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A study of childhood vitiligo and its associations: A hospital-based study

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Abstract

Background and Objectives: It is possible to get vitiligo at any age, even as a baby or child. Overall, twenty-five percent of all cases of vitiligo are in children. Finding out the clinical and epidemiological trend of vitiligo in children is one of the study's goals.

Materials and Methods: The study took place from February 2018 to January 2019 at the Shree Lakshmi Narayana Institute of Medical Sciences in Puducherry, India, in the Department of Dermatology. For the study, 130 children's who had been diagnosed with vitiligo were chosen from the dermatology department's outpatient center.

Results: There is a possibility that vitiligo could be preceded by certain precipitating circumstances. After stress and trauma, the most common history of intercurrent infection in our sample was followed by the presence of both of these factors. There is a possibility that the increased occurrence of intercurrent infections observed in our study is due, at least in part, to the deficiencies in cleanliness and the socioeconomic circumstances of the patients who are treated at our hospital. A further element could be the mother's preconceived notions about the relationship between the vitiligo and the child's previous bouts of illness.

Conclusion: Consequently, the preceding study suggests that every depigmented lesion in adolescents should be meticulously assessed and routinely monitored. The average VASI was elevated in children with a positive family history of vitiligo compared to those with a negative family history.

Keywords: Autoimmunity, vitiligo, children, and paediatric

Introduction

It is thought that about 4% of the general population has this common illness. Several studies have shown that 25% of people have onset before the age of eight, and about 50% have onset before the age of eighteen^[1-3]. Because of this, children go through mental pain. People can get vitiligo at any age, even when they are babies or young children. About 25% of all cases of vitiligo are in children. One study found that the average age is between 4 and 8 years, but it has been known to happen as early as 3 months^[2-4].

There is disagreement about whether or not congenital types exist. Vitiligo usually shows up on fair-skinned people after being exposed to UV light for the first time, making the difference between affected and uninfected skin stand out. If an infant has vitiligo, it usually looks like a patchy skin condition that is more common in girls and is linked to inflammatory diseases^[3-5]. Multiple theories have been put forward, but the exact cause of vitiligo is still unknown. Oxidative stress, antibodies that attack normal human melanocytes, cytotoxic T cells that target melanocytes, keratinocyte metabolism problems, tetrahydrobiopterin production problems, catecholamine production problems, the autoimmune theory, and innate and adaptive immune responses that are out of whack. New research shows that pigment balance is connected to how vitiligo gets worse^[4-6].

Autoimmunity and low-level inflammation are definitely important factors, especially as the disease gets worse. It has been suggested that vitiligo is caused by a combination of biochemical, environmental, and immunological factors that come together in genetically predisposed individuals^[5-7]. This is because immune or non-immune mechanisms alone can't fully explain all the aspects of this complicated condition. Genetic variants linked to the disease have been found. These provide new treatment targets and biological causes. In some unusual family backgrounds where vitiligo and autoimmune diseases run in the family, a more thorough autoimmune test may be needed^[6-8].

It is hard to tell how vitiligo will get worse over time. If there isn't a biomarker, doctors can use clinical signs of disease activity to help them decide what treatment to use and what the prognosis will be [7-9]. Doctors might think about using a more aggressive treatment plan for these patients, which could include giving them systemic corticosteroids, doing phototherapy more often, and putting stronger medicines on the sores [8-10]. This study's goal is to find out the clinical and epidemiological trend of vitiligo in children. We want to look into the clinical features and risk factors of vitiligo in children.

Materials and Methods

The research was done from February 2018 to January 2019 at the Shree Lakshmi Narayana Institute of Medical Sciences in Puducherry, India, in the Department of Dermatology. The study looked at 130 kids who had been identified with vitiligo at the dermatology department's outpatient clinic.

Inclusion Criteria

- All clinically diagnosed cases with vitiligo
- In both gender less than 18 years

Exclusion Criteria: Age more than 18 years

Results

Although there were 130 cases in total, there were more women than men. Through our study, we know that kids ages 5 to 10 are most likely to have vitiligo. What age a sickness usually starts to show up. The length of vitiligo in our study ranged from 6 months to 12 years, with 2 years being the average.

