Dermatology Section

Assessment of Topical Steroid-damaged/ Dependent Face Severity Score and its Impact on Quality of Life: A Cross-sectional Study

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ABSTRACT

Introduction: Topical Corticosteroids (TCS) are injudiciously used by the general population for face dermatosis resulting in constitution of symptoms called topical steroid damaged/ dependent face which directly/indirectly affect the mental well-being and self-esteem of patients.

Aim: To study dermoscopic features of Topical Steroid-damaged/Dependent Face (TSDF) and measure its severity using dermoscopy-assisted topical steroid damaged/Dependent Face Severity (DATS) score and its impact on Quality of Life (QoL) using Dermatology Life Quality Index (DLQI).

Materials and Methods: The study was a hospital-based cross-sectional study conducted at Dermatology Outpatient Department, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh, India, from June 2023 to May 2024 that enrolled 188 patients aged 16-45 years having clinical features of TSDF. Demographic data like age, gender, residence, occupation,

education and details on TCS namely type, indication, frequency, duration and prescriber other than dermatologist were collected, clinical features and dermoscopic findings were evaluated using DATS score and QoL using DLQI score. Fischer's-exact test was used to compare quantitative variables. Analysis of Variance (ANOVA) was used for more than two variables. The p-value <0.05 was considered statistically significant.

Results: The mean age of the study population was 27.1±7.6 years. The mean DATS score was 22.7±8.1. The mean DLQI score was 11.3±3.3. Positive association and correlation were observed between DATS and DLQI scores (p<0.001 and r=0.612).

Conclusion: The TSDF affected the QoL in the study participants and DLQI scores helped to segregate patients according to severity so that prompt referral to the specialised clinics could be done.

INTRODUCTION

The TCS are among the frequently prescribed drugs by dermatologists for challenging dermatoses. They have anti-inflammatory, anti-pruritic, immunosuppressive, vasoconstrictive, antiproliferative and melanopenic actions [1-3]. The widespread and long-term misuse of TCS on the face has been exacerbated by the practice of self-medication, easy access to drugs and low cost, thereby causing damage such as telangiectasia, perioral dermatitis, erythema, monomorphic acne, acneiform eruption, hypertrichosis, atrophy, demodicosis, etc., [4,5]. All the misuse and its dependence results in a phenomenon called "TSDF", characterised as semi-permanent or permanent damage to the facial skin precipitated by the irrational, indiscriminate, unsupervised, or prolonged use of TCS resulting in a plethora of cutaneous signs and symptoms and psychological dependence on the drug [6]. Thus, making treatment difficult for dermatologists and patients [7,8]. Early detection of TSDF symptoms is essential to prevent permanent damage to the facial skin. Dermoscope, a non invasive device, produces a more objective assessment by reducing inter- and intra-observer variance and is helpful in preclinical identification of TSDF characteristics leading to improved outcomes [9]. A few of the reported dermoscopic characteristics of TSDF are different patterns of vessels, brown globules, red structureless areas, white hair, thick terminal hair, atrophy, Demodex tails and white structureless areas [9]. In the past, a spectrum of clinical presentations associated with TSDF or its dermoscopic findings have been described but none had used any assessment tool for measuring severity except one that suggested a valid tool which is DATS score [10]. Facial dermatitis frequently leads to patients expressing unease and embarrassment, due to its impact on their self-esteem. One's self-

image shapes their character and influences mental well-being and outlook on life. Furthermore, self-image serves as an indicator of general contentment and significantly influences QoL [11,12]. Previous studies have utilised the DLQI to assess QoL in numerous skin conditions such as vitiligo, psoriasis, lichen planus and atopic dermatitis, but only a few have employed it to evaluate QoL in TSDF patients [8,12]. Herein, each of the demographic profiles was tested for the association with DATS scores and the impact of TSDF on patients' QoL using a validated DLQI questionnaire [13]. The aim of the study was to estimate TSDF severity and its impact on QoL.

The primary objective of the study was to estimate the clinical severity by using DATS score. and the secondary objective of the study was to quantify impact of TSDF in QoL by using DLQI.

MATERIALS AND METHODS

The conducted study was a hospital-based, cross-sectional study done on 188 patients visiting the Dermatology Outpatient Department at Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh, India from June 2023 to May 2024 after approval from the Institutional Human Ethical Committee (HIMS/IHEC/ MD/008/2023).

