

**THE RELATIONSHIP BETWEEN ENVIRONMENTAL
STRESSORS AND PSYCHIATRIC CO-MORBIDITY TO
CLINICAL PROFILE AND SEVERITY OF PSORIASIS**

Submitted By

Azza Mahmoud Ismail Fawzy

M.B.B. Ch., Faculty of Medicine, Ain Shams University, 1994

Master of Dermatology, Faculty of Medicine (Girls), Al-Azhar University, 2003

A thesis submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences

Department of Environmental Medical Sciences
Institute of Environmental Studies and Research
Ain Shams University

2017

APPROVAL SHEET

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ABSTRACT

INTRODUCTION: Psychological stressors have been reported to precede the onset of psoriasis in 44% of patients, initiate recurrent skin flares in 88% of psoriatic and may worsen psoriasis severity and may even lengthen the time to disease clearance. Environmental stressors and psychiatry comorbidities have impact on the forms and types of severity of psoriasis and quality of patient's life.

AIM OF THE STUDY: To identify the types of stressors, psychological, social, environmental factors which are related to the forms and severity of psoriasis and to study the correlations between comorbid psychiatric disorders, quality of life and the forms and severity of psoriasis.

SUBJECTS AND METHODS: One hundred and fifty patients of randomized samples were collected from dermatological out-patient clinic affiliated to ministry of health and universities hospitals, aged above 18 years. All subjects were exposed to the followings: Socioeconomic data will be collected for all patients, Full dermatological history including exacerbating factors, Holms and Rahe for assessment of stressors, General examination to exclude chronic diseases. Clinical examination, Psoriasis area severity index, (PASI) and, mini international neuropsychiatric interview (MINI), Dermatological life quality index.

RESULTS: The socio-demographic characteristics show that the mean age of patients with psoriasis of both sexes was 40.91 (standard deviation, SD 14.26) years, while the men: women ration was 2.66: 1. Among the psoriatic patients, 72.6% were male and 24.6%, were female and 66% were married versus 34% were unmarried. A significant relation between weather condition and type of psoriasis severity was noticed where $\chi^2=34.29$. It appears that psoriatic patients were improved in summer ($p<0.05$) and worsened in winter. A significant relation between presence of psychological stress and type of psoriasis severity where $\chi^2=30.52$. It appears that moderate type of psoriasis was the most common among psoriatic patient with stress (45.5%) or without stress (65.3%). There is a significant relation between type of co-morbid psychiatric disorders and type of psoriasis severity. There are specific relation between presence of co-morbid psychiatric disorders and distribution of psoriasis in face ($\chi^2=13.773$, $P<0.05$) and hands ($\chi^2=11.759$, $P<0.05$).

CONCLUSION: The study showed that environmental stressors have relevant effects on severity of psoriasis. In addition, there is a specific relation between both climate and psychological stresses on the severity of psoriasis. The study showed relation between presence of psychiatric disorders co-morbidities and type of severity of psoriasis. As moderate type of severity was the most common among psoriatic patients showing anxiety disorders and depression.

Contents

	<i>Page</i>
List of Abbreviations	i
List of Figures	ii
List of Tables	iii
Annexes	v
Introduction	1
Aim of The Study	4
Review of Literature	5
Subjects and Methods	58
Results	63
Discussion	83
Conclusion and Recommendations	91
Summary	93
References	97
ANNEX	138
Arabic Summary	

List of Abbreviations

Abbrev.	Full Term
<i>BSA</i>	Body Surface Area
<i>DLQI</i>	Dermatology Life Quality Index
<i>HRQOL</i>	Health-Related Quality Of Life
<i>ICAM</i>	Intercellular Adhesion Molecule
<i>MDD</i>	Major Depression Disorders
<i>MINI</i>	Mini International Neuro-Psychiatric Interview
<i>PASI</i>	Psoriasis Area and Severity Index
<i>PDI</i>	Psoriasis Disability Index
<i>PLSI</i>	Psoriasis Life Stress Inventory
<i>PTSD</i>	Post-Traumatic Stress Disorder
<i>PUVA</i>	Psoralen and Ultra Violet A
<i>QOL</i>	Quality of Life
<i>SD</i>	Standard Deviation
<i>SRRS</i>	Social Readjustment Scale
<i>UMMC</i>	University of Maryland Medical Center

