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A PROSPECTIVE OBSERVATIONAL STUDY ON PREVALENCE, PATTERN AND CONSEQUENCES OF TOPICAL STEROIDS MISUSE IN A TERTIARY CARE CENTRE IN WESTERN RAJASTHAN

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INTRODUCTION

The discovery and introduction of topical corticosteroids (TCs) in the 1950s brought a revolutionary change in the management of inflammatory skin disorders.[1] These compounds, derived from cortisol, provided dermatologists with a highly effective therapeutic option to treat a variety of skin conditions that were previously difficult to manage. Over the past several decades, numerous topical corticosteroids have been synthesized and classified into different categories based on their potency—ranging from mild (Class VII) to very potent (Class I)—allowing clinicians to tailor treatment depending on the severity, location, and duration of the dermatosis.[2]

The first documented successful use of a topical steroid in treating human skin diseases was by Sulzberger and Witten in 1952.[3] Their work demonstrated the efficacy of corticosteroids in reducing inflammation and improving symptoms in various skin conditions. This was followed by a major development in 1964 with the introduction of betamethasone valerate,[4] a potent steroid that became a cornerstone in dermatological therapy due to its effectiveness and acceptable safety profile when used appropriately.

Topical corticosteroids have since become a mainstay in dermatology owing to their anti-inflammatory, antiproliferative, vasoconstrictive, antipruritic, and immunosuppressive properties.[5] They are used in the treatment of a broad spectrum of skin disorders such as eczema, psoriasis, lichen planus, seborrheic dermatitis, vitiligo, and autoimmune dermatoses.[6] Their popularity also stems from the rapid symptomatic relief they provide, particularly in reducing erythema, scaling, and itching.[7]

However, despite their therapeutic advantages, the misuse and overuse of topical corticosteroids have emerged as major public health concerns, particularly in low- and middle-income countries like India.[8] A combination of easy availability, lack of regulation, limited awareness, and healthcare access challenges has led to the widespread misuse of these agents. This issue is especially pronounced in rural and semi-urban areas, where patients frequently rely on self-medication, local healers, or pharmacists rather than qualified dermatologists.[9]

Among the various corticosteroids available in the Indian market, Clobetasol propionate, classified as a superpotent corticosteroid, is the most commonly misused.[10] It is often applied on the face, despite clear contraindications for long-term or unsupervised facial use. Studies have shown that pharmacists and local healers account for nearly 78% of the sources for such misuse.[11] These non-medical sources often dispense TCs without proper instructions, dosing, or duration guidelines, exacerbating the risk of complications.

Further compounding the problem is the widespread availability of irrational Fixed Dose Combinations (FDCs). These FDCs commonly include corticosteroids in combination with antifungal, antibacterial, and even whitening agents, marketed under various trade names with attractive packaging and claims of instant fairness or pimple relief.[12] Many of these combinations lack

scientific merit, regulatory approval, or evidence-based indications. Inappropriate use of such FDCs not only fails to treat the underlying condition but may also mask symptoms, delay diagnosis, and increase the risk of resistant infections—most notably resistant dermatophytosis, which is now a major challenge in clinical practice across India.[13]

The over-the-counter (OTC) sale of topical corticosteroids without prescription remains a major regulatory failure in the Indian pharmaceutical landscape. Despite the classification of many corticosteroids as Schedule H drugs (which require a prescription), enforcement is lax, and most pharmacies continue to sell them freely.[14] This unregulated access is further facilitated by weak healthcare infrastructure, low dermatologist-to-patient ratios, and limited awareness among the general public.[15]

One of the most frequently affected regions is South Rajasthan, where poor health literacy, cultural practices, and dependence on non-specialist advice have contributed to rampant misuse of TCs.[16] People often apply corticosteroids for conditions like acne, melasma, tinea infections, or as fairness creams, unaware of the consequences of long-term use.[17]

The chronic misuse of topical corticosteroids can result in a spectrum of cutaneous adverse effects, particularly when potent or superpotent agents are used on sensitive areas such as the face. These include acneiform eruptions, steroid-induced rosacea, perioral dermatitis, rebound erythema, telangiectasia, cutaneous atrophy, and pigmentary changes.[18] These visible changes can be cosmetically disfiguring, especially when they affect the face, leading to psychological distress, embarrassment, low self-esteem, and anxiety.[19] The face is a critical part of one's self-image and identity, and disfigurement can have far-reaching implications for mental health, interpersonal relationships, and social functioning.

Another well-recognized clinical consequence of TC misuse is Red Face Syndrome, also referred to as Topical Steroid-Dependent/Withdrawal Face (TSDF). This syndrome occurs when long-term facial use of potent corticosteroids is suddenly stopped, leading to rebound erythema, burning, itching, scaling, and skin sensitivity.[20] Patients affected by TSDF often develop dependence, continuing the steroid just to prevent flares, thus perpetuating a cycle of addiction-like behavior.[21]

Furthermore, attempts to discontinue corticosteroid use often lead to rebound worsening of symptoms, resulting in considerable psychological and physical distress.[22] This distress can compel patients to resume use against medical advice, and many resist further withdrawal efforts.[23] The cycle of misuse is difficult to break and requires active dermatological and psychological intervention.

The increasing incidence of TC misuse in India, particularly involving high-potency steroids, is therefore a multifaceted issue—encompassing not only medical and dermatological complications but also social, regulatory, and mental health dimensions.[9,12,13,15] It reflects deeper systemic challenges, including inadequate public education, lack of regulatory oversight, fragmented primary healthcare, and insufficient dermatology services. Thus, to analyse the pattern of topical corticosteroids misuse we are going to conduct a prospective observational study among the patients who will attend the outpatient department of Dermatology in a Tertiary Care Centre in Western Rajasthan.

AIM AND OBJECTIVES

Aim: To study the prevalence, pattern and consequences of topical steroid misuse in patient attending the dermatological OPD at tertiary care centre in western Rajasthan.

1. **Primary objectives**
- To study the prevalence of the topical steroids misuse

2. **Secondary objectives**
- To study the consequences of the topical steroid misuse.