Sample size calculation: It was calculated as [14]:

$n=(Z_{1-\alpha/2})^2 *p\ (1-p)/E2$

$Z_{1-\alpha/2}$ =Critical value of standard normal variate at α level of significance

($Z_{1-\alpha/2}$ =1.96 at α=5%=00.05).

p=0.148 [14]

E= precision

$$n=\frac{(1.96)^2 \times 0.148\,(1-0.148)}{(0.05)^2}$$

n=193.

Since, the remaining five patients did not consent for the photography the total sample size was taken as 188.

Inclusion criteria: Patients fulfilling the case definition and aged 16-45 years irrespective of gender were included. The case definition used in the current study was "symptoms and signs suggestive of TSDF on clinical evaluation such as erythema, telangiectasia, atrophy, dyspigmentation and hypertrichosis along with a history of TCS application over the face for a period of more than one month" [9].

Exclusion criteria: Patients with systemic diseases like polycystic ovarian syndrome, Cushing syndrome, chronic alcoholism, cutaneous disorders like rosacea, lupus erythematosus, viral exanthems, who applied TCS on face prescribed by dermatologist, pregnant and lactating women or were on oral CS for any medical disease were excluded from the study.

Study Procedure

After obtaining the written informed consent for participation, demographic data like age, gender, residence, occupation, education and details on TCS namely type, indication, frequency, duration and prescriber other than dermatologist were noted. Clinical photography via iPhone13 and dermoscopic evaluation via DermLite DL4 (10x magnification) was conducted. Further, they were asked to complete DLQI questionnaire [13]. Total DATS and DLQI scores were evaluated by the principal investigator.

DATS score: It divides the face into four regions, the disease severity is assessed by dermoscopic characteristics (vascular, atrophy, hypertrichosis and rosacea-like features), area of involvement and a multiplication factor is used to calculate the total score [10]. The overall score was arbitrarily classified as 0-18: mild effect, 19-37: moderate effects and 38-55: severe effect to facilitate the identification of different stages of TSDF based on severity. The DATS score was used for this grade, meaning that the more severe the condition, the higher the DATS score [10].

DLQI score: The DLQI questionnaire comprises 10 questions, which are further categorised into six domains. These questions assess various aspects of an individual's health-related QoL. The domains cover symptoms and emotions (questions 1 and 2), daily activities (3 and 4), leisure (5 and 6), work or school (7), personal relationships (8 and 9) and treatment (10). A higher score indicates a more significant impact on the patient's QoL, while a lower score indicates the opposite. Total score was interpreted as 0-1: no effect, 2-5: mild effect, 6-10: moderate effect, 11-20: very large effect, 21-30: extremely large effect [8]. The permission was obtained from the copyright holders to use the questionnaire.

STATISTICAL ANALYSIS

Statistical analysis was conducted by Statistical Package for the Social Sciences (SPSS) software 26.0. Mean and Standard Deviation (SD) were computed for continuous variables. Percentage and frequency were expressed for discrete variables. Fischer's-exact test was implicated when >20% of cells had expected frequencies <5. The p-value <0.05 was considered statistically significant and finally, the scores were correlated using the Pearson's coefficient.

RESULTS

The mean age of the study population is 27.1±7.6 years. Maximum number of patients fell in the 16-25 years category of age group. Other frequencies of demographic profiles are summarised in [Table/Fig-1].

The frequency distribution, mean and SD of DATS and DLQI scores is depicted in [Table/Fig-2]. The overall mean of DATS score was

Variables		n (%)
Age	16-25 years	85 (45.2)
	26-35 years	58 (30.9)
	36-45 years	45 (23.9)
Age (Mean±SD)	27.1±7.6 years	
Gender	Male	80 (42.6)
	Female	108 (57.4)
Area	Rural	71 (37.8)
	Urban	117 (62.2)
Occupation	Homemaker	52 (27.7)
	Students	65 (34.6)
	Farmer	37 (19.7)
	Teacher	34 (18.1)
Education	No education	64 (34)
	Primary education	75 (39.9)
	Secondary education	49 (26.1)
Duration of application	< 6 months	41 (21.8)
	6 months- 1 year	90 (47.9)
	> 1 year	57 (30.3)
Indication	Melasma	52 (27.7)
	Acne	69 (36.7)
	Fairness	33 (17.6)
	Tinea faciei	34 (18.1)
Source of prescription	Pharmacist	60 (31.9)
	Self	29 (15.4)
	Relatives	51 (27.1)
	RMP	48 (25.5)
Type of TCS	Class-1 (Superpotent Steroids)	142 (75.5)
	Class 2 (Mid potent Steroids)	46 (24.5)
Frequency of use	Continuous	116 (61.7)
	Intermittent	72 (38.3)

[Table/Fig-1]: Frequency distribution of demographic profile of the patients.

