

# Alcohol Consumption And Smoking: A Risk Factor For Psoriasis

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## Abstract

**Background:** Psoriasis is a multifactorial chronic skin disease. As in other chronic disorders various lifestyle factors have been associated with its morbidity.

**Objectives:** To study the association between smoking, alcohol consumption among males and psoriasis diseases.

**Design:** The design of study was case-control study

**Setting:** Cases and controls were selected from Basrah General Hospital (BGH), Sadder Teaching Hospital (STH) and private clinic of dermatology (P.C) in Basrah .Iraq

**Methods:** The data were collected by using questionnaire form through personal interviewing of cases and control males only to give information about the effects of smoking and alcohol on the course of the diseases . Patients with newly diagnoses of skin diseases other than psoriasis were considered as control group.

**Results:** A total number of patient with psoriasis was 98 patients, 47(48%) were males and 51(52%) were females, while the controls was 242 patients, 116 (48.0%) were males and 126 (52.0%) were females . For the purpose of estimation the risk among males only , it was carried out by calculation of X<sup>2</sup> ,OR ,and 95% CI of OR. The risk for psoriasis was higher in current males smokers than those patients who never smoked. The association with smoking was very significant with ( P = 0.008, OR =2.696 , 95 % C.I of OR = 1.27 - 5.71 ) .Similar to smoking, there was significant association with alcohol consumption with ( P= 0.012, OR= 2.73, 95 % CI of OR = 1.23 - 6.08 ).

**Conclusions:** Cigarette smoking and alcohol consumption are associated with psoriatic males .

## INTRODUCTION

In epidemiology ,any characteristic associated with a disease can be called an exposure or risk/actor .Risk can be defined as the probability of an individual developing a condition, over a specified time although this association does not necessarily have to be causal [1].Psoriasis is a common , genetically determined chronic skin disease and by defects in the normal cycle of epidermal development that lead to epidermal hyper proliferation, altered maturation of skin cells, and vascular changes and inflammation . The condition typically manifests as areas of thickened, flaky, silvery white and reddened skin that may hurt, itch, and bleed which

typically affected extensor surfaces of the body and the scalp [2] . As in other chronic disorders, various lifestyle factors either exogenous or endogenous factors have been associated with its morbidity. Epidemiological studies have been found that a large number of triggering or aggravating factor such as smoking and drinking alcohol have an influence on psoriasis and have receiving some attention in recent year [3,4,5,6,7] .The possibility that simple modifications in lifestyle may reduce both the prevalence and severity of psoriasis offers an exciting potential adjunct to treatment in the future [ 7 ].Naldi etal have recently confirmed that smoking is associated with psoriasis with

evidence of dose-response relationship. The risk appeared to be modified by gender. The adjusted odds ratio (OR) of smoking 15 cigarettes or more was 3.2 in women and 1.6 in men. Interestingly, the risk in pustular lesions was 9.918). In a case-control study, Poikolainen et al analyzed exposure before the onset and demonstrated a moderate increase in risk for alcohol and also alcohol has been associated with chronicity, severity of psoriasis, and treatment failure [3].

Palmpoplantar pustulosis (PPP) is a form of pustular psoriasis has been very highly correlated with smoking in some studies [9,10,11,12,13]. And, an Italian study found the odd ratio that a person smoked was ten times higher in patients with pustular psoriasis versus the normal population [12]. Study from Sweden points towards the mechanism of this correlation suggested that certain types of cellular receptors are greatly affected by nicotine with an abnormal response to nicotine in patients with PPP which could result in inflammation. [11].