REVIEW OF LITERATURE

HISTORY

Corticosteroids are steroid hormones derived from adrenal gland or synthetically derived from it (1). Topical steroids belong to the glucocorticoids family of corticosteroids.[24]

The first beneficial use of topical steroids in human dermatoses was reported in 1952 by Sulzberger and Witten.[2] Though the first fluorinated compound was 9-alpha- fluorohydrocortisone acetate and it was successfully used topically in 1954, the real success came with flumethasone, fluoroandrenolone, and triamcinolone in the 1960s, which were much more potent than hydrocortisone. Betamethasone was a significant discovery, and the first topical use was reported in 1964.[3] Betamethasone valerate was prepared by 1967, which was more potent than the parent compound.[4]

Human vasoconstrictor assay (McKenzie and Stoughton) is one of the most commonly used methods for assessing potency of topical corticosteroids.[5] This correlates well with clinical efficacy and outcome and thus forms the basis of the current classification system for topical corticosteroids.[26]

As per the currently used potency-based classification system, topical steroids can be divided into 7 classes.[6]

Class I superpotent corticosteroids include clobetasol propionate 0.05% in any vehicle, augmented betamethasone dipropionate 0.05% gel or ointment,

diflorasone diacetate 0.05% ointment, fluocinonide 0.1% cream, and halobetasol propionate 0.05% cream or ointment.[27]

Class II high-potency corticosteroids include amcinonide 0.1% ointment, augmented betamethasone dipropionate 0.05% cream or lotion, betamethasone dipropionate 0.05% ointment, desoximetasone cream/gel/ointment, diflorasone diacetate 0.05% cream, fluocinonide 0.05% cream/gel/ointment, and halcinonide 0.1% cream/ointment/solution.[28]

Class III medium- to high-potency corticosteroids include amcinonide 0.1% cream, betamethasone dipropionate 0.05% cream, fluticasone propionate 0.005% ointment, and triamcinolone acetonide 0.5% cream/ointment.[29]

Class IV and V medium-potency corticosteroids include betamethasone valerate 0.1% cream/lotion/foam, desoximetasone 0.05% cream, fluocinolone acetonide 0.025% cream/ointment, fluticasone propionate 0.05% cream, hydrocortisone butyrate 0.1% ointment, hydrocortisone probutate 0.1% cream, hydrocortisone valerate 0.2% cream/ointment, mometasone furoate 0.1% cream/lotion/ointment, triamcinolone acetonide 0.025% cream/lotion/ointment, and triamcinolone acetonide 0.1% cream/lotion/ointment.[30]

Class VI low-potency corticosteroids include alclometasone dipropionate 0.05% cream/ointment, desonide 0.05% in any vehicle, fluocinolone 0.01% cream, and hydrocortisone butyrate 0.1% cream.[31]

Class VII least-potent corticosteroids include hydrocortisone 1% and 2.5% cream/lotion/ointment.[32]

Factors affecting choice of corticosteroids include:

1. Anatomic area of application
2. Disease responsiveness
3. Severity of disease
4. Extent of body surface area involvement
5. Age of patients
6. Suitability of vehicle
7. Potency of corticosteroid molecule

A standardized fingertip unit (FTU) and rule of hand have been devised by Long and Finlay to measure the amount of ointment necessary to cover specific anatomic areas adequately.[7]

ADVERSE EFFECTS

Various adverse effects occurring due to topical corticosteroids have been extensively published in the literature.[33] They can be broadly classified as local and systemic adverse effects.[8,9]

The immediate effects include stinging and irritation.

Effects on the epidermis are atrophy, hypo/hyperpigmentation, photosensitivity, loss of skin barrier, and premature ageing.[10]

Topical steroids also adversely affect dermal functions such as wound healing and collagen formation, leading to telangiectasia, ulceration, delayed wound healing, striae, Bateman's purpura, easy bruising, and stellate scars.[11]

Steroid-induced acne, rosacea, hypertrichosis, and alopecia are also adverse effects.[12]

Steroids increase susceptibility to infection, leading to altered presentations such as scabies incognito, herpes incognito, impetigo incognito, and demodicidiosis.[13]

Withdrawal of steroids frequently leads to rebound flares of psoriasis, reactivation of Kaposi's sarcoma, and rebound erythema of the face.[14]

TSDF is a newly described entity associated with topical corticosteroid abuse.[15] Steroid addiction, red burning skin syndrome, and status cosmeticus have been reported in the literature.[16,17]

Systemic side effects include HPA axis suppression, new-onset diabetes mellitus, hypercalcemia, and iatrogenic Cushing's syndrome.[9]

EPIDEMIOLOGICAL STUDIES

Thomas M, Sheth NK, et al. conducted a prospective observational study, where they found that Clobetasol propionate was the most common steroid misused. 80% of respondents having tinea had tinea incognito and 97% had extensive lesions. This study demonstrated that TS misuse was a significant public health issue in rural India with 3 out of 10 new dermatology outpatients using topical steroids inappropriately.[16]

Out of general practitioners in the study, 22 (50%) were qualified allopathic medical practitioners and 22 (50%) were homeopathic and ayurvedic doctors. Among pharmacists, 74 out of 107 did not have appropriate knowledge of topical steroid, and 35 were not aware that topical steroid belonged to Schedule 'H' drugs.[16]

In 2015, MB Mahindrakar et al. conducted a study where data was collected in the form of a designed proforma which included demographic, disease, and drug data. They found that periodic review of prescription was essential to increase therapeutic efficacy, decrease adverse effects, provide feedback to the prescribers, and analyze the observation of the standard of medical treatment. The study was not able to reflect demographic data of the population since it was a tertiary care hospital-based study.[33] Although steroids were included under Schedule H drugs, which required proper prescriptions, inappropriate Fixed drug combinations containing potent topical steroids in combination with

antifungals and antibacterial were not in the same list.[17] For pharmacists and local healers, Fixed drug combinations were prescribed as one- step answers to all skin conditions, regardless of the etiology of the disease (whether it was bacterial, fungal, or inflammatory). More studies, preferably multicentric studies especially covering the pharmacists, general practitioners, and the patients in large numbers, were needed to be conducted.[16]

In the year 2015, a cross-sectional study was conducted by M. Santwana et al. to assess the prevalence of misuse of topical steroids. It was found that Betamethasone was the most commonly used topical steroid preparation, and Tinea incognito followed by Facial acne were the most common side effects experienced.[34] The most popular brands in this study were Betnovate, followed by mixed preparations of Clobetasol Propionate with antifungal and antibacterial agents (Clobevate, Fourderm, Cortiderm). Prolonged and continuous use of topical corticosteroids on the face led to the development of dermatoses, which has been named as TSDF (topical steroids dependent face).[18]

Another cross-sectional study was conducted by J. Sonal et al. where 53 males and 263 females presented with facial dermatoses during the entire study and Mometasone in the form of No scar preparation was the most commonly abused topical steroid.[35] The problem was perpetuated by the unrealistic craze and want of fairer skin by people coupled with easy access to such products as cheap over-the-counter products.[19]

Rastogi MK et al. performed a study among the outpatients seeking treatment for clinical diagnosis of TSDF.[36] The present study showed that patients using superpotent topical steroid in TSDF (Topical steroid dermal facies) had maximal effect on QoL (Quality of life) compared to the patients using mid-strength or lower- mid strength steroids. The mean DLQI score of >11 represents a very large effect on the QoL in these patients. The main limitation of this study was a small sample size, single-centre study and non-calculation of formal sample size in the absence of any data regarding the prevalence of TSDF in Indian population.[20]

MATERIALS AND METHODS

Study Design

This study was conducted as a **prospective observational investigation** with the primary objective of assessing the **prevalence, usage patterns, and clinical consequences** of topical corticosteroid misuse. The study documented the frequency of misuse, identified common trends such as type of formulation used, duration and mode of application, source of procurement, and evaluated the associated dermatological and systemic manifestations. As an observational study, no modification of patient management was undertaken, and all information was collected prospectively in accordance with the inclusion and exclusion criteria.