22.7±8.1, indicating some variability in the severity of symptoms of TSDF in the group. The overall mean of DLQI score was 11.3±3.3, indicating some variability in the QoL experienced by the study group.

Variables		n (%)
DATS	Mild	61 (32.4)
	Moderate	117 (62.2)
	Severe	10 (5.3)
DATS (Mean±SD)	22.7±8.1	
DLQI	No effect	0
	Mild effect	8 (4.3)
	Moderate effect	65 (34.6)
	Very large effect	115 (61.2)
	Extremely large effect	0
DLQI (Mean±SD)	11.3±3.3	

[Table/Fig-2]: Frequency distribution and (Mean±SD) of DATS and DLQI scores.

A significant association of DATS with the demographics of study participants along with the duration of TCS usage, frequency of its application and type of TCS is depicted in [Table/Fig-3]. It showed no variation with the gender of study participants.

The DLQI had a significant association with the area and occupation of the study population as shown in [Table/Fig-4]. It also had a significant association with the duration of TCS usage, frequency of application and type of TCS.

The DLQI scores in comparison with each demographic data is illustrated in [Table/Fig-5]. Domain-wise analysis shows the highest

| | | DATS scores | | |
Variables		Mild (n=61) n (%)	Moderate (n=117) n (%)	Severe (n=10) n (%)
Age	16-25 years	20 (32.8)	55 (47)	10 (100)
	26-35 years	21 (34.4)	37 (31.6)	0
	36-45 years	20 (32.8)	25 (21.4)	0
Fisher-exact test=15.851, p-value=0.002, (S)				
Gender	Male	19 (31.1)	57 (48.7)	4 (40)
	Female	42 (68.9)	60 (51.3)	6 (60)
Fisher-exact test=5.121, p-value=0.071, (NS)				
Area	Rural	32 (52.5)	39 (33.3)	0
	Urban	29 (47.5)	78 (66.7)	10 (100)
Fisher-exact test=13.213, p-value=0.001 , (S)				
Occupation	Homemaker	18 (29.5)	34 (29.1)	0
	Students	10 (16.4)	51 (43.6)	4 (40)
	Farmer	14 (23)	23 (19.7)	0
	Teacher	19 (31.1)	9 (7.7)	6 (60)
Fisher-exact test=35.006, p-value≤0.001 (S)				
Education	No education	19 (31.1)	45 (38.5)	0
	Primary education	18 (29.5)	47 (40.2)	10 (100)
	Secondary education	24 (39.3)	25 (21.4)	0
Fisher-exact test=20.653, p-value≤0.001 (S)				
Marital status	Unmarried	36 (59)	52 (44.4)	0
	Married	25 (41)	65 (55.6)	10 (100)
Fisher-exact test=13.761 p-value≤0.001 (S)				
Duration	<6 months	26 (42.6)	11 (9.4)	4 (40)
	6 months-1 year	30 (49.2)	54 (46.2)	6 (60)
	>1 year	5 (8.2)	52 (44.4)	0
Fisher-exact test=45.147, p-value≤0.001 (S)				
Indication	Melasma	23 (37.7)	29 (24.8)	0
	Acne	9 (14.8)	60 (51.3)	0
	Fairness	9 (14.8)	14 (12)	10 (100)
	Tinea faciei	20 (32.8)	14 (12)	0
Fisher-exact test=57.433, p-value≤0.001 (S)				
Source	Pharmacist	18 (29.5)	42 (35.9)	0
	Self	9 (14.8)	16 (13.7)	4 (40)
	Relatives	14 (23)	31 (26.5)	6 (60)
	RMP	20 (32.8)	28 (23.9)	0
Fisher-exact test=15.734, p-value=0.009 (S)				
Type of TCS	Class-1 (Superpotent Steroids)	34 (55.7)	98 (83.8)	10 (100)
	Class 2 (Mid potent Steroids)	27 (44.3)	19 (16.2)	0
Fisher-exact test=19.191, p-value≤0.001 (S)				
Frequency of use	Continuous	31 (50.8)	75 (64.1)	10 (100)
	Intermittent	30 (49.2)	42 (35.9)	0
Fisher-exact test=10.262, p-value=0.004 (S)				

[Table/Fig-3]: Association between demographic profiles with DATS scores (N=188).
S: Significant, NS: Non significant

(4.0) and lowest scores (0.0) in the symptoms and feelings and treatment domain, respectively.

