The relation between head lice occurrence frequency and the bed sharing case of children being investigated

Bad Sharing Case		Head Lice		Total
		have	have not	
Share	Number	51	104	155
	%	32.9	67.1	100.0
No share	Number	22	37	59
	%	37.3	62.7	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

$\chi^2=0.204, p>0.05$

Table 5. The relation between bath period and head lice occurrence frequency

Bath Period		Head Lice		Total
		have	have not	
Once a Week or Less	Number	68	122	190
	%	35.8	64.2	100.0
More Than Once a Week	Number	5	19	24
	%	20.8	79.2	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

$\chi^2=1.521, p>0.05$

Table 6. The relation of previous head lice story and the present head lice occurrence frequency among children being investigated

Previous Head Lice Story		Head Lice		Total
		have	have not	
Have	Number	53	39	92
	%	57.6	42.4	100.0
Have not	Number	20	102	122
	%	16.4	83.6	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

$\chi^2=37.765, p<0.05$

Table 7. The relation between the number of pupils per school bank and head lice occurrence frequency

Number of pupils per School Bank		Head Lice		Total
		have	have not	
Two or Less	Number	51	73	124
	%	41.1	58.9	100.0
Three or More	Number	22	68	90
	%	24.4	75.6	100.0
Total	Number	73	141	214
	%	34.1	65.9	100.0

$\chi^2=5.737, p<0.05$

When the relation between previous head lice story and present head lice occurrence frequency was investigated, a head lice was noticed at 57.6% of children with a head lice past and at 16.4% of children without such a past (Table 6). The difference has been considered as statistically significant ($\chi^2=37.769, p<0.05$).

Two other groups were consisted according to the pupil number sharing a school bank. In the first group, where a school bank is shared by two or one pupil, the head lice occurrence rate was 41.4% and in the second group -three or more pupils sharing one school-bank- this rate was 24.4% (Table 7). The difference is statistically significant ($\chi^2=5.737, p<0.05$).

It has been determined that at children with a head lice past, head lice are more frequently observed than those without such a past. This group may be accepted as the risk group. In some other studies the same results were obtained (10). In the group having a head lice past, the older head lice were noticed 90.2% by the mothers for the first time. During the investigation it was remarked that the mothers were aware of the lice and nits in the heads of their children but did not attend for any medical treatments. The insufficiency in education is thought to be the major factor in this case and it is believed that with a continuous, active education given by health institutions will be helpful for the solution of frequently occurring head lice infestations.

DISCUSSION

According to the investigation results, when compared with previous studies head lice infestation frequency which was established to be 34.1%, is high. Comparing our study with the world's and Turkey's investigations is very difficult since they are not performed under the same conditions like, the same age groups, the same public and the same season. The head lice prevalences established in previous studies on this subject are as follows: In a primary school in Ankara 16.58% (10), in the primary schools in Gölbaşı region 24.4% (11), in three central primary schools in Sivas 2.1%, 3.8%, 14.8% (12), in the kindergartens and schools among children in 5-17 age groups in Israel 11.2% (8), the general frequency in Georgia, Florida and New York in America 8.5% (13) among patients applying to Istanbul Cerrahpaşa School of Medicine in the year 1989 0.48% (14), in 1986 in Pakistan 36.7 (15), the general rate in 27 schools in Libia 78.6% (6). The investigation covers only the first class pupils of the primary school. It may be said that the prevalence is high because this group of age is a highlyrisky group (1-3). Also, it is thought that the hard socio-economical standards and bad hygienical conditions cause the prevalences to come high. Another important factor is the insufficient health education.

It has been observed that head lice occur more frequently at girls compared with boys. In the other studies carried out in our country and through the world, the result is the same (6,11,12,14,15). But studies in which the occurrence frequency is equal at both the girls and boys, are also the case (10). The significance in the differences can be explained with the hair length girls are in general long and this increases the head lice occurrence risk.

The sharing of beds does not increase the risk. However the result of this study is not statistically significant, it is known that the touch among people is in general an increasing factor of the infestation risk (1-3). The reason why the relation among these two groups was not found to be significant is that other risk factors in head lice infestations play a more important role in the bed nonsharing group. But data which support this idea are not obtained in the investigations.

The relation between bath periods and head lice infestations was not found to be statistically significant as it was not accepted. But similar results have been observed in some other studies, too (10).

It was noticed that when the person number sharing the school bank rises, the head lice infestation frequency also rises. This result supports the idea that schools are suitable places for infestations (3,4) and that with touches infestations increase in the school. If no more than two pupils are allowed to share one school bank, the head lice infestation in that region will then be held from increasing.

KAYNAKLAR

1. Tat AL and et al. Skin and venereal Diseases Course Book. AÜTF Publications, 1977:93-6.
2. Akkaya S and et al. Dermatology Course Book. Ankara Medial Publishing House, 1987:33-4.
3. Hogah DJ and et al. Diagnosis and Treatment of childhood Scabies and Pediculosis. Pediatric Clinics of North Am 1941;36(4):941-57.
4. Parish LC and et al. Pediculosis Capitis and the Stubborn Nit. International Journal of Dermatology 1989; 228(7):436-7.
5. Patriot Thomes BF and et al. Dermatology in General Medicine. Mc Grow Hill Book Company, 1979:1662.
6. Bharija SC and et al. Pediculosis Capitis in Benghazi, Libya A School Survey. International Journal of Dermatology 1988; 27(3):165-6.
7. Madureira Paulo R de. Pediculosis and Ethnic Groups. International Journal of Dermatology 1991; 33(3):524.
8. Mumcuoğlu K and et al. Epidemiological Studies on Head Lice Infestation in Israel/International Journal of Dermatology 1990; 29:502-1.
9. Anonymous. Lice.... yes, lice again a problem. Infect Dis 1976:1.
10. Çöl M and Çalışkan D. Head Lice Prevalence in a Primary School in the Park Dispensary Region. Health and Social Aid Journal Year 1992; 4:19-25.
11. Altınyollar H and et al. An Investigation related with take lice and itch prevalences in the primary schools in the Gölbaşı Education and Investigation region. Public Health Days Mean Health Publishings, 1991.
12. Saygı G and et al. Pediculosis Capitis Occurrence Among Three Primary Schools in Sivas. Public Health Days Mean Health Publishings, 1989.
13. Juranek DD and et al. Epidemiologic Investigations of Pediculosis Capitis in School Children. Scabies and Pediculosis. Plidalephia: JB Lippincott, 1977:168-73.
14. Aydemir EH and et al. Pediculosis Capitis in istanbul. International Journal of Dermatology 1993; 32(1):30-2.
15. Süleyman M and Jabeen N. Head Lice Infestation in Some Urban Localities of NWFP. Pakistan: Ann Trop Med Parasitol, 1989:539-47.