

Public Awareness of Keratosis Pilaris in Aseer Region, Saudi Arabia

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ABSTRACT

Introduction: Keratosis pilaris is a common skin disorder characterized by little bumps on the skin. Some believe the lumps resemble goose bumps or the skin of a plucked chicken. Others misinterpret the bumps as tiny pimples. These rough-feeling pimples are actually dead skin cell plugs. The plugs are most commonly found on the upper arms and thighs (front). These pimples on the cheeks are common in children. Keratosis pilaris is a persistent skin disorder that is most frequent in adolescents.

Methods: A specially designed questionnaire was used to collect data in this cross-sectional investigation. The questionnaire included demographic questions as well as questions about Keratosis Pilaris awareness and understanding. The questionnaire was created following a series of conversations amongst a panel of experts comprised of subject specialists, researchers, and language experts. The questionnaire's Cronbach alpha was computed. The research was carried out in Saudi Arabia's Aseer region.

Results: Out of total 590 distributed forms, we got 504 properly filled forms in response, so the response rate was 85%, cronbach alpha of the questionnaire was 0.85, 61.9% were aware about the keratosis pilaris (KP).

Conclusion: A thorough patient education is essential. Despite the fact that numerous treatments are available, none of them perform well or are consistently successful; because the condition is not life-threatening, patients should be aware that some treatments are more likely to cause harm than good.

Keywords: Patients, Keratosis pilaris, Awareness, Diseases, Causes

INTRODUCTION

Keratosis pilaris is a common skin disorder characterized by little bumps on the skin. Some believe the lumps resemble goose bumps or the skin of a plucked chicken. Others misinterpret the bumps as tiny pimples. These rough-feeling pimples are actually dead skin cell plugs. The plugs are most commonly found on the upper arms and thighs (front). These pimples on the cheeks are common in children. Keratosis pilaris is a persistent skin disorder that is most frequent in adolescents¹. The syndrome is characterized by papules with follicular involvement and surrounding erythema on the extensor surfaces of the proximal upper and lower extremities.

Despite the fact that keratosis pilaris is a prevalent ailment, the specific cause is unknown. The disorder is inherited in an autosomal dominant manner. Filaggrin mutations have been linked to keratosis pilaris as well as anomalies in the Ras signaling cascade. Mutations in the filaggrin gene may cause the follicular abnormalities seen in keratosis pilaris^{2,3}.

Keratosis pilaris is a frequent skin disease. Adolescents are the most common patient population, counting for 50 to 80 % of all cases. Adults are also afflicted by the condition, with 40% of the adult population impacted. However, because keratosis pilaris is a disorder that is underreported, the prevalence of the condition may be higher. Race and gender do not predispose patients to keratosis pilaris^{4,5}.

Most persons with KP have no symptoms and are often unaware of their ailment. KP is frequently visually unappealing but medically inert. Preference is shown for the extensor areas of the upper arms (92%), thighs (59%), and buttocks (30%). Distention of the follicular opening by a keratinous clog containing one or more twisted hairs is the conventionally reported histology^{6,7}.

Individuals with dry skin diseases such as ichthyosis or atopic dermatitis may have a personal or familial history of the ailment. Most people with KP are unaware that they have the disease or that treatment is available. To retain their effectiveness, most treatments will necessitate long-term use. Irritation, redness, hyper pigmentation, or scarring may

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result from severe cleaning or removal of the plugs at home. As the patient tolerates the therapies, the concentration, dosage, and frequency can be increased. Combination medicines work best for people who want to boost their efficacy^{8,9}.

The general public should aware about these diseases and it's very important to adopt preventive ways to avoid and reduce the chances of occurring of KP. The objective of this study is to assess the awareness of Keratosis Pilaris in Aseer Region, Saudi Arabia.

METHODS

A specially designed questionnaire was used to collect data in this cross-sectional investigation. The questionnaire included demographic questions as well as questions about Keratosis Pilaris awareness and understanding. The questionnaire was created following a series of conversations amongst a panel of experts comprised of subject specialists, researchers, and language experts. The questionnaire's Cronbach alpha was computed. The research was carried out in Saudi Arabia's Aseer region.

Following data collection, data was coded and input into the SPSS ver.20 program for descriptive statistics (mean standard deviation, frequencies, and percentages were computed), and the chi-square test was applied at the 5% level of significance to measure significance differences. The questionnaire was distributed to the general public on paper and electronically Ethical approval was obtained from King Khalid university, Saudi Arabia. The study duration was from June -2022 to September -2022.

