Distribution of Vitiligo in the Albanian population

Ardiana Sinani[1], Enver Roshi[2], Rovena Lico[3]

[1]Dermatology Service, Military Medical Unit, University Trauma Hospital, Tirana, Albania;
[2]Faculty of Public Health, Medical University of Tirana, Albania;
[3]Policlinic No 1, Tirana, Albania.

Corresponding Author: Ardiana Sinani, MD;
Address: Military Medical Unit, University Trauma Hospital, Tirana, Albania.
Telephone: +355693892600; E-mail: diana_sinani@yahoo.com

Abstract

Aims: Vitiligo is a chronic skin disorder that causes depigmentation of the skin. The evidence about Vitiligo and its related factors is scarce in Albania. Therefore, the aim of this study was to describe the distribution of Vitiligo in the Albanian population by gender and different age groups.

Methods: Participants were recruited in Tirana region during the period October 2014 - March 2015. Based on the expected prevalence of Vitiligo at a global scale and the distribution of the Albanian population by age and gender, the sample size was estimated at 1758. These 1758 individuals of the sample were subject to dermatological tests to find whether they suffered or not from Vitiligo. Vitiligo was examined by a standard physical examination and by Wood lamp method.

Results: The prevalence of Vitiligo in this sample of the Albanian population was 2.2% (2.1% in males and 2.3% in females). Hence, there was not any difference in the prevalence of Vitiligo in the overall groups of males and females. Also, there was found that for each age group, males had a lower prevalence of Vitiligo (except the age group of 0-14 years). Among females, the age group with the highest prevalence was 45-54 years (4.3%), then the 15-24 years (3.4%) and 25-34 (3.2%). Whereas in males, the highest age group prevalence was registered in the 55-64 year-old individuals (2.9%) and those aged 15-24 years (2.3%).

Conclusion: Vitiligo is not a life-threatening skin disease, but has a significant impact on the quality of life of patients and causes considerable psychological distress. Vitiligo is a disease which in Albania is distributed among different age groups and genders.

Keywords: depigmentation, dermatology, prevalence, vitiligo.

Introduction

Vitiligo is an acquired chronic depigmentation disease of the skin. It causes loss of pigment on affected areas of the skin or mucosae and is characterised by milk white, nonscaly with distinct margins. Vitiligo is supposed to be a multi-factorial disease in which melanocits are destroyed and this results in the absence of pigmentation in affected areas. Even though most people with vitiligo are in good general health, they face a greater risk of having other diseases such as diabetes, thyroid disease, pernicious anaemia (B12 deficiency), adrenal gland disease and alopecia areata (1).

The diagnosis is primarily clinical. This disease has a variable frequency ranging from 0.38% to 2.9%, which varies according to the region studied (1). The average age of onset of the disease is around the second and the third decade of life (2). Adults and children of both genders are equally affected but some studies show a slight prevalence of major cases in females, probably due to negative psycho-social consequences caused by this skin disease (3,4). However, this result is not considered statistically important because some studies show similar rates for both genders (5). The place of onset and distribution of lesions in the skin varies according to age and region of the studied populations, but the most affected sites are, respectively, the head, limbs and trunk, and less affected areas are the mucosal areas (1). The chronic nature of the disease, long term treatment, lack of an effective uniform therapy and the unexpected progress are commonly very demoralizing for the patients who suffer from Vitiligo.

According to the World Health Organization (WHO), quality of life (QL) is defined as a perception of individuals, values and life position in the context of cultural systems in which they live in relation to their purposes, hopes, concerns and standards they should have. Vitiligo has a negative impact for quality of life of the affected individuals (6). Dermatological diseases do not involve any direct threats to life, but their chronic and sometimes incurable character has a powerful negative impact in the quality of life and almost in all life aspects of the patients affected (7). Dermatological diseases affect patients in a multi-dimensional way, starting from the emotional aspects to social activities. Definition of the life quality of individuals affected from the skin diseases is complex. Nonetheless, there has been devoted a large effort in all medical sciences to achieve valuable results to treat and increase the quality of life of those individuals.

Measuring of impact of the dermatological diseases on the life quality is useful for some reasons: it allows patients to express their feelings and concerns to their doctors, and this is a way that improves the doctor-patient communication and also helps the management of these diseases including evaluation of the risk/benefits of alternative therapeutic protocols (treatment regimens) (8).

