

The Prevalence of Psoriasis and Vitiligo in a Rural Area in Turkey

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Key Words: Psoriasis; vitiligo; prevalence

Abstract

Background: The study was conducted to determine the prevalence of psoriasis and vitiligo in a selected region of Turkey. Also the consumption of smoking and alcohol was recorded.

Material and Methods: 8959 questionnaires regarding symptoms of the diseases in question were filled out.

Results: The prevalence of psoriasis and vitiligo was recorded as 0.5% in each. Male and female subjects who smoked (14/23 and 4/21 respectively), were found to have psoriasis more frequently than non-smokers (965/4263 and 181/4197) ($p=0.003$ and $p=0.004$ respectively). Male subjects consuming alcohol were found to have psoriasis more frequently than non-consumers (6/23 psoriatic; 192/4263 non-psoriatic) ($p<0.001$).

Conclusion: Determining the epidemiological properties of skin diseases correctly will no doubt lead to improvements in health policies and treatment strategies.

Introduction

Psoriasis is a common, chronic and recurrent disorder of the skin characterized by reddish and scaly patches and plaques. It has a negative impact on quality of life [1, 2]. Vitiligo is a common pigmentary disorder of the skin. It may have a severe negative psychosocial impact on the patient [3].

Field survey is the collection of data in an identified setting. It may not reflect the exact prevalence of searched diseases in the general population. However the diagnoses of the diseases are valid because of truly identification based on the clinical examination. Fur-

thermore the whole chosen district sample reflects the general population.

The prevalence of psoriasis and vitiligo differs around the globe. It is difficult to compare results from different types of studies. Prevalence rates reported to be 0-11.8% and 0.1-1% for psoriasis and vitiligo respectively. However examination-based clinical studies for psoriasis reveals prevalences ranging from 0.3-3.5% [4, 5].

In Turkey no studies have been done on the epidemiological features of psoriasis and vitiligo; so no reliable data concerning the prevalence of these diseases in the general population have been available. The aim of

this study is to determine the prevalence of psoriasis and vitiligo in a selected region of our country. Also the consumption of smoking and alcohol was recorded among these patients.

Materials and Methods

The study was carried out by 7 dermatology residents and 3 staff members at İstanbul University Cerrahpasa Medical Faculty Dermatology Department and Bolu Abant İzzet Baysal University Medical Faculty Dermatology Department.

Mudurnu district is in the province of Bolu, in northwestern Anatolia. The district had a population of 8,959. All ages were included in the study. During the first phase of the study, Mudurnu and nearby villages were visited by health personnel working in the region and given a questionnaire (Table 1) to the residents whom all were registered under National Health Service. This district was chosen because of whole registration under the Health System.

Table 1. The Questionnaire

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| <p>1. Please fill out the following information:</p> <ul style="list-style-type: none"> - Name, surname -Address -Age -Sex -Do you smoke? (At least 3 cigarettes/day) -Do you drink alcohol? Yes or No. How much do you drink every day? (1 beer, 0.5 double raki, a glass of wine) <p>2. Please indicate whether you have any of the following symptoms:</p> <ul style="list-style-type: none"> A- Recurrent itchy, red colored, scaly symptoms B- Light colored skin areas <p>3. Please indicate if any of your family members have one of these symptoms.</p> |
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These forms were evaluated and subjects reporting symptoms were identified and revisited by a team of dermatologists during the second phase of the study. The characteristic lesions consist of red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp were identified as psoriasis. The amelanotic macules particularly in areas that are normally pigmented were accepted as vitiligo. Subjects with identified diseases according to the body involvement area were prescribed treatment or patients who have body involvement more than 10% were referred for further evaluation and/or treatment at Bolu Abant İzzet Baysal University Medical Faculty Dermatology Department. Only the patients who had symptoms during the examination were included in our study.

Statistical Analysis

Prevalence of psoriasis and vitiligo were calculated and the association between smoking and alcohol consumption was studied using the Chi-square, Fisher's exact test and Mantel-Haenszel tests.

Results

During the first phase of the study, questionnaires for 8959 subjects were completed. 8502 (4216 females and 4286 males) of the questionnaires were appropriately completed. 457 of the questionnaires were not appropriately completed and the same time they had no symptoms. For these patients data availability is not enough from answers given to the questions. 1292 subjects stating that they had the symptoms in question were examined by inspection during the second phase of the study (Figure 1). The prevalence of psoriasis after clinical examination was 0.5% (43/8502). The same prevalence rate was also recorded for vitiligo, 0.5% (39/8502). Male and