The severity of disease, as measured by DATS score, was strongly associated with the impact on QoL, measured by DLQI scores is illustrated in [Table/Fig-6].

The pearson correlation coefficient was 0.612, indicating a strong positive correlation between DATS and DLQI scores as shown in [Table/Fig-7a,b]. The p-value was ≤0.001, which was statistically significant, confirming the reliability.

Several key dermoscopic features of TSDF required for calculating DATS score observed in the study have been illustrated in [Tab/Fig-8-12].

DISCUSSION

The calculated mean age for the study population was 27.1±7.6 years. While it was 25.6±2.0 and 31.6± 8.1 years in Jain S et al., and Sethi S et al., studies, respectively [3,9]. In the present study, the majority of population was in 16-25 years age group. Earlier studies also demonstrated the same age distribution [9,14,15-17]. Females exhibited a higher proportion in this research than males seeking concordance with the earlier research [3,14,15-17]. However, there was a single study done by Meena S et al., with a higher male population [18]. Age and gender attributions in the current study could be because the youth in this age group desired flawless and fair skin, seeking better work opportunities, or participating in social activities. Also, women had more aesthetic concerns than males [19,20]. More than half of the population were urban residents followed by rural areas. This finding was consistent with a multicentre study done in 2011 [14]. On the contrary, in 2019 study, the majority were rural residents [21]. Considering the occupation of the current study population, students accounted for more steroid abuse followed by homemakers, teachers and farmers. This finding was consistent with a previous study [21]. However, a 2020 study, stated homemakers as the maximum subjects using steroids [22]. In the current study, the majority gained some education while others never attended school. In previous studies, approximately, 80% were educated corroborating with current findings, supporting that even educated individuals can become prey to the maze of TCS use [19,20].

According to the current study, the period of TCS application ranged from one month to more than a year, as the continuous application of ultrapotent steroids on the face should not last more than three weeks and three months is the recommended duration of usage for high-to-low potency steroids over the face, after which TSDF characteristics may appear [1].

In the current study, maximum subjects applied the drug for from six months to one year. A total of 41 subjects (21.8%) applied it for less than six months. In earlier studies, more patients used it for < 6 months [16], while others used it for more than one year. The frequently used indications in the current research in decreasing order were acne melasma, tinea faciei and for fairness. This result was consistent with the past research [9,21]. While in 2011 study melasma was a prevalent cause [14]. Sources for prescribing TCS in the current research included maximum pharmacists, followed by relatives, Registered Medical Practitioners (RMPs) and others who self-applied them. A similar manner was noticed in previous studies [18,19]. Super potent steroids class-I/II were applied by most individuals and others used class-III and above in the present study. The findings were similar to earlier studies [17,19]. Compared to the past several Indian researches conducted in different states, utilised TCS with potency III/above [3,7,9]. Consistent with the previous literature, the majority applied the drug continuously while others applied it intermittently in the current study [9].

In the current research, younger age groups had higher proportions of individuals with moderate to severe scores compared to older age groups which was similar to previous literature [9]. The urban subclass had a moderate to severe degree of TSDF than the rural. Among the various occupations of the study group, homemakers had a mild effect, farmers had a moderate effect and students and teachers had severe effects. The reason behind this distribution was working outside and social concerns. In the educational status of cases, the illiterate had mild TSDF while those who had attained primary or secondary education were in the moderate to severe category. This implies literate class was ignorant of the adverse effects of facial steroid abuse. Patients were in the moderate to