List of Figures

Figure No.	Figure Title	Page No.
<i>Fig. 1</i>	Erythematous scally plaques	32
<i>Fig. 2</i>	Erythema may be difficult to appreciate on darker skin	32
<i>Fig. 3</i>	Erythematous scally plaques on both knees	32
<i>Fig. 4</i>	Erythematous scally plaques on elbows	33
<i>Fig. 5</i>	Well –demarcated erythematous plaque on lumbosacral region	33
<i>Fig. 6</i>	Scalp lesions usually extends 1-2 cm beyond hairline	33
<i>Fig. 7</i>	Nail change in psoriasis	34
<i>Fig. 8</i>	Guttate psoriasis	34
<i>Fig. 9</i>	Erythrodermic psoriasis	34
<i>Fig. 10</i>	Erythematous plaques studded with superficial pustules	35
<i>Fig. 11</i>	Gender distribution of psoriasis in the sample	64
<i>Fig. 12</i>	Psychiatric disorders distribution within the psoriatic patients in the sample	64
<i>Fig. 13</i>	Distribution of psoriasis in the patient sample according to Psoriasis Area Severity Index (PASI)	66
<i>Fig. 14</i>	Correlation between type of Psoriasis Area Severity Index (PASI) and Suicidality	75
<i>Fig. 15</i>	Correlation between Dermatology Life Quality Index (DLQI) and presence or absence of Psychiatric Disorders, depression and anxiety	80
<i>Fig. 16</i>	PASI Area, clinical signs and Scores. In ANNEX -III	178
<i>Fig. 17</i>	Psoriasis: severity scoring Scores. In ANNEX –III	179

List of Tables

Table No.	Table Title	Page No.
Table 1	Comorbidities associated with psoriasis	40
Table 2	Demographic characteristic data of psoriasis in Egypt sample	63
Table 3	Distribution of psoriasis in the patient sample according to Psoriasis Area Severity Index (PASI)	65
Table 4	Correlation between Psoriasis Area Severity Index (PASI) and gender	67
Table 5	Correlation between Psoriasis Area Severity Index (PASI) and occupation	68
Table 6	Correlation between Psoriasis Area Severity Index (PASI) and education level	69
Table 7	Correlation between Psoriasis Area Severity Index (PASI) and marital status	70
Table 8	Correlation between Clinical Psoriasis Improvement and climate condition	71
Table 9	Correlation between Psoriasis Area Severity Index (PASI) and smoking tobacco	72
Table 10	Correlation between Psoriasis Area Severity Index (PASI) and Psychiatric disorders	73
Table 11	Correlation between Psoriasis Area Severity Index (PASI) and type of Psychiatric disorders	74
Table 12	Correlation between type of Psoriasis Area Severity Index (PASI) and presence of stress	76

List of Tables (Cont.)

Table No.	Table Title	Page No.
<i>Table 13</i>	Correlation between type of Psoriasis Area Severity Index (PASI) and chances of developing psychiatric illness among psoriatic patient with stress according to the HOLMES & RAHE SCALE	76
<i>Table 14</i>	Correlation between Dermatology Life Quality Index (DLQI) and type of psoriasis severity	78
<i>Table 15</i>	Correlation between Dermatology Life Quality Index (DLQI) and presence or absence of Psychiatric comorbid Disorders, depression and anxiety	79
<i>Table 16</i>	Correlation between Psychiatric comorbidity and Psoriatic site pattern	81
<i>Table 17</i>	Correlation between psychiatric comorbidity and variables psoriatic body sites	82

ANNEXES

ANNEX No.	Title	<i>Page No.</i>
I	Holms and Rahe for life stress assessment (Social adjustment scale)	138
II	Mini International Neuropsychiatric Interview (MINI) – Arabic version	141
III	Psoriasis area severity index, (PASI)	178
IV	The Dermatology Life Quality Index	181

INTRODUCTION

Introduction

Psoriasis is a common, chronic, disfiguring, inflammatory and proliferative condition of the skin with characteristic lesions consists of red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp. Its duration may vary from a few weeks to a whole lifetime with unpredictable course and numerous variations (*Burns et al., 2010*). The disease is non-contagious, relapsing immune-mediated and its pathogenesis appears to involve genetic and environmental factors, influencing the body's systems of skin repair, inflammatory defense mechanisms, and immunity (*Arnold, 2005 & 2007*).

