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GENDER BASED DIFFERENCES IN EPIDEMIOLOGIC AND CLINICAL PROFILE OF ADULT VITILIGO

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ABSTRACT

Vitiligo, an asymptomatic de-pigmenting skin disease occurs in both males and females. It is not readily known if differences in clinical and socio-demographic features exist between male and female vitiligo patients. To document gender based differences in socio-demographic (age at onset, area of onset, family history of vitiligo) and clinical characteristics (type of vitiligo, severity of disease, activity of lesions, area affected) of adult Nigerian vitiligo patients. This was a retrospective cross-sectional study of 76 adult vitiligo patients who attended the Dermatology Outpatient Clinic of the University College Hospital, Ibadan from January 2005 to December 2009. A questionnaire designed for the study was used to document the relevant information. Data was analyzed using SPSS version 16. Prevalence of vitiligo was 4.5%, 44 males (57.9%) and 32 females (42.1%) were seen. Mean age at onset was 34.6 ±17.1 years with a range of 1-78 years. The face and scalp were the commonest areas of vitiligo occurrence in both genders. There were differences in clinical characteristics however, they were not statistically significant. Significate difference was found in level of education, self-medication and duration of disease. There are some differences in clinical profile between male and female adult vitiligo patients.

Contribution/Originality: This study contributes to the existing literature on vitiligo in adults. Vitiligo occurs in both adult males and females. However, differences in clinical and epidemiologic features of vitiligo between males and females is not readily documented. This study highlights these differences.

1. INTRODUCTION

Vitiligo is an acquired pigmentary disorder characterized by depigmented patches with a worldwide occurrence [1].The world prevalence of vitiligo is 0.2% -1%.[1] Hospital based studies of pattern of skin diseases reveal a vitiligo prevalence of 0.09% to 2.8% [2-6]. Vitiligo occurs at any age with affectation of more people in the second or third decades of life [5, 7, 8]. Vitiligo is mostly asymptomatic although, itching or burning is reported by a few patients [9]. The clinical characteristics of vitiligo including differences in different age groups is well documented [7, 10-12]. However, differences in clinical and epidemiologic characteristics between males and females is not widely documented [8, 12]. The few studies particularly aimed at this gender based difference reveal a female preponderance of vitiligo in some [7, 13, 14] and no gender based difference in prevalence in others [8, 12]. Also, differences in age at onset, family history of vitiligo, level of education, duration of disease and occupation between males and females who have vitiligo have been reported [8, 15]. This gender based difference in vitiligo has not been documented in Nigeria. The aim of this study is to document gender based differences in socio-demographic

(age at onset, area of onset, family history of vitiligo) and clinical characteristics (type of vitiligo, severity of disease, activity of lesions, area affected) of adult Nigerian vitiligo patients.

2. MATERIALS AND METHODS

This was a retrospective cross-sectional study of vitiligo patients who attended the Dermatology Outpatient Clinic of the University College Hospital, Ibadan, from January 2005 to December 2009. Seventy six (76) new vitiligo patients aged 18 years and above were attended to during this period. Socio-demographic variables (age at onset, age at presentation, family history of vitiligo, duration before presentation), clinical characteristics (class of vitiligo, areas affected, severity, koebnerization, leukotrichia, spread/activity of disease, visibility of lesions/location on exposed parts of the body) were documented using a study questionnaire. In this study, vitiligo type was based on Nordlund's classification; localized (Focal and Segmental), generalized (Acrofacial, Vulgaris) and universal vitiligo [16]. The rule of nine was used in the assessment of extent/severity of vitiligo [17]. Ethical clearance for the study was given by the research and ethics committee of the hospital. Data was analyzed using SPSS version 16. Quantitative variables were summarized using means, median, standard deviation and range while frequencies and proportions were used for categorical variables. Associations between qualitative variables were tested using the chi square test. The level of significance was at 5%.

3. RESULTS

1,706 adult patients were seen in the dermatology clinic of which 76 were diagnosed with vitiligo, giving a prevalence of vitiligo of 4.5%. They were made up of 44 males (57.9%) and 32 females (42.1%). Mean age at onset was 34.6 ±17.1 years with a range of 1-78 years, mean age at presentation was 38.9 ± 16.3 years (range of 18-78 years). Males were better educated than females, attaining tertiary levels of education, p=0.049. There were two peaks for age at onset of vitiligo; 3rd and 5th decades of life. More males have vitiligo in the 3rd decade of life. A family history of vitiligo was reported in 2.6% of cases (1 male, 1 female). Self-medication prior to clinic attendance was reported in 31.5% patients (40.5% of males and 19.4% of females), P=0.003. A history of non-dermatology clinic treatment was reported in 82.7% (90.6% of females and 76.7% of males) of patients, P=0.380. Mean duration of disease was 5.9 ±5.6 years with a range of 1-22 years, with over 89.0% of patients presenting after 1 year.

