Journal Homepage: -www.journalijar.com
INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)
Article DOI:10.21474/IJAR01/6958
DOI URL: http://dx.doi.org/10.21474/IJAR01/6958

RESEARCH ARTICLE

PREVALENCE AND AWARENESS OF PITYRIASIS ALBA IN HAIL- SAUDI ARABIA.

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Manuscript Info

Manuscript History

Received: 15 February 2018
Final Accepted: 17 March 2018
Published: April 2018

Keywords:-
Pityriasis Alba, prevalence, awareness.

Abstract

Background: Pityriasis alba (PA) is a common hypomelanosis which is generally seen in young children. There is no specific known cause for this condition.
Objective: Determination of the prevalence and awareness of PA in Hail, Saudi Arabia
Methods: a cross-sectional study was carried out on 668 people in Hail, Saudi Arabia.
Result: The prevalence of PA was 33.7%, and for the awareness of people was only 47.8%.
Conclusion: The prevalence of PA was high in comparison with other similar studies in many countries, and the awareness was poor about the disease and 40.6% couldn't differentiate it from vitiligo.

Introduction:-

PA is a common skin disorder usually seen in children. PA often starts as a pink patch with an elevated border varying 0.5 to 5 cm in diameter. After several weeks, the patch fades, leaving a paler spot covered by a powdery white scale. This spot will progress to a smooth hypopigmented macule that persists for about 1 year. The lesions are frequently present on the face, arms, and shoulders. Most patients are children between 6 and 16 years of age. Boys are thought to be affected more frequently. There are two uncommon variants, a pigmenting and an extensive PA. Pigmenting PA is a variant that may be associated with superficial dermatophyte infection. Extensive PA is an entity characterized by typical PA lesions distributed in a generalized fashion and seen more commonly in adults. Extensive PA is not preceded by erythema. The lesions tend to be less scaly, more persistent and completely asymptomatic. [1]

The cause of PA is still unknown, but the condition is widely considered as a mild form of atopic dermatitis. [2] It's a common disease that can be found all over the world, affecting between 1.9 and 5.25% of all children, the peak of incidence is between 6-12 years. [3] The prevalence is differed from one place to another depending on the several factors, in Saudi Arabia respectively in eastern the prevalence was 1.6%. [4] The purpose of this study was to determine the prevalence of PA and people awareness in Hail, Saudi Arabia.

Method:-

A descriptive cross-sectional community-based study was carried out in Hail residents during 2017 (from December 2017 – to January 2018) to determine the prevalence and awareness of PA in Hail, Saudi Arabia. The target population consisted of people living in Hail City (668) of the total hail residents (310,897) completed the questionnaire.

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Data Collection;-

Self-administered designed structured questionnaires consisted of 23 questions included demographic data of participants and knowledge about PA**.** The questionnaire contained general information including age, sex, nationality, educational level and residents. It also had questions about their knowledge about PA for example: what its causes, how is it different from vitiligo, if they knew a PA case, the case age, the color of the patches, when it started and if it has been diagnosed or not, what was believed to be the cause and did it get treat or not. The questionnaire contained also picture case of PA as in Fig. 1