The occurrence of psoriasis reported worldwide equally among men and women (*James & Levenson, 2008*). It varied according to age and geographic region, being more frequent in countries more distant from the equator. The prevalence ranged from 2.2% - 3.15% in the U.S. and the range was 1.3% to 2.6% in the U.K. while the prevalence rates were significantly lower below 0.5% in regions closer to the equator (Latin America, India, Egypt, Tanzania, China, Sri Lanka, and Taiwan) (*Parisi et al., 2013*). Although psoriasis can first appear at any age; however, a bimodal distribution of the age of onset is characteristic. The majority of cases, approximately 75% present before the age of 40 years, with a peak at 20–30 years old and tend to have a positive family history of psoriasis. The remaining cases present after the age of 40 years and have a negative family history (*Basko-Plluska and Petronic-Rosic, 2012*).

People with psoriasis experience an elevated risk for other serious, chronic and/or life-threatening conditions, including cardiovascular disease

(*Gladman et al., 2008; and Ahlehoff, 2011*), diabetes (*Qureshi et al., 2009*), stroke (*Gelfand et al., 2009*), cancer (*Gelfand et al., 2006*) and metabolic syndrome (*Azfar & Gelfand, 2008*). Psoriasis is also connected with higher rates of depression and anxiety, and people with severe psoriasis die, on average, four years younger than people without the disease (*N.P.F., 2012*). The impact of psoriasis on patients' overall quality of life is significant, broad, and deep, including effects on emotional wellbeing, psychological stress, self-esteem, relationship, work, social activities, financial burden, and even physical function (*Tan et al., 2012*).

Dermatologic disorders are associated with a variety of psychopathologic problems that can affect the patient, his or her family, and society together (*Jafferany, 2007*). A plausible inter-professional arena between dermatology and psychiatry is elucidated by studies on outpatients in dermatology clinics showing psychiatric morbidity (*Picardi et al., 2000*) and that the skin is especially sensitive to psychological stress since cutaneous innate and adaptive immune systems are affected by stressors (*Jessica et al., 2012*). In fact, co-occurring psychiatric disorders in patients with skin disorders show a prevalence of around 30% (*Shenefelt, 2011*). Psychological stressors have been reported to precede the onset of psoriasis in 44% of patients, initiate recurrent skin flares in 88% of psoriatics (*Al'Abadie et al., 1994; and Griffiths & Richards, 2001*) and may worsen psoriasis severity and may even lengthen the time to disease clearance (*Misha et al., 2011*).

On the other hand, Psoriasis itself can serve as a stressor since it can be a disfiguring skin disease with much attached social stigmata. Accordingly, most patients demonstrate adverse psychological consequences, including poor self-esteem, anxiety, depression, and even develop suicidal thoughts (*Russo et al., 2004*). In addition, as psoriasis can cause considerable stress for patients and increased levels of stress are likely to exacerbate psoriasis, the

disease process, thus, becomes a self-perpetuating, vicious cycle (*Kimball et al., 2005*).

The role of stress in the exacerbation of psoriasis and triggering relapses has already been extensively studied. However the effects of environmental stressors and Psychiatric Co-morbidity on the severity of psoriasis in Egypt have been seldomly studied. Consequently, and to improve the insight of patients, which is known to improve the prognosis in psoriasis, this study was undertaken to investigate the environmental stressors and Psychiatric Co-morbidity in relation to clinical profile and severity of psoriasis in Egyptian sample as follows: (1) Identification of clinical profile and severity of psoriatic patients, (2) Defining psoriasis etiological risk factors, and the relationship between psoriasis severity and these items, (3) Investigation of the role of stressors, quality of life, and psychosocial factors on psoriasis forms and severity, and, (4) Assessment the relation between the co-morbid psychiatric disorders and the forms and severity of clinical profile of psoriasis.