



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/10507

DOI URL: <http://dx.doi.org/10.21474/IJAR01/10507>



RESEARCH ARTICLE

KNOWLEDGE AND ATTITUDE OF PARENTS AND SCHOOL'S STAFF TOWARDS HEAD LICE INFESTATION IN RIYADH

Faten Albukhari¹, Rola Almasri¹, Jawaher Ghanem Aldawsari², Abeer Badi Almutairi², Fatimah Mohammed Alenazi² and Taghreed Mansour Almutairi²

1. Associate Professor of Dermatology at Princess Nourah Bint Abdulrahman University & Consultant of Dermatology.
2. Medical Student at Princess Nourah Bint Abdulrahman University.

Manuscript Info

Manuscript History

Received: 15 December 2019

Final Accepted: 18 January 2020

Published: February 2020

Key words:-

Head Lice, School Girls' Head Lice, KSA, KAP of Head

Abstract

Background: Head lice infestation is a parasitic skin infection that is commonly prevalent globally, especially in areas with poor economic status. This parasite lives in both human and animal body. This parasite feeds on the blood of host and transmits among different individuals by using of claws of the leg.

Objective: To investigate the knowledge and attitudes of parents towards head lice in Riyadh.

Subjects and Methods: This is a cross sectional study which was conducted on mothers of school girls in schools in Riyadh, Saudi Arabia. The study was performed using self-administrated questionnaire which was distributed among participants.

Results: The prevalence of head lice among children of participants was 56.5%. Appearance of lice in head was the most common mark to know about infestation by 52.2% of the participants. The large majority (96.6%) treated the affected child. Level of knowledge was significantly affected by age (P-value=0.023), being infested with head lice (P-value=0.000) and source of awareness about head lice (P-value=0.001), whereas attitude significantly affected by monthly income (P-value=0.036).

Conclusion: There was a high prevalence of head lice among girl students in Riyadh with moderate practice among mothers. Knowledge was significantly influenced by age, infestation with lice and source of awareness about head lice, whereas attitude was significantly influenced by monthly income.

Copy Right, IJAR, 2020, All rights reserved.

Introduction:-

Pediculosis is one of the common health problems that has an impact on a lot of families in the beginning of academic years. Being highly contagious, this problem might spread and involve other family members even adults if missed or undertreated. ^[1] Pediculosis can develop secondary infections if not treated as well. ^[2] Most studies on pediculosis in Saudi Arabia have focused on prevalence and treatment among primary school students. Misdiagnosis of head lice infestations is common. ^[3] Family awareness is needed to implement proper personal hygiene practices and cease sharing personal items. Periodic screening of students at school and at home is recommended for early

Corresponding Author:- Jawaher Ghanem Aldawsari

Address:- 3863 Al Qamari - Almunsiyah Dist. Unit No 22, Riyadh 13349-7494, Saudi Arabia.

detection and treatment. ^[4] Moderate pediculosis prevalence among the primary school girls at Albaha governorate was recorded to be 12.88%. ^[5] The prevalence of skin diseases and conditions among female schoolchildren in the Al- Khobar area was high as 98.6%. ^[6] The increase in head lice infestation among the elementary school girl students may be due to the students' overcrowding in one classroom. The head lice prevalence in Jeddah was greatly lower than that in Mafraq governorate, Jordan that recorded higher prevalence of pediculosis infestation as 26.6% ^[7], this result were slightly higher than 11.26% which was recorded recently in Jeddah. ^[8] However, few studies have investigated the knowledge gap and attitudes of parents and school staff regarding head lice. There is a knowledge gap on head lice infestation among parents of children as well as a trend towards application of natural substances for prevention and treatment. ^[3] Pediculosis is an embarrassing problem which is still increasing in the first academic year of life. The parents and school staff have lack of knowledge about how to identify head lice, take right actions and sometimes resist to treatment, which might lead to progression of the disease and infection can be transmitted to surrounding children. ^[9]

In this study, we will investigate the knowledge and attitudes of parents and school staff towards head lice in some schools in Riyadh. We will address the issues related to the way of discovering the affected child and as well as the steps taken by school staff and parents towards this problem, in addition to the psychological and educational impacts on affected children. Results of this study will help to improve awareness in parents and school staff about pediculosis and to have clear guidelines toward identifying this common problem, control, and prevent it from being progressed.