Fig. 1:-case of PA

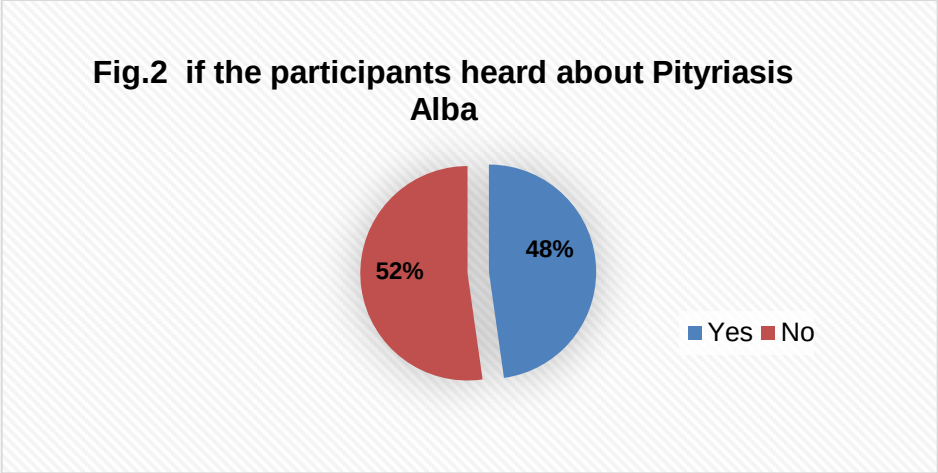
Results:-

The responded ages ranged from 20 to 49 years old, 99.4% were Saudis and 97.5% were females. Most of the participants were highly educated with a university degree (66.2%) as shown in table 1.

Table 1:-Participants profile

		Count	%
Age classes	**10 to 19**	28	4.2%
	20 to 29	138	20.7%
	30 to 39	210	31.4%
	40 to 49	221	33.1%
	50 to 59	65	9.7%
	60 to 69	6	0.9%
	70 and above	0	0.0%
Nationality	**Saudi**	664	99.4%
	Other	4	0.6%
Gender	**Male**	17	2.5%
	Female	651	97.5%
Educational level	**Uneducated**	25	3.7%
	Elementary school	13	1.9%
	Intermediate school	32	4.8%
	High school	139	20.8%
	University	442	66.2%
	Above university	17	2.5%

The participant's knowledge about PA is shown in fig. 2 and 3, only about 47.8% knew the disease and 40.6% couldn’t differentiate it from vitiligo.



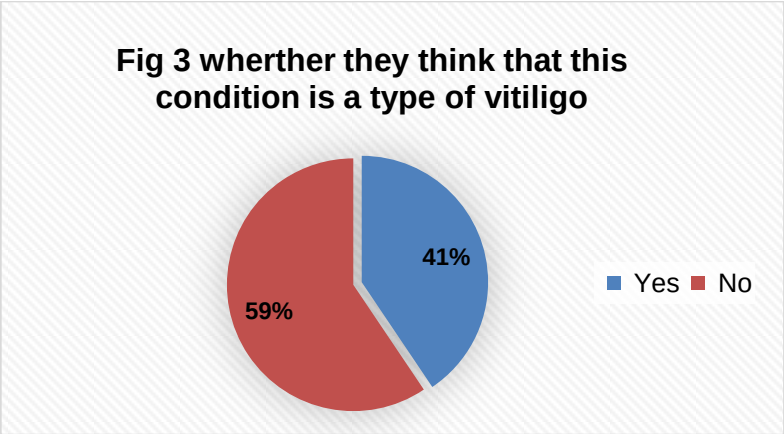


Table 2 demonstrated the participant's responses in related to the causes that may suggest it a reason of PA, where participants thought that genetic factors were the highest percentage in causes of it with 33.5%, then environmental factors with 21.9% and the third cause were an allergy to certain food with 16.2%. However, sun rays, after using some creams and drugs, and frequent showers had minor causes as participants answers.

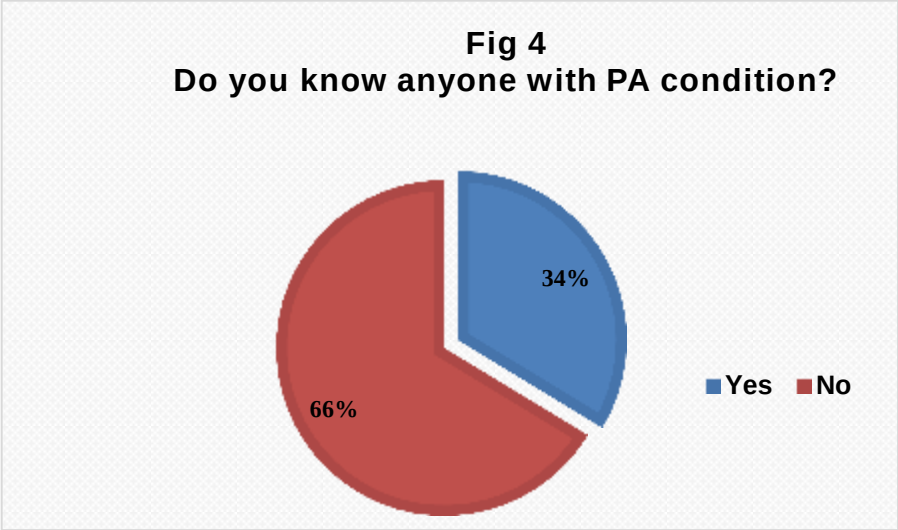
Table 2:-Reasons that participants thought it may cause PA condition

