An Epidemiological Study of Vitiligoin an Urban City Hospital

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Author’s contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

ABSTRACT

Vitiligo commonly begins in childhood or young adulthood with peak onset between 10 to 30 years. From this study results it was found that females 83(55.3%)were more commonly affected with vitiligo than males 67(44.7%) and the most common affected age group is 31-50 (35.33%) and the most common site of onset of vitiligo was equal in upper limb and face seen in 71(47.33%) patients each, followed by lower limb sseenin50(33.33%) patients. The most common site involved in males was upper limb 32(47. 76%)and females was face 42(50.6%)were observed. The common type was common clinical type of vitiligo documented was vitiligo vulgaris, seen in 69(46%) patients. This was followed by mucosal vitiligo 36(24%), acrofacial22 (14.67%), segmental17 (11.33%) and vitiligo are ata6 (4%) and reported to be more common in B positive patients.

Keywords: Mucosal; vitiligo; melanocytopenia.

1. INTRODUCTION

Vitiligo is an acquired melanocytopenia, it is believed to show a clinical manifestation of patches, depigmented macules it is also associated with leukotrichia.it mostly affects neck ,face,forearms, hand,scalp and fingers. The onset of the diseases in between 10 to 30 years.it is reported to be associated with other autoimmune disorders. It also creates a
psychosocial impact among the population [1-3]. As vitiligo is reported to be one of the major dermatological disease in India, this study aims to find out its epidemiology by observing the demographic data, clinical patterns of vitiligo and its association with family history and comorbidities.

2. METHODOLOGY

2.1 Study Design

Descriptive Crosssectional stud

2.2 Study Area

Skin Outpatient Department, Sree Balaji Medical College and Hospital.

2.3 Study Population

All patients attending skin OPD who are clinically diagnosed as vitiligo.

2.4 Exclusion Criteria

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

2.5 Inclusion Criteria

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

2.6 Sample Method

Purposive random sampling.

2.7 Sample Size

150.

Patients reported as vitiligo were taken for the study. A pre-structured and pre-tested proforma were utilized tin data collection. Demographic data was noted and the recruited patients were subjected to thorough general and derma to logical examination and asked to give full history. 150 patients were involved in this cross sectional study.

2.8 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 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 version16 and Microsoft Excel 2007.

3. RESULTS

Fig. 1 Depicts the different clinical types of vitiligo in the population. From the study it was understood that Vitiligo affects both gender sequally.In our study outof 150 patients, females 83 (55.3%) were more commonly affected with vitiligo than males 67(44.7%). It was also observed to affect the age group of 31 to 50 years. The most common site affected in males was upper limb 32(47. 76%) and females was face 42(50 .6%). The duration of the disease from the study group varied from 1 year to 30 years and the majority of patients 41(27.33%)were within 1 year of disease duration. In females, the most common duration of disease was between 1-3 years seenin 22 patients (26.51%) and in males. In this study a positive family history of vitiligo were seen in 41(31.33%) patients. Of 150 patients in this study 49 patients showed associated with comorbidities such as Diabetes mellitus, disorders of thyroid gland were most common in Indian population.

4. DISCUSSION

The mean age group affected in males was32.61±19.22 years and in females was 38.92±19.17 years, these results were in concurrence with the study done by Hita Shahetal [4,5]. Babaie Nejad et al worked on the site of infection in a particular population and proved that it affects face, nose and forelimbs majorly, which is similar to the results obtained in our study which is dueto an increased exposure of these sites to sunlight and increased contact with environmental irritants. In our study, the most common site of onset of vitiligo was equal in upper limb and face seen in 71(47.33%) patients each, followed by lower limb seenin 50(33.33%) patients. The most common site involved in males was upper limb 32(47.76%)and females was face 42(50 6%).This was statistically significant and concurrence with the study done by Babaie Nejad et al. [6].This may
be due to an increased exposure of these sites to sunlight and increased contact with environmental irritants. Generalized vitiligo is the most common type and vitiligo vulgaris is reported to be the most common subtype of vitiligo. In our study, the most common clinical type of vitiligo documented was vitiligo vulgaris, seen in 69(46%) patients. This was followed by mucosal vitiligo 36(24%), acr of acial 22(14.67%), segmental 17(11.33%) and vitiligo areata 6(4%). Previous studies have reported that the onset of segmental pattern of vitiligo usually occurs early in life, whereas bilateral or non-segmental pattern is seen in second to fourth decades of life. In our study, the age of onset of segmental (52.94%) and acr of acial (50%) vitiligo were commonly seen between 11-30 years of age. The onset of vitiligo vulgaris (36.23%) was commonly seen between 11-30 years and 31-50 years. The onset of mucosal vitiligo (44.44%) was commonly seen between 31-50 years and vitiligo areata (50%) among less than 10 years of age. In our study, out of 150 patients with vitiligo, 66 patients (44%) were belonging to B positive blood group. Of which, 26 (38.81%) patients were males and 40 (48.19%) patients were females. This was similar to the study done by Sehgal et al. [7,8].