Variables		No effect	DLQI scores			Extremely large effect
			Mild effect (n=8)	Moderate effect (n=65)	Very large effect (n=115)	
			n (%)	n (%)	n (%)	
Age	16-25 years	0	0	31 (47.7)	54 (47)	0
	26-35 years	0	8 (100)	14 (21.5)	36 (31.3)	0
	36-45 years	0	0	20 (30.8)	25 (21.7)	0
Fisher-exact test=17.928, p-value≤0.001, (S)						
Gender	Male	0	0	30 (46.2)	50 (43.5)	0
	Female	0	8 (100)	35 (53.8)	65 (56.5)	0
Fisher-exact test=6.774, p-value=0.035, (S)						
Area	Rural	0	8 (100)	35 (53.8)	28 (24.3)	0
	Urban	0	0	30 (46.2)	87 (75.7)	0
Fisher-exact test=29.220, p-value≤0.001, (S)						
Occupation	Homemaker	0	8 (100)	16 (24.6)	28 (24.3)	0
	Students	0	0	20 (30.8)	45 (39.1)	0
	Farmer	0	0	14 (21.5)	23 (20)	0
	Teacher	0	0	15 (23.1)	19 (16.5)	0
Fisher-exact test=17.312, p-value=0.004, (S)						
Education	No education	0	0	14 (21.5)	50 (43.5)	0
	Primary education	0	8 (100)	25 (38.5)	42 (36.5)	0
	Secondary education	0	0	26 (40)	23 (20)	0
Fisher-exact test=22.557, p-value≤0.001, (S)						
Marital status	Unmarried	0	8 (100)	29 (44.6)	51 (44.3)	0
	Married	0	0	36 (55.4)	64 (55.7)	0
Fisher-exact test=10.018, p-value=0.006, (S)						
Duration	<6 months	0	3 (37.5)	30 (46.2)	8 (7)	0
	6 months-1 year	0	5 (62.5)	20 (30.8)	65 (56.5)	0
	>1 year	0	0	15 (23.1)	42 (36.5)	0
Fisher-exact test=41.411, p-value≤0.001, (S)						
Indication	Melasma	0	3 (37.5)	10 (15.4)	39 (33.9)	0
	Acne	0	0	25 (38.5)	44 (38.3)	0
	Fairness	0	5 (62.5)	5 (7.7)	23 (20)	0
	Tinea faciei	0	0	25 (38.5)	9 (7.8)	0
Fisher-exact test=40.624, p-value≤0.001, (S)						
Source	Pharmacist	0	3 (37.5)	20 (30.8)	37 (32.2)	0
	Self	0	0	19 (29.2)	10 (8.7)	0
	Relatives	0	5 (62.5)	6 (9.2)	40 (34.8)	0
	RMP	0	0	20 (30.8)	28 (24.3)	0
Fisher-exact test=28.905, p-value≤0.001, (S)						
Type of TCS	Class-1 (Superpotent Steroids)	0	0	55 (84.6)	87 (75.7)	0
	Class 2 (Superpotent Steroids)	0	8 (100)	10 (15.4)	28 (24.3)	0
Fisher-exact test=23.174, p-value≤0.001, (S)						
Frequency of use	Continuous	0	3 (37.5)	30 (46.2)	83 (72.2)	0
	Intermittent	0	5 (62.5)	35 (53.8)	32 (27.8)	0
Fisher-exact test=13.878, p-value≤0.001, (S)						

[Table/Fig-4]: Association between demographic profiles with DLQI scores (N=188).

Variables	Mean±SD
Symptoms and feelings (0-6)	4.0±1.3
Daily activity (0-6)	1.9±1.2
Leisure (0-6)	2.0±1.4
Work and school (0-3)	2.0±1.0
Personal relationships (0-6)	1.4±1.0
Treatment (0-3)	0

[Table/Fig-5]: Mean and SD of DLQI domains.

| Variables		DATS		
		Mild (n=61)	Moderate (n=117)	Severe (n=10)
		n (%)	n (%)	n (%)
DLQI	Small effect (n=8)	8 (13.1)	0	0
	Moderate effect (n=65)	39 (63.9)	26 (22.2)	0
	Very large effect (n=115)	14 (23)	91 (77.8)	10 (100)
Fisher-exact test=62.63, p-value≤0.001				

[Table/Fig-6]: Association between DATS and DLQI.