Table-1. Gender Distribution of Sociodemographic Features

Variable	Male (n=44)	Female (n=32)	Total (n=76)	Odds Ratio (95% CI)	p-value
Age at presentation (years)					
18 – 29	20(45.5)	11(37.5)	31(40.8)		
30 – 39	7(15.9)	7(21.9)	14(18.4)	0.976□□0.942 – 1.610)	0.162
40 – 49	5(11.4)	5(15.6)	10(13.2)		
50 – 59	8(18.2)	1(3.1)	9(11.8)		
≥60	4(9.1)	8(25.0)	12(15.8)		
Educational status*					
No formal	5(15.2)	7(26.9)	12(20.3)		
Primary	2(6.1)	1(3.8)	3(35.1)	0.711 (0.506 – 0.998)	0.049
Secondary	4(12.1)	5(19.2)	9(15.3)		
Tertiary	22(66.7)	13(50.0)	35(59.3)		
Age at onset of vitiligo (years)					
0 – 9	1(2.3)	1(3.1)	2(2.7)		
10 – 19	5(11.6)	6(18.8)	11(14.7)	0.979 (0.953 – 1.005)	0.117
20 – 29	17(39.5)	8(25.0)	25(33.3)		
30 – 39	5(11.6)	3(9.4)	8(10.7)		
≥40	15(34.9)	14(43.8)	29(38.7)		
Duration before presentation (years)					
≤1	5(11.9)	3(9.7)	8(11.0)	1.117 (1.011 – 1.233)	0.029
≥1	37(88.1)	28(90.3)	65(89.□)		
Self-medication					
Yes	17(40.5)	6(19.4)	23(31.5)	4.922 (1.731 – 14.400)	0.003
No	25(59.5□	25(80.6)	50(68.5)		

Some figures are missing due to non-documentation of information, so only available figures were analyzed.

Table 1 shows the socio-demographic distribution of variables.

There was no significant difference in clinical characteristics. Both gender had similar areas of onset. In decreasing order, this was the face/scalp (63.6% in males, 46.9% in females), lower limbs (11.4% in males, 18.4%% in females), upper limbs (2.3% in males, 9.4% in females) and only females had buccal mucosa, gluteal and genital areas of onset. Re-pigmentation was reported in 56.7% with females re-pigmenting better than males (66.7% of females compared to and 50% of males, P=0.904). Lesions were active in 49.2% (55.3% males, 40.7% females, P=0.837). Symptoms of itching, sunburn were reported in 8% and 2.7% respectively, while 89.3% of adults were asymptomatic. Severity of vitiligo was <9%.in 86.5% of patients. Only 1(male, 2.3%) patient had leukotrichia. Koebnerization of lesions was noted in 4% (only 3 females). Vitiligo was located on a visible/exposed part of the body in 82.9% (81.8% of females compared to and 84.4% of males). See Table 2

Table-2. Gender Distribution Of Clinical Features.

	Adult(≥18)			Odds Ratio (95% CI)	p-value
Variable	**Male (n=44)**	**Female (n=32)**	**Total (n=76)**		
History of symptoms				1.064 (0.592 – 1.912)	0.946
Itch	3(7.0)	3(9.4)	6(8.0)		
Itch/sunburn	1(2.3)	1(3.1)	2(2.7)		
Asymptomatic	39(90.7)	28(87.5)	67(89.3)		
Severity of vitiligo				1.853 (0.739 – 4.646)	0.188
0 – 9	38(90.5)	26(81.3)	64(86.5)		
10 – 18	4(9.5)	3(9.4)	7(9.5)		
19 – 27	0(0.0)	1(3.1)	1(1.4)		
≥28	0(0.0)	2(6.2)	2(2.8)		
Koebnerization				0.143 (0.018 – 1.160)	0.0□9
Yes	0(0.0)	3(9.4)	3(4.0)		
No	43(100)	29(90.6)	72(96.0)		
Classification of vitiligo				1.163 (0.876 – 1.544)	0.297
Segmental	4(9.1)	4(12.9)	8(10.7)		
Vulgaris	18(40.9)	5(16.1)	23(30.7)		
Focal	4(9.1)	6(19.4)	10(13.3)		
Acrofacial	17(38.6)	10(32.3)	27(36.0)		
Acral	1(2.3)	4(12.9)	5(6.7)		
Universal	0(0.0)	2(6.5)	2(2.7)		

Source: Table is from data generated from study proforma.

4. DISCUSSION

Studies specifically looking at differences between adult and childhood vitiligo are documented in literature but few studies have specifically looked at differences in clinical profile between adult male and female vitiligo patients [7, 8, 10, 11]. The prevalence of vitiligo in this study is higher than the world reported prevalence, and that, reported in other clinic and community based studies in Nigeria and other African counties [1, 2, 6, 15]. The prevalence of vitiligo varies widely between countries and hospital based studies tend to give a spuriously higher prevalence than community based studies due to more severely affected patients attending hospitals.

There was a preponderance of males making vitiligo more prevalent in the males in this study. This study had a lot of males and most of them were in the working class group. The author postulates that trauma and koebnerization of lesions may have led to the affectation of more males than females. Gonul et al reported a similar male preponderance in their cohort of vitiligo patients [18]. This study is however, at variance with reports from some other studies. In some studies, the female gender is more affected [7, 13, 15, 19] and in others, there is no gender difference in the occurrence of vitiligo [8, 12].