The purpose of this study was to describe the distribution of Vitiligo in the Albanian population. More specifically, this study aimed at describing the individuals affected by Vitiligo according to their age-group and gender distribution. Also, an objective was to describe the affected individuals according to the perception of life quality.

Methods

This study included 1758 individuals who showed up at the Dermatolgy Service of the Military Hospital in Tirana, Albania, during the period October 2014 - March 2015. All these individuals were examined for the presence of Vitiligo. Overall, 39 cases with Vitiligo were diagnosed through the physical standard examination using the Wood lamp too. In these 39 patients diagnosed with Vitiligo there were applied structured questionnaires which consisted of two parts:

· Assessment of socio-demographic characteristics: age-group, gender, educational level, as well as place of residence of the subjects affected from Vitiligo.

· Assessment of the quality of life index (DLQI).

The DLQI is the most frequently used instrument in studies of randomised controlled trials in dermatology. In our study, the DLQI was used with permission of Cardiff University, UK.

To calculate the index of dermatological life quality, the answers given by the subjects about the related questions were assessed under the following scoring system: not at all (0), a little, fair, very, it does not fit me, yes (3).

Data obtained were entered into Excel program and then were transferred to SPSS in order to be subject to the statistical analysis.

Data were calculated and presented in the form of summary tables and relevant charts.

For continuous data such as the age, the standard deviation and means were calculated while the median was also calculated for the dermatological life quality.

For categorical data such as gender, educational level, living place, Vitiligo characteristics and answers related to the life quality, the relevant distribution frequencies were calculated, expressed in absolute numbers and their respective percentages.

The association between socio-demographic characteristics and Vitiligo was assessed by use of the chi-square test. A p-value of $p \leq 0.05$ was defined as statistically significant.

Statistical analysis was performed through Statistical Package SPSS, version 19.0.

Results

Table 1 indicates that females had a higher prevalence of Vitiligo compared to males (excluding the age group of 55-64 years old). The highest prevalence for females was noted among the age group of 45-54 years old, followed by individuals aged 15-24 years and those 25-34 years old. Meanwhile, a higher prevalence in males was noted among the age groups of 55-64 years and 0-14 years.
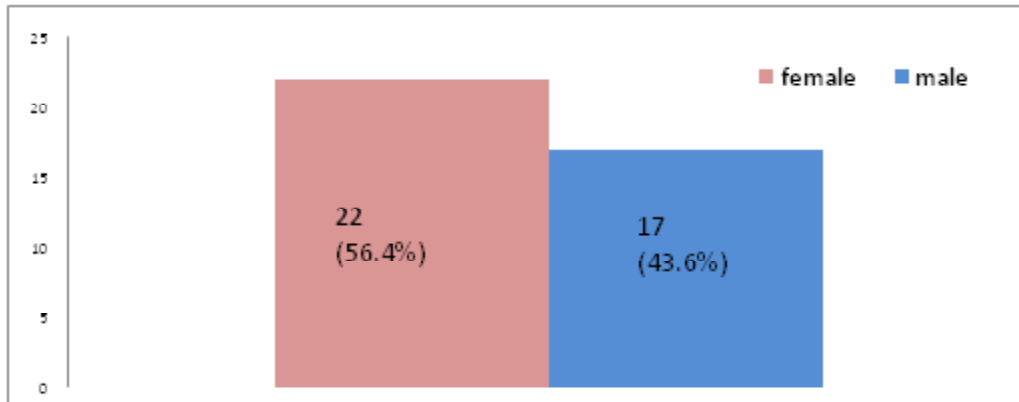
Table 1. Distribution of individuals affected from Vitiligo according to their gender and age-group

Age group	Male	Female	Total
0-14	4	1	5
15-24	4	6	10
25-34	2	4	6
35-44	2	3	5
45-54	1	6	7
55-64	3	1	4
65-74	1	1	2
Total	17	22	39

Of the 39 patients taken into consideration in this research study, 22 (56.4%) were females and 17 (43.6%) were males (Figure 1).

Figure 1 shows that from the sample of 1758 individuals included in the study, there were more females affected by Vitiligo than males. Adults and children of both sexes are equally affected by vitiligo, although females go more often for dermatological visits (regarding vitiligo) than males. This is probably due to the wider social consequences on women and girls affected by this pathology (3,9).