Study Setting

The study was carried out in the Department of Pharmacology, in collaboration with the Department of Dermatology, at Dr. S. N. Medical College, Jodhpur, and its affiliated MDM Hospital. Being a tertiary care centre, the hospital served as a major referral institution for Western Rajasthan, catering to a large and diverse patient population, thereby providing a representative sample for assessing topical steroid misuse in the region.

Study Period

Data collection was undertaken over a four-month period, from **April 2025 to July 2025**, following approval from the Institutional Ethics Committee of Dr. S. N. Medical College, Jodhpur, and after obtaining prior permission from the Head of the Department of Pharmacology and head of the department of dermatology Participants Patients attending the Dermatology outpatient department (OPD) during the study period were screened for eligibility.

- **Inclusion criteria**

1. Patients with a documented history of topical corticosteroid use who presented with dermatological complaints.
2. Patients attending the Dermatology OPD for other skin conditions who exhibited clear clinical signs suggestive of topical corticosteroid misuse.

- **Exclusion criteria**

1. Patients who were unwilling to provide informed consent for participation.
2. Pregnant women and patients with comorbidities that could produce clinical features similar to those of corticosteroid misuse (e.g., Cushing's syndrome, hypertension, diabetes mellitus).

- **METHODOLOGY**
- This was a prospective observational study conducted at the Dermatology outpatient department of a tertiary care hospital in Western Rajasthan. Data were collected from 235 patients who met the inclusion criteria during the study period. Information regarding demographic details, clinical presentation, history of topical steroid use, and occurrence of side effects was recorded in a structured case record form. Patients unwilling to participate or those with confounding comorbidities were excluded. Written informed consent was obtained from all participants prior to enrolment.

- **Statistical Analysis**
- Data were entered into Microsoft Excel and analyzed using **SPSS version 31** (or an equivalent statistical software). Descriptive statistics such as frequency and percentage were used to summarize categorical variables. The **Pearson Chi-square test**

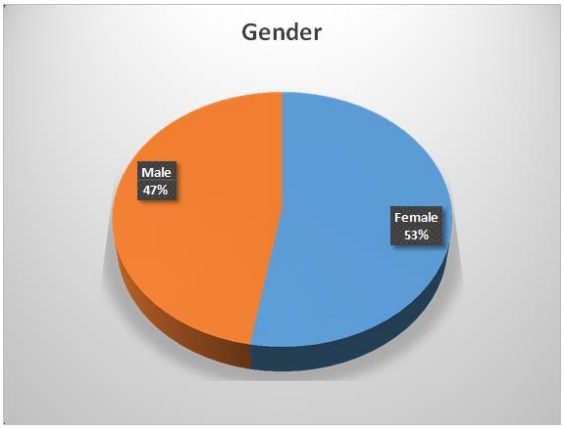
was employed to assess the association between topical steroid use and the occurrence of side effects. A *p*-value of less than 0.05 was considered statistically significant.

All participants in the study were categorized as **Level 2** on the Modified Hartwig and Siegel Scale, indicating **mild severity** of adverse drug reactions. Since there was no variability in scores, further statistical comparison was not applicable.

OBSERVATIONS AND RESULTS

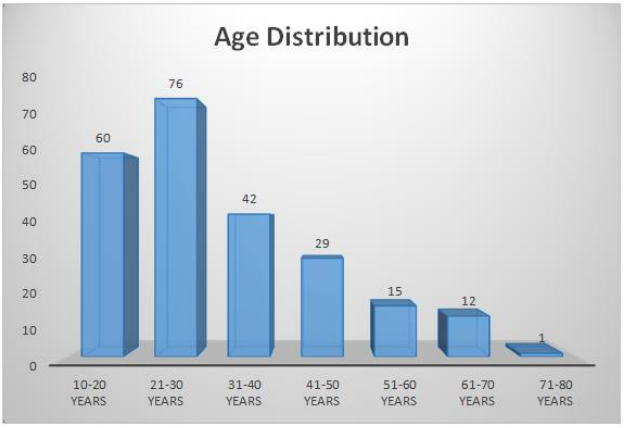
Gender	Frequency	Percentage
Female	124	52.77%
Male	111	47.23%
Total	235	100.00%

Out of 235 patients, 124 (52.77%) were females and 111 (47.23%) were male.



Age Group	Frequency	Percentage
10-20 Years	60	25.53%
21-30 Years	76	32.34%
31-40 Years	42	17.87%
41-50 Years	29	12.34%
51-60 Years	15	6.38%
61-70 Years	12	5.11%
71-80 Years	1	0.43%
TOTAL	235	100.00%
Mean Age : 31.59±14.24		

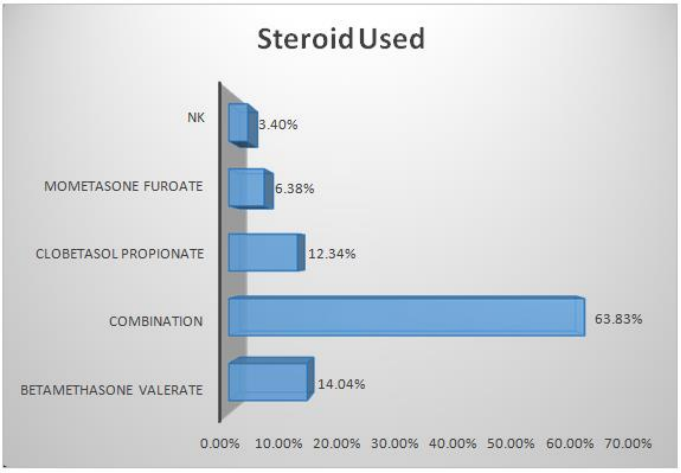
A total of 235 patients were included in the study. The age range of patients was from 12 years to 75 years with mean age of 31.59 years.



Steroid	Frequency	Percentage
Betamethasone Valerate	33	14.04%
Combination	150	63.83%
Clobetasol Propionate	29	12.34%
Mometasone Furoate	15	6.38%

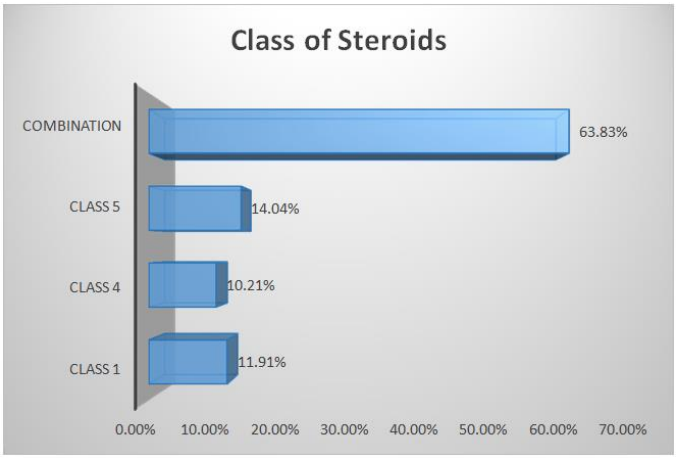
NK not known	8	3.40%
Total	235	100.00%

Out of 235 patients, maximum 150 (63.83%) patients received combination cream, 33 (14.045) received betamethasone valerate, 29 (12.34%) received Clobetaso Propionate, 15 (6.38%) received mometasone furoate and 8 (3.40%) received NK.



