Study of the clinical features of vitiligo among Yemeni patients in Aden

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Abstract

Objective: The objective of the study was to evaluate the different clinical features of vitiligo diseases and to assess the comorbidity disorders in Aden.

Patients and method: This was a retrospective descriptive study, in which we reviewed the medical records of all patients with vitiligo attending two private clinics in Aden during the period January 2019 to December 2020.

Results: The study patients were (33.5%) males and (66.5%) females (male : female 1: 2).

The mean age of the study patients was 23.6 ± 12.9 years and the age ranged between 2 and 65 years. Nearly half (49.7%) of patients were aged ≤ 20 years old and a positive family history of vitiligo was found in 28.6%.

Vulgaris is the predominant vitiligo type (57.8%) followed by acrofacial type (13.0%).

Extremities involvement were higher in females than males (17.4%) and (9.9%), respectively. Face with extremities involvement and trunk with extremities involvement in female patients seemed to be similar with (9.9).

Significant differences were found between vitiligo involvement types and the sex of patients, ($p < 0.05$).

In the age group ≤ 20 years old we found (28%) vulgaris type of vitiligo followed by acrofacial (7.4%). Vitiligo onset on extremities represented the highest site involvement (27.3%).

Twelve (7.4%) of the patients had associated diseases distributed as follows: diabetes mellitus (4.3%) followed by thyroid diseases (1.9%) and atopic disorders (1.2%). The associated diseases occurred among the age group ≤ 20 years old and the age group 21 – 40 years old; ($p = 0.043$).

Conclusion: Vitiligo disease is more common in females and the most common form was vitiligo vulgaris. A third of patients had a positive family history of vitiligo and the most sites involved were extremities.

Key words: clinical futures, vitiligo, Yemeni patients, Aden

Introduction

Vitiligo is a common acquired, probably heritable, progressive depigmenting skin disorder characterized by destruction of melanocytes within the epidermis, the mucous membranes, the eyes, and occasionally in some hair bulbs [1]. The skin depigmentation is in varying patterns, varying from small macules with scalloping borders to near-total depigmentation of body [2,3].

The disorder affects nearly 1%–2% of the world population irrespective of race and ethnicity [2,3,4,5].

The exact etiology of vitiligo is poorly understood and is often considered as a multifactorial disease with a complex pathogenesis encompassing several postulations implicating autoimmune, cytotoxic, biochemical, oxidant–antioxidant, viral, and neural mechanisms for destruction of the melanocyte function in the genetically predisposed. The presence of autoimmune diseases like autoimmune thyroiditis, Grave's disease, Addison's disease, diabetes mellitus, alopecia areata, and pernicious anemia in patients and their first-degree relatives favors its autoimmune etiology [6].

Most commonly, the disease begins during childhood or young adulthood with onset of 10 to 30 years but can occur at any age [4,5].

Lacovelli et al [7] reported in their study that the usual age of onset is before 20 years of age in nearly half of the cases. It affects both genders equally at any age but most studies report a peak incidence between 18 and 21 years (mean 24 years) [8,9].

Vitiligo patches can appear anywhere on the skin, but common sites are usually around the orifices, the genitals, or sun-exposed areas such as the face and hands. In addition to white patches on the skin, people with vitiligo may have poliosis of the scalp hair, eyelashes, eyebrows, and beard [10].

The aim of the study was to evaluate the different clinical features of vitiligo diseases and to assess the comorbidity disorders in Aden.

Patients and Methods

This was a retrospective descriptive study, in which we reviewed the medical records of all patients with vitiligo attending two private clinics in Aden during the period January 2019 to December 2020.

The patients' charts were retrieved and information about sex, age, site involvement, type of vitiligo and associated diseases were obtained.

SPSS program, version 17, was used to analyze the data. The continuous data are presented as means and categorical variables are presented as frequencies and percentages. The t-test was used to determine whether the difference between means is significant and we used also Pearson Chi-Square Test. A p-value <0.05 was considered statistically significant.