		Count	%
What are the reasons that can cause this condition?	**Genetic factors**	213	33.5%
	Environmental factors	139	21.9%
	Allergy to a certain food	103	16.2%
	Sun rays	56	8.8%
	After the use of certain creams	37	5.8%
	After the use of certain drugs	16	2.5%
	Frequent showers	5	0.8%
	Other	67	10.5%

To find out if participants have an information about any case with PA (Fig 4) showed that only 34% of all participants knew ones with this condition. The highest percentage for patients age at the current time was ranged between 10 to 19 years (43.7%), while the highest percentage for old of the patient when he/she first get this condition was under one year (47.8%) as shown in table 3.

Table 3:-Participants information about anyone with PA

		Count	%
How old is the patient now	Under one year	39	18.3%
	1 to 9 years	1	0.5%
	10 to 19 years	93	43.7%
	20 to 29 years	43	20.2%
	30 years and above	37	17.4%
How old is the patient when he/she first get this condition	Under one year	107	47.8%
	1 to 9 years	0	0.0%
	10 to 19 years	73	32.6%
	20 to 29 years	34	15.2%
	30 years and above	10	4.5%

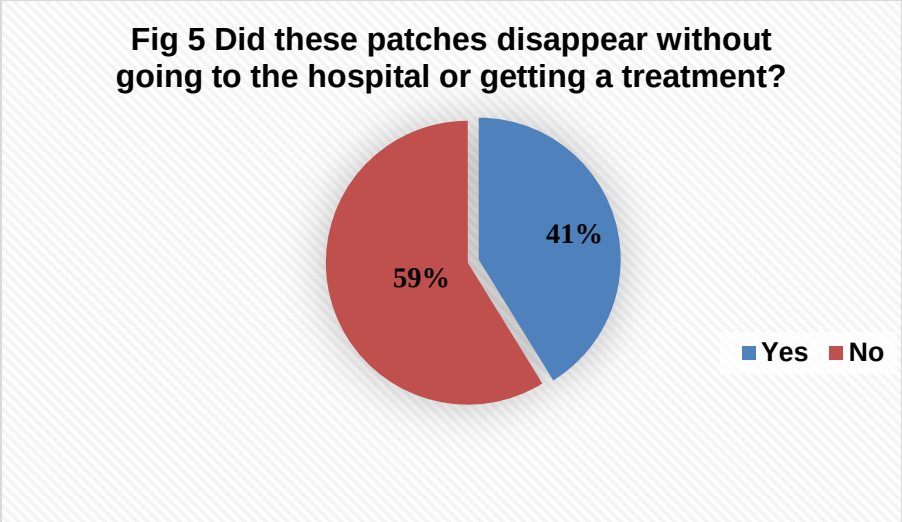


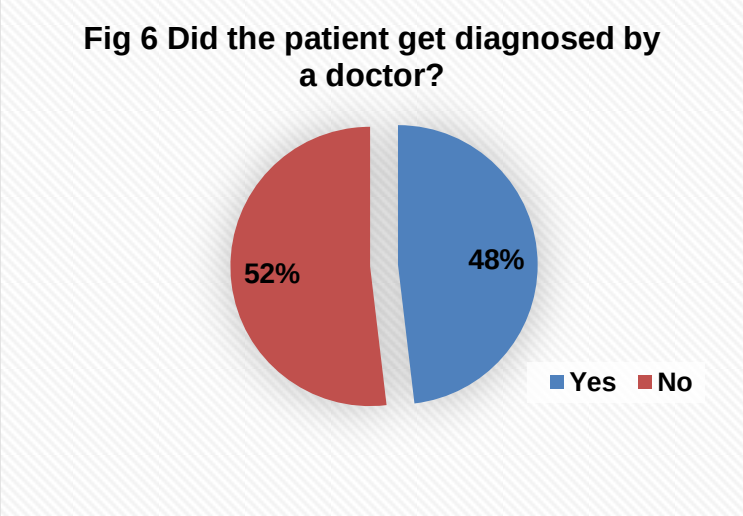
Most of the body region was affected based on participants response was face with 72.7%, while only 13.5% affected arms, and 4.9% affected neck and chest (table 4). The color of these patches when it first appeared was white with 78.7%, and only 14.3% with red/pink color (table 4).

Table 4:-Nature of PA as region and color of the affected area