There was a gender based difference in age at onset with males having an earlier onset than females although this was not statistically significant. The different theories on the aetiology of vitiligo do not account for this gender difference in age at onset [17]. Patil et al in Mumbai in their study of gender difference in vitiligo showed a

similar delayed onset in females which was also not statistically significant [8]. It is not known if there is a protective hormonal influence in females.

Age at presentation was mainly in the second and third decades of life with more males presenting than females although this did not attain statistical significance. These are the decades of life when attendance at tertiary schools and work starts. These patients may have presented to the clinic due to embarrassment and stares by colleagues. A similar no difference in age at presentation is reported in another study [8].

Self-medication was practiced by a low percentage of patients in this study despite the ready availability of over the counter drugs. This is unlike the study from Tanzania where a large proportion of patients had practiced self-medication [15]. These patients may not have practiced self-medication because they did not know what the lesion was and it was asymptomatic. The males in this study practiced self-medication more than the females, there were more males in the study and this may have accounted for this.

A long disease duration was reported in a lot of the patients. Vitiligo by its nature is mostly an asymptomatic disease, this may be responsible for the long disease duration which has also been documented in other vitiligo studies [7, 9, 20]. The duration of disease was longer in males than in females just as was reported in Mumbai [8]. The longer duration in men may have been due to the asymptomatic nature of the vitiligo lesions and the better health seeking behavior of females.

Family history of vitiligo was documented in only 3 patients who were all female. This number is too few to conclude on gender and family history of vitiligo in this study. Solak et al following a study of vitiligo patients in Turkey fund more females to have a family history of vitiligo while Patil et al in India found more males to have a family history [8, 12].

The commonest area of onset was the face and scalp. There was no significant difference in area of onset between males and females although only females had the genital and the gluteal areas as site of onset in this study. Vitiligo occurs more in sun exposed parts of the body. Patil et al and Solak et al in consonance with this study, had the face and scalp as the commonest area of onset with no gender difference in area of onset [8, 12].

Re-pigmentation following treatment was high with females re-pigmenting better than males. Re-pigmentation in vitiligo is variable with some patients never re-pigmenting [21]. This study being a retrospective one, did not address adherence to treatment nor appropriate use of prescribed treatment. It is not known if the women were more adherent to treatment or if there is any difference in response of melanocytes between males and females. Contrary to this study, re-pigmentation following treatment was found to be equal in both sexes in Turkey [12]. Koebnerization of lesions was low and reported in females only. Two studies looking at gender based difference in koebnerization came to conflicting conclusions with one reporting it in more females and the other in more males [8, 12]. Males are considered to be more active than females and to also engage in more physical work and so more at risk of trauma and koebnerization of lesions. This finding of more koebnerization in females though low is at variance with the more physical nature of males.

Severity of vitiligo was low in this study as almost 90% of the patients had a body surface involvement of less than 9%. There was no significant difference in severity of vitiligo between males and females although only females had vitiligo occurring on greater than 19% of the body surface area. A low severity of vitiligo as in this study was reported by Lin et al in China [21]. No gender difference was documented in this study as it was not particularly comparing the genders. A low incidence of leukotrichia was observed (one person who was male). This incidence is quite low compared to some studies where up to a quarter of the patients had leukotrichia [12, 14]. The main type of vitiligo in this study is acrofacial; these body areas are mainly hairless. This maybe the reason for the low incidence of leukotrichia in this study. In other studies, gender based differences in incidence of leukotrichia vary being more in males in one study and equal in both sexes in another study [8, 12]. Vitiligo was present on exposed or visible parts of the body in majority of patients with no difference between the genders. In this study, the head and neck which are visible parts of the body were the most affected areas. Vitiligo appearing in visible areas have

been documented in other studies [5]. Most of the patients were asymptomatic with no gender difference in symptomatology. Vitiligo is mostly asymptomatic although symptoms of itching and burning can be experienced by some patients as was the case in this study [9]. Lesions of vitiligo were active in half the patients especially in the males although this was not a significant finding. Activity of vitiligo was found to be equal in males and females in another gender based study of vitiligo [12]. Other studies not specifically looking at gender based difference report a high activity of lesions in most vitiligo patients [5, 15]. Acrofacial vitiligo was the prevalent type noted in this study. In men, vulgaris followed by acrofacial vitiligo was the prevalent type of vitiligo while in women, acrofacial followed by focal was the main type of vitiligo. Although this difference did not attain statistical significance, the difference does exist. The other studies that have compared gender characteristics in vitiligo were silent on any difference in type of vitiligo [8, 12, 13].

5. CONCLUSION

Vitiligo in adult males and females does have some differences in clinical and epidemiologic profile. Males have an earlier age of onset, longer disease duration, self-medication and a preponderance of vitiligo. Females have a better rate of re-pigmentation and onset in genital and gluteal areas.

6. LIMITATIONS TO THE STUDY

1. Difficulty with retrieval of case notes.
2. Incomplete information from case notes.
3. Inability to clarify some information from patients because it was a retrospective study.
4. Frequent loss of patients to follow up clinic visits.

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