Figure 1. Distribution of Vitiligo according to gender

Table 2. Distribution of Vitiligo according to age and gender

Age	Male (%)	Female (%)	Total (%)
0-14	4 (23.5)	1 (4.5)	5 (12.8)
15-24	4 (23.5)	6 (27.3)	10 (25.6)
25-34	2 (11.8)	4 (18.2)	6 (15.4)
35-44	2 (11.8)	3 (13.6)	5 (12.8)
45-54	1 (5.9)	6 (27.3)	7 (17.9)
55-64	3 (17.6)	1 (4.5)	4 (10.3)
65-74	1 (5.9)	1 (4.5)	2 (5.1)
Total	17 (100)	22 (100)	39 (100)

Females affected by Vitiligo are in a high percentage in the age 15-24 years old (27.3% of females affected from Vitiligo belong to this age group), meanwhile males have a higher percentage in the age groups 0-14 years old and 15-24 years old (each of them comprises 23.5% of the overall males affected by Vitiligo) [Table 2].

Table 3. Distribution of Vitiligo according to living place and gender

	Male (%)	Female (%)	Total (%)
Town	10 (58.8)	19 (86.4)	29 (74.4)
Suburb	4 (23.5)	3 (13.6)	7 (17.9)
Village	3 (17.6)	0 (0)	3 (7.7)
Total	17 (100)	22 (100)	39 (100)

Table 3 indicates that both males and females affected from Vitiligo live in town (respectively, 86.4% females and 58.8% males). Of note, there are no female cases living in rural areas (villages).

From Table 4 it is noticed that the number of males with 12 years of education is higher than the number of females. Meanwhile, a contrary finding is evident for the level of more than 12 years of education, where the number of females is higher than the number of males. Meanwhile, it is noticed that the number of the patients which have 12 or more years of education is higher than the number of those who have 9 or less years of education.

Table 4. Distribution of Vitiligo according to educational level and gender

Education	Male (%)	Female (%)	Total (%)
No education	3 (17.6)	1 (4.5)	4 (10.3)
9 years education	2 (11.8)	4 (18.2)	6 (15.4)
12 years education (including high school)	9 (52.9)	8 (36.4)	17 (43.6)
More than 12 years education (including bachelor, master, PhD)	3 (17.6)	9 (40.9)	12 (30.8)
Total	17 (100)	22 (100)	39 (100)

Dermatological life quality index

Based on the data obtained and the respective analysis, the index of dermatological life quality varies from 0 to 10 with a mean of 4.8 and a standard deviation of 2.5. The median is 5.

Table 5 presents the distribution of the quality of life as assessed by the administration of a structured questionnaire to all study participants.

Table 5. Self-perceived life quality among study participants

Question 1: The degree of concern that has brought the skin disease (vitiligo).	
not at all	4 (10.3)
a little	29 (74.4)
very much	6 (15.3)
Total	39 (100)
Question 2: The Degree of embarrassment and anxiety caused from the skin disease (vitiligo).	
not at all	4 (10.3)
a little	30 (76.9)
very much	3 (7.7)
not relevant	2 (5.2)
Total	39 (100)
Question 3: The degree of skin disease (vitiligo) influence on daily work.	
not at all	23 (59.0)
a little	6 (15.4)
not relevant	10 (25.6)
Total	39 (100)
Question 4: The degree of skin influence on the clothes that patient wear.	
not at all	21 (53.8)
a little	13 (33.3)
not relevant	5 (12.8)
Total	39 (100)
Question 5: The degree of skin influence on social activity.	
not at all	25 (64.1)
a little	7 (17.9)
very much	1 (2.6)
not relevant	6 (15.4)
Total	39 (100)

Question 6: The degree of skin disease influence in any sport activity.	
not at all	23 (59)
a little	2 (5.2)
not relevant	14 (26.8)
Total	39 (100)
Question 7: The degree of influence of skin diseases in preventing from working and studying.	
no	30 (76.9)
not relevant	9 (23.1)
Total	39 (100)
Question 8: The degree of skin disease created problems with partners or any close friends or relatives.	
not at all	8 (20.1)
a little	24 (61.5)
very much	1 (2.6)
not relevant	6 (15.4)
Total	39 (100)
Question 9: Skin disease impact level in sexual relationship.	
not at all	3 (7.7)
a little	15 (38.5)
very much	4 (10.8)
not relevant	17 (43.6)
Total	39 (100)
Question 10: The degree of skin treatment influence making your home messy or by taking time.	
not at all	3 (7.7)
a little	26 (66.7)
very much	4 (10.3)
not relevant	6 (15.4)
Total	39 (100)

Discussion

Based on the data analysis above, it was noticed that gender was influential in the degree of concern that brings Vitiligo (p=0.01) and in the degree of embarrassment and anxiety due to this skin disease (p=0.01), where females were proven to be the most sensitive category.