Subjects and Methods:-

Subjects and study design:

This is a cross sectional study which involved mothers and school's staff in female primary schools Riyadh. A self-administrated questionnaire was distributed to teachers and mothers of student girls. The questionnaire is formed of 4 parts including 34 questions. It was derived from previous studies. ^[5,8] Sing sample size formula, at 95% confidence level and 0.5 confidence interval, expected proportion 50% was used to calculate the sample size.

Statistical Analysis:

Data was analyzed using IBM SPSS Statistics 20. Descriptive statistics in terms of means, standard deviation, median and interquartile ranges was used to describe criteria of the studied sample. Association of qualitative variables by chi-square test was conducted. P-value Less than 0.05 was considered as statistically significant.

Ethical approval was obtained from IRB of Princess Nourah Bint Abdulrahman University.

Results:-

The present study included 526 participants, the large majority 507(96.4%) were Saudi, while only 19(3.6%) were non-Saudi. Also, the large majority were above 25 years old 483(92.4%), whereas 40(7.6%) were below 25 years old. There were 332(63.1%), 181 (34.4%) and 13 (2.5%) who had bachelor or higher education, secondary school or lower and illiterate respectively. 258(49%) of participants were working in either governmental or private field, 216(41.1%) were working in medical field, whereas 23(4.4%) and 29 (5.6%) were house wives and working in other jobs respectively. There were 441(83.8%) living in Riyadh and 85(16.2%) were living outside Riyadh. Regarding monthly income, 231(43.9%) of participants said that it just fulfills their needs, 140(26.2%) reported that it fulfills their needs and allow for saving, while 60 (11.4%) and 95(18.1%) reported that it is insufficient or they don't want to mention respectively. Demographics of participants are shown in **table 1**.

Table 1:- Socio-demographic characteristics of studied sample.

Character		Number	Percentage
Nationality	Saudi	507	96.4%
	Non Saudi	19	3.6%
Age	Above 25 years old	483	92.4%
	Below 25 years od	40	7.6%
Educational level	Bachelor and higher	332	63.1%
	Secondary school and lower	181	34.4%
	Illiterate	13	2.5%
Occupation	Governmental/private field	258	49%

	Medical field	216	41.1%
	Housewife	23	4.4%
	Others	29	5.6%
Residency	Riyadh	441	83.8%
	Outside Riyadh	85	16.2%
Monthly income	Just fulfills my needs	231	43.9%
	Fulfills my needs and allow for saving	140	26.6%
	Insufficient	60	11.4%
	I don't want to mention	95	18.1%

There were 56.5% of participants reported having child affected by head lice, whereas 36.9% denied that as in figure1.