Table 2. Distribution of Subjects with Psoriasis According to Smoking Habits

| | Psoriatic | | Non-psoriatic | | Total | |
|-------------|------------|------------|---------------|------------|-------------|------------|
| | Smoker | Non-smoker | Smoker | Non-smoker | Smoker | Non-smoker |
| Females <18 | 0/3 | 3/3 | 4/1171 | 1167/1171 | 4/1175 | 1171/1175 |
| Females >18 | 4/18 | 14/18 | 177/3026 | 2849/3026 | 181/3044 | 2863/3044 |
| | (p=0.0034) | | | | | |
| All females | 4/21 | 17/21 | 181/4197 | 4016/4197 | 185/4219 | 4034/4219 |
| | | | | | (p=0.0010) | |
| Males <18 | 0 | 0 | 44/1326 | 1282/1326 | 44/1326 | 1282/1326 |
| Males >18 | 14/23 | 9/23 | 921/2937 | 2016/2937 | 935/2960 | 2025/2960 |
| | (p=0.0024) | | | | | |
| All males | 14/23 | 9/23 | 965/4263 | 3298/4263 | 979/4286 | 3307/4286 |
| | | | | | (p=0.00001) | |

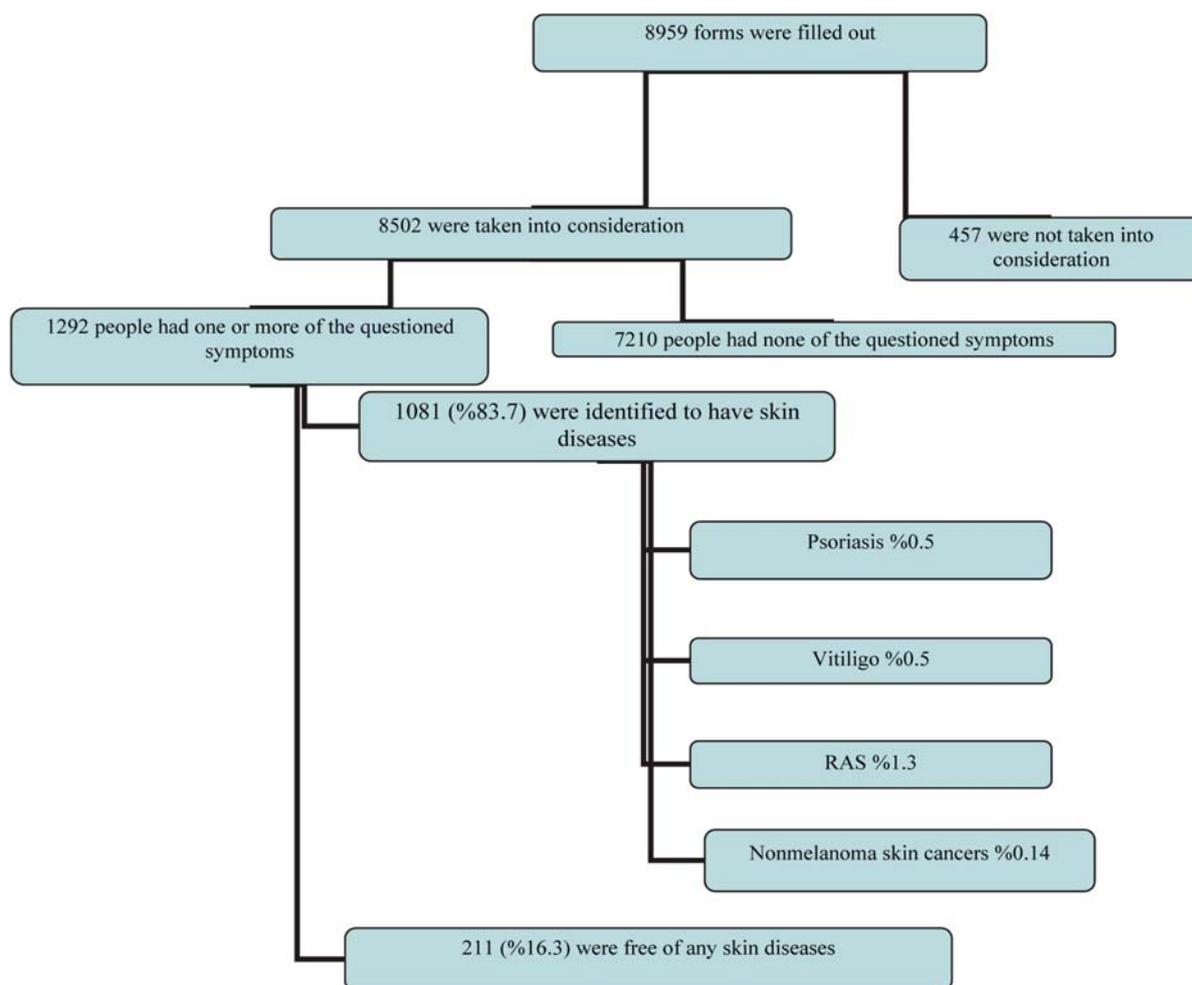


Figure 1. Summary of our epidemiologic study conducted in Mudurnu

female subjects who smoked (14/23 and 4/21 respectively), were found to have psoriasis more frequently than non-smokers (965/4263 and 181/4197) (p=0.003 and p=0.004 respectively). Male subjects consuming alcohol were found to have psoriasis more frequently than non-consumers (6/23

psoriatic; 192/4263 non-psoriatic) (p<0.001) (**Tables 2 and 3**).