Age-group influenced the impact of dermatological life quality of individuals and was a significant determinant of vitiligo's impact on social activities (p=0.007), for the selection of clothes (p=0.007), in problems with relatives as the result of skin disease status (p=0.007) and in problems caused from the skin disease treatment (p<0.001). Categories which were more sensitive from skin disease (vitiligo) included the age groups 15-24 years and 25-34 years, where subjects which belonged to these age groups categories represented the highest percentage of the persons who have concerns as a result of the skin disease status. Based on the data analysis, there is evidence that living place feature is a determinant for the concerns' level as the result of skin disease status (p=0.01), skin disease impact level on social activities (p=0.026), sexual difficulties level as the result of skin disease states (p=0.0047). The category which was more sensitive toward the skin impact for the dermatological life quality included individuals who live in the cities.

From the data analysis results that education is a

significant determinant in the degree of embarrassment and anxiety as the result of the skin disease states (p=0.014), level of skin disease impact for the selection of clothes (p=0.005), level of skin disease impact on the social activities (p=0.002), level of skin impacts in exercising any kind of sports (p=0.009), level of sexual difficulties as the result of the skin (p=0.009) and level of problems as the result of skin treatment (p=0.018). The more educated people are those who are more preoccupied and worried about their disease.

The subjects who suffer more from Vitiligo include females, and persons who live in the urban areas, and those who have completed 12 years education or more. Also, those who belong to the age groups 15-24 years and 25-34 years experience more concerns for their Vitiligo as skin disease.

The main issues raised by the studies on vitiligo are:

Conflicts of interest: None declared.

lack of consensus on the classification and definition of vitiligo, lack of consensus on the evaluation methods and the results of studies on vitiligo, as well as the presence of highly heterogeneous comparative studies. Surprisingly, the only licensed treatment of vitiligo is the cosmetic one, camouflaging it by make-up (10). Current medications just help to relieve symptoms, for instance the temporary repigmentation of vitiliginous areas, but they do not cure the basic disease. Finally, the vitiligo etiology and pathogenesis still remain ambiguous. It is still not clearly understood what causes the destruction of melanocytes. It is still unclear the natural history and epidemiology of this disease. If a cure were found, further researches would be focused in understanding the etiology, epidemiology and natural history of vitiligo.

References

1. Hann SK, Kim YS, Yoo JH, Chun YS. Clinical and histopathologic characteristics of trichrome vitiligo. J Am Acad Dermatol 2000;42:589-96.

2. Gauthier Y, Andre MC, Taïeb A. A critical appraisal of vitiligo etiologic theories. Is melanocyte loss a melanocytorrhagy? Pigment Cell Res 2003;16:322-32.

3. Singh M, Singh G, Kanwar AJ, Belhaj MS. Clinical pattern of vitiligo in Libya. Int J Dermatol 1985;24:233-5.

4. Le Poole C, Boissy RE. Vitiligo. Semin Cutan Med Surg 1997;16:3-14.

5. Liu JB, Li M, Yang S, Gui JP, Wang HY, Du WH, et al. Clinical profiles of vitiligo in China: an analysis of 3742 patients. Clin Exp Dermatol 2005;30:327-31.

6. Panda AK. The medico historical perspective of vitiligo (Switra). Bull Indian Inst Hist Med Hyderabad 2005;35:41-6.

7. Del Pozo MD, Lobera T. Quality of life in dermatology. Allergol Immunol Clin 2001;16:239-63.

8. Finlay AY. Quality of life measurement in dermatology: a practical guide. Br J Dermatol 1997;136:305-14.

9. Fitzpatrick TB. Hypomelanosis. South Med J 1964;57:995-1005.

10. Gawkrodger DJ, Ormerod AD, Shaw L, Mauri-Sole I, Whitton ME, Watts MJ, et al. Guideline for the diagnosis and management of vitiligo. Br J Dermatol 2008;159:1051-76.