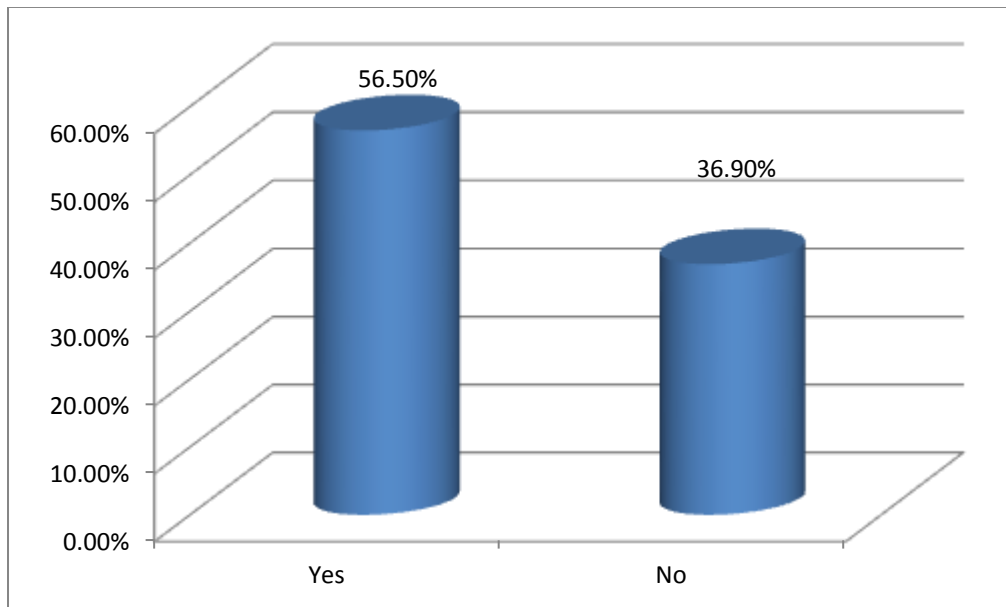


Figure1:- Prevalence of head lice among children.

Most of participants showed that they knew the infestation of children by seeing lice in children's hair (52.2%), the large majority 71% weren't informed about the infestation of their child from school staff, 96.6% reported that they treated their affected child, and 65% reported treating them for 1-7 days. 32.1% of participants reported getting advices from pharmacist, and the most commonly used agent for treatment of head lice was medical comb (67.7%) followed by medical topical treatment (65.7%) and the most common non-medical agent was pesticides (28.6%). The majority (74.1%) reported repeating treatment after 1 week as shown in table 2.

Table 2:- Mothers practice regarding to head lice infestation.

		Number	Percentage
Recognition method	head scratching	110	37.0%
	Lice visible in hair	155	52.2%
	Informed by school	26	8.1%
School notification by parents	yes	82	27.6%
	No	211	71.0%
	I forget	4	1.3%
Treatment	Yes	287	96.6%
	No	7	2.4%
Duration of treatment	1-7 days	193	65%
	1-2 weeks	61	20.5%
	1-2 months	39	13.1%

From where did you get medical advice to treat your child for head lice?	Pharmacist	169	32.1%
	Physician	27	5.1%
	Friends/relatives	65	12.4%
	Media/other	77	14.6%
Treatment modality	Medical topical treatment	195	65.7%
	Vaseline	10	3.4%
	Medical comb	201	67.7%
	Oral tablets	3	1%
Treatment cycles and continuity	Yes	220	74.1%
	No	54	18.2%
	I don't know	17	5.7%
Non-medical treatment	pesticides	85	28.6%
	Shaving of her/his scalp	35	11.8%
	Cutting of hair	72	24.2%
	Propane gas	7	2.4%

59% of mothers were annoyed from getting head lice to her child, and other hand40% of children were not care about getting head lice as in figures 2, 3.