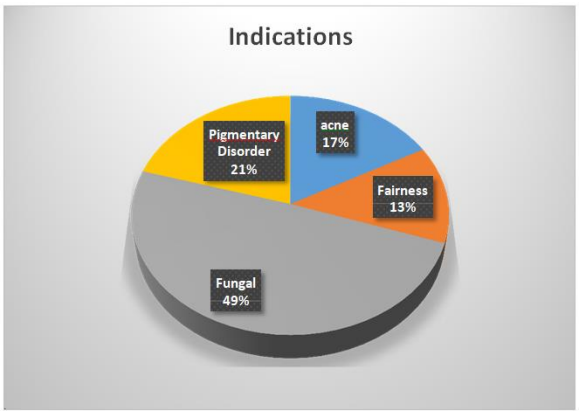
Class	Frequency	Percentage
Class 1	28	11.91%
Class 4	24	10.21%
Class 5	33	14.04%
Combination	150	63.83%
Total	235	100.00%

Most of the Steroids were used in combination 150 (63.83%), 28 (11.91%) used Class 1 steroids, 24 (10.21%) used Class 4 steroids and 33 (14.04%) used Class 5 steroids.



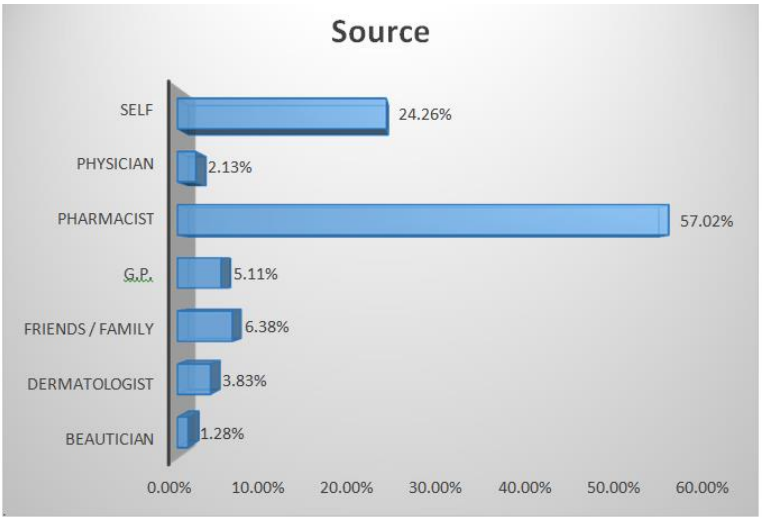
Indication	Frequency	Percentage
Acne	40	17.02%
Fairness	31	13.19%
Fungal	116	49.36%
Pigmentary Disorder	48	20.43%
Total	235	100.00%

Most common reason for prescription / advice for steroid was fungal infection (49.36%) followed by Pigmentary disorder (20.43%), Acen (17.02%) and Fairness (13.19%).



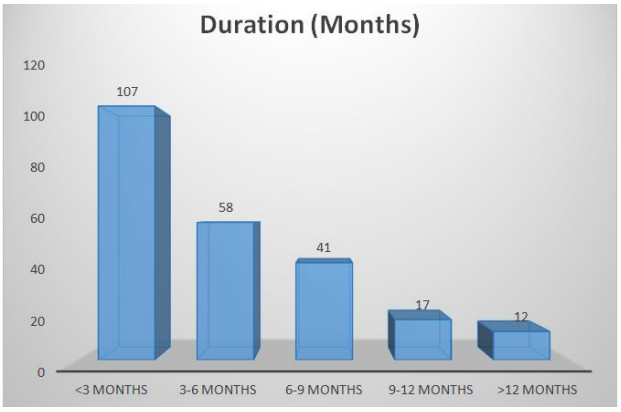
Source	Frequency	Percentage
Beautician	3	1.28%
Dermatologist	9	3.83%
Friends / Family	15	6.38%
G.P.	12	5.11%
Pharmacist	134	57.02%
Physician	5	2.13%
Self	57	24.26%
Total	235	100.00%

In maximum cases, source of steroid advice was pharmacist (57.02%), Whereas 24.26% taken as per self requirement.



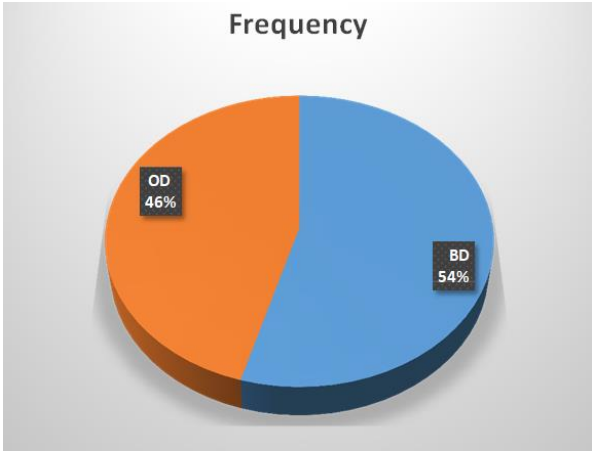
Months	Frequency	Percentage
<3 months	107	45.53%
3-6 months	58	24.68%
6-9 months	41	17.45%
9-12 months	17	7.23%
>12 months	12	5.11%
Total	235	100.00%

The duration was less than 3 months in maximum (45.53%) patients, 3-4 months in 24.68% patients, 6-9 months in 17.45% patients, 9-12 months in 7.23% patients and more than 12 months in 5.11% patients.



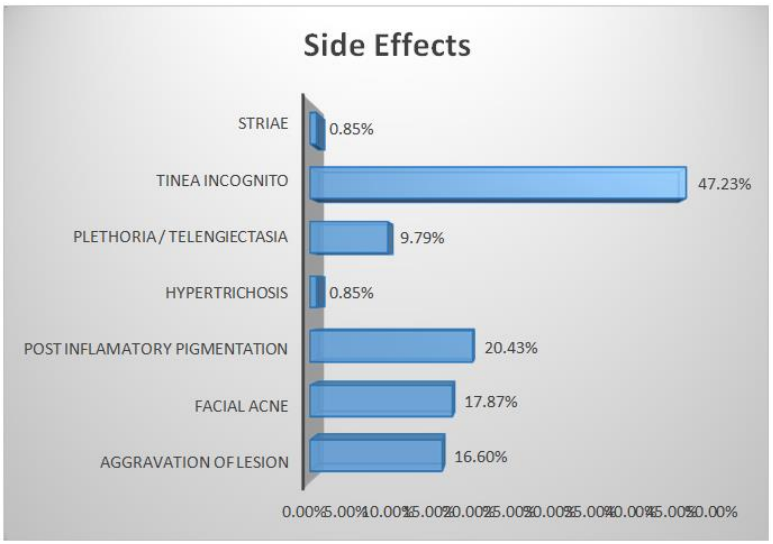
Frequency	Frequency	Percentage
BD	128	54.47%
OD	107	45.53%
Total	235	100.00%

54.47% patients were advised with BD while 45.53% were advised with OD.



