

## Clinico-Epidemiological Profile of Vitiligo in Pediatric Age Group in a Tertiary Care Centre: An Observational Study

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**Abstract** - Vitiligo is an acquired often progressive disorder of depigmentation characterised by circumscribed achromic macules often leading to a low self-esteem and social isolation.<sup>13</sup> The prevalence of vitiligo in pediatric age group has been quoted to be around 25% of vitiligo patients of all ages<sup>4,5,6,7</sup>. A Prospective observational study was designed to study clinical and epidemiological profile of vitiligo in pediatric age group in a tertiary care centre. Incidence of vitiligo in pediatric age group was found to be 34% of total vitiligo patients with female preponderance [58.9%]. Most patients presented after age of 8 years [54.9%], majority of patients [56.9%] had more than 1 year duration of disease. Presence of family history was 9.8% in first degree relatives, concomitant presence of other autoimmune diseases was 7.8%, and vitiligo vulgaris type of generalised vitiligo [51%] was most common clinical type.

**Keywords:** vitiligo, vitiligo vulgaris

Date of Submission: 28-08-2019

Date of Acceptance: 12-09-2019

### I. Introduction

Vitiligo is an acquired progressive disorder of depigmentation characterised by circumscribed achromic macules often associated with leukotrichia. It affects all races worldwide with highest incidence in India [3-4%] and Mexico.<sup>1</sup>

Lesions of vitiligo are asymptomatic and have no effect on general health of an individual, still it is of great concern because of its psychosocial impact on life. Due to its appearance it is often confused with Leprosy [*Kustha rog*].

Vitiligo may present anytime in life, including the neonatal period and childhood. Childhood vitiligo shows female preponderance, and presents more in segmental distribution and rarely associated with autoimmune and endocrine disorders.<sup>2,3</sup>

The prevalence of vitiligo in pediatric age group has been quoted to be around 25% of vitiligo patients of all ages.<sup>4,5,6,7</sup>

Onset of the disease is usually after 10 years of age. The Mean age at onset of childhood vitiligo in an Indian study done by Handa S Dogra S was 6.2 years;<sup>7</sup>

An Indian study done by Handa S Dogra S<sup>7</sup> a statistically significant difference in the occurrence of vitiligo among boys and girls was noted, such difference has not been documented in other studies.

Family members of the affected children have a higher incidence of vitiligo and other autoimmune disorders compared to controls.<sup>9</sup> Positive family history in childhood vitiligo varies between 11%<sup>4</sup> and 46%<sup>10</sup> in various studies.<sup>4,5,10</sup> Pajvani *et al*<sup>9</sup> have reported an earlier onset of vitiligo in children in whom family history of the disease, leukotrichia or other autoimmune disorders were present. In children with focal and segmental disease, family history of vitiligo or other autoimmune disorders is usually negative.<sup>9,11</sup>

In India and perhaps elsewhere also men, women and children with vitiligo face severe psychological and social problems

Thus vitiligo is an important skin disease having major impact on the quality of life of patients suffering from vitiligo. Appearance of skin can condition an individual self-image, and any pathological alteration can have psychological consequences<sup>12</sup>.

Many vitiligo patients feel distressed and stigmatized by their condition.. Most patients of vitiligo report feelings of embarrassment, which can lead to a low self-esteem and social isolation<sup>13</sup>. Occurrence of vitiligo on face and extremities and resistance to treatment can cause embarrassment, anger sometimes progressing to depression and suicidal attempts<sup>14,15</sup>

Patients with vitiligo are very sensitive to the way other perceives them and they will often withdraw, because they anticipate being rejected. Sometimes, strangers and even close friends can make extremely hurtful and humiliating comments.

Children with vitiligo usually avoid sport or restrict such activities. Children often lose vital days from school. Parents of children with vitiligo may have to take time off their work to regularly accompany them for hospital appointments. Children with vitiligo deal with the disease well or be devastated by it, often depending on the attitude of their parents, siblings, relatives, teachers, friends, baby sitters etc<sup>16</sup>.



FOCAL VITILIGO



MUCOSAL VITILIGO



SEGMENTAL VITILIGO



ACRAL VITILIGO



TRICHROME VITILIGO



VITILIGO UNIVERSALIS

## II. Aim And Objectives

To study clinical and epidemiological profile of vitiligo in pediatric age group of 1-12 years in a tertiary care centre during period January 2018 to June 2019..

