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## Cross sectional evaluation of cutaneous manifestations associated with chronic alcoholism

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### Abstract

**Introduction:** Dermatological manifestations caused by substance or alcohol dependence may be the first sign of these conditions. Some of the symptoms of these diseases could be quite obvious and easily distinguishable. The Present study was designed to evaluate the skin changes that may occur as a result of alcoholism.

**Materials and Methods:** A total of 98 patients with alcohol dependent diagnoses who were assessed by a psychiatrist who met ICD 10 criteria and had an alcohol dependency diagnosis were recruited. The Severity of Alcohol Dependence Questionnaire (SADQ) was used to quantify the pattern of alcohol dependence, and a history of skin illness was noted.

**Results:** Alcohol dependency was mild in 52.04%, moderate in 39.80%, and severe in 8.16% of the subjects. With an average SADQ score of 24.91 and an average total drinking duration of 19.8 years. The most prevalent kind of dermatoses was hair dermatoses, followed by nutritional dermatoses at 10.20% and eczematous dermatoses at 7.14%.

**Conclusion:** More frequent and severe skin problems seem to be associated with more alcohol use on a daily basis. The length of time someone has been drinking or the severity of their habit doesn't seem to matter in relation to skin diseases. It is critical to identify systemic disorders in alcohol dependent patients based on their skin symptoms in order to intervene early and prevent consequences such as irreversible liver damage.

**Keywords:** Alcohol dependence, cutaneous manifestations, quality of life, dermatitis, psoriasis

### Introduction

Alcoholism is a deadly chronic disease that affects almost every bodily system, including the skin [1]. Therefore, there are many different ways that alcohol abuse may manifest, but one of the most prominent indicators of alcohol misuse is dermatological illness [2]. Because of its direct effects on the immune system, alcohol lowers cellular and humoral immunity, alters the patient's immunological response by inducing neutrophil dysfunction and leukopenia. Alcoholics are more likely to suffer from fungal diseases, such as tinea versicolor and onychomycosis [3].

While some research has shown an association between psoriasis and drinking, the underlying mechanism has remained a mystery. But when people stop drinking, their psoriatic lesions significantly improve [4-6]. Alcoholism worsens a number of skin conditions, including rosacea, acne vulgaris, seborrhoeic dermatitis, and acne vulgaris [7]. Nutritional deficits, urticaria, hyperpigmentation, pruritus, jaundice, and porphyria cutanea tarda are some of the symptoms that may accompany alcohol abuse [8].

The relevance of recognising skin symptoms in alcohol dependent individuals is growing as a result of the prevalence of alcohol usage. This will allow for prompt intervention and treatment, which will further reduce the negative medical effects of alcohol dependence. It should be noted that early detection of alcohol-related skin problems is possible with a comprehensive dermatological evaluation and meticulous study of alcohol usage. The purpose of this research was to examine the skin changes that may occur as a result of alcoholism.

### Material and Methods

This cross-sectional research was carried out from August 2018 to July 2019 at the dermatology department of Maheshwara Medical College and Hospital in Patancheru,

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Isnapur. A total of 98 patients with alcohol dependent diagnoses who were receiving outpatient care from the departments of psychiatry and dermatology were recruited. All cases, regardless of gender, who were assessed by a psychiatrist who met ICD 10 criteria and had an alcohol dependency diagnosis and were older than 21 years were included. Excluded were any cases with co-occurring mental illnesses that might have affected the evaluation of alcohol consumption and those who refused to take part. All research participants provided informed permission, and the institutional ethics committee approved the study procedure. Every patient had a complete clinical examination as well as a comprehensive history. For every patient, a thorough dermatological examination was performed, including the hair, nails, oral, and vaginal mucosa. The Severity of Alcohol Dependence Questionnaire (SADQ) was used to quantify the pattern of alcohol dependence, and a history of skin illness, if any, was noted. Relevant tests were performed, including routine tests for hemoglobin and the liver function test (LFT), skin tests for Tzanck smear, KOH preparation, AFB smear, and skin biopsy, abdominal sonography and endoscopy. Based on recognized criteria derived from Sheila Sherlock's Diseases of the Liver and Biliary System, ALD was diagnosed based on clinical symptoms, abdominal sonography, and LFT that was interpreted for ALD. The collected data was analysed through SPSS 16.0.

Categorical variables were presented in frequency and percentages. The statistical significance was determined using independent t test. The  $p < 0.05$  was considered as statistically significant.

**Results**

**Table 1:** Clinicodemographic details of study participants

Parameter	Total no of cases (n=98)	
	Frequency	Percentage
<b>Age</b>		
21-30	16	16.32%
31-40	20	20.40%
41-50	32	32.65%
51-60	20	20.40%
Above 60	10	10.20%
<b>Gender</b>		
Male	94	95.91%
Female	04	4.08%
<b>Severity of alcohol dependence</b>		
Mild	51	52.04%
Moderate	39	39.80%
Severe	08	8.16%
Quantity of alcohol intake	150.5±76.90	
Time period of alcohol intake	19.8±4.57	
SADQ score	24.91±12.24	

**Table 2:** Details of alcohol induced skin infections

Parameter	Total no of cases (n=98)	
	Frequency	Percentage
<b>Alcohol induced skin infections</b>		
<b>Bacterial infections (n=15)</b>		
Trichomycosis axillaries	10	10.20%
Impetigo	02	2.04%
Erythrasma	02	2.04%
Pitted keratolysis	01	1.02%
<b>Fungal infections (n=34)</b>		
Dermatophytosis	06	6.12%
Onychomycosis	08	8.16%
Candidiasis	06	6.12%
Pityriasis versicolor	14	14.28%
<b>Viral Infections (n=08)</b>		
Herpes	03	4.16%
Warts	05	5.10%