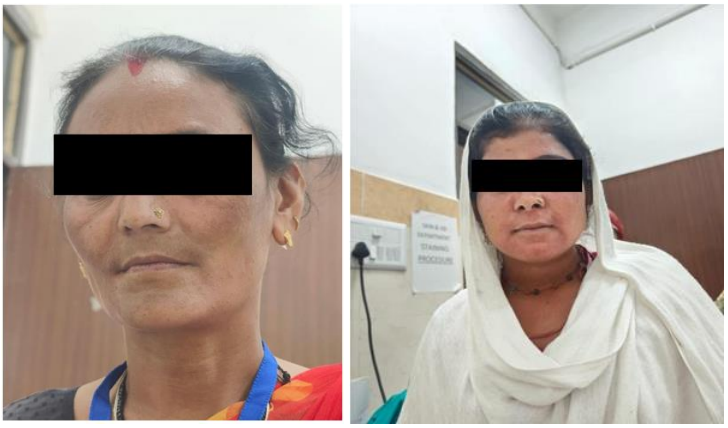
Side effects	Frequency	Percentage
Aggravation of Lesion	39	16.60%
Facial Acne	42	17.87%
Post Inflamatory Pigmentation	48	20.43%
Hypertrichosis	2	0.85%
Plethoria / Telengiectasia	23	9.79%
Tinea Incognito	111	47.23%
Striae	2	0.85%

Most common side effect observed in this study was Tinea Incognito (47.23%), Aggravation of Lesion in 16.60%, Facial Acne in 17.87%, Post Inflammatory Pigmentation in 20.43%, Hypertrichosis in 0.85% and Plethoria / Telengiectasia in 9.79% patients.

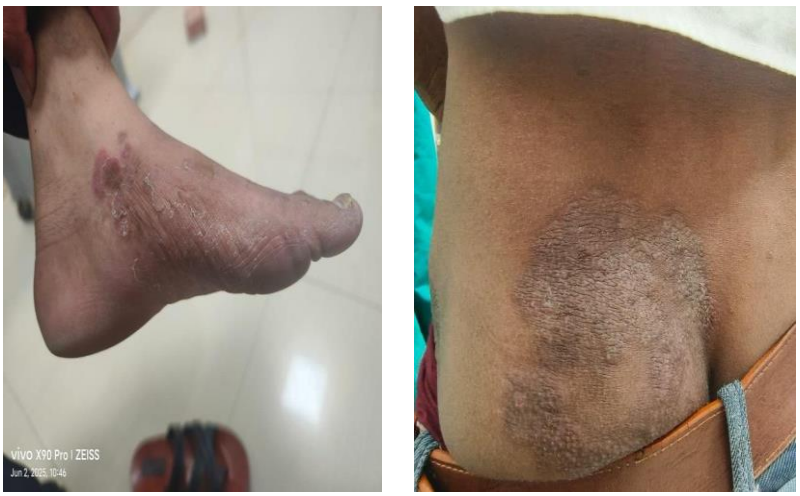


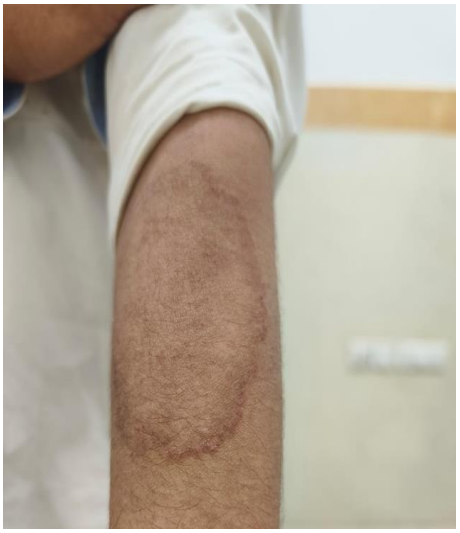
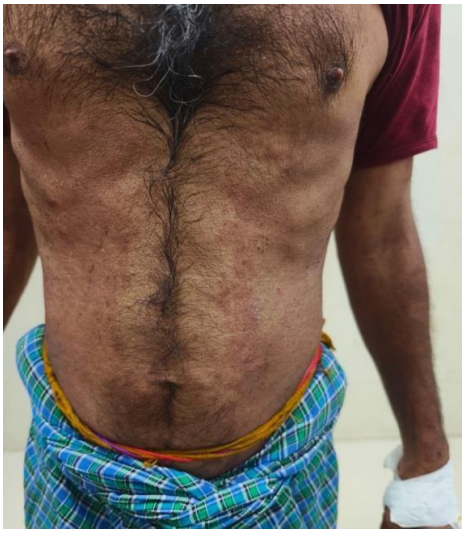
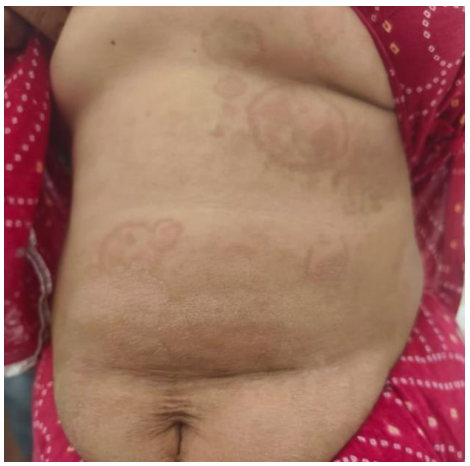
Chi-Square Test was carried out to test the association between Steroid Use and Side Effects. From above table, we can observe that P-Value is less than 0.05. Hence, we can conclude that there is significant association observed between Steroid use and Side effects.

Chi-Square Tests			
	Value	**df**	**P-Value**
Pearson Chi-Square	38.303	24	0.032
N of Valid Cases	235		



TOPICAL STEROID DERMAL FACIES



STEROID MODIFIED DERMATOPHYTOSIS (TINEA)

DISCUSSION

The present study offers valuable insight into the widespread and largely unregulated use of topical corticosteroids (TCS), particularly among young adults and females, mirroring trends observed in various Indian and international studies.

Demographic Patterns and Vulnerable Populations

The majority of patients misusing topical steroids in this study were females (52.77%), with the highest prevalence in the 21–30 years age group (32.34%). These findings align with previous studies by Nyati et al.,[37] who reported a higher proportion of females (72.68%) misusing TCS in Kota, and by Saini B et al.,[38] where 43.8% of misusers were teenagers and 76.3% were female. This gender and age distribution may be attributed to the pursuit of cosmetic enhancement, particularly fairness and acne control, often influenced by societal norms, media, and peer advice.