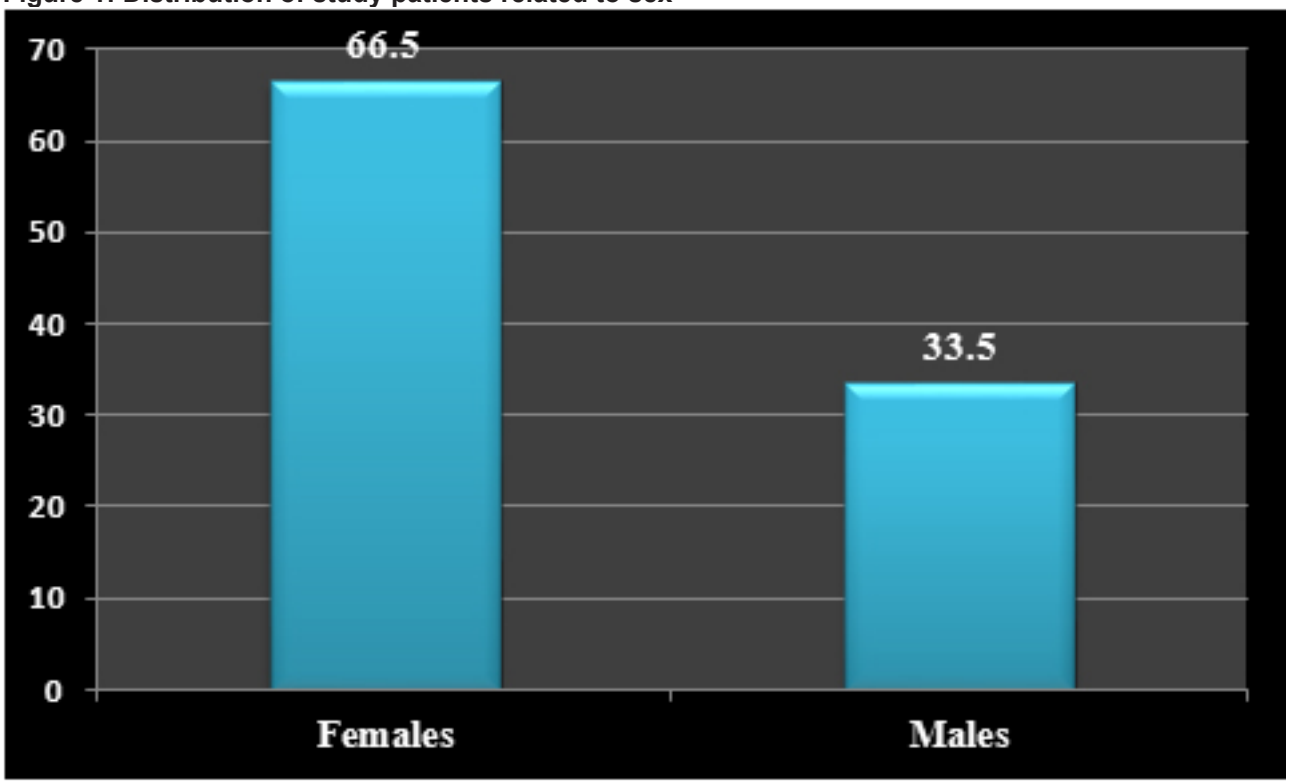
Results

This retrospective study comprised 161 patients with vitiligo attending two private dermatology clinics in Aden during the study period. There were 54 (33.5%) males and 107 (66.5%) females (male : female 1: 2); as shown in Table 1 and Figure 1.

Table 1: Vitiligo patients related to demographic variable (n=161)

Variables	Mean & range	No	%
Sex:			
Males		54	33.5
Females		107	66.5
Age (years):			
Mean age of all patients ± SD*	23.6 ± 12.9		
Range of age of all patients	2 - 65		
Females' mean age	22.7 ± 11.9		
Males' mean age	25.4 ± 14.8		
Females' age range	4 – 52		
Males' age range	2 – 65		
P-value between groups	> 0.05		
Age groups (years):			
≤ 20		80	49.7
21 – 40		65	40.4
> 40		16	9.9
Family history:			
Positive		46	28.6
None		115	71.4

Figure 1: Distribution of study patients related to sex



SD* = Standard deviation

The mean age of the study patients was 23.6 ± 12.9 years and the age ranged between 2 and 65 years. The mean age of females was 22.7 ± 11.9 years, and the age ranged between 4 – 52 years, while the mean age of males was 25.4 ± 14.8 years and the age range was 2 to 65 years. The difference between age means of gender showed no statistical significance (p > 0.05). The patients were divided into three age groups and the age groups were ≤ 20 years, 21 – 40 years and > 40 years.