- 1- To assess incidence of vitiligo in patients between age group 1-12years in Out Patient Department of Department of DVL at a tertiary care centre.
- 2- To assess age and sex distribution of patients of pediatric vitiligo.
- 3- To assess clinical type of vitiligo

## III. Material And Methods

**Study design** - Prospective observational study

**Place of study** - Tertiary care centre located in Maharashtra State, India

**Duration of study** - 1.5 years [January 2018 to June 2019]

**Inclusion criteria** : All clinically diagnosed patients of vitiligo less than 12 years of age.

**Exclusion criteria:**

- a- Other hypopigmentary and depigmentary disorders.

**Method** : All consecutive clinically diagnosed patients of vitiligo below 15 years of age fulfilling inclusion criteria were enrolled in study after taking valid written informed consent.

On 1<sup>st</sup> visit demographic profile like age, sex, socioeconomic status, education , detailed history about duration of disease, family history, presence of other autoimmune disorders/other dermatoses was taken and recorded in pre-designed proforma.

General, systemic and cutaneous examination was done and diagnosis of vitiligo was made clinically.

Routine blood investigations and thyroid profile were done.

Data was entered in Microsoft Excel and analysed statistically

## IV. Observation And Result

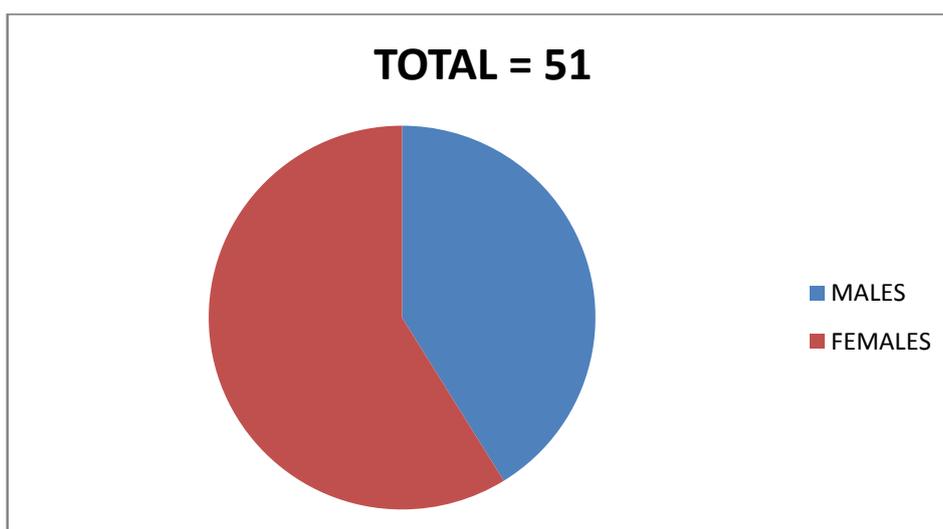
1 - Total vitiligo patients = 148, patients between 1-12years of age = 51

