

# ACTA SCIENTIFIC MEDICAL SCIENCES

Volume 2 Issue 4 July 2018

# An Epidemiological Study of Vitiligo in an Urban City Hospital

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Received: March 27, 2018; Published: June 05, 2018

#### Abstract

Vitiligo is an acquired progressive melanocytopenia of unknown etiology, clinically manifests as circumscribed depigmented macules and patches, often associated with leukotrichia.

Study Design: Descriptive Cross sectional study.

Study Area: Skin Outpatient Department.

To find out the epidemiology of vitiligo by observing the demographic data, clinical patterns of vitiligo and its association with family history and comorbidities in patients who are attending department of Dermatology at Sree Balaji Medical College and Hospital.

Keywords: Vitiligo; Melanocytopenia; Leukotrichia

## Introduction

Vitiligo is an acquired progressive melanocytopenia of unknown etiology, clinically manifests as circumscribed depigmented macules and patches, often associated with leukotrichia. The most common sites of involvement are the face, neck, feet, forearms, dorsal hand, scalp and fingers. It affects nearly 0.5 - 2% of the general population with equal sex predilection. Vitiligo commonly begins in childhood or young adulthood with peak onset between 10 to 30 years. It is classified depending upon the site and extent of involvement into generalized, focal, segmental, mucosal and acrofacial vitiligo. The onset of vitiligo at an advanced age is often linked with the presence of various associated autoimmune diseases and comorbidities. The course of the disease is often unpredictable and the disease not only has a cosmetic disfigurement but also a tremendous psychosocial impact and deteriorates the quality of life with increased risk of psychiatric morbidity especially in communities with darker.

#### Aim

To find out the epidemiology of vitiligo by observing the demographic data, clinical patterns of vitiligo and its association with family history and comorbidities in patients who are attending department of Dermatology at Sree Balaji Medical College and Hospital.

## **Material and Methods**

Study Design: Descriptive Cross sectional study.

**Study Area:** Skin Outpatient Department, Sree Balaji Medical College and Hospital.

**Study Population:** All patients attending skin OPD who are clinically diagnosed as vitiligo.College and Hospital.

#### **Exclusion criteria:**

- Not consenting for the study.
- Patients with depigmentation of skin due causes other than vitiligo.
- Patients on psychiatric medications.

## Inclusion criteria:

- 1. Consenting for the study
- 2. All types of vitiligo

Sample Method: Purposive random sampling.

#### Sample Size: 150.

#### Materials used for data collection

A pre-structured and pre-tested proforma was used to collect data. Demographic data was noted and the recruited patients were subjected to the following,

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- Full History Taking
- Thorough general and dermatological examination.

This study was undertaken after obtaining clearance from the ethical committee of SBMCH. The consent form, proforma and the master chart are enclosed in annexures 1, 2 and 3 respectively.

#### **Statistical Analysis**

A cross sectional study was carried out in 150 patients to study the epidemiology of vitiligo. Descriptive statistics was done for all data and were reported in terms of mean values and percentages. Suitable statistical tests of comparison were done. Continuous variables were analysed with the unpaired t test and Single factor ANOVA test. Categorical variables were analysed with the Chi -Square Test and Fisher Exact Test. Statistical significance was taken as P < 0.05. The data were analysed using SPSS version 16 and Microsoft Excel 2007.

## Results





Figure 2: Age distribution.

Gender	No. of patients	Percentage (%)		
Male	67	44.7		
Female	83	55.3		
Total	150	100		

Table 1: Gender distribution.

Age Distribu- tion Groups	Male	Fe- male	Total	Male (%)	Femal e (%)	Total (%)
≤ 10 years	8	5	13	11.9 4	6.02	8.67
11 - 30 years	23	28	51	34.3 3	33.73	34.0 0
31 - 50 years	24	29	53	35.8 2	34.94	35.3 3
51 - 70 years	10	17	27	14.9 3	20.48	18.0 0
71 - 90 years	2	3	5	2.99	3.61	3.33
> 90 years	0	1	1	0.00	1.20	0.67
Tot al	67	83	150	100.	100.00	100.
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#### Table 2: Age distribution.