The majority of patients 80 (49.7%) were aged ≤20 years, followed by the age group 21 – 40 years with 65 (40.4%) and the age group > 40 years with 16 (9.9%).

Forty six (28.6%) of the cases had a positive family history of vitiligo. All mentioned variables are summarized in Table 1.

Table 2 revealed the vitiligo types and site involvement related to sex among the study patients. Vulgaris is the predominant vitiligo type 93 (57.8%) followed by acrofacial type 21 (13.0%), focal type 19 (11.8%), segmental type 16 (9.9%), mucosal type 8 (5.0%) and universalis 4 (2.5%), as shown in Table 2 and Figure 2. In females vulgaris is the predominant type with 59 (36.7%) followed by acrofacial 16 (9.9%) then segmental types with 13 (8.1%) while in males vulgaris types are more with 34 (21.1%) followed by focal types with 8 (5.0%), Table 2. No significant differences were found between vitiligo types and the sex of patients, ($p > 0.05$). Table 2 shows distribution of vitiligo type and site involvement related to sex. Extremities involvement were higher in females and males, 28 (17.4%) and 16 (9.9%), respectively. Face with extremities involvement and trunk with extremities involvement in female patients seem to be similar with 16 (9.9) for each one. In male patients face and extremities involvement were the second with 9 (5.6%). Significant differences were found between vitiligo involvement types and the sex of patients, ($p < 0.05$).

Table 2: Distribution of vitiligo type and site involvement related to sex (n=161)

Variables	Sex						p-value
	Female (n=107)		Male (n=54)				
	No	(%)	No	(%)	No	(%)	
Type of vitiligo:							
Vulgaris	59	(36.7)	34	(21.1)	93	(57.8)	
Acrofacial	16	(9.9)	5	(3.1)	21	(13.0)	P > 0.05
Focal	11	(6.8)	8	(5.0)	19	(11.8)	
Segmental	13	(8.1)	3	(1.9)	16	(9.9)	
Mucosal	5	(3.1)	3	(1.9)	8	(5.0)	
Universalis	3	(1.9)	1	(0.6)	4	(2.5)	
Site involvement:							
Extremities	28	(17.4)	16	(9.9)	44	(27.3)	
Face and extremities	16	(9.9)	9	(5.6)	25	(15.5)	
Trunk and extremities	16	(9.9)	4	(2.5)	20	(12.4)	
Face, trunk and extremities	14	(8.7)	3	(1.9)	17	(10.6)	
Face	12	(7.4)	4	(2.5)	16	(9.9)	P =
Genitalia	1	(0.6)	5	(3.1)	6	(3.7)	0.049
All body	4	(2.5)	1	(0.6)	5	(3.1)	
Lips	4	(2.5)	1	(0.6)	5	(3.1)	
Periorbital	4	(2.5)	1	(0.6)	5	(3.1)	
Back	3	(1.9)	1	(0.6)	4	(2.5)	
Face and trunk	0	(0.0)	4	(2.5)	4	(2.5)	
Abdomen	2	(1.2)	1	(0.6)	3	(1.9)	
Face, extremities and genitalia	1	(0.6)	2	(1.2)	3	(1.9)	
Trunk	1	(0.6)	2	(1.2)	3	(1.9)	
Scalp	1	(0.6)	0	(0.0)	1	(0.6)	