**Percentage of patients between 1-12 years = 34%**

### 2- Sex distribution

SN. NO.	NO. OF PATIENTS	TOTAL NO.	PERCENTAGE
MALE	21	51	41.1%
FEMALE	30	51	58.9%

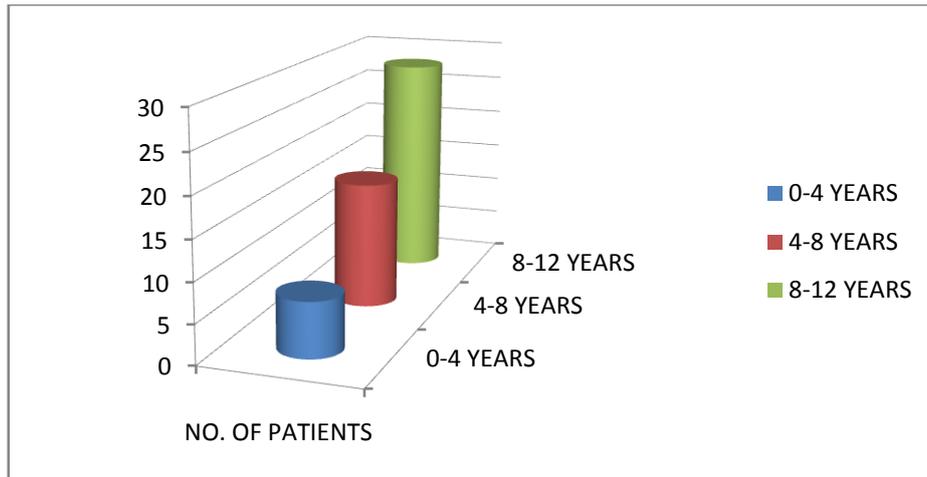
**Table 1 : SEX RATIO**



### 3- Age distribution

AGE GROUP	NO. OF PATIENTS	TOTAL NO.	PERCENTAGE
LESS THAN 4 YEARS	7	51	13.7
4-8 YEARS	16	51	31.4
8-12 YEARS	28	51	54.9

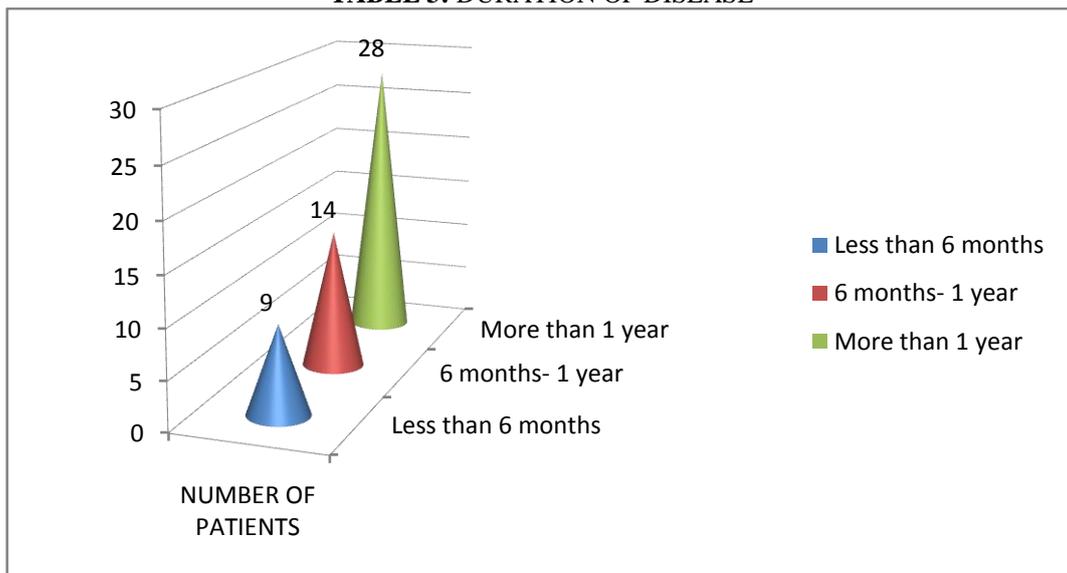
**TABLE 2: AGE DISTRIBUTION**



**4- Duration of disease**

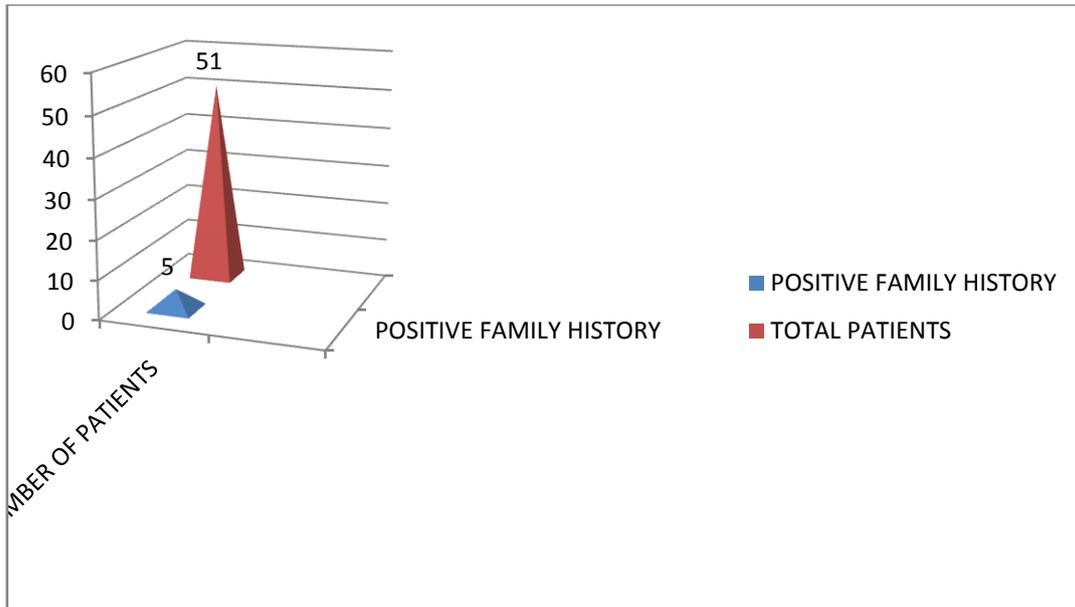
DURATION	NO. OF PATIENTS	TOTAL NO.	PERCENTAGE
LESS THAN 6 MONTHS	9	51	17.6
6MONTH-1 YEAR	14	51	27.5
MORE THAN 1 YEAR	28	51	54.9