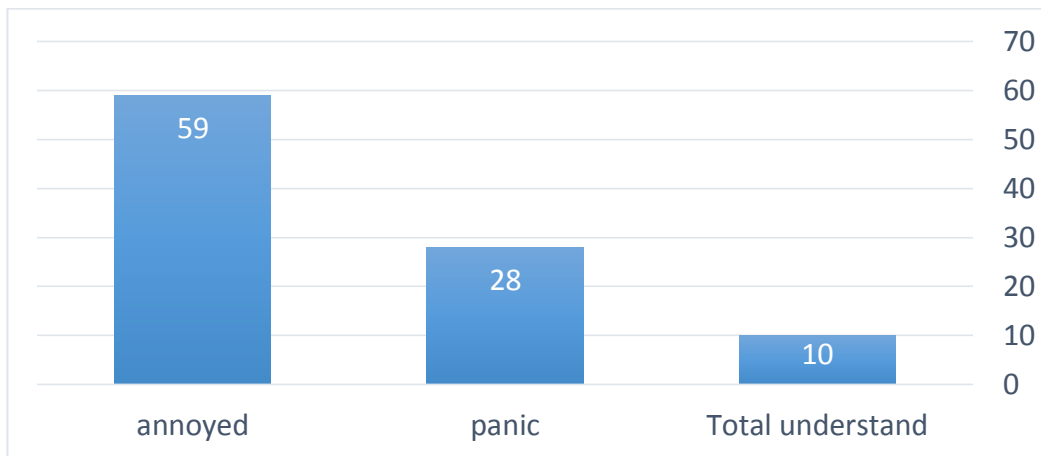


Figure 2:- The mother's feeling about her child's infestation with head lice.

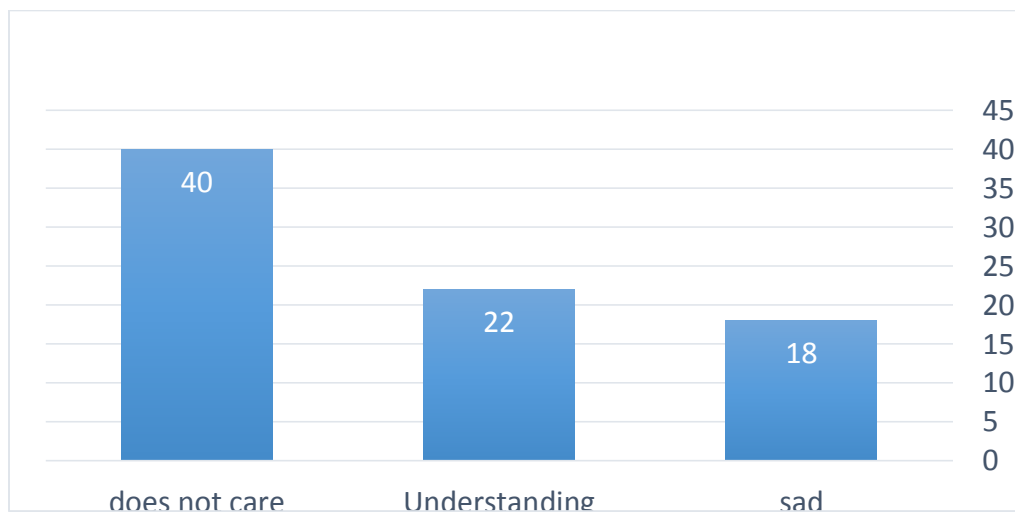


Figure 3:- The child's feeling about head lice infection.

For school practice, 80% of mothers were not informed by school staff to keep their children for a couple of days at home because of head lice, 12% reported that they were informed to keep their children at home for a couple of days, while 35% of them were reported to keep their children at home for 1-5 days as in figures 4, 5.