Indications and Inappropriate Use

Our study highlights that fungal infections (49.36%) were the leading indication for TCS use, followed by pigmentary disorders (20.43%), acne (17.02%), and use as fairness creams (13.19%).[38] This misuse of steroids for dermatophytoses is well- documented in Indian literature. Verma SB et al.[40] and Kumar P et al.[41] both reported the inappropriate use of steroid-containing fixed-dose combinations (FDCs) for treating superficial fungal infections, leading to the emergence of tinea incognito, steroid-modified lesions, and resistance.[42-46]

Cutaneous Adverse Effects

A wide spectrum of side effects was observed, with tinea incognito (47.23%) being the most common, followed by post-inflammatory hyperpigmentation (20.43%), facial acne (17.87%), and aggravation of lesions (16.60%). These findings are consistent with the study by Coondoo et al.,[47] where misuse of potent steroids led to adverse outcomes like steroid-induced dermatitis, rosacea-like eruptions, and skin thinning. In some cases, prolonged use can result in topical steroid withdrawal syndrome (TSWS), particularly when high-potency steroids like clobetasol are discontinued abruptly.[48]

Steroids Used and Combination Creams

A significant majority (63.8%) of patients in our study used combination creams, primarily containing clobetasol propionate (12.34%), mometasone furoate (6.38%), and betamethasone valerate (14.04%). Similar

trends have been reported by Parsad and Dogra,[49] who noted that irrational FDCs containing potent corticosteroids are readily available in India and are commonly misused due to lack of awareness and aggressive marketing strategies.[50-52] The unregulated availability of these creams allows for their use without medical supervision, contributing to chronic misuse.[53]

Duration of Use and Source of Access

Approximately 45.53% of users reported steroid use beyond 3 months, significantly increasing the risk of long-term adverse effects. The most common source of these steroids was pharmacists (57.02%),[54] followed by self-use (24.26%) and non- medical advice from friends (6.38%) or beauticians (1.28%). This distribution aligns with the study by Chaudhary et al.,[55] which pointed to poor regulatory control and lack of pharmacist education as key contributors to the problem.

LIMITATIONS

Being a single-centre, hospital-based study, the findings may not be entirely representative of the general population. Patients who misuse topical corticosteroids but do not seek dermatological consultation remain unaccounted for, thereby introducing selection bias.

The data heavily relied on self-reported histories regarding the type, duration, and frequency of steroid use, which may have led to recall bias in some cases.

The exclusion of specific patient groups such as pregnant women and those with comorbidities may have limited the diversity of clinical presentations captured. Although a Knowledge, Attitude, and Practice (KAP) questionnaire was administered, its detailed analysis was beyond the current study scope.

The absence of validated tools like the Dermatology Life Quality Index (DLQI) limited the ability to quantify psychological and quality-of-life impacts. Lastly, the study did not involve an assessment of prescribing practices among pharmacists or general practitioners—key stakeholders often involved in the irrational use of topical steroids

SUMMARY

A **prospective observational study** was conducted in the Department of pharmacology in collaboration with department of Dermatology at a **tertiary care hospital in Western Rajasthan**. The **aim of the study** was to assess the **prevalence, patterns, and consequences of topical corticosteroid misuse** among patients attending the outpatient department. The **study included 235 patients** who presented with a history of topical steroid use, either prescribed or self-initiated. After obtaining **informed consent**, a **detailed history** was recorded, including the **indication, duration, source, and type of steroid used**, followed by **thorough clinical examination** to document **cutaneous side effects and patterns of misuse**. The observations made during the study provide critical insight into the irrational and unsupervised use of topical corticosteroids and its dermatological impact. Out of 235 patients included in the study, **124 (52.77%) were females** and **111 (47.23%) were males**, indicating a **female predominance** in topical corticosteroid misuse. This gender distribution suggests that females may be more inclined to use topical steroids, often influenced by **cosmetic concerns such as fairness, pigmentation, or acne**. The data reflects a broader social trend in which beauty standards and peer influence disproportionately affect women, making them more vulnerable to misuse.

The **majority of patients (32.34%) belonged to the 21–30 years age group**, followed by **10–20 years (25.53%)** and **31–40 years (17.87%)**. This highlights that **young adults and adolescents** are the most affected groups. The **mean age was 31.5 years**, with the youngest being 12 years and the oldest 75 years. These findings suggest that **early adulthood is a critical period** for steroid misuse, likely due to increased concern about appearance, self-image, and exposure to unregulated advice via peers or online platforms.

The most common indication for topical steroid use was **fungal infections (49.36%)**, despite the well-documented risks of using steroids in such cases. This was followed by **pigmentary disorders (20.43%)**, **acne (17.02%)**, and **fairness (13.19%)**. The high rate of steroid use for fungal infections indicates a **serious lack of awareness among the public** and highlights the **rampant misuse of steroid-containing antifungal combinations**, which can worsen infections and delay appropriate treatment.

Steroid misuse resulted in a wide range of **adverse cutaneous effects**. The most frequently observed side effect was **tinea incognito (47.23%)**, followed by **post inflammatory (20.43%)** and **facial acne (17.87%)**. Less common but significant effects included **telangiectasia/plethora (9.79%)**, **hypertrichosis (0.85%)**, and **atrophy or striae (0.85%)**. These adverse effects reflect the **damaging impact of prolonged or inappropriate use of mid- to high-potency steroids**, especially in unsupervised settings.

A majority of the patients (**63.8%**) were using **combination creams** that included corticosteroids along with antifungals and/or antibacterials. Among individual steroids, **betamethasone valerate (14%)**, **clobetasol propionate (12.3%)**, and **mometasone (6.4%)** were commonly used. These findings suggest a **heavy dependence on fixed-dose combination (FDC) creams**, many of which are **irrational and marketed without proper medical justification**. Their misuse reflects both **marketing failures** and **regulatory lapses**.

A significant number of patients (**45.53%**) had been using steroids for **less than 3 months**, with **17.45 %**

using them for 6–9 months and **7.2% using for 9 months or more**. Prolonged use increases the risk of **dependency**, **withdrawal symptoms**, and **chronic cutaneous damage**. It also indicates that many users are unaware of the **recommended short-term use** of corticosteroids and lack access to proper medical advice.

The most common source of steroid products was **pharmacists (57.02%)**, followed by **self-use (24.26%)**, and advice from **friends/family (6.3%)**, **general practitioners (5.1%)**, and **beauticians (1.2%)**. Only **3.8% of patients received steroids on a dermatologist's advice**, revealing a serious **gap in medical supervision**. This indicates **unregulated over-the-counter sales** and emphasizes the need for stricter **pharmacy practices** and **public education** to ensure safe usage.

CONCLUSION

The study clearly shows that **topical steroid misuse is highly prevalent**, especially among **young adults and females**, and is largely driven by **unregulated access**, **misinformation**, and **cosmetic desires**. The **overuse of combination creams**, prolonged duration of application, and serious **dermatological side effects** point to a pressing public health issue. There is an urgent need for **regulatory reform**, **restriction of irrational FDCs**, **public awareness campaigns**, and **strengthened dermatological supervision** to combat this growing problem effectively.