**TABLE 3: DURATION OF DISEASE**



**5- Family history of vitiligo was found in 5 patients**

**Incidence of positive family history = 9.8%**

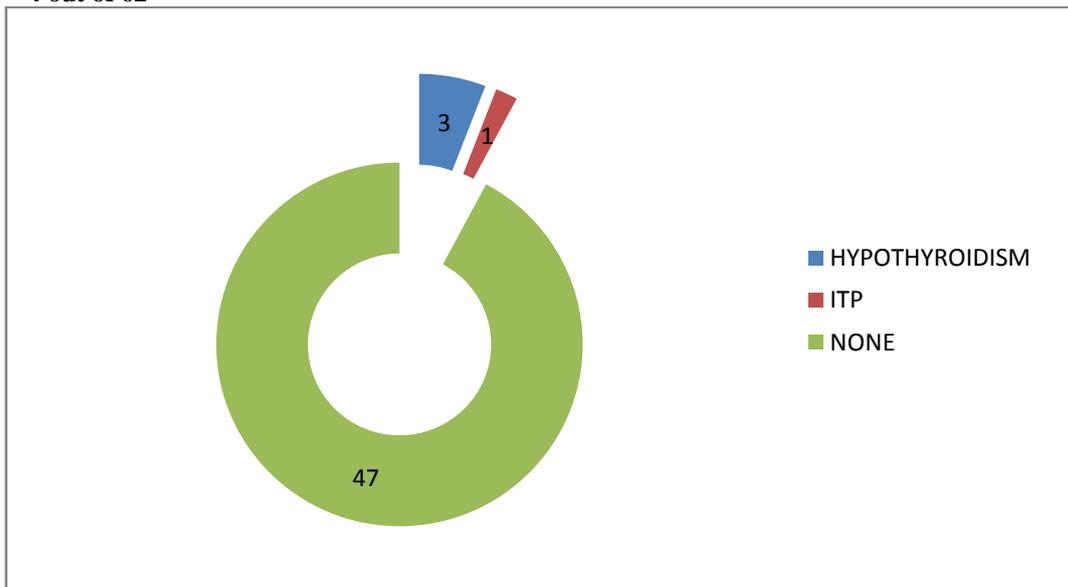


**6-Presence of other autoimmune diseases**

a- Thyroid disorders = 3 [all hypothyroid]