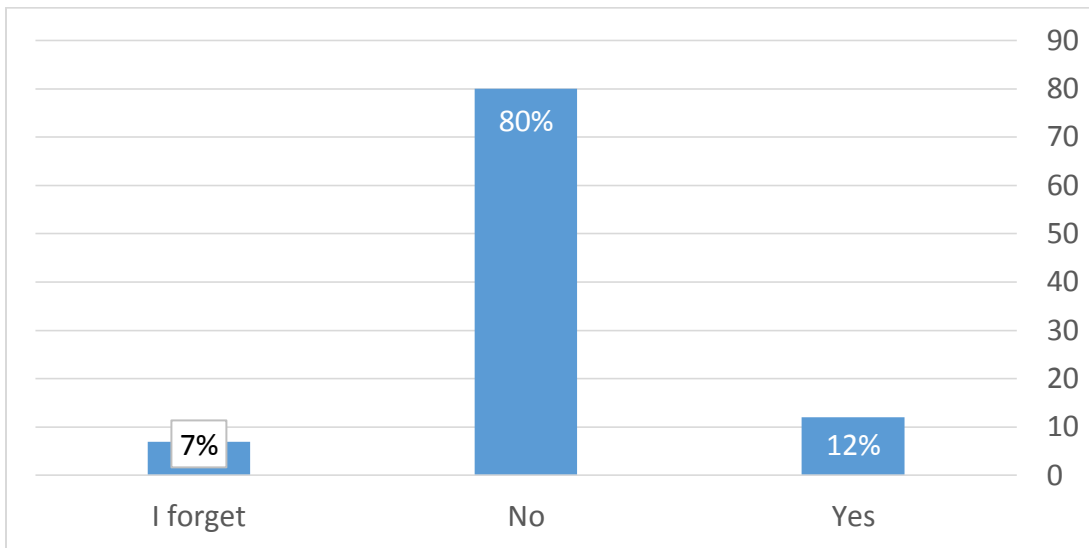


Figure 4:- Notification from school staff about head lice infestation.

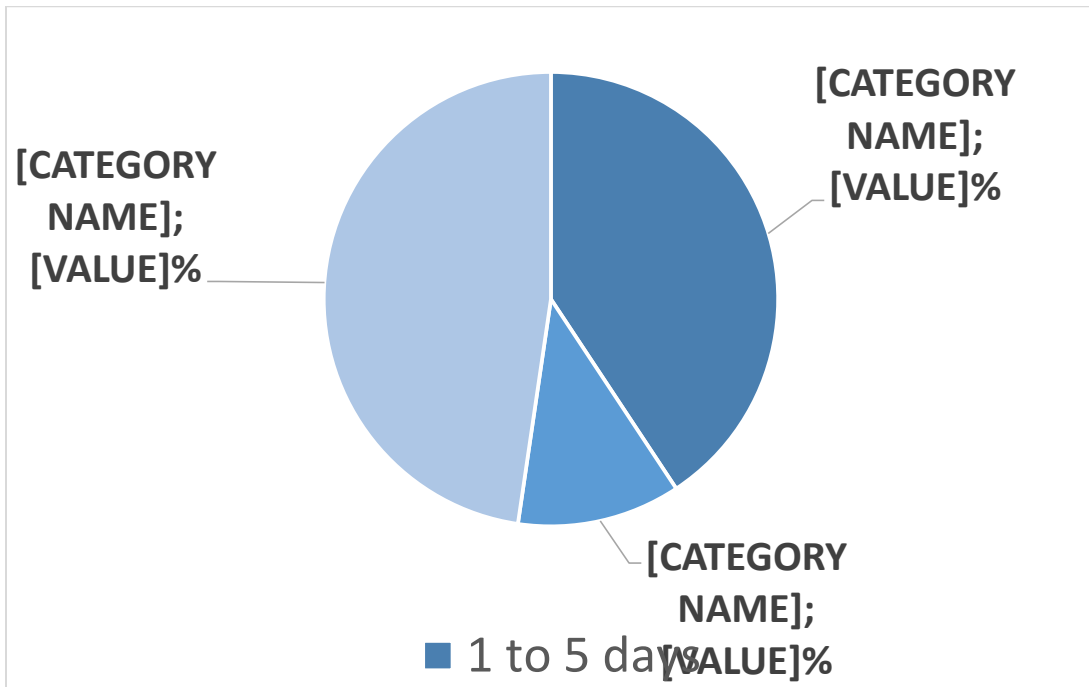


Figure 5:- The time of keeping the child at home due to the infestation.

There were several factors that act as barriers and frustrating for parents, the most common one was the time taken to treat children (59.3%) followed by re-infestation (42.1%), then combing representing 39.1% and psychology impact on the child representing 38.7% as shown in table3.

Table 3:- Difficulties toward head lice infestation.