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PROFORMA

CASE STUDY NO. DATE:

AGE: SEX:

IDENTIFICATION:

ADDRESS:

CONTACT NO. :

REGISTRATION NO. :

CHIEF COMPLAINTS:

HISTORY ANY TOPICAL STEROID APPLICATION:

. NAME , POTENCY:

. INDICATION:

. SOURCE OF PRESCRIPTION:

. DURATION:

. MODE OF APPLICATION:

. SITE:

. SYMPTOMS AGGRAVATED/RELIEVED:

. ANY NEW SYMPTOMS:

. RELEVANT PAST HISTORY:

. GENERAL EXAMINATION:

. TEMPERATURE:

. B.P :

. PULSE:

.PALLOR/CYANOSIS/CLUBBING/ICTERUS/L.N:

.SKIN/HAIR/NAIL:

CVS:

RESP:

.CNS:

.GIT:

CUTANEOUS EXAMINATION:

SEVERITY OF ADVERSE DRUG REACTION:

Severity assessment of ADRs according to Modified Hartwig and Seigel scale

ADR Severity classification	Modified Hartwig and Siegel scale	No. of ADRS	Drug causing ADRS	Percentage (%age)
Mild	Level 1,2			
Moderate	Level 3,4			
Severe	Level 5,6,7			

PATIENT INFORMATION SHEET

Title of the project: Assessing the impact: Magnitude, Consequences and Misuse of Topical Steroid in a Tertiary care centre in Western Rajasthan; An Observational prospective study

1. **Name of the investigator**: Dr. Uma Chaturvedi
2. **Brief background and Purpose**: This is a research study, being conducted to assess the impact and severity of topical steroid misuse in patients attending the dermatology outpatient department at tertiary care centre in Western Rajasthan.
3. **Procedure of the study**: Detailed medical history with enquires about prior and current use of topical steroids, including: Duration, Frequency, Type, Application method and Reason for steroid use.
4. **Expected duration of subject participation:** 6 months
5. **Benefit**: To evaluate the awareness and knowledge among patients regarding the appropriate use of Topical steroids and their perception of these medication.
6. **Anticipated risk and discomfort**: There are no anticipated risk and discomfort related to the study.
7. **Management of research related injury**: There is no research related injury.
8. **Payment for participation**: No payment will be given for participation in study.
9. **Compensation**: No provision compensation
10. **Maintenance of confidentiality**: All the data related to the patient will remain confidential.
11. **Voluntarily participation and freedom to withdraw**: You participation in the study is entirely voluntary and you may deny to participate in the study or withdraw from the study at any time during the study period without loss of any benefits that you would otherwise be entitled, including your treatment/ health management.
12. **Result sharing**: You will be informed about your results in person.
13. **Future Data use**: Data to be generated from the research will be used for publication purpose.
14. **Name and telephone number of the investigators**: Dr. Uma Chaturvedi, 8860252069
15. **Address and telephone number of IEC**: For any complaint of clarification you may contact IEC office, College Library Building, Dr. S. N medical college, Jodhpur, Phone: 0291-2434374.

SUBJECT SIGNATURE/THUMB IMPRESSION: WITNESS SIGNATURE:

Name: Name:

Date: Date:

INVESTIGATOR SIGNATURE:

Name:

Date:

प्रतिभागीसूचनापत्र

पररयोजना का शीर्षकःप्रभाव का आकलनःपतिमी राजस्थान में एकृि◌ीयक देखभाल केंद्र में सामतयक स्टेरॉयड का पररमाण, पररणाम और दुरुपयोग; एक अवलोकन संभातवि अध्ययन

1. अन्रेर्क का नाम -डॉ. उमा चुिवेदी
2. संतिप्त पृष्ठभूतम और उद्देश्यः यह एकशोध अध्ययन है, जो पतिमी राजस्थान में ि◌ृि◌ीयक देखभाल केंद्र में त्वचा तवज्ञान बाह्यरोगी तवभाग में भाग लेने वाले रोतगयों में सामतयक स्टेरॉयड के दुरुपयोग के प्रभाव और गंभीरिा का आकलन करने के तलए आयोतजि तकया जा रहा है।
3. अध्ययन की प्रतियाः सामतयक स्टेरॉयड के पूक्ष और विषमान उपयोग के बारे में पूछिाछ के साथ तवस्तृि तचतकत्सा इतिहास, तजसमें शातमल हैं◌ः◌ःअवतध,आवृति, प्रकार,अनुप्रयोग तवतध और स्टेरॉयड उपयोग के तलए कारण।
4. तवर्य भागीदारी की अपेतिि अवतधः 6 महीने
5. लाभः सामतयक स्टेरॉयड के उतचि उपयोग और इनदवाओं के बारे में उनकी धारणा के बारे में रोतगयों के बीच जागरूकिा और ज्ञान का मूल्ा◌ंकन करना।
6. प्रत्यातशि जोखखम और असुतवधाःअध्ययन से संबंतधि कोई प्रत्यातशि जोखखम औरअसुतवधा नहीं है।
7. अनुसंधान संबंधी चोट का प्रबंधनः कोई अनुसंधान संबंधी चोट नहीं है।
8. भागलेने के तलए भुगिानःअध्ययन में भाग लेने के तलए कोई भुगिान नहीं तकया जाएगा।
9. ि◌ितिपूतिषः कोई प्रावधान मुआवजा नहीं
10. गोपनीयिा: रोगी से संबंतधि सभी डेटा गोपनीय रहेगा।
11. भागीदारी और वापस लेने की स्विंत्रिाः आप अध्ययन में भागीदारी पूरी ि◌रह से स्वैखिक है और आप तकसी भी लाभ के नुकसान के तबनाअध्ययन अवतधके दौरान तकसी भी समय अध्ययन में भाग लेने या अध्ययन सेवा पस लेने के तलए इनकार कर सकि हैं, अपने उपचार/स्वास्थ्य प्रबंधन सतहि।
12. पररणाम साझा करनाःआपको व्यखिगि रूप से अपने पररणामों के बारे में सूतचि तकया जाएगा।
13. तवष्य में डेटा का उपयोगःशोध से उत्पन्न होने वाले डेटा का उपयोग प्रकाशन उद्देश्य के तलए तकया जाएगा ।
14. जांचकिाषओ का नाम और टेलीफोन नंबरः डॉ. उमाचुिवेदी, 8860252069
15. IEC का पिा और टेलीफोन नंबरः स्पष्टीकरण की तकसी भी तशकायि के तलए आप IEC कायाषलय, कॉलेज लाइब्रेरी तबखडंग, डॉ. S.N मेतडकलकॉलेज, जोधपुर, फोनः 02912434374 पर संपक्ष कर सकि हैं।

तवर्यसंकेि◌/थंबइम्प्रेशनः गवाह का संकेि◌

नामः नामः
ि◌ारीखः ि◌ारीखः
अन्रेर्क संकेि◌ः
नाम: तदनांकः

INFORMED CONSENT FORM:

TITLE: Assessing the impact: Magnitude, consequences and misuse of topical steroid in a tertiary care centre in Western Rajasthan: An Prospective observational study

Study Number/ID:

Subject's Name: Date of birth/Age: Address of the Subject:

		Tick (by subject)
1	I confirm that I have read and understood the information sheet dated for the above study and have had the opportunity to ask questions	
2	I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.	
3	I understand that the sponsor of the clinical trial, others working on the Sponsor's behalf, the Ethics Committee and the regulatory authorities will not need my permission to look at my health records both in respect of current study and further research that may conducted in relation to it, even if I withdraw from the study. I agree to this access. However, I understand that my identity will not be revealed in any information released to third parties or published.	
4	I agree not to restrict the use of any data or results that arise from the study provided such a use is only for scientific purposes.	
5	I agree to take part in the above study.	