b- Idiopathic Thrombocytopenic Purpura [ITP]=1

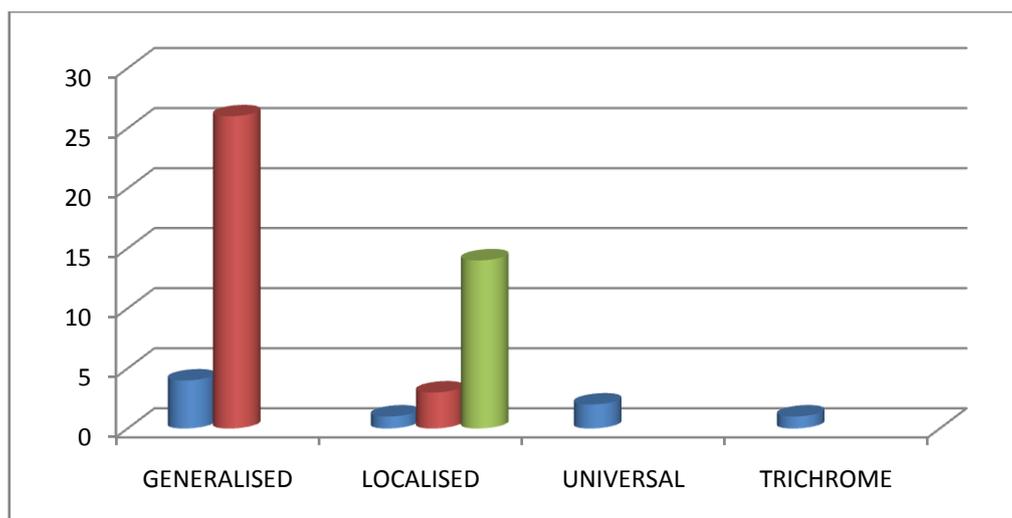
Total = 4 out of 62



**7 – Clinical type of vitiligo**

SN. NO.	TYPE	NO. OF PATIENTS	TOTAL NO.	PERECNTAGE
1-LOCALISED	FOCAL	14	51	27.6
	SEGMENTAL	3	51	5.9
	MUCOSAL	1	51	1.9
2-GENERALISED	VULGARIS	26	51	51
	ACROFACIAL	4	51	7.8
3-UNIVERSAL		2	51	3.9
4-TRICHROME		1	51	1.9

**TABLE 4 : CLINICAL TYPE**



### V. Discussion And Conclusion

Childhood vitiligo is a common dermatological disorder. It is to be differentiated from other causes of hypo or depigmentation. In many cases, familial aggregation of the disease is seen and other autoimmune disorders may be associated. Limited body surface area involvement is usual in this age group.

In our study 34% of patients belong to age group of 1-12 years; overall incidence of pediatric vitiligo ranges from 16% to 26% as observed in various studies by HuZ *et al*[24.1%]<sup>4</sup>, Cho S *et al*[16%]<sup>5</sup>, Jaisankar TJ *et al*[26%]<sup>6</sup>, Hann SK *et al*[23.3%]<sup>7</sup>

Handa S, Dogra S<sup>7</sup> observed female preponderance in their study which supports similar finding in present study [58.9%]

Most patients presented after age of 8 years[54.9%] Hann *et al*<sup>8</sup> have reported disease onset below 10 years of age among 41.3% of their series of patients with SV. In a Chinese study on childhood vitiligo (n = 541), eight children had skin lesions present at birth (focal 7, acrofacial 1).<sup>4</sup>

Majority of patients [54.9%] had more than 1 year duration of disease.

Presence of family history was 9.8.% in our study which was found to be 11% according to HuZ *et al*<sup>4</sup> and 46% according to Prcic S *et al*.<sup>10</sup>

	OUR STUDY	Hu Z <i>et al</i> <sup>4</sup>	Cho S <i>et al</i> <sup>5</sup>	Jaisankar TJ <i>et al</i> <sup>6</sup>	Hann SK <i>et al</i> <sup>7</sup>	Prcic S <i>et al</i> <sup>10</sup>
INCIDENCE	34%	24.1%	16%	26%	23.3%	-
FAMILY HISTORY	9.8%	11%	-	-	-	46%
OTHER AID	7.8%	-	-	-	1.3%	-

Concomitant presence of other autoimmune diseases was 7.8%, which was 1.3% according to Hann SK *et al*.<sup>7</sup> Though mentioned in most of the literature that associated autoimmune diseases are rare in pediatric vitiligo but in present study 3 patients had hypothyroidism and 1 patient had ITP.

Most common clinical type was vitiligo vulgaris type of generalised vitiligo [51%] as observed in various other studies like Hu Z *et al*<sup>4</sup>, Cho S *et al*<sup>5</sup>, Hann SK *et al*<sup>7</sup>, Prcic S *et al*.<sup>10</sup> It was followed by focal vitiligo[27.6%], acrofacial[7.8%], segmental [5.9%], whereas vitiligo universalis and trichrome were observed in 3.9% and 1.9% of patients respectively.

Such studies with large sample size and comparative variables are needed to confirm results of our study. it may help in deciding the therapeutic options to achieve best results with minimal side effects as well as relieving patients' and parents' psychological distress.

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Pawan Singh. "B Scan of Orbit with Its Clinico-Surgical Correlation." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 18, no. 9, 2019, pp 06-12.