Figure 2: Percentage of vitiligo types

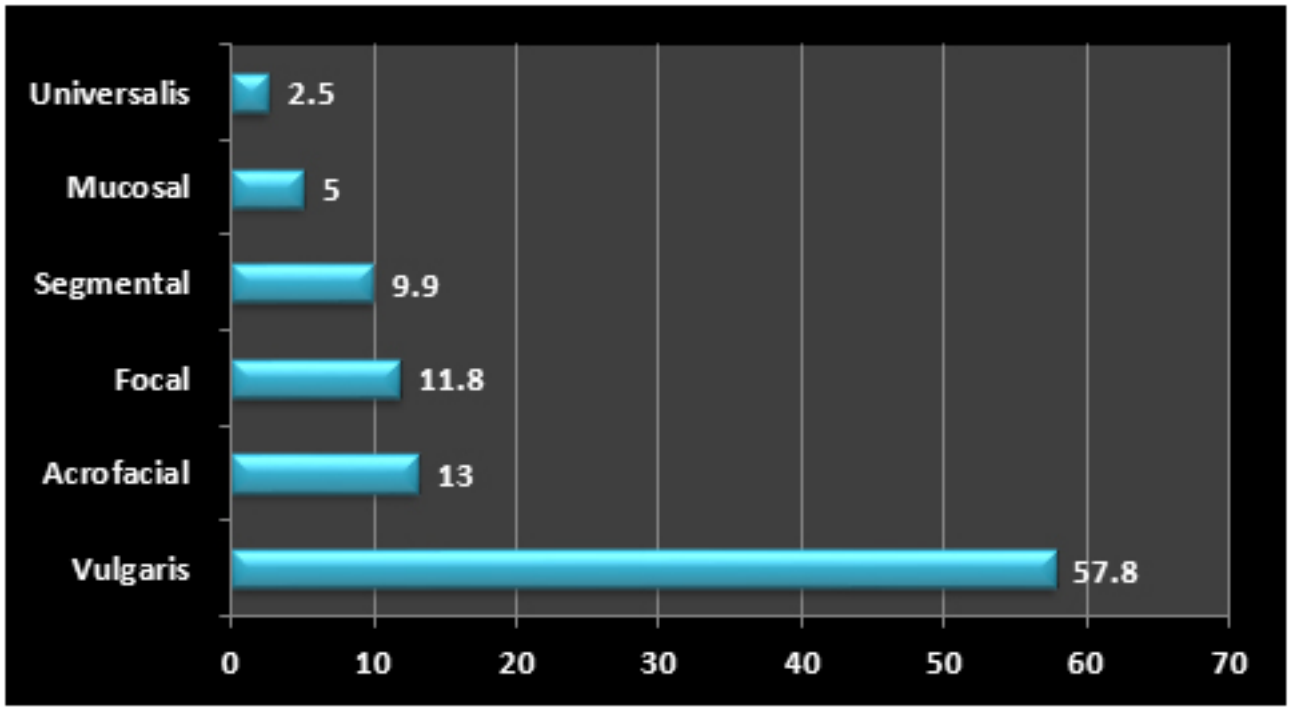


Table 3 shows the distribution of vitiligo type and site involvement related to age groups. Vulgaris type of vitiligo in the age group ≤ 20 years old, in the age group 21 – 40 years old and > 40 years old was higher than the other types of vitiligo in the different age groups.

In the age group ≤ 20 years old we found (28%) vulgaris type of vitiligo followed by acrofacial type 12 (7.4%), focal 13 (8.1%) and segmental involvement with 9 (5.5%). In the age group 21-40 years old we found acrofacial involvement followed the vulgaris involvement with 8 (5.0%).

No o significant differences were found between vitiligo types and the age groups ($p > 0.05$).

Site involvement of vitiligo in extremities, face and extremities, trunk and extremities, face trunk & extremities and face seem to be higher than that in the age group > 40 years old as shown also in Figure 3. No significant differences were found between vitiligo involvement and the age groups ($p > 0.05$).