severe category when the duration of TCS usage was more than six months as compared to the mild category in less than six months.
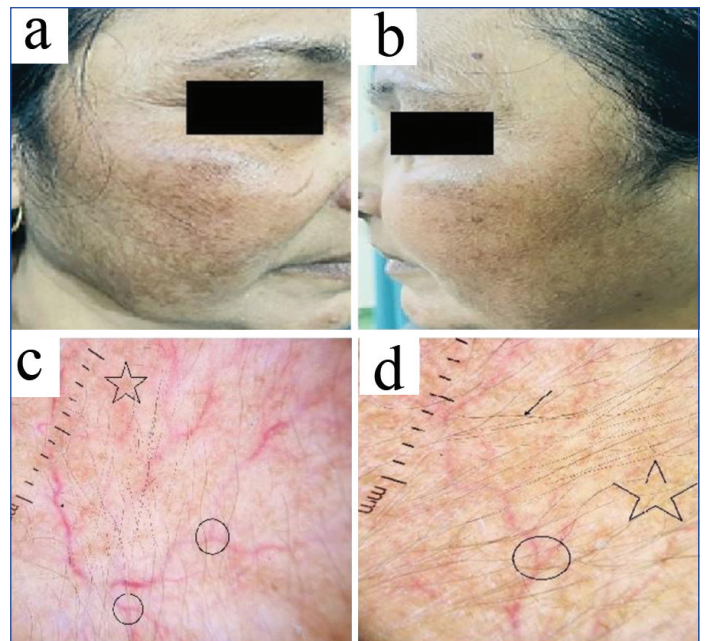
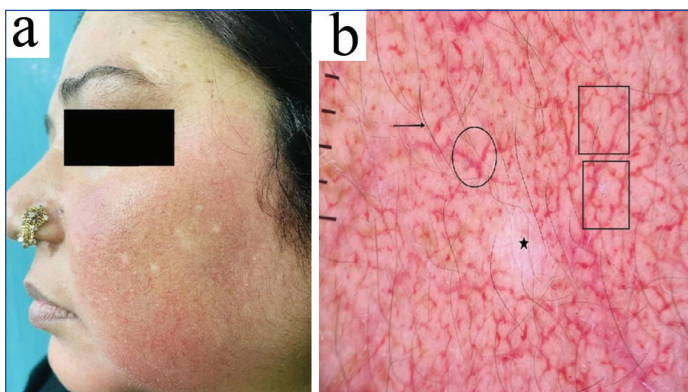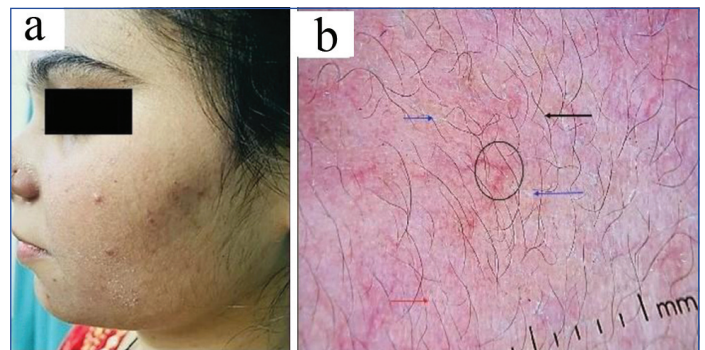| Variables	Pearson Correlation	p-value
DATS	0.612	≤0.001 (S)
DLQI		

[Table/Fig-7a]: Correlation between DATS and DLQI.
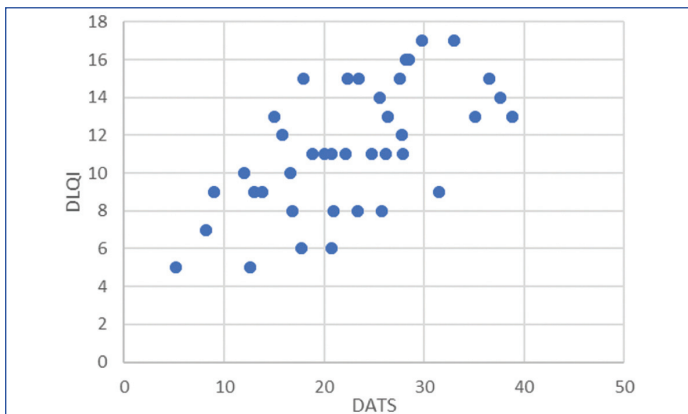
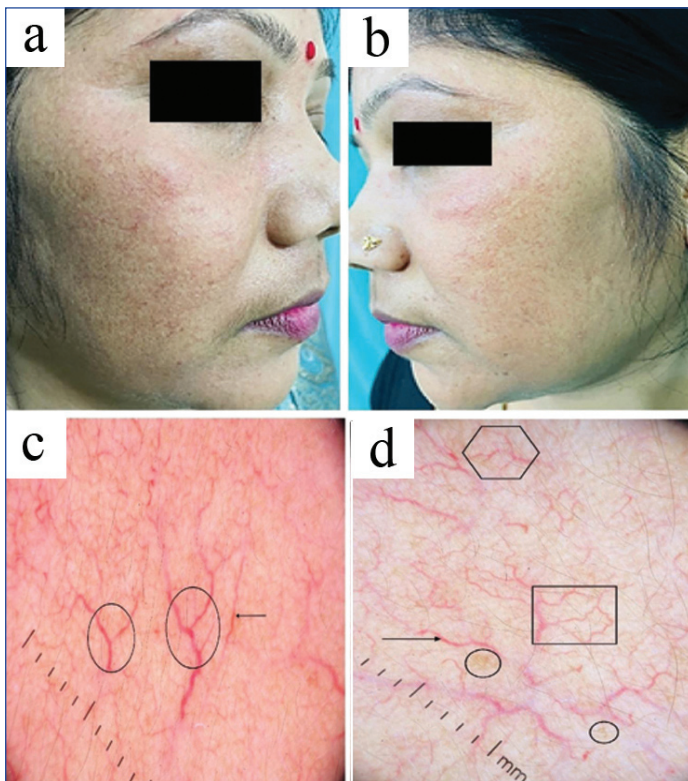**[Table/Fig-7b]:** Scatterplot for correlation between DATS and DLQI.