		Count	%
What are the most affected body regions?	**Face**	194	72.7%
	Arms	36	13.5%
	Neck	13	4.9%
	Chest	13	4.9%
	Back	0	0.0%
	Other	11	4.1%
What was the color of these patches when it first appeared?	**Red\Pink**	37	14.3%
	Dark	16	6.2%
	White	203	78.7%
	Purple	1	0.4%
	Other	1	0.4%

In fig 5 and fig 6, it showed that 41.2% from participants answered with yes that these patches disappear without going to the hospital or getting a treatment, however, 48.1% answered with yes that patient get diagnosed by a doctor.





Lastly, fig 7 showed that only 11.6% from participants answered with yes in regards if there another member of the patient's family had got the same condition, where 68.7% from participants said that only one got the same condition, while 20.9% said that two got it. the age of patient's family who had got the same condition was mostly ranged between 1 to 9 years old with 43.9%, while 27.3% ranged between 10 to 19 years old (table 5).

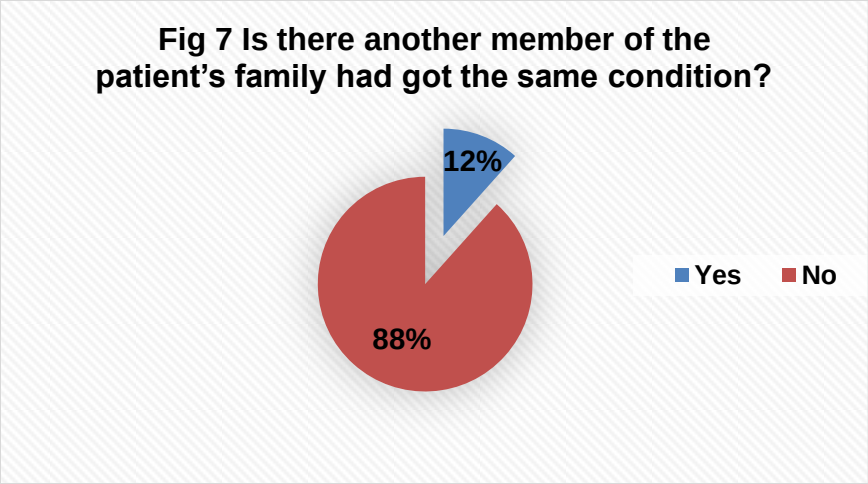


Table 5:-knowledge about patient's relatives with PA

		Count	%
How many are they?	**one**	46	68.7%
	Two	14	20.9%
	Three	4	6.0%
	More than three	3	4.5%
What are their ages?	**Under one year**	2	3.0%
	1 to 9 years	29	43.9%
	10 to 19 years	18	27.3%
	20 to 29 years	6	9.1%
	30 years and above	11	16.7%

As shown in table 6 vitamin deficiency was the most common cause of PA according to doctors' investigation with 39.6%, then other minor causes, however, 12.1% from all participants did not know the cause.