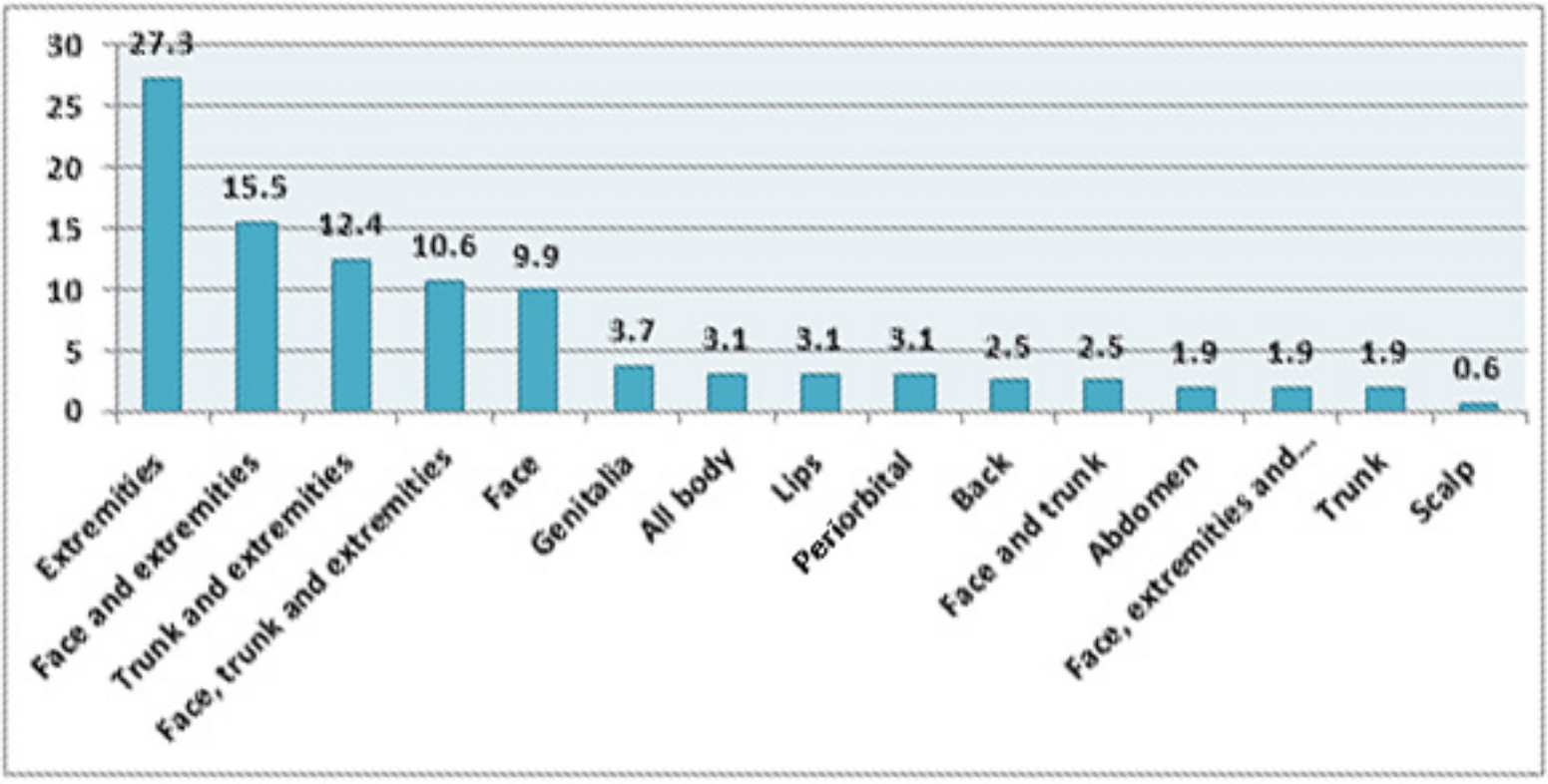
Vitiligo onset on extremities represented the highest site involvement 44 (27.3%) followed by face and extremities with 25 (15.5%), trunk and extremities 20 (12.4%), face, trunk and extremities with 17 (10.6%) and onset on face with 16 (9.9%). The less affected site is genitalia 6 (3.7%) followed by all body, lips and periorbital each one with 5 (3.1%) and the lowest onset was on scalp 1 (0.6%).

Table 3: Distribution of vitiligo type and site involvement related to age groups (n=161)