RESULTS

Out of total 590 distributed forms, we got 504 properly filled forms in response, so the response rate was 85%, cronbach alpha of the questionnaire was 0.85.

Table 1: Demographics

Age in years	Frequency	Percent
18-29	321	63.7
30-39	84	16.7
40-49	51	10.1
50-59	45	8.9
More than 59	3	0.6
Educational level		
Primary education	12	2.4
Intermediate education	12	2.4
Secondary education	90	17.9
Bachelor	378	75.0
Postgraduate	12	2.4
Gender		
Male	222	44.0
Female	282	56.0

As per table 1, 63.7% were belongs to the age group of 18-29,75.0% have bachelor level of education, 44.0% were male and 56.0% were females.

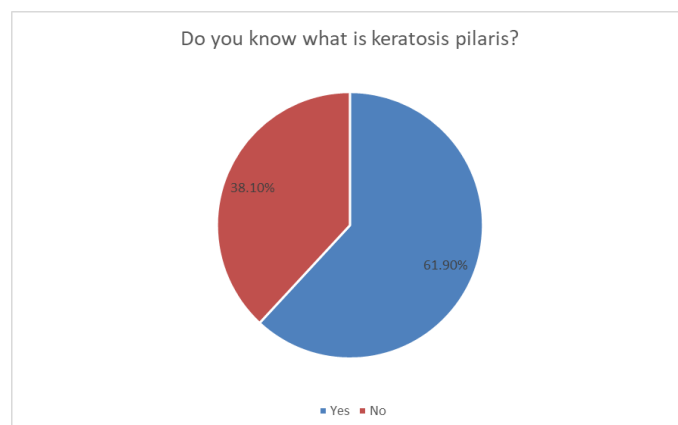


Figure 1: Awareness regarding keratosis pilaris

As per figure 1, 61.9% were aware about the keratosis pilaris (KP).

Table 2: Knowledge

Do you think that Keratosis pilaris is a chronic condition?	Frequency	Percent
Yes	219	43.5
No	123	24.4
I do not know	162	32.1
Do you think that Keratosis pilaris is a serious condition that requires immediate medical intervention?		
Yes	72	14.3
No	282	56.0
I do not know	150	29.8
Do you think that Keratosis pilaris is an infectious condition?		
Yes	24	4.8
No	336	66.7
I do not know	144	28.6
Do you think that there are ways to mitigate Keratosis pilaris?		
Yes	342	67.9
No	21	4.2
I do not know	141	28.0
In which weather does keratosis pilaris increase?		
Increase in summer time	117	23.2
Increase in winter time	216	42.9
Increase when the skin is exposed to rain	6	1.2
I don't know	165	32.7
Keratosis pilaris usually affect?		
Elderly people	18	3.6
Teenagers	219	43.5
Farmers	15	3.0
I don't know	252	50.0
What do you know about keratosis pilaris?		
Common harmless genetic skin condition causing dryness and rough skin	165	32.7
Inflammation of the hair follicles	96	19.0
Skin disease associated with chicken contact	21	4.2
I don't know	222	44.0

As per table 2, 43.5% thought that KP is a chronic disease, only 14.3% were thinking about the immediate medication regarding KP, 66.7% were thinking no in response of the question "Do you think that Keratosis pilaris is an infectious condition?" 67.9% were believed that there are ways to mitigate KP, 42.9% agreed that this disease is increasing

in winter time, 43.5% believed that it will affect more to teenagers, genetics reasons were opted by the most of them (32.7%).

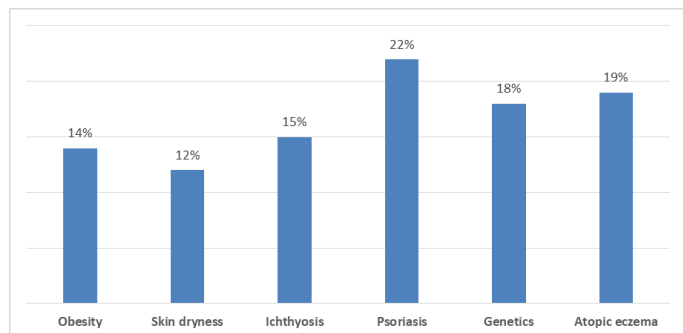


Figure 2: Causes of KP

As per figure 3, 22%, 19% and 18% respectively believed that psoriasis, atopic eczema and genetics were the major causes of KP.