Age Distribution	Male	Female	Total
Mean	32.61	38.92	36.10
SD	19.22	19.17	19.39
P value Unpaired t Test	0.0474		





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Site of Vitiligo	Male (n = 67)	Female (n = 83)	Total	Male (%)	Female (%)	Total (%)	P value Fishers Exact Test
Scalp	1	12	13	1.49	14.4 6	8.67	0.0065
Face	29	42	71	43.28	50.6 0	47.33	0.4131
Upper Limb	32	39	71	47.76	46.9 9	47.33	> 0.9999
Lower Limb	19	31	50	28.36	37.3 5	33.33	0.2968
Trunk	23	14	37	34.33	16.8 7	24.67	0.0215
Genitals	10	6	16	14.93	7.23	10.67	0.1831

Table 4: Comparison of gender distribution and site of onset of vitiligo.

## Discussion

Vitiligo is an acquired skin disease with progressive depigmentation of skin. It is one of the most common dermatological disorders in India with a high social and cosmetic concern. The prevalence of vitiligo in India is high, varying from 0.46% to 8.8%. Although various theories have been proposed to explain the etiology, the definitive cause is still not known. Various studies have suggested that patients with vitiligo have an increased risk of developing other autoimmune diseases, including thyroid disorders, diabetes mellitus, alopecia areata, psoriasis, pernicious anemia, etc. Even though the life expectancy remains unaffected; vitiligo has a significant impact on the quality of life and imparts a psychosocial burden on the affected individual. The difference in ethnicity of the population residing in different geographic regions with different environmental conditions can possibly contribute to the wide variation in the prevalence of vitiligo in India. Hence we conducted a study to find out the clinical patterns of vitiligo, associated comorbidities and family history in patients attending urban city hospital.

## **Gender Distribution**

Vitiligo has the tendency to affect both genders equally. In our study out of 150 patients, females 83 (55.3%) were more commonly affected with vitiligo than males 67 (44.7%) (Table 1). This was in concurrence with the study conducted by Birgani., *et al.* 

## **Age Distribution**

Vitiligo can manifest at any age of life. It is significantly more prevalent in young women (30 years of age) than in young men. In our study, 31 - 50 (35.33%) years of age group were more commonly affected with vitiligo. No significant variation was noted between males and females (Table 2).

The mean age group affected in males was  $32.61 \pm 19.22$  years and in females was  $38.92 \pm 19.17$  years. It was statistically significant (p = 0.04) (Table 3). This was in concurrence with the study done by Hita Shah., *et al* [1-9].

#### Conclusion

In this study,

- Vitiligo was commonly seen in female population.
- An increased prevalence of vitiligo was seen between 31 -50 years age group.
- The commonest site of onset of vitiligo was face and upper limb.
- Vitiligo vulgaris was the most common clinical subtype.
- Vitiligo areata was seen at an early age (19 ± 16.42 years).
- The commonest age of onset was between 11 30 years and it was earlier in males than females.
- The earliest age of onset was seen in vitiligo areata and segmental vitiligo.
- The commonest duration of the disease was 1 year and males presented earlier when compared to females.
- Family history was seen in more than 1/4<sup>th</sup> of patients with vitiligo, and was more common in males. The age of onset of the disease is earlier in patients with family history.
- Incidence of comorbidities was seen in more than 1/4<sup>th</sup> of patients and was predominant in female population. Diabetes mellitus and thyroid disorders were the most common diseases associated with vitiligo.
- B positive blood group was the most common blood group type seen in patients with vitiligo.
- History of prior treatment was commonly seen in females.

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We conclude that, female patients with acrofacial vitiligo are at increased risk of developing thyroid disorders and the age of onset of the disease is earlier in patients with positive family history.



Figure 4: Vitiligo vulgaris-bilateral upper limbs.



Figure 7: Mucosal vitiligo-male genitalia.



Figure 5: Vitiligo vulgaris-face.



Figure 8: Segmental vitiligo-right side of groin and thigh.



Figure 6: Mucosal vitiligo-lips.



Figure 9: Segmental vitiligo-left forearm (extensor aspect).

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Figure 10: Acrofacial vitiligo-bilateral hands and feet.



Figure 11: Acrofacial vitiligo-bilateral palms



Figure 12: Vitiligo vulgaris with koebnerisation over dorsum of right foot.



Figure 13: Vitiligo areata-gluteal region right.

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