

A STUDY OF SOCIODEMOGRAPHIC AND CLINICAL VARIABLES IN PSORIASIS

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Abstract

Introduction: The purpose of this study is to determine the clinical profile, demographics, and behavioral risk factors for patients with psoriasis entering higher tertiary care hospital.

Material and Methods: This is a cross-sectional study of psoriasis in patient visiting the dermatology department at a tertiary care hospital in Nagpur. A questionnaire was designed to glean the demographic data, family history and risk of psoriasis behavioral information, clinical parameters, seasonal variation and clinical co-morbidity. The extent of disease was used to estimate psoriasis extent and Severity Index (PASI).

Results: A total of 312 patients (117 males, 195 females, mean age: 37.8 ± 13.7 years) were identified in the study. Majority of patients belonged to the age group of 31-40 years. Most patients had plaque psoriasis, 53.2% (n = 166), followed by scalp psoriasis, 15% (n=47), palmoplantar psoriasis, 18.2% (n= 57), guttate psoriasis, 12.5% (n = 39), erythrodermic psoriasis, 1% (n=3). 207 patients (104 males, 103 females) presented with Psoriasis type I while 105 patients (13 males and 92 women) had type II psoriasis. The mean age of onset of psoriasis was 32.6 ± 8.41 years, with a mean duration of illness of about 7.6 ± 6.91 years. Psoriasis involved following body parts-primarily elbows (81%), palms, soles and feet (51%), chest (21%), hips and buttocks (17%), knees (39%) scalp (29%). 117 of the 312 patients had mild psoriasis. (PASI <5), 76 had moderate psoriasis (PASI 5-10), 119 had Severe psoriasis (PASI > 10). The mean PASI score was observed to be 16.45 ± 7.41 .

Conclusion: The current study is a step towards estimation of disease burden and its association with different socio-demographic and clinical variables. Future studies with larger sample size, more diverse sample population and a wider clinical variable relation should be considered.

Keywords: dermatology, psoriasis, skin treatment

Introduction

Psoriasis is a chronic inflammatory skin disease that usually develops with demarcated chronic erythematous macules covered with silvery white scales [1-3]. The cause of psoriasis is a complex process. It is due to an abnormal immune response that occurs in the skin, environmental stimuli (infections, skin trauma, drug) and genetic susceptibility [4]. Incidence of psoriasis shows geographical and ethnic differences. There is low prevalence in Japan and China than Europe [5]. The prevalence of psoriasis in India ranges from 0.4 to 2.8%. Psoriasis onset before age 64 has been reported approximately in 75% of patients [7]. Risk factors include smoking, HIV and other infections, low humidity, stressful life events, medications, obesity, trauma. Streptococcal pharyngitis is also associated with psoriasis [1, 5, 8, 9]. Numerous studies have been conducted on various aspects of psoriasis. The purpose of this study was to determine the clinical profile, demographics, and Behavioral risk factors for patients with psoriasis entering higher tertiary care hospital.

Material and Method

This is a cross-sectional study of psoriasis in patient visiting the dermatology department at a tertiary care hospital in Nagpur. This study was approved by the institutional scientific and ethical committees. The study duration was one year from February 2016 to January 2017. A questionnaire was designed to glean the demographic data (gender, age, place of residence, occupation, education level), family history and risk of psoriasis Behavioral information (smoking and drinking), clinical parameters (age of onset, type of psoriasis, PASI scoring, duration of illness, allergic conditions), seasonal variation and clinical co-morbidity. The extent of disease was used to estimate psoriasis extent and Severity Index (PASI). Mild psoriasis, moderate and severe psoriasis groupings were segregated for both type 1 and type 2 psoriasis based on PASI score. All patients provided written informed consent prior to enrolment in the study.

Results

A total of 312 patients (117 males, 195 females, mean age: 37.8 ± 13.7 years) were identified during the study period. Majority of patients belonged to the age group of 31-40 years. Most patients had plaque psoriasis, 53.2% (n = 166), followed by scalp psoriasis, 15% (n=47), palmoplantar psoriasis, 18.2% (n= 57), guttate psoriasis, 12.5% (n = 39), erythrodermic psoriasis, 1% (n=3). As per the age of onset, 207 patients (104 males, 103 females) presented with Psoriasis type I (age of onset ≤ 40 years) while 105 patients (13 males and 92 women) had type II psoriasis (age of onset >40 years). The mean age of onset of psoriasis was 32.6 ± 8.41 years, with a mean duration of illness of about 7.6 ± 6.91 years. Psoriasis involved various body parts which included primarily elbows (81%), palms, soles and feet (51%), chest (21%), hips and buttocks (17%), knees (39%) and scalp (29%). As per the PASI scores, 117 of the 312 patients had mild psoriasis. (PASI <5), 76 had moderate psoriasis (PASI 5-10), 119 had Severe psoriasis (PASI > 10). The mean PASI score was observed to be 16.45 ± 7.41 . Disease exacerbation was observed in winter season with severe in 42% of patient's lesions increased in size and such patients had High PASI rating score.

Of the 312 patients, 84 (26.9%) were habitual smokers, of which 56 (66.7%) were active smokers, 17 (20.2%) were chronic smokers, 11 (13.1%) were passive smokers. A total of 58 (18.5%) patients had habit of drinking alcohol. Of these, 37 (63.7%) and 21 (36.3%) were active and chronic drinkers. Of 312 patients with psoriasis, 91 (29.1%) had a family history of psoriasis (maternal and paternal) and 221 (70.9%) had no family history of psoriasis.