Table 3: Comparisons between demographics and awareness regarding KP

		Do you know what keratosis pilaris		Total	P-value
		Yes	No		
		Gender	Male	Freq. 99	123
		% 44.6%	55.4%	100.0%	
	Female	Freq. 213	69	282	100.0%
		% 75.5%	24.5%	100.0%	
Age (In years)	18-29	Do you know what is keratosis pilaris?		Total	p-value
		Yes	No		
		Freq. 183	138	321	0.00001
		% 57.0%	43.0%	100.0%	
		Freq. 63	21	84	
		% 75.0%	25.0%	100.0%	
	Freq. 42	9	51		
	% 82.4%	17.6%	100.0%		
	Freq. 24	21	45	100.0%	
	% 53.3%	46.7%	100.0%		
	More than 59	Freq. 0	3	3	100.0%
		% 0.0%	100.0%	100.0%	
Educational level	Primary education	Do you know what is keratosis pilaris?		Total	p-value
		Yes	No		
		Freq. 9	3	12	0.039
		% 75.0%	25.0%	100.0%	
		Freq. 9	3	12	
		% 75.0%	25.0%	100.0%	
	Freq. 57	33	90		
	% 63.3%	36.7%	100.0%		
	Bachelor	Freq. 225	153	378	100.0%
		% 59.5%	40.5%	100.0%	
	Postgraduate	Freq. 12	0	12	100.0%
		% 100.0%	0.0%	100.0%	

As per table 3, gender, education level and age groups have significant impact on the knowledge regarding the KP (P less than 0.05).

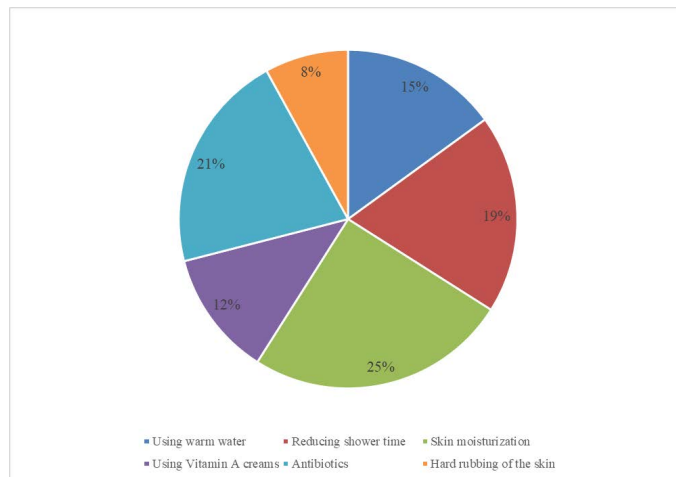


Figure 3: Preventive measures

As per figure 3, skin moisturizer (25%) were the major preventive measures to avoid KP, followed by usage of warm water (21%) and reducing shower time (19%).

DISCUSSION

The main objective of this study is to assess the awareness of Keratosis Pilaris in Aseer Region, Saudi Arabia. Keratosis pilaris is thought to be a keratinization problem, and there is relatively little literature explaining this disease.

It is a cosmetic condition that has no bearing on physical health. As a result, the requirement for treatment is determined by the individual's wishes. People with extensive and severe skin rashes can take large doses of vitamin A or isotretinoin to relieve symptoms as part of traditional treatment, but long-term large amounts of oral vitamin A may be toxic, in our study also only few respondents (less than 15%) opted that they need immediate medication for these diseases^{10,11}.

Keratosis pilaris bumps develop when thin flakes of dead skin cell. They are yellow or white in appearance and are rarely uncomfortable or painful to the touch, though rough clothing and sheets might irritate them. Teenagers are more likely to get keratosis pilaris on their upper arms, whilst babies are more likely to have it on their cheeks. In our study we have observed most of them were believed that teenagers were most affected by this disease which is match able with the findings of other studies^{12,13}. The primary symptoms of KP were, "Feel rough and dry like sandpaper," Similar to the skin of a plucked chicken or goose bumps In the winter or in a dry climate, this becomes more obvious, in our study winter seasons was also considered as a cause of KP. In our study a good number of respondents believed that atopic eczema has relationship with KP which was in line with other studies stated that atopic eczema is linked to KP.