Table 6:-causes of PA according to doctor investigation

What did the doctor say to be the cause	Count	Table N %
vitiligo	3	3.3%
Vitamin deficiency	36	39.6%
Birthmark	2	2.2%
I don't know	11	12.1%
Intestinal microbes	2	2.2%
Poor nutrition	4	4.4%
Allergy	5	5.5%
Psychological state	3	3.3%
Public swimming pool	2	2.2%
Use of certain creams	1	1.1%
Sun rays	5	5.5%
Water	1	1.1%
Immunity deficiency	1	1.1%
Not eating enough milk	1	1.1%
Fear	2	2.2%
Eating bran	2	2.2%
Anger	1	1.1%
Melanin pigment deficiency	2	2.2%
Fungus	1	1.1%
Skin dryness	1	1.1%
Genetic factor	2	2.2%
Urinary bladder infection	1	1.1%

Virus	2	2.2%

Discussion:-

Although skin diseases are common among children worldwide, there are only a few population-based epidemiologic studies measuring the prevalence of skin diseases in children. [5–15] In Saudi Arabia, there are few reports of surveys conducted on the prevalence of skin disease, mainly in male school children. [16–19]. In this study, we found that the prevalence of PA was 33.7% which is higher than in Babol school children, Northern Iran 9.4% [20], in rural areas of Assiut Governorate, Upper Egypt 13.49% [21], and among primary school children in Diyarbakir 18.3% [22]. In comparing to the prevalence in different climates our study shows that the prevalence rate in Hail city is high.

In 1993, Du Toit et al. described a series of 20 patients from the cape colored population (non-caucasian) with an uncommon variant of PA, occurring in childhood. They called it – Pigmenting Pityriasis Alba (PPA). Later, an additional report followed from India describing a similar condition [23]. The commonest sites of lesions in this study were the face with 72.7%, followed by arms 13.5%, and neck and chest 4.9%. About 14% of target population reported that the patches started with red\pink color and then it turned white, while 78.7% did not have a color change of patches and 41.2% from participants reported that these patches disappear without going to the hospital or getting a treatment.

Another study about Hypopigmentary disorders in children in South India result showed that most common hypopigmentary disorder was PA 24.7% [24]. A clinico-epidemiological study of hypopigmented and depigmented lesions in children and adolescent age group in Hadoti region (South East Rajasthan) result showed the most common disorder was PA, seen in 27.33% [25].

PA is a condition of unknown etiology [26]. It is best characterized as a form of dermatitis that results in the reduction of melanocytes and melanosomes with no detectable defect in melanosomal transfer to keratinocytes [27–29]. Bacterial, fungal, and parasitic infections are more frequent among PA patients but no definitive association has been found [30,31]. Other possible causes include copper deficiency (tyrosinase cofactor) [32], physical factors that affect the state of hydration of stratum corneum like xerosis, wind, soap, and sunlight. [14,33,34]

Our study shows that vitamin deficiency was the most common cause of PA according to doctor investigation with 39.6%, then other minor causes, however, 12.1% from all participants reported that the doctor did not know the cause. In relation to the causes of PA in the participant's opinion genetic factor was the highest percentage 33.5%, then environmental factors with 21.9% and allergy to certain food were the third with 16.2%.

We found that the participant's awareness about PA was poor with 52.2% of them as they did not hear about the condition and 40.6% think it is a condition of vitiligo.

In conclusion, the prevalence of PA in Hail city is high. With this high prevalence and the poor awareness about PA in Hail city, the current situation needs further studies and taking further explore into consideration. Steps toward addressing PA have to be undertaken through studying its causes and planning for effective management. Health education programs and campaigns to clarify and explain the condition and its possible causes and to explain the importance of early diagnosis and getting the right treatment should be provided to all Hail city residents.

Declarations:-
Funding: None
Conflict of interest: None declared

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