**Table 3:** Details of alcohol exacerbated and pigmentary disorders and dermatoses among cases with alcohol dependence.

Parameter	No of cases	
	Frequency	Percentage
<b>Alcohol exacerbated skin diseases</b>		
Psoriasis	15	15.30%
Acne	17	17.34%
Rosacea	05	5.10%
Nummular eczema	05	5.10%
<b>Pigmentary disorders</b>		
Alopecia areata	02	2.04%
Androgenic alopecia	28	28.57%
Melasma	19	19.38%
IGH	32	32.68%
Oral pigmentation	61	62.24%
Vitilligo	07	7.14
<b>Dermatoses</b>		
Eczematous	07	7.14%
Hair	37	37.7%
Nutritional	10	10.20%

**Discussion**

With a high percentage of male participants (95.91%), the age groups most represented were those between 41 and 50 years old (32.65%), followed by those between 51 and 60 years old (20.40%), and finally, 41 to 40 years old (20.40%). Alcohol dependency was mild in 52.04%, moderate in 39.80%, and severe in 8.16% of the subjects. With an average SADQ score of 24.91 and an average total drinking duration of 19.8 years (Table 1). Fifteen instances were shown to have a bacterial skin infection. Ten. 20 percent of the patients had trichomycosis axillaries, 2.04 percent had impetigo, 2.04 percent had erythrasma, and 1.022 percent had pitted keratolysis. Table 2 shows that the most common fungal infections were pityriasis versicolor (14.28%), onychomycosis (8.16%), candidiasis (6.12%), and dermatophytosis (6.12%) (Table 2). It was shown that alcohol worsened skin infections the most often in acne (17.34%), psoriasis (15.30%), and nummular

eczema (5.10%). Consideration of pigmentary diseases revealed the following: oral pigmentation (62.24%), IGH (32.68%), androgenic alopecia (28.57%), and melasma (19.38%). As shown in Table 3, the most prevalent kind of dermatoses was hair dermatoses, followed by nutritional dermatoses at 10.20% and eczematous dermatoses at 7.14% (Table 3).

A study by Vidya Sagar P *et al.*, alcoholic liver disorders were diagnosed in 50.25% of the 205 patients with alcohol dependency. A considerable amount of 45.23% of cases, a severe amount of 41.7%, and a light instance of 13.07% all had alcohol dependency. Commonly described dermatoses in situations of alcohol abuse were seborrhoeic dermatitis, urticaria, and hyperhidrosis [9]. A study conducted on 130 men, Sengotuvan KL *et al.* discovered that 59.2% of the participants had severe alcohol dependency, followed by medium (24.6%) and moderate (6.9%). A higher frequency of cutaneous infections was seen, followed by pellagra, papulosquamous diseases, eczematous dermatosis, benign tumours, urticaria, pigmented disorders, nail disorders, and hair disorders [10]. After looking at 200 patients, Rao GS's research discovered that 28 of them had pityriasis versicolor ( $p < 0.05$ ) [11]. In a study by Rao SK *et al.* on 172 men with alcohol dependency syndrome, it was shown that cutaneous infections (96.5%) were prevalent dermatoses, which were followed by malnourished symptoms (93.6%), a worsening of pre-existing dermatoses (58.7%), and dermatoses associated to alcohol (49.4%). The most prevalent infections were fungi (82.2%), which were followed by bacterial (36.6%), viral (33.1%), and infestations (29.1%) [12]. According to Trevejo-Nunez G *et al.*, infections accounted for 96.5 percent of the cutaneous symptoms in individuals with ADS. Patients with alcohol use are more vulnerable to infections due to compromised immune function [13]. According to Sengotuvan KL *et al.*, 77.7% of instances of alcohol addiction were found to have fungal infections [14]. Persistent alcoholism has been linked to a number of health problems, including eczemas (22.9%), generalised hyperpigmentation (14.2%), xerosis, seborrhoeic dermatitis, infections (37.2%), and generalised pruritus. Infections with bacteria and dermatophytes were prevalent [15]. Psoriasis, pellagra, nummular eczema, and purpura pigmentosa chronica were shown to be more common among alcoholics and to have occurred along with drinking, which may have contributed to the development of these dermatoses, according to Bruno MC *et al.* The research findings indicate that drunkenness may also serve as a risk factor for dermatoses such as purpura pigmentosa chronica, pellagra, psoriasis, and nummular eczema [16].

According to Sagar PV *et al.*, there seems to be a connection between the amount of alcohol ingested daily and the cutaneous symptoms of chronic alcoholism. Drinking more alcohol each day seems to be linked to a higher occurrence of skin diseases [9]. Skin symptoms and cutaneous infections were shown to be prevalent among chronic drinkers, according to Sengotuvan KL *et al.* [14]. Sharma YK *et al.* came to the conclusion that understanding the outward signs of chronic alcoholism might encourage a thorough history of alcohol use, result in a specialist referral, and allow for quick de-addiction-ideally before the chronic drinkers face major difficulties [15]. Due to its small sample size and absence of treatment intervention and result, the current research has several limitations. Larger-scale research is needed with clinical and therapeutic interventions.

## Conclusion

Skin symptoms seem to be influenced by the amount of alcohol ingested daily. A higher incidence of skin diseases seems to be linked to daily alcohol use of greater amounts. When it comes to skin disease, it doesn't seem that alcohol usage duration or dependency intensity have a role. Understanding the skin symptoms in alcohol dependence patients is crucial for diagnosing systemic diseases, which allows for early intervention to avert complications like permanent liver damage and its effects.

## Conflict of Interest

Not available

## Financial Support

Not available

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