Which of the following items will be frustrating to you if your child gets head lice?		Number	percentage
Time taken to treat children		176	59.3%

	Time to disinfectant house	110	37.0%
	Re-infestation	125	42.1%
	Combing	116	39.1%
	Psychology impact the child	115	38.7%
	Educational impact the child	18	6.1%
	Difficult to treat	54	18.2%

The demographics of participants were correlated with knowledge and attitude in tables 4, 5. Knowledge of participants was significantly affected by age of the participant (P-value=0.023), infestation by head lice (P-value=0.000), and the source of awareness about head lice (P-value=0.001). Poor knowledge was associated with younger age (below 25 years old), being not infested with head lice and using social media as a source of awareness about head lice, as in table 4. The attitude of participants was significantly affected by monthly income only (P-value=0.036); where poor attitude was more prevalent in those who didn't mention their monthly income as in table 5.

Table 4:- Relation between knowledge and demographics of participants.

		Good knowledge		poor knowledge		P value –
		N	%	N	%	
Nationality	Saudi	95	18.7%	412	81.3%	0.135
	Non Saudi	1	5.3%	18	94.7%	
Age	Below 25 years old	2	5.0%	38	95.0%	0.023*
	Above 25 years od	94	19.5%	389	80.5%	
Educational	Illiterate	1	7.7%	12	92.3%	0.569
	Secondary school and lower	32	17.7%	149	82.3%	
	Bachelor and higher	63	19.0%	269	81.0%	
Occupation	Governmental/private field	46	17.8%	212	82.2%	0.595
	Medical field	5	21.7%	18	78.3%	
	Business woman	3	21.4%	11	78.6%	
	Housewife	37	17.1%	179	82.9%	
	retired	5	33.3%	10	66.7%	
Residency	Riyadh	85	19.3%	356	80.7%	0.166
	Outside Riyadh	11	12.9%	74	87.1%	
Monthly income	Fulfill my needs and allow for saving	30	21.4%	110	78.6%	0.146
	Just fulfill my needs	47	20.3%	184	79.7%	
	Insufficient	7	11.7%	53	88.3%	
	I don't want to mention	12	12.6%	83	87.4%	
Infested with head lice	Yes	95	32.0%	202	68.0%	0.000*
	No	1	0.5%	193	99.5%	
Source of awareness about head lice	Read a book	4	14.8%	23	85.2%	0.001*
	Read an article	2	11.8%	15	88.2%	
	Search in social media	24	11.2%	191	88.8%	
	Ask pharmacist	66	24.7%	201	75.3%	

Table 5:- Relation between attitudes and demographic characteristics of participants.

		Good attitude		Poor attitude		P – value
		N	%	N	%	
Nationality	Saudi	284	56.0%	223	44.0%	0.099
	Non Saudi	7	36.8%	12	63.2%	

Age	Below 25 years old	24	60.0%	16	40.0%	0.564
	Above 25 years od	267	55.3%	216	44.7%	
Educational	Illiterate	6	46.2%	7	53.8%	0.468
	Secondary school and lower	95	52.5%	86	47.5%	
Occupation	Bachelor and higher	190	57.2%	142	42.8%	0.090
	Governmental/private field	147	57.0%	111	43.0%	
Residency	Medical field	17	73.9%	6	26.1%	0.471
	Business woman	6	42.9%	8	57.1%	
	Housewife	110	50.9%	106	49.1%	
	retired	11	73.3%	4	26.7%	
Monthly income	Riyadh	247	56.0%	194	44.0%	0.471
	Outside Riyadh	44	51.8%	41	48.2%	
Infested with head lice	Fulfill my needs and allow for saving	80	57.1%	60	42.9%	0.394
	Just fulfill my needs	134	58.0%	97	42%	
	Insufficient	37	61.7%	23	38.3%	
	I don't want to mention	40	42.1%	55	57.9%	
Source of awareness about head lice	Yes	170	57.2%	127	42.8%	0.875
	No	105	54.1%	89	45.9%	
Source of awareness about head lice	Read a book	15	55.6%	12	44.4%	0.875
	Read an article	8	47.1%	9	52.9%	
	Search in social media	122	56.7%	93	43.3%	
	Ask pharmacist	146	54.7%	121	45.3%	