Variables	Age (years)				p-value
	≤ 20 (n=80) No (%)	21-40 (n=65) No (%)	> 40 (n=16) No (%)	No (%)	
Type of vitiligo:					
Vulgaris	45 (28.0)	37 (23.0)	11 (6.8)	93 (57.8)	
Acrofacial	12 (7.4)	8 (5.0)	1 (0.6)	21 (13.0)	P > 0.05
Focal	13 (8.1)	5 (3.1)	1 (0.6)	19 (11.8)	
Segmental	9 (5.5)	6 (3.8)	1 (0.6)	16 (9.9)	
Mucosal	1 (0.6)	6 (3.8)	1 (0.6)	8 (5.0)	
Universalis	0 (0.0)	3 (1.9)	1 (0.6)	4 (2.5)	
Site involvement:					
Extremities	17 (10.6)	18 (11.2)	9 (5.6)	44 (27.3)	
Face and extremities	14 (8.7)	10 (6.2)	1 (0.6)	25 (15.5)	
Trunk and extremities	12 (7.5)	7 (4.3)	1 (0.6)	20 (12.4)	
Face, trunk, extremities	9 (5.6)	7 (4.3)	1 (0.6)	17 (10.6)	
Face	8 (5.0)	6 (3.7)	2 (1.2)	16 (9.9)	P > 0.05
Genitalia	1 (0.6)	5 (3.1)	0 (0.0)	6 (3.7)	
All body	0 (0.0)	4 (2.5)	1 (0.6)	5 (3.1)	
Lips	0 (0.0)	4 (2.5)	1 (0.6)	5 (3.1)	
Periorbital	5 (3.1)	0 (0.0)	0 (0.0)	5 (3.1)	
Back	4 (2.5)	0 (0.0)	0 (0.0)	4 (2.5)	
Face and trunk	3 (1.9)	1 (0.6)	0 (0.0)	4 (2.5)	
Abdomen	2 (1.2)	1 (0.6)	0 (0.0)	3 (1.9)	
FEG**	3 (1.9)	0 (0.0)	0 (0.0)	3 (1.9)	
Trunk	1 (0.6)	2 (1.2)	0 (0.0)	3 (1.9)	
Scalp	1 (0.6)	0 (0.0)	0 (0.0)	1 (0.6)	

FEG** = face, extremities and genitalia

Figure 3: Percentage of site involvement of vitiligo among study patients



Twelve (7.4%) of the patients had associated diseases distributed as follows: diabetes mellitus 7 (4.3%) followed by thyroid diseases 3 (1.9%) and atopic disorders 2 (1.2%). We observed that the associated diseases occurred among the patients of age group ≤ 20 years old and the age group 21 – 40 years old without any associated disease in the age group > 40 years old; as shown in Table 4.

Significant differences were found between associated diseases and the age groups of patients (p = 0.043).

We distributed the positive and non-positive of family history related to age groups and we found 29 (18.0%) of positive family history were among patients ≤ 20 years old followed by the age group 21 – 40 years old with 14 (8.7%) and the age group > 40 years old with 3 (1.9%).

No significant differences were found between family history and the age groups of patients (p > 0.05).

Table 4: Distribution of associated diseases related to age groups (n=161)

Associated diseases	Age (years)						Total		p-value
	≤ 20 (n=80)		21-40 (n=65)		> 40 (n=16)				
	No	(%)	No	(%)	No	(%)	No	(%)	
Atopic disorders	2	(1.2)	0	(0.0)	0	(0.0)	2	(1.2)	
Diabetes mellitus	1	(0.6)	6	(3.7)	0	(0.0)	7	(4.3)	P < 0.05
Thyroid diseases	0	(0.0)	3	(1.9)	0	(0.0)	3	(1.9)	
None	77	(47.9)	56	(34.8)	16	(9.9)	149	(92.6)	
Family history:									
Positive	29	(18.0)	14	(8.7)	3	(1.9)	46	(28.6)	P > 0.05
None	51	(31.7)	51	(31.7)	13	(8)	115	(71.4)	

Discussion

Vitiligo, a depigmenting skin disorder, is characterized by the selective loss of melanocytes, which in turn leads to pigment dilution in the affected areas of the skin. The characteristic lesion is a totally amelanotic, non-scaly, chalky-white macule with distinct margins. Considerable recent progress has been made in our understanding of the pathogenesis of vitiligo, and it is now clearly classified as autoimmune disease, associated with genetic and en¬vironmental factors together with metabolic, oxidative stress and cell detachment abnormalities [11,12]. Vitiligo should not be dismissed as a cosmetic or insignificant disease, as its effects can be psychologically devastating, often with a considerable burden on daily life [13].

Vitiligo is the most common depigmenting skin disorder, with an estimated prevalence of 0.5–2% of the population in both adults and children worldwide [2,3,14].

Our study comprised 161 patients with vitiligo. They were (33.5%) males and (66.5%) females (male : female 1: 2).

Vitiligo affects both genders almost with equal frequency in most reports or with a predilection for women being affected two times more often than men as an exception [2,3,15].

In the present study we found the mean age of the study patients was 23.6 ± 12.9 years and the age ranged between 2 and 65 years.

Fatani et al [16] reported in their study in Makkah region, Saudi Arabia, that of the 135 patients, (67.4%) were females and (32.6%) were males. The mean age of patients was 24.5 years.