Among 1292 subjects who were examined, 211 (16%) were evaluated to be free of any skin diseases. The skin diseases in 1081 were recorded. A total of 82 different diagnoses were made (**Table 4**). 50.1% (542/1081) of

Table 3. Distribution of Subjects with Psoriasis According to Alcohol Consumption

| | Psoriatic | | Non-psoriatic | | Total | |
|-------------|---------------------|------------|---------------|------------|-----------------------|------------|
| | Alcohol | No Alcohol | Alcohol | No Alcohol | Alcohol | No Alcohol |
| Females <18 | 0/3 | 3/3 | 0/1168 | 1168/1168 | 0/1171 | 1171/1171 |
| Females >18 | 0/18 | 18/18 | 5/3026 | 3021/3026 | 5/3044 | 3039/3044 |
| All females | 0/21 | 21/21 | 5/4194 | 4189/4194 | 5/4215 | 4210/4215 |
| Males <18 | 0 | 0 | 6/1326 | 1320/1326 | 6/1326 | 1320/1326 |
| Males >18 | 6/23 | 17/23 | 186/2937 | 2751/2937 | 192/2960 | 2768/2960 |
| All males | 6/23 (p=0.00013) | 17/23 | 192/4263 | 4071/4263 | 198/4286 (p=0.001) | 4088/4286 |

Table 4. Prevalences of Skin Diseases in 8502 People

| Diseases | n | (%) |
|--------------------------|-----|--------|
| Dermatophytic infections | 319 | (3.75) |
| Eczema | 250 | (2.94) |
| RAS | 112 | (1.32) |
| Psoriasis | 43 | (0.51) |
| Vitiligo | 39 | (0.46) |
| Nonmelanoma skin cancers | 12 | (0.14) |

the subjects were female, 49.9% (539/1081) were male.

Discussion

The prevalence of psoriasis is stated as 2% in most textbooks. Most numbers stated in literature are crude estimations [6]. Cross-sectional studies based on clinical examination have reported the prevalence of psoriasis to be 0.3-3.5%. The methods and sample sizes of these studies are quite different and interobserver differences have not been calculated in most of them [7]. In our study, we found the prevalence of psoriasis to be 0.5%. This number is lower than prevalence reported in the literature. Studies have shown that the prevalence of psoriasis is affected by geographical location and ethnic origin. Psoriasis increases as the distance to the equator increases and is seen more frequently in Caucasians [6, 8].

The prevalence of vitiligo is stated to be 0.1-1% [3, 9]. In our study, the prevalence of vitiligo which was calculated as 0.5% is in accordance with numbers reported from the world.

The number of epidemiological studies of skin diseases in the world is few. Our study is one of the first of its kind in our country. The patients were examined by ten dermatologists. However they have different clinical experience, we do not think they have different clinical diagnosis related to psoriasis and vitiligo. Because the clinical diagnosis of the diseases are well known by dermatologists. Compared with data based on questionnaires and interviews, validity of the clinical examination by a dermatologist is high.

In field survey studies, diagnosis in cases of remission at the time of examination may be

lost. Furthermore minor symptoms of psoriasis may not have been diagnosed at all and previous outbreaks may have been forgotten. Nevertheless field surveys in detecting disease prevalence compared to hospital admission rates seem to be high. Because some patients with minor lesions may not demand therapy for attending to the hospital.

Determining the epidemiological properties of skin diseases correctly will no doubt lead to improvements in health policies and treatment strategies.

The association of smoking and alcohol consumption habits with psoriasis and vitiligo

Smoking and alcohol consumption have long thought to affect psoriasis negatively but no comprehensive studies have been conducted until the last decade. Some epidemiologic studies have been conducted recently but the results cannot be compared due to the differences in methodology. Nevertheless, proof that smoking and alcohol consumption affect psoriasis is constantly increasing [10].

An association between psoriasis and smoking has been addressed in our study and the results have shown that male and female patients who smoke had psoriasis more frequently ($p=0.003$, $p=0.004$). The relationship between the number of cigarettes smoked daily and disease severity has to be assessed by more detailed studies.

Alcohol both triggers the onset of psoriatic lesions and increases the severity of existing disease. In people who consume excessive amounts of alcohol, the disease is observed to be more severe, widespread and inflamed. If alcohol is discontinued, remission of the psoriasis can also be seen. The association of alcohol and psoriasis is more pronounced in males [11-13]. In our study, we found that alcohol consuming males have psoriasis more frequently than non-consumers ($p<0.001$).

We know of no previous work on the association of vitiligo with smoking and alcohol consumption and we did not find any association either.

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