P-value; significant

Discussion:-

In the present study, the prevalence of head lice among children was 56.5%. A previous study conducted in Riyadh showed a prevalence of 12.2%.^[10] A study conducted in Jeddah, Saudi Arabia, showed that infestation was prevalent in 9.7% of elementary school girls^[8], while the study conducted in Al-Khobar city showed that the prevalence was 5.2% among female school children.^[11] A recent study from Jeddah published in 2016 showed an increase in the prevalence of pediculosis, which was 11.26% among girl students in both public and private schools.^[12] The prevalence was higher in Jordan representing 14.5%^[13] and also it was higher among Egyptian females representing 37.8%.^[14] This diversity of infestations among different communities and areas is due to the variation in gender, age, economic, social and cultural status.^[15] Our participants in the present study knew the infestation of children by seeing head lice in their hair (52.2%), the large majority of participants (96.6%) treated their affected child, often for 1-7 days (68%), the most common medical treatment used was medical comb (67.7%) followed by medical topical treatment (65.7%), whereas pesticides (28.6%) was the most common as non-medical treatment. 80.3% of participants reported that they repeated the treatment after 1 week and they obtained the medical advice to treat child from pharmacist (48%). Time taken for treatment was the most common issue for frustrating participants (59.3%) followed by re-infestation (42.1%) then combing (39.1%). A study from Nigeria reported that the most commonly used treatment methods was grooming (46.3%) followed by combing (27.2%), while only 4.6% used pediculicides. The most common difficulties during lice treatment was detecting head lice, safety and effectiveness of the used products and difficulties in treating the children.^[16] Another study reported that 73% of parents of infested children received information about treatment from pharmacist, 15% asked their doctors, 59% used chemical agents for treating their children, 38% used natural oils, and 79% used wet combing.^[17] The current study revealed that the level of knowledge of participants was significantly associated with age, infestation with head lice and source of awareness about head lice. Those with younger age and those who reported no infestation tended to have poor knowledge, also searching in social media as the source of awareness about head lice was associated with poor knowledge, while asking pharmacist was associated with good knowledge. Nationality, education level, residency and monthly income didn't influence the knowledge level. The level of knowledge was reported to be limited in several previous studies.^[11, 18, 19] A study from Greece showed that there was a lack in knowledge about the

prevention and treatment of head lice among healthcare professionals. ^[20] Perceptions and beliefs of parents included confusion and worry and it was demonstrated that the educational level of parents inversely associated with positive cases. ^[18] Another study showed a gap in knowledge of parents about head lice infestation in children. ^[19] A study from Pakistan showed that knowledge and perception of teachers aren't affected by educational degrees or years of experience. ^[21] Attitudes in this study was significantly influenced by monthly income only, where those who didn't want to mention their monthly income were of poor attitude.

Conclusion:-

There is a high prevalence of head lice among school children in Riyadh, however there is a moderately good practice and action of mothers towards the infestation. There are several factors that influence the level of knowledge of participants including age, infestation and source of information about head lice, while the attitude was influenced by monthly income.

Recommendation:-

We recommend that the parents and teachers should receive training courses about how to avoid head lice infestation especially in winter season and its spread in family and school so as to prevent it. Also, it is recommended to increase the awareness among children in schools by distributing a brochures or stories about head lice.