Table 1: Age wise distribution

Sr. No.	Age distribution (Years)	Number	Percent (%)
1.	6 months to 3	24	18.46
2.	4 to 6	45	34.61
3.	7 to 10	31	23.84
4.	11 to 16	30	23.07
	Total	130	100.00

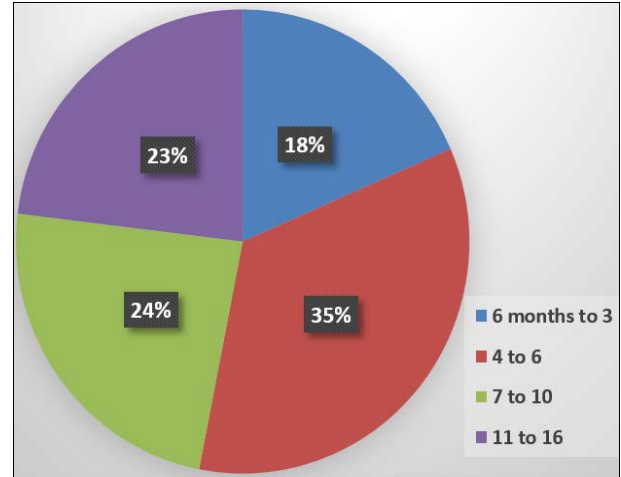


Fig 1: Age wise distribution

Table 1 presents the age-wise distribution of the study, indicating that the majority of patients were in the 4 to 6 years age group. For the age group 6 months to 3 years, the count was 24; for 7 to 10 years, it was 31; and for 11 to 16 years, it was 30.

Table 2: Gender wise distribution

Sr. No.	Gender	Number	Percent (%)
1.	Male	40	30.76
2.	Females	90	69.23
	Total	130	100.00

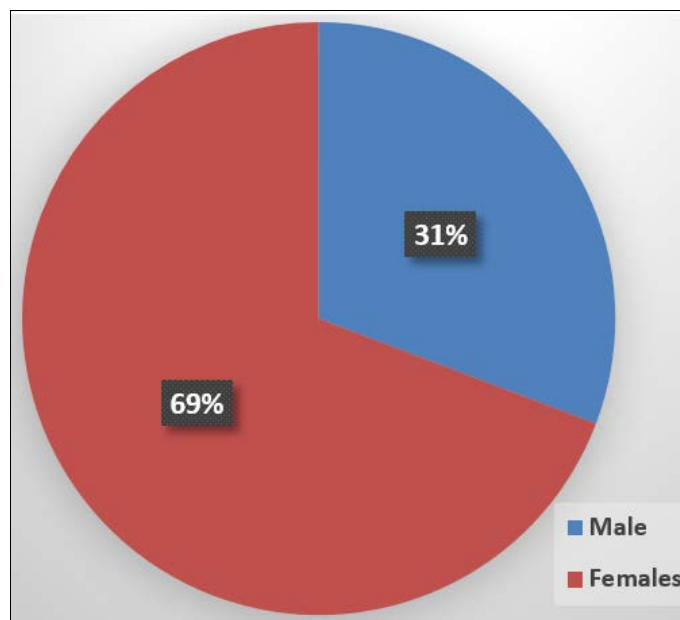


Fig 2: Gender wise distribution

Table 2 and Figure 2 present the gender-wise distribution of the study. In this table, males constituted 30.76%, while females accounted for 69.23%.

Table 3: Morphological types of childhood vitiligo

Sr. No.	Types	Number	Percent
1.	Vitiligo vulgaris	90	69.23
2.	Acral	15	11.53
3.	Segmental	8	6.15
4.	Focal	5	3.84
5.	Acrofacial	7	5.38
6.	Mucosal	5	3.84
7.	Total	130	100.00

