

# Clinical and sociodemographic study of vitiligo

Sir,

Vitiligo is a common pigmentary disorder of the skin, with a worldwide incidence of 1%.<sup>[1]</sup> Widespread prejudices, ignorance, taboos, lack of scientific appraisal, and confusion of vitiligo with leprosy — all make it a social embarrassment for the patient,<sup>[2]</sup> although the patient’s life expectancy remains unaffected.<sup>[3]</sup> There is a stigma attached to vitiligo, and the families of the affected patients, particularly young females, are socially ostracized and the patients are considered unfit for marriage.<sup>[4]</sup>

Some dermatological outpatient records show the incidence of vitiligo to be 3% to 4% in India although an incidence as high as 8.8% has also been reported.<sup>[5]</sup> In the Indian states of Gujarat and Rajasthan, the prevalence of vitiligo is very high being described by some as of epidemic proportions.<sup>[6]</sup>

As Gujarat shows a high prevalence of vitiligo in India, the present study is an effort to learn more about precipitating factors and the clinical features of vitiligo patients in Bhavnagar, Gujarat.

## METHODS

The study was conducted over a 5-year period from May 2001 to May 2006. All new patients with vitiligo attending our OPD were included in the study; patients with depigmentation caused by chemicals, burns, or another disease were excluded. The diagnosis of vitiligo in all cases was made clinically. All the patients were interrogated for a detailed history, and a meticulous examination of each patient was carried out and recorded, giving special emphasis to the duration of the disease; marital status; precipitating factors; presence of leukotrichia, Koebner’s phenomenon, positive family history, and any other cutaneous or systemic illness. The sociodemographic profile of the patients was also recorded. Apart from routine blood and urine examinations, blood sugar and thyroid function tests were done whenever necessary.

Lesions confined to one or a few patches localized in a particular area were grouped as focal vitiligo; lesions distributed in a segmental/dermatomal pattern, as segmental vitiligo; lesions noted over both face and acral regions, as acrofacial vitiligo; lesions affecting many parts of the body,

as vitiligo vulgaris; and lesions confined only to mucous membranes, as mucosal vitiligo.<sup>[7]</sup>

## RESULTS

Incidence of vitiligo among new patients was 1.84%. A total of 365 patients were included in the study, out of which females (68.4%) were found to be more affected than males (31.6%), in a ratio of 2.1:1. The majority (32.82%) of the patients were in their second decade of life, and 58.63% of the patients were unmarried [Table 1].

A positive family history was present in 50 (13.7%) patients. Trauma (3.84%) was the most common precipitating factor, followed by emotional upset (2.19%) and physical pressure (0.82%). History of progressive

**Table 1: Sociodemographic profiles of vitiligo patients**

	Male Total 115 n	Female Total 250 n	Total 365 Total n	%
Status by age and sex				
< 10	25	54	79	21.64
11–20	43	77	120	32.87
21–30	17	40	57	15.61
31–40	10	43	53	14.52
41–50	11	25	36	9.86
51–60	05	09	14	3.83
> 60	04	02	06	1.64
Status by marital status				
Married	42	107	149	40.82
Unmarried	75	139	214	58.63
Divorcee	01	01	02	0.54
By level of education				
Uneducated	12	47	59	16.16
Up to 5th	38	83	121	33.15
5th to 12th	51	100	151	41.36
Graduation and above	14	20	34	9.31
By occupation				
Unskilled	37	34	71	19.45
Skilled	10	09	19	5.20
Service	07	07	14	3.83
Student	50	100	150	41.09
Unemployed (incl. household work)	11	100	111	30.41
By religion				
Hindu	101	201	302	82.73
Muslim	14	49	63	17.26
By place of residence				
Urban	89	199	288	78.90
Rural	26	51	77	21.09

vitiligo was obtained in 65.59% of the patients [Table 2]. Vitiligo vulgaris (64.9%) was the most common morphological pattern; other patterns seen were focal vitiligo (18.6%), acrofacial vitiligo (0.8%), mucosal vitiligo (14.8%), segmental vitiligo (1.4%), and universal vitiligo

(8.2%). Leucotrichia was seen in 9% of the patients, and Koebner's phenomenon was noted in 6% of the patients. The associated cutaneous diseases noted in our study were alopecia areata (0.55%), chronic urticaria (0.27%), and premature canities (0.55%).