[Table/Fig-8]: a) Clinical picture showing telangiectasia, atrophy, hypertrichosis; b) Y-shaped vessel (black circle), polygonal vessels (black squares), white structure-less area (black star), terminal hair (black arrow) (DermLite DL4, non polarised mode, x10).

[Table/Fig-9]: a,b) Clinical picture showing telangiectasias, atrophy, hyperpigmentation and hypertrichosis; c) Y shaped vessels (black circles), linear vessels (black arrows) (DermLite DL4, non polarised mode, x10); d) polygonal vessels (hexagon box), branched vessels (black squares), brown globules (black circles), serpentine vessels (black arrow) (DermLite DL4, non polarised mode, x10).

[Table/Fig-10]: a,b) Clinical picture showing erythema, telangiectasias, white hair and pustules; c) Y-shaped vessels (black circles), serpentine vessels (black arrow), red diffuse area (black star) (DermLite DL4, non polarised mode, x10); d) Terminal hair (black arrow), brown globules (black star), branching vessels (black circle) (DermLite DL4, non polarised mode, x10).
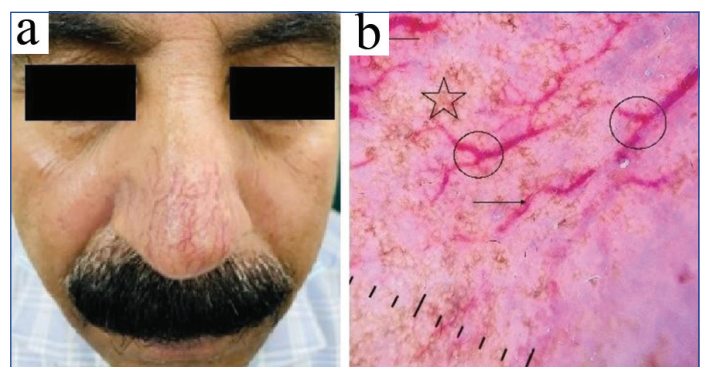

[Table/Fig-11]: a) Clinical picture showing marked erythema, hyperpigmentation, pustules and hypertrichosis; b) Y-shaped vessel (black circle), diffuse desquamation (blue arrows), terminal hair (black arrow), white hair (red arrow) (DermLite DL4, non polarised mode, x10).

[Table/Fig-12]: a) Clinical picture showing erythema, telangiectasias and hyperpigmentation; b) Y-shaped vessels (black circles), serpentine vessels (black arrow), diffuse brown areas (black star) (DermLite DL4, non polarised mode, x10).

By this, the authors may assess the estimated time of using TCS if the history is not available, which aids in prognostication and therapy response. Different shapes of telangiectasia were reported in previous studies that varied with a span of TCS application [9,19]. In the current research, also varied shapes of telangiectasias such as polygonal, Y-shaped, arborising and tortuous vessels were found, which accounted for more vascular points and hence, gained a higher DATS score [9,10].

