

ASSESSMENT OF BURDEN OF VITILIGO AMONG PATIENTS  
AT TERTIARY CARE CENTER

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ABSTRACT

**Background:** Vitiligo refers to an acquired, idiopathic, and common de-pigmentation disorder of the skin. The clinically characteristic symptoms of the vitiligo are pale or milk-white macules or patches due to the selective destruction of melanocytes. **Material & Methods:** The present cross-sectional prospective study was conducted at department of dermatology of our tertiary care hospital. The study duration was of one year from November 2015 to October 2016. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error. **Results:** In non-segmental (44%) type of vitiligo, acro-facial (20%) was the most common type, followed by mixed (8%) and mucosal (8%), universal (5%) and vulgaris (3%). Segmental vitiligo was found in 22% of patients. In unclassified vitiligo (39%), the focal and mucosal type was found in 33% and 6% respectively. Lesions were mostly seen on lower limbs (32%) followed by head and neck (24%), upper limbs (23%), trunk (11%) and oral and genital mucosa (9%). **Conclusion:** local epidemiological behavior of vitiligo need not be the same across different regions. Variations do exist and may be due to certain clinico-epidemiological parameters.

**Key words:** Vitiligo, Acro-facial, Clinical epidemiology.

INTRODUCTION

Vitiligo refers to an acquired, idiopathic, and common de-pigmentation disorder of the skin (1). The clinically characteristic symptoms of the vitiligo are pale or milk-white macules or patches due to the selective destruction of melanocytes. They occur on the skin in different parts of the body and sometimes also on the mucous membranes. The exact pathogenesis of vitiligo is still to be elucidated. Multiple mechanisms, including metabolic abnormalities, oxidative stress, generation of inflammatory mediators, cell detachment and autoimmune responses, might contribute to the pathogenesis. In particular, the autoimmune mechanism is now clearly established. Vitiligo may appear at any

age and affect both sexes. It tends to occur or recur in spring and/or summer (2).

Although there is no wide fluctuation known among various ethnic groups in its prevalence, more evident clinical features of vitiligo in darker-skinned individuals lead to frequent hospital visits and treatment, raising a concern for social stigma. In various population-based studies, vitiligo's worldwide prevalence was noted as 0.5% to 1% while there were also peaks up to 8% (3). The most recently updated prevalence of vitiligo through screening of more than 50 studies worldwide reported prevalence of vitiligo as between 0.5 and 2% (4). However, as studies using entire population is lacking, preexisting studies have limitations in estimating

vitiligo's worldwide prevalence. Hence the aim is to study the prevalence of vitiligo patients visiting dermatology department at the tertiary health care center.

## MATERIALS & METHODS

The present cross-sectional prospective study was conducted at department of dermatology of our tertiary care hospital. The study duration was of one year from November 2015 to October 2016. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant. Patients who did not gave consent were excluded from the study. Patients were diagnosed by clinical examination. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

## RESULTS

Patients visiting Dermatology OPD were recruited for the study. Among them 100 patients with vitiligo were included for the study. Out of which 54% were females and 46% were males. Majority of patients i.e. 40 were in 16-30 age group followed by 23 in 31-40 age group. While 15, 12 and 10 patients were in 41-50, 51-60- and 61-70-years age group respectively. The mean age of presentation was  $28.6 \pm 7.4$  years. About 9% of patients had the positive family history (Table 1)

**Table 1: Distribution of study participants according to age and gender**

Age group (years)	Male	Female	Total (%)
16-30	11	29	40
31-40	12	11	23
41-50	8	7	15
51-60	7	5	12
61-70	8	2	10
<b>Total</b>	46	54	100

In non-segmental (44%) type of vitiligo, acrofacial (20%) was the most common type,

followed by mixed (8%) and mucosal (8%), universal (5%) and vulgaris (3%). Segmental vitiligo was found in 22% of patients. In unclassified vitiligo (39%), the focal and mucosal type was found in 33% and 6% respectively. (Table 2)

Lesions were mostly seen on lower limbs (32%) followed by head and neck (24%), upper limbs (23%), trunk (11%) and oral and genital mucosa (9%). (Table 3)

**Table 2: Distribution according to vitiligo types with respect to gender.**

Types of vitiligo	Male (%)	Female (%)	Total (%)	
<b>Non segmental</b>	<b>Acrofacial</b>	11	9	20
	<b>Vulgaris</b>	1	2	3
	<b>Mucosal</b>	4	4	8
	<b>Mixed</b>	1	7	8
	<b>Universal</b>	2	3	5
<b>Segmental</b>	11	11	22	
<b>Unclassified</b>	<b>Focal</b>	12	21	33
	<b>Mucosal one site</b>	4	2	6

**Table 3: Distribution according to site of onset in vitiligo with respect to gender.**

Site of onset	Male (%)	Female (%)	Total (%)
<b>Lower limbs</b>	15	17	32
<b>Head and neck</b>	10	14	24
<b>Upper limbs</b>	12	11	23
<b>Trunk</b>	5	6	11
<b>Oral and genital mucosa</b>	4	5	9

## DISCUSSION

The prevalence of vitiligo is considered to be highest in India, varying from 0.46 and 8.8%. (3) The female to male ratio in our study was 1.04:1. Shajil et al showed that males and females were

affected with almost equal frequency though Khaitan et al showed males were more commonly affected than females whereas Shah et al showed slightly higher prevalence in female population. (4, 6) This may be due to different ethnic backgrounds of population residing in different geographic region with different environmental condition may contribute to the wide variation in prevalence of vitiligo in India.

In our study, mean age of onset was 4 years, consistent with the most reports from India and other countries. (6) A considerable number of patients with vitiligo were identified before 20 years of age followed by half of it before the age of 10 years which is agreeable with our study (data not shown). (7, 8) This implies that the disease starts at a younger age.

Family history plays an important role in manifestation of vitiligo. (9) In our study, 9% of study population had positive family history of vitiligo, out of which females (6.03%) were more compared to males (3%). Familial occurrence has been reported to vary from 5 to 30% in different studies. (10, 11)

Lower limbs was the most common involved site which is supported with other studies. (12,13) Other sites involved were head and neck (24%) followed by upper limbs (23%), trunk (11%), and oral and genital mucosa (9%).

Our study infers acro-facial type of vitiligo was the commonest pattern, followed by other patterns. Conversely in other studies, vitiligo vulgaris was the most common type followed by acrofacial, segmental, universal, and mucosal vitiligo. (11) This variation may be due to multifactorial causes (autoimmune disorder, oxidative stress imbalance, critical sun burn, exposure to some toxic chemicals, heredity or viral infection).

## CONCLUSION

The data suggests that local epidemiological behavior of vitiligo need not be the same across different regions. Variations do exist and may be due to certain clinico-epidemiological parameters of Shimoga viz., prevalence of associated diseases and its extent of involvement.

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