**Table 2: Clinical profile of vitiligo patients**

	No. of cases	%
Progression of disease		
Progressive	223	65.59
Stationary	095	27.94
Regressive	022	06.03
Family history of vitiligo		
First-degree relatives		
Parents	016	4.38
Brother	010	2.74
Sister	007	1.92
Children	002	0.55
Second-degree relatives		
Paternal grandparent	006	1.64
Maternal grandparent		
Uncle/Aunt (maternal/paternal)	007	1.92
Third-degree relatives		
Cousins	002	0.55
Nephew/niece	000	0.00
Total	050	13.7
Distribution of lesions		
Vulgaris	237	64.9%
Focal	068	18.6%
Segmental	005	01.4%
Mucosal	054	14.8%
Universal	030	08.2%
Acral	003	00.8%
Koebner phenomenon / Leucotrichia		
Koebner's phenomenon	022	6.03
Leucotrichia	033	9.04
Nail changes	007	1.92
Trichrome vitiligo	026	7.12
Perifollicular pigmentation	042	11.2
Precipitating Factors		
Trauma	014	3.84
Pressure	003	0.82
Stress	008	2.19
Sour food	001	0.27
Association with other disease		
Diabetes mellitus	002	0.55
Thyroid disease	001	0.27
Hypertension	005	1.37
Alopecia areata	002	0.55
Stress	008	2.19
Eye changes	001	0.27
Deafness	005	1.37
Premature canities	002	0.55

Diabetes mellitus was found in 2(0.55%) patients; hypertension, 5(1.37%); hypothyroidism, 1(0.27%); epilepsy, 4(1%); and deafness, 5(1.37%).

## DISCUSSION

The prevalence of vitiligo is high in India, varying in the range of 0.46% to 8.8%. The different ethnic backgrounds of the population residing in different geographic regions with different environmental conditions may contribute to the wide variation in the prevalence of vitiligo in India.

The female-to-male ratio in our study was 2.1:1, which is different from that reported by Handa and Kaur, Koranne *et al.*, and Sarin *et al.*<sup>[7-9]</sup> Most of the reports showed that males and females were affected with almost equal frequency, but females outnumbered males in our study presumably because social stigma and marital concerns prompt women to seek early consultation. In 54.5% of the patients, the age at onset was in the first or second decade, consistent with most reports from India and the West. This shows that the disease starts at a younger age in the Indian population. However, Howtiz *et al.*<sup>[10]</sup> showed the age of onset to be between 40 and 60 years.

There was a family history of vitiligo in 13.7% of our patients; first-degree relatives were affected in 35 patients. Vitiligo has a polygenic or autosomal dominant inheritance pattern with incomplete penetrance and variable expression.<sup>[11-13]</sup> Familial occurrence has been reported to be in the range of 6.25% to 30%.<sup>[14]</sup> Positive family history is considered to be a poor prognostic factor for vitiligo.

A majority (65.59%) of our patients had progressive vitiligo at the time of presentation. Similarly, Dave *et al.* reported progressive vitiligo in 76% of the patients.<sup>[15]</sup>

In our study, vitiligo vulgaris was the most common type observed, followed by focal, mucosal, universal, segmental, and acrofacial vitiligo. The frequency of distribution of clinical types of vitiligo varies in different studies. However, according to the reports of Koranne *et al.*<sup>[8]</sup> and Sarin *et al.*,<sup>[9]</sup> generalized vitiligo was found to be more common. Thus our results suggest that Indians not only have an increased

incidence of the disease but also have more widespread disease.

The majority (78%) of our patients were from urban areas, where environmental pollutants are more abundant. No significant difference was found between urban and rural residents according to a study by Lu Tao in China.<sup>[16]</sup> However, Slominski *et al.* point out that several environmental factors, including stress, extreme exposure to pesticides, sunlight, etc., have been implicated in the etiology of vitiligo.<sup>[17]</sup>

No significant systemic illnesses were observed in our study. Autoimmune diseases were seen in 5 (1.36%) patients. The association of vitiligo with thyroid disease was 0.27% in our study but was reported to be 12% by Gopal *et al.*<sup>[18]</sup> Insulin-dependent diabetes mellitus is found in 1% to 7% of patients with vitiligo,<sup>[19]</sup> although it was seen in 0.55% of the patients in our study.

To conclude, vitiligo was common in younger age groups in our study settings, with females of marriageable age forming the major group. A wide variety of clinical variations was noted in our study, but no significant systemic illnesses were recorded in our patients.

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