References:-

1. Rukke B, Birkemoe T, Soleng A, Lindstedt H, Ottesen P. Head Lice in Norwegian Households: Actions Taken, Costs and Knowledge. PLoS ONE. 2012; 7(2):e32686.
2. Molina-Garza Z, Galaviz-Silva L. Pediculus capitis in schoolchildren of the urban area of Nuevo León, México: Analyses of associated factors. Biomédica. 2017; 37(3):333.
3. Fancelli C, Prato M, Montagnani C, Pierattelli M, Becherucci P, Chiappini E et al. Survey assessment on pediatricians' attitudes on head lice management. Italian Journal of Pediatrics. 2013; 39(1):62.
4. Soleimani-Ahmadi M, Jaberhashemi S, 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 Dermatology. 2017; 17(1).
5. Gharsan F, Abdel-Hamed N, Mohammed Elhassan S, Rahman Gubara N. The prevalence of infection with head lice pediculus humanus capitis among elementary girl students in Albaha region-Kingdom of Saudi Arabia. International Journal of Research in Dermatology. 2016; 2(1):12.
6. Al-Shahrani S, Alajmi R, Ayaad T, Al-Shahrani M, Shaurub E. Genetic diversity of the human head lice, Pediculus humanus capitis, among primary school girls in Saudi Arabia, with reference to their prevalence. Parasitology Research. 2017; 116(10):2637-2643.
7. AlBashtawy M, Hasna F. 43 Pediculosis capitis among primary-school children in Mafraq Governorate, Jordan. Eastern Mediterranean Health Journal. 2012; 43-48.
8. Al-Zanbagi N, F. Al-Hashdi D. Socio-Economic Status Criteria of Head Lice Prevalence in Jeddah, Saudi Arabia. Acta Parasitologica Globalis. 2015;6(3):238-245
9. Bahamdan, K., Mahfouz, A. A., Tallab, T., Badawi, I. A. & Al-Amari, O. M. Skin diseases among adolescent boys in Abha, Saudi Arabia. International Journal of Dermatology; 1996: 35, 405-407.
10. A.I. AL-Me W. Assessment of the Prevalence of Pediculosis capitis among Primary School Girls in Riyadh, Saudi Arabia. Research Journal of Environmental Sciences. 2015; 9(4):193-199.
11. Al-Saeed WY, Al-Dawood KM, Bukhari IA, Bahnassy AA. Prevalence and pattern of skin disorders among female schoolchildren in Eastern Saudi Arabia. Saudi Med J. 2006 Feb; 27(2):227-34.
12. Al-Zanbagi and Al-Hashdi, Prevalence of Head Lice in Jeddah City, Saudi Arabia According to Crowding Criteria. J. basic appl. Res 2016; 2(2): 22-26
13. Amr ZS, Nusier MN. Pediculosis capitis in northern Jordan. Int J Dermatol; 2000: 39: 919-921.
14. Gbakima, A. A. & Lebbie, A. R. The head louse in Sierra Leone: an epidemiological study among school children, in the Njala area. West African Journal of Medicine; 1992: 11(3), 165-171
15. Carter, V. and A. Th Davies. Encyclopedia of insects and spiders, Grange books an imprint of Grange books Plc. London; 2005: 50-51.
16. Ebomoyi, E. W. Pediculosis Capitis among urban school children in Ilorin, Nigeria. Journal of the National Medical Association; 1994: 86(11), 861-846.
17. Elston, D.M. What's eating you? Pediculushumanus (head louse and body louse). CUTIS; 1999: 63: 259-264.

18. Burgess, I. F. Human lice and their control. Annual Review of Entomology; 2004: 49, 457-481.
19. Boyle, P. Pilot study of the prevalence of head lice infestation in a population of Saudi Arabian Children. Family Practice; 1987:4: 138-142.
20. Doulgeraki A, Valari M. Parental attitudes towards head lice infestation in Greece. International Journal of Dermatology. 2011; 50(6):689-692.
21. Bibi, F., Z. Tasawarand and Z. Ali. The prevalence of human pediculosis in KotAddu district Muzaffargarh (Punjab) Pakistan. The Journal of Animal and Plant Sciences; 2011: 21: 364-367.