![Clinical types of vitiligo](image)

**Table 1. Comparison of gender distribution and age of onset**

| Age of onset groups | Male | Female | Total | Male (%) | Female (%) | Total (%) |
|---------------------|------|--------|-------|----------|------------|----------|
| <10 years           | 12   | 8      | 20    | 17.91    | 9.64       | 13.33    |
| 11-30 years         | 26   | 32     | 58    | 38.81    | 38.55      | 38.67    |
| 31-50 years         | 21   | 32     | 53    | 31.34    | 38.55      | 35.33    |
| 51-70 years         | 7    | 10     | 17    | 10.45    | 12.05      | 11.33    |
| >70 years           | 1    | 1      | 2     | 1.49     | 1.20       | 1.33     |
| Total               | 67   | 83     | 150   | 100.00   | 100.00     | 100.00   |

**Table 2. Comparison of gender distribution and mean age of onset**

| Age of onset     | Male   | Female  | Total  |
|------------------|--------|---------|--------|
| Mean             | 28.19  | 32.37   | 30.51  |
| SD               | 17.61  | 15.80   | 16.70  |
| P value Unpaired t Test | 0.1281 |         |        |
Table 3. Comparison of clinical types of vitiligo and mean age of onset

| Age of onset Vs Type of Vitiligo | Acrofacial | Mucosal | Segmental | Vitiligo Areata | Vitiligo Vulgaris |
|---------------------------------|------------|---------|-----------|----------------|------------------|
| Number                          | 22         | 36      | 17        | 6              | 69               |
| Mean                            | 23.86      | 35.11   | 21.06     | 18.33          | 32.75            |
| SD                              | 20.21      | 14.93   | 10.72     | 16.16          | 17.35            |
| P value ANOVA                   | 0.0018     |         |           |                |                  |
| Single Factor Test              |            |         |           |                |                  |

Table 4. Comparison of clinical types of vitiligo and mean duration of disease

| Duration of disease Vs Type of Vitiligo | Acrofacial | Mucosal | Segmental | Vitiligo Areata | Vitiligo Vulgaris |
|----------------------------------------|------------|---------|-----------|----------------|------------------|
| Number                                 | 22         | 36      | 17        | 6              | 69               |
| Mean                                   | 6.34       | 4.31    | 3.55      | 0.78           | 6.38             |
| SD                                     | 8.17       | 5.33    | 4.45      | 0.72           | 7.83             |
| P value ANOVA                          | 0.0557     |         |           |                |                  |
| Single Factor Test                     |            |         |           |                |                  |

Table 5. Comorbidities in association with vitiligo

| Comorbidities    | No.of patients | Percentage |
|------------------|----------------|------------|
| Present          | 49             | 32.7       |
| Absent           | 101            | 67.3       |
| Total            | 150            | 100        |

Fig. 2. Comparison of gender distribution and treatment history

5. CONCLUSION

The common type was common clinical type of vitiligo documented was vitiligo vulgaris, seen in 69(46%) patients. This was followed by mucosal vitiligo 36(24%), acrofacial 22 (14.67%), segmental 17 (11.33%) and vitiligo areata 6 (4%) and reported to be more common in B positive patients.
CONSENT
As per international standard or university standard, patient’s written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL
The study was approved by the Institutional Ethics Committee.

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COMPETING INTERESTS
Author has declared that no competing interests exist.

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