We found in our present study that (28.6%) of the cases had positive family history of vitiligo. Osman et al [17] found in their study in Sudan that 35 % of patients with vitiligo had positive family history.

Alissa et al [18] from Saudi Arabia, mentioned that (42.8%) of the patients had a positive family history of vitiligo, and 0.6% were not sure of the presence of vitiligo in their families. Al-fahaad [19] reported that of the 101 study cases, 5.9% had a family history of vitiligo, while the remaining 94.1% did not give such history.

Familial cases of vitiligo are common, indicating a hereditary factor, between 6-38% of vitiligo patients have family history of the disease [20].

In the current study vulgaris is the predominant vitiligo type (57.8%) followed by acrofacial type (13.0%), focal type (11.8%), segmental type (9.9%), mucosal type (5.0%) and universalis (2.5%).

Similar to our finding was reported by Alissa et al [18] from Saudi Arabia that the most common type of vitiligo was vitiligo vulgaris (42.2%), followed by acrofacial vitiligo (24.0%), focal vitiligo (11.8), acral vitiligo (8.3%), and universal vitiligo (6.2%).

Our finding agreed with the studies done in India [21], South Tunisia [22], and Turkey [1], whereas acrofacial vitiligo was noted to be the most common form in studies performed in India [23] and Libya [24].

In our study vitiligo vulgaris in females was predominant with (36.7%) followed by acrofacial (9.9%) then segmental types with (8.1%). In males, vulgaris types were (21.1%) followed by focal types with (5.0%).

Vitiligo vulgaris was more likely to be seen in females and mucosal vitiligo was more likely to be seen in males [25].

In our study there were no significant differences found between vitiligo types and the sex of patients, ($p > 0.05$).

Poudyal et al [25] reported in their study from Nepal there was no difference between the distribution pattern of vitiligo types among male and female patients. Other studies mentioned that there were no significant differences in distribution of vitiligo types among the genders [26,27].

In the current study extremities involvement were higher in females than males 28 (17.4%) and 16 (9.9%), respectively. Face with extremities involvement and trunk with extremities involvement in female patients seem to be similar with 16 (9.9) for each one. In male patients face and extremities involvement were the second most common with 9 (5.6%). Significant differences were found between vitiligo involvement types and the sex of patients, ($p < 0.05$).

Tsadik et al [28] reported in their study from Ethiopia that the most commonly affected site were limbs (44.5%) followed by the head and neck (24%), trunk (14.8%), chest (12%), genital (2.8%), and mucosal areas (1.9%). They added that sites of vitiligo were not significantly associated with age ($p > 0.05$) and sex ($p > 0.05$) of the cases.

In our study we found 12 (7.4%) of the patients had associated diseases distributed as follows: diabetes mellitus 7 (4.3%) followed by thyroid diseases 3 (1.9%) and atopic disorders 2 (1.2%).

We observed in our study that the associated diseases occurred among the patients of age group ≤ 20 years old and the age group 21 – 40 years old without any associated disease in the age group > 40 years old. Significant differences were found between associated diseases and the age groups of patients ($p = 0.043$).

Spritz et al [29] reported that patients with vitiligo have been found to have a higher incidence of autoimmune diseases such as thyroiditis, Type 1 diabetes, lupus, Addison disease, pernicious anemia, and alopecia areata. Thyroid dysfunction was found in one large study to precede the onset of vitiligo [30].

We found in our study that out of 28.6% of cases with positive family history of vitiligo (18.0%) were among patients ≤ 20 years old, followed by the age group 21 – 40 years old with (8.7%) and the age group > 40 years old with 3 (1.9%). No significant differences were found between family history and the age groups of patients ($p > 0.05$).

Similar to our finding reported by a study conducted in China by Zhang et al [31] that children and adolescents aged (0-19 years old) with vitiligo had a higher positive rate of a family history of vitiligo (11.4%) than did adults aged (20-59 years old) with (5.4%) and patients of advanced age (≥ 60 years old) with (3.8%).

Conclusion

Vitiligo disease is more common in females and the most common form was vitiligo vulgaris. This form was more common in female patients and affected more patients' age ≤ 20 years old. A third of patients had positive family history of vitiligo and the most site involvements were extremities and they were higher in females and males. Further studies are needed to evaluate the epidemiology related to governorates, demographic characteristics and treatment of the disease.

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