Keratosis pilaris is asymptomatic and usually improves with time. As a result, disease therapy is unneeded. Patients can help skin lesions heal by keeping proper hygiene, using hypoallergenic soaps, and refraining from manipulating the papules, for preventive measures moisturizing the skin is one of the major preventive measures described in our study¹⁴.

Many studies reported that this disease KP was more common in females in our study that we have observed significant gender differences regarding the information of KP, other demographic variables education and age groups also have a significant relationship

with the awareness of KP The study's limitations included the relatively small number of patients with KP and the cross-sectional design, which only covers one point in the patients' history. We also did not measure laboratory values, which could be regarded one of the study's weaknesses^{15,16}.

CONCLUSION

Despite the fact that keratosis pilaris is a prevalent clinical diagnosis, nothing is known regarding its cause. It was thought to represent a deficiency in follicular keratinization, but dermoscopic study refuted this notion. Additional research is needed to assess KP awareness and practices.

A thorough patient education is essential. Despite the fact that numerous treatments are available, none of them perform well or are consistently successful; because the condition is not life-threatening, patients should be aware that some treatments are more likely to cause harm than good.

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Competing Interest: None

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REFERENCES

1. Alai NN. Keratosis pilaris. Emedicine. [Last updated on 2012 Mar 23 2012, Available from <http://emedicine.medscape.com/article/1070651-overview>
2. Judge MR, McLean WH, Munro CS. Disorders of keratinization. In: Burns DA, Breathnach SM, Cox NH, Griffiths CE, editors. Rook's textbook of dermatology. 7th ed. Oxford, England: Blackwell Publishing; 2004;34(6):62.
3. Rogers M. Keratosis pilaris and other inflammatory follicular keratotic syndromes. In: Wolff K, Goldsmith LA, Katz SI, Gilchrist BA, Paller AS, Leffell DJ, editors. Fitzpatrick's dermatology in general medicine. 7th ed. New York: McGraw Hill; 2008;749-53.
4. Ebling FJ, Marks R, Rook A. Disorders of keratinization. In: Rook A, Wilkinson DS, Ebling FJ, Champion RH, Burton JL, editors. Textbook of dermatology. 4th ed. Oxford Blackwell Scientific Publication; 1986;14305-6.
5. Mevorah B, Marazzi A, Frenk E. The prevalence of accentuated palmoplantar markings and keratosis pilaris in atopic dermatitis, autosomal dominant ichthyosis and control dermatological patients. Br J Dermatol 1985;112(6):679-85.
6. Gao L, Chen Y, Gao TW, et al. Experience of tartaric acid in the treatment of keratosis pilaris. Zhongguo Jiguang Yixue Zazhi. 2012;2(1):328.
7. Tian Y, Li XX, Zhang JJ, et al. Clinical outcomes and 5-year follow-up results of keratosis pilaris treated by a high concentration of glycolic acid. World J Clin Cases 2021;9(18):4681-9.
8. Burkhart A. Gluten and Keratosis Pilaris (Chicken Skin). Integrative medicine/Digestive Health.
9. Gerber S. Banish annoying arm bumps with 10 keratosis pilaris remedies. 2020.
10. Alai A. What is the role of Laser Hair Removal (LHR) in the treatment of Keratosis Pilaris (KP)? Medscape 2020.
11. Schoch JJ, Megha MT, Patricia W, et al. Successful treatment of keratosis pilaris rubra with pulsed dye laser. Pediatr Dermatol 2016;33(4):443-6.
12. Kurita M, Momosawa A, Ozaki M, et al. Long-pulsed dye laser for the treatment of erythromelanosis follicularis faciei: Report of two clinical cases. Dermatol Surg 2006;32(11):1414-7.
13. Karakatsanis G, Patsatsi A, Kastoridou C, et al. Erythromelanosis follicularis faciei et colli: Case reports of bilateral lesions in 2 females. Cutis 2007;79(6):459-61.
14. Saelim P, Pongprutthipan M, Pootongkam S, et al. Long-pulsed 1064-nm Nd:YAG laser significantly improves keratosis pilaris: a randomized, evaluator-blind study. J Dermatolog Treat 2013;24(4):318-22.
15. Vachiramon V, Anusaksathien P, Kanokrungrsee S, et al. Fractional Carbon Dioxide Laser for Keratosis Pilaris: A Single-Blind, Randomized, Comparative Study. Biomed Res Int 2016;2016:1928540.
16. Poskitt L, Wilkinson JD. Natural history of keratosis pilaris. Br J Dermatol 1994;130(6):711-3.