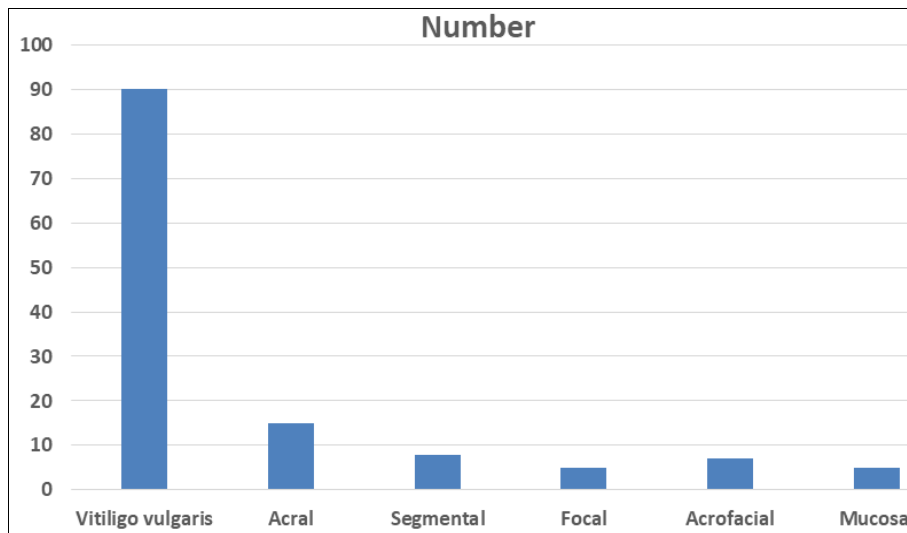


Fig 3: Morphological types

There are three different morphological kinds of childhood vitiligo, which are presented in table 3 and picture 3. The group of patients with vitiligo vulgaris had the highest number of patients, which was ninety, while the patients in the focused and mucosal groups had a relatively small number.

Discussion

Most of the patients in our group were between the ages of 6 and 9 when they came in, which is similar to what studies in Western and Southern India have found. In our study, the average age of the people who came in was 9.8 years old. According to previous Indian research, our study shows that there are more females than men. In our study, there were 1.4 times as many women as men [9-11]. There may be a higher stigma around the cosmetic look of vitiligo among parents of girls, which may explain why the disease is more common in girls and cause them to seek medical help earlier. According to our study, vitiligo usually shows up between the ages of 3 and 9. Several studies also show that people in this age group were most often harmed. The average age at which the disease started in our group was 7.88 years, which is the same as what other research has found [10-12].

Our research found a link between the age of presentation and the age of start. This means that parents should be aware of their child's illness and get them medical help right away. The average length of time people had vitiligo was 1.9 years, according to our study. In our study, vitiligo most often showed up on the face and neck. It then spread to the lower limbs, body, upper limbs, and genitalia [11-13]. Vitiligo

usually shows up on the face and lower leg. Vitiligo may show up in places that are easily damaged in people who are genetically more likely to get it. The exact meaning is complicated but clear. Many studies in India and other countries have found that vitiligo vulgaris is the most common form. The most common type of vitiligo we looked into was vitiligo vulgaris. Other types included mucosal and acrofacial, focal, and segmental forms [12-14].

Sometimes, certain things can cause vitiligo to happen. The most common history of more than one infection in our group was followed by trauma and stress. 6.25 percent of adults and 6.66 percent of children had a traumatic event happen before they got vitiligo [13-15]. The patients who come to our hospital may have more recurrent infections because they don't clean themselves well enough and are poor, which may be linked to our study's findings. Another reason could be that the mother is more likely to connect the child's past illnesses to the vitiligo. In our study, 49 people had a positive family background. First-degree relatives were the most common family members who were affected [14-16].

A study found that having a good family history is less common. These differences happen because of the high number of marriages between related family members and the wide range of race and genetic traits [17-19]. Out of the 51 people in our study, 19 had been identified with diabetes mellitus and 51 had a family history of getting different autoimmune diseases. Childhood vitiligo was more often linked to a history of diabetes in the family. In 24 of the people who took part in our study, vitiligo was linked to other skin diseases [18-20]. There were premature canaries in

four cases, and alopecia areata, atopic dermatitis, and halo nevi were found in three patients each. Our study showed that alopecia areata and halo nevus were linked in 1.2% of cases. There are genes, like thymic stromal lymphopoietin, that make people more likely to get vitiligo and atopic eczema. This shows that these two conditions are linked [19-22].

Conclusion

According to the findings of a recent study, a sizeable proportion of cases of vitiligo in children are discovered in females who are suffering from anemia. The premature graying of hair is the most common condition associated with the dermis. As a consequence of this, any depigmented lesion that is present in children needs to be extensively checked and monitored on a consistent basis. In children who had a positive family history of vitiligo, the average VASI was higher than in children who had a negative family history of the condition.

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Conflict of Interest: None

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