## METHODS

The eligibility criteria required for diagnosis of cases and controls in our study consist of combination of symptoms and signs. All cases and controls were matched on the bases of similarity with respect to age and sex. Sources of cases and controls were Basrah General Hospital (BGH), Sadder Teaching Hospital (STH) and private clinic of dermatology (P.C). The total number of cases was 98 patients, 47(48%) were males and 51(52%) were females, while the controls was 242 patients, 116 (48.0%) were males and 126 (52.0%) were females. The data were collected by using questionnaire form through personal interviewing with males only to give information about the effect of smoking and alcohol on the course of the psoriasis. The results were represented in simple tables and for the purpose of estimation of risk it was carried out by calculation of  $X^2$ , OR, and 95% CI of OR.

## RESULTS

The distribution of the cases and controls with respect to age and sex are almost compatible and no statistical differences were found. The sources of cases, controls and sex distribution was showing in [Table-1]. The commonest skin diseases of controls were bacterial infections 47(19.4%), followed by dermatitis/eczema 30 (12.4%). Significant differences were found with respect to smoking between cases and controls where the difference was very significant ( $X^2 = 6.95$ ,  $P = 0.008$ ,  $OR = 2.70$ , 95% C.I of  $OR = 1.27 - 5.71$ ). With respect to alcohol consumption, similar to

smoking, the association was significant ( $X^2 = 6.32$ ,  $P = 0.012$ ,  $OR = 2.73$ , 95% CI of  $OR = 1.23 - 6.08$ ) [Table -2].

**Figure 1**

Table 1: The distribution of cases and controls according to their sources and sex.

Sex	Sources*						Total
	Cases			Control			
	BGH	STH	PV	BGH	STH	PV	
Males	20	17	10	50	40	26	163
Females	25	7	19	60	34	32	177
Total	45	24	29	110	74	58	340

\*BGH -Basrah General Hospital  
STH -Sadder Teaching Hospital  
PV - Private clinic of Dermatology

**Figure 2**

Table 2: Distribution of cases and controls to cigarette smoking and alcohol consumption among males only.

Exposure	Alcohol consumption				Cigarette smoking			
	Psoriasis		Control		Psoriasis		Control	
	No.	%	No.	%	No.	%	No.	%
Yes	15	31.9	17	14.7	18	40.0	23	19.8
No	32	68.1	99	85.3	27	60.0	93	80.2
Total	47	100	116	100	47*	100	116	100
X/P	6.32 / 0.012				6.950 / 0.008			
OR**	2.730				2.70			
95% CI ***	1.23-6.08				1.27-5.71			

\*Ex smoking very few (2) were excluded

\*\*OR = odds ratio

\*\*\*95% Confidence intervals of odds ratio.

## DISCUSSION

Tobacco smoking seriously affects internal organs, particularly the heart and lungs, but it also affects a person's appearance by altering the skin and body weight and shape. While these changes are generally not as life threatening as heart and lung disease, they can, nevertheless, increase the risk of more serious disorders and have a noticeable aging effect on the body. There are multiple risk factors for most of skin diseases and often the risk factors are correlated with each other. Case-control is one of the analytic epidemiological methods to test risk factors with respect to the occurrence of specific diseases.

This study was designed to study the association between selected risk factors alcohol consumption and cigarette smoking among males with psoriasis and patients with other skin diseases. Measurement of association was done by  $X^2$  and OR and 95% CI of OR.

The result of the study showed significant association with males psoriatic for both risk factors. About 40.0% of

psoriasis reported history of smoking compared to 19.8% smoking controls. Alcohol consumption was reported among 31.9% of psoriatic cases compared to 14.7% of control which was consistent with many studies in recent years which suggested the correlation with alcohol, smoking and psoriasis with convincing evidence [3,4,5,6,7]. In a study in Norway, it was showed that alcohol consumption had been linked to onset of psoriasis [3].

Psoriasis is believed to be genetically linked but can also be triggered by several factors which have been identified as being associated either with causation of psoriasis or with triggering exacerbation or remissions and also associated with chronicity, severity and treatment failure of psoriasis including cigarette smoking and alcohol consumption [2,8,11,14]. These results suggest that cigarette smoking and alcohol consumption highly associated with psoriasis.

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