Remarkably, the severity of patients was in the mild category when TCS application was for melasma or tinea faciei, but in the moderate category when used for acne and the rest all fell in the

severe category as fairness cream. Hence, it applied the darker complexion had still a social stigma. Patients who self-administered the medication or were persuaded by friends and family were affected severely, while subjects who applied the drug by visiting the RMPs fell to a mild degree. This can be explained by the possibility that RMPs were aware of some use of topical steroids. Patients using the super potent class had a moderate to severe degree than the group using mid potent who had a mild degree. In a prior study, dermoscopic results did not appear to be impacted by the steroid potency, which was in contrast to the current study [9]. As a result, those who used steroids regularly had severe TSDF as opposed to those who applied intermittently. Also, regular usage of super potent steroids had severe degrees TSDF. In the present study, every potential demographic profile was contrasted with the patients' dermoscopic findings of TSDF for the purpose of not only assessing its severity but also making the study participants aware of the detrimental effects of TCS on the face.

The present study indicated a very large effect on QoL in the study population and was in concordance with earlier studies [8,12]. Among 188 patients, a majority had a very large effect, some individuals experienced a moderate effect, rest had a small effect. There were no individuals on the extremes of the score. According to a study reported in 2019, conducted on 52 patients maximum had a very large effect, followed by moderate, small and extremely large effects on QoL [12]. Additionally, the current study demonstrated an association between DLQI and demographic data. Compared to older age groups, a greater proportion of people had a moderate to very significant impact than observed in younger age groups. Late teens and young generation had greater impairment because they were more self-concerned regarding physical attributes and self-esteem [12]. Moreover, skin concerns impact their social and emotional well-being [12]. In every degree that affects QoL, the proportion of females is greater than that of males. This was in conjunction with earlier research that showed women had far higher QoL impairment because they are likely to be sensitive and anxious about their appearance [12]. Most people living in rural had mild to moderate effects on their lives, whereas those living in urban areas had extremely large effects as patients from rural backgrounds had stronger social and familial support [12]. Education had an indirect impact on life. Educated patients had a significant small to moderate impact while illiterate had a very large impact on QoL. A formal education likely gives one the ability to think logically about illness, thereby, lessening the effect of TSDF on QoL [12]. Homemakers experienced minor effects, whereas students and teachers experienced moderate to large effects. This can be attributed to the community having more social interactions. The severity of patients lies in all categories when the duration of TCS usage is more than six months as compared to the mild to moderate category when the usage is less than six months. Patients were in the mild category when fairness was the primary reason for using TCS, as opposed to the moderate category when acne and tinea faciei were the reason. Relatives were the most common source of a very large impact on life quality while RMPs and chemists had moderate impact. This may be explained by early discussion about cosmetic issues with family members. DLQI and the varying steroid application potencies are associated. As a result, those using the super potent class had effects that ranged from moderate to very significant, while those using the mid-potent class had nearly negligible effects. Those who used steroids regularly saw a far greater impact on QoL than those who used intermittently and experienced small or no impact. According to a previous study, the key variables were illiteracy, non formal education, young age (<20 years) and female subjects [12]. Domain-wise analysis in the current study revealed that the symptoms and feelings domain had the highest score, indicating a sense of worthlessness and unattractiveness as a result of TSDF. It was followed by leisure, job and school, daily activities,

personal relationships and treatment domains respectively and in concordance with earlier studies [8,12].

However, the current research correctly associates the clinical severity of TSDF with QoL. The relationship between DLQI scores and DATS helped to establish the same. There was a significant positive correlation between the DATS and DLQI scores. This interpreted that greater DATS scores were linked to higher DLQI scores, further indicating that the QoL is negatively impacted more as the severity increases.

Limitation(s)

The research was single centre study hence the results cannot be generalised. Data was calculated using only 188 subjects as the remaining five patients did not consent for the photography and hence, were excluded. As no drop outs were considered in the present study and hence the final sample size was lesser then the total number of samples calculated as per sample size calculation.

CONCLUSION(S)

The current study aimed to segregate patients based on the demographics that were most affected by using the DATS and DLQI scores. Dermoscopy helped the patients to appreciate the severity of TCS usage through the presentation of images with explanations in language understandable to them. The condition is hard to manage and requires physical healing of the sensitive skin and psychological treatment. Treatment for TSDF is challenging and includes both therapy and counselling to address the rebound phenomena. It's critical to keep in mind that the patient needs a significant level of psychological assistance. This allowed for the earliest possible referral to a specialist for appropriate counselling thus improving QoL and raising patients' awareness of the risks associated with self-medicating of topical steroids.

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