About 183 patients reported to have food allergies. under of these, 25.1% were allergic to eggplant (n = 46), followed by dried fish, 18% (n= 33), oils 4.9% (n= 9), dust and pollen 13.1% (n= 24), Chicken, 15.8% (n=29) Cat and dog dander, 22.9% (n=42). Psoriasis patients report complications such as arthritis (27%), diabetes (17%), hypertension (28%), cardiovascular disease and hyperthyroidism (4% each).

Patient demographics are shown in Table 1

| Characteristics | | Psoriasis patients, n=312 (%) |
|--------------------|------------------------------|-------------------------------|
| Marital Status | Married | 217 (69.5) |
| | Unmarried | 95 (30.5) |
| Educational Status | Illiterate | 35 (11.2) |
| | Upto High School | 148 (47.4) |
| | Graduation | 129 (41.4) |
| Locality | Urban | 224 (71.7) |
| | Rural | 88 (28.3) |
| Occupation | Professional | 11 (3.5) |
| | Semi-professional | 27 (8.6) |
| | Clerical, Shop owner, Farmer | 93 (29.8) |
| | Skilled | 38 (12.1) |
| | Semi-skilled | 63 (20.1) |
| | Unskilled | 58 (18.5) |
| | Unemployed | 22 (7) |

Clinical Characteristics in Table 2

| Characteristics | | Psoriasis patients, n=312 (%) |
|-------------------|-------------------------|-------------------------------|
| Type of psoriasis | Plaque psoriasis | 166 (53.2) |
| | Scalp psoriasis | 47 (15) |
| | Palmoplantar psoriasis | 57 (18.2) |
| | Guttate psoriasis | 39 (12.5) |
| | Erythrodermic psoriasis | 3 (1) |

| | | |
|--------------------|-----------------------|------------|
| Age of Onset | Type 1 (<40 years) | 207 (66.3) |
| | Type 2 (>40 years) | 105 (33.7) |
| Body part involved | Elbows | 253 (81) |
| | Palms, soles and feet | 160 (51) |
| | Chest | 66 (21) |
| | Hips and buttocks | 53 (17) |
| | Knees | 122 (39) |
| | Scalp | 90 (29) |
| PASI | Mild | 117 (37.5) |
| | Moderate | 76 (24.3) |
| | Severe | 119 (38.1) |

Comorbidities in table 3.

| Comorbidity | Psoriasis Patients (%) |
|--------------------|------------------------|
| Allergies | 183 (58.6) |
| Arthritis | 84 (27) |
| Diabetes | 53 (17) |
| Hypertension | 87 (28) |
| Cardiac conditions | 12 (4) |
| Hyperthyroidism | 13 (4) |

Discussion

This study describes patients with psoriasis as seen in tertiary care Hospitalized during a one-year duration. Average age of onset in our patients was observed to be 32.6 ± 8.41 years. A study conducted by Amer *et al.*, [10] reported a similar mean age at the time of diagnosis. In our research, we found the most common clinical type was psoriasis vulgaris (51.8%). This is in concordance with study by Bedi *et al.*, 1995 [11]. In our study, most patients had type I psoriasis (66.3%). Similar results were obtained in a study by Chan *et al.* [12] In total 29.1% of patients had a family history of psoriasis which is in concordance with other studies as well [13, 14]. Elbow involvement was seen in 81% of our patients, whereas another study reports 73% of frequency [15]. Another study by Kaur *et al.* [16] showed that the scalp (25%) was the most common site of involvement, followed by Legs (20.6%) and lastly by arms (11.7%).

The present study also demonstrated that as per PASI scores 117 patients had mild psoriasis (PASI <5) and 76 patients had moderate psoriasis (PASI 5-10) and 119 severe psoriasis (PASI >10). In contrast a study by Gopal *et al.* [17] found that mild psoriasis was seen in 3% of patients (PASI < 3), 55% of patients had moderate psoriasis (PASI 3-10), while 42% severe (PASI > 10). In context of lifestyle habits such as smoking and alcohol consumption was more prevalent in patients with psoriasis as compared to those without psoriasis. These actions are more likely to accelerate the progression of illness [18]. Uncontrolled and excessive intake of alcohol along with chronic smoking is a risk factor for initiation of psoriasis [19]. We found that about a quarter of patients had nicotine dependence in form of smoking of which 66.7% were active smokers, 20.2% were chronic smokers and 13.1% were passive smokers. Baeta *et al.*, [20] conducted a study which reported 20.5% were current smokers, 30% were past smokers. The changes in the patient's quality of life represents a correlation between psoriasis and smoking [21].

Considering alcohol intake, among our patients, only 18.5% reported habit of alcohol consumption. Another study found an odds ratio of 2.78 for the association between psoriasis and alcohol abuse [22]. In another study the increased risk of 1.73 times was demonstrated by Quereshi *et al.* [23] for development of psoriasis in alcoholic patients. In our study patients with physical co morbidities such as arthritis, diabetes, blood pressure, cardiovascular disease and hyperthyroidism had higher risk of psoriasis. This result is in concordance with a study conducted in USA who estimated a high prevalence of cardio vascular disease (38.2%), diabetes (11.4%) was observed in Psoriasis patients [24].

Conclusion

This study aimed to estimate the variables pertaining to socio-demographics, clinical profiles, risks Factors and comorbidities in patients with psoriasis. We found that middle aged men with smoking and drinking with physical comorbidities are at higher risk of development of psoriasis and should be routinely screened. Focus should be shifted to developing strategies for early detection and halting the progression of psoriasis along with formulating newer health policy. The current study is a step towards estimation of disease burden and its association with different socio-demographic and clinical variables. Future studies with larger sample size, more diverse sample population and a wider clinical variable relation should be considered.

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