SUBJECT SIGNATURE/THUMB IMPRESSION: WITNESS SIGNATURE:

Name: Name:

Date: Date:

INVESTIGATOR SIGNATURE:

Name:

Date:

सूतचि सहमति प्रपत्र

शीर्षक: प्रभाव का आकलनः पतिमी राजस्थान में एक ि्ृि्ीयक देखभाल केंद्र में सामतयक स्टेरॉयड का पररमाण, पररणाम और दुरुपयोग; एक अवलोकन संभातवि अध्ययन

अध्ययनसंख्या / आईडी: _

तवर्यकानाम: __जन्मतितथ / आयु:_____ तवर्यकापिा_____

तटक् तवर्यद्वारा)

1. मैं पुतष्ट करिा हं तक मैंने उपरोि अध्ययन के तलए सूचना पत्र तदनांक___ को पढा और समझा है और प्रश्न पूछने का अवसर तमला है
2. मैं समझिा हं तक अध्ययन में मेरी भागीदारी स्वैखिक है और मैं तकसी भी समय ,तबना तकसी कारण के, मेरी तचतकत्सा देखभाल या कानूनी अतधकारों के प्रभातवि होने के तबना वापस लेने के तलए स्विंत्र हं
3. मैं समझिा हं तक नैदातनक परीि्ण के प्रायोजक ,प्की ओर से काम करने वाले अन्य, आचार सतमति और तनयामक अतधकाररयों को विषमान अध्ययन और संबंध में तकए जा सकने वाले तकसी भी अन्य शोध के संबंध में मेरे स्वास्थ्य ररकॉडष को देखने के तलए मेरी अनुमति की आवश्यकिा नहीं होगी इसके तलए,भले ही मैं अध्ययन से हट जाऊं . मैं इस पहंचसे सहमि हं. हालांतक, मैं समझिा हं तक मेरी पहचान ि्ीसरे पि को जारी की गई तकसी भी जानकारी या प्रकातशि में प्रकट नहीं होगी
4. मैं इस अध्ययन से उत्पन्न होने वाले तकसी भी डेटा या पररणामों के उपयोग को प्रतिबंतधि नहीं करने के तलए सहमि हं, बशि ऐसा उपयोग केवल वैज्ञातनक उद्देश्यों के तलए हो
5. मैं उपरोि अध्ययन में भाग लेने के तलए सहमि हं

प्रतिभागी हस्ताि्र/ अंगूठेकातनशान गवाह हस्ताि्र

नाम नाम

तदनांक तदनांक

तनवेशक हस्ताि्र
नाम ि्ारीख

MASTER CHART

S. No.	Age	Sex	Steroid	Class	Indication	Source	Months	Frequency	Side effects	Modified hartwing and seigel scale
1	27	M	cmb(mf)	cmb(4)	PD	slf	3-6 mnth	BD	PIH+pl/t	2
2	20	F	MF	-	fng	phr	<3mnth	OD	TI	2
3	22	F	cmb(mf)	cmb(4)	fai	slf	<3mnth	BD	FA	2
4	54	F	BV	5	PD	phr	3-6mnth	BD	FA	2
5	27	F	NK	-	PD	f/f	6-9mnth	OD	PIH	2
6	75	M	cmb(cp)	cmb(1)	fng	phr	3-6mnth	BD	TI	2
7	64	F	cmb(mf)	cmb(4)	PD	slf	<3mnth	OD	PIH	2
8	68	F	cmb(bv)	cmb(5)	fng	phr	6-9mnth	BD	TI	2
9	20	M	cmb(cp)	cmb(1)	fng	derma	<3mnth	BD	TI	2
10	17	F	cmb(cp)	cmb(1)	acne	f/f	<3mnth	OD	Agg	2
11	23	M	cmb(mf)	cmb(4)	acne	slf	3-6mnth	BD	Agg	2
12	31	F	cmb(cp)	cmb(1)	PD	slf	<3mnth	OD	PIH	2
13	48	F	CP	-	fng	phr	<3mnth	OD	TI	2
14	20	F	cmb(cp)	cmb(1)	acne	phr	<3mnth	BD	Agg	2
15	44	M	MF	-	fng	phr	3-6mnth	OD	TI	2
16	51	M	MF	-	fng	phr	<3mnth	BD	TI	2
17	64	M	cmb(mf)	cmb(4)	fng	slf	<3mnth	OD	TI	2
18	44	M	cmb(bv)	cmb(5)	fng	slf	<3mnth	BD	TI	2
19	69	M	cmb(mf)	cmb(4)	fng	slf	<3mnth	BD	TI	2
20	20	M	cmb(cp)	cmb(1)	fng	slf	<3mnth	BD	TI	2
21	59	F	NK	-	fng	phr	6-9mnth	OD	TI	2
22	16	M	cmb(mf)	cmb(4)	fng	phr	<3mnth	BD	TI	2
23	64	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	OD	TI	2
24	28	F	cmb(bv)	cmb(5)	PD	slf	3-6mnth	OD	FA	2
25	41	F	CP	1	PD	f/f	3-6mnth	OD	PIH	2
26	55	M	CP	1	fng	phr	3-6mnth	OD	TI	2
27	26	M	cmb(bv)	cmb(5)	fng	slf	<3mnth	BD	TI	2
28	27	F	CP	1	PD	slf	<3mnth	OD	PIH+pl/t	2
29	21	M	cmb(mf)	cmb(4)	fng	phr	<3mnth	BD	TI	2
30	22	F	CP	1	fng	slf	6-9mnth	OD	TI	2
31	17	M	cmb(mf)	cmb(4)	acne	slf	<3mnth	OD	Agg	2
32	38	M	MF	4	fai	phr	<3mnth	BD	FA	2
33	20	M	BV	5	acne	phr	<3mnth	OD	Agg	2
34	25	M	BV	5	fai	phr	<3mnth	OD	PIH+pl/t	2
35	45	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	OD	TI	2
36	19	M	BV	5	fng	phy	3-6mnth	OD	PIH+FA	2
37	41	M	MF	4	fng	phr	3-6mnth	OD	TI	2
38	31	F	cmb(mf)	cmb(4)	fai	phr	6-9mnth	OD	FA	2
39	18	M	cmb(bv)	cmb(5)	acne	phr	<3mnth	OD	Agg	2
40	22	M	CP	1	fng	GP	<3mnth	BD	TI	2
41	59	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	OD	TI	2
42	18	F	cmb(bv)	cmb(5)	acne	slf	3-6mnth	OD	Agg	2
43	38	F	cmb(cp)	cmb(1)	fng	GP	<3mnth	OD	TI	2
44	42	M	cmb(cp)	cmb(1)	fng	phr	>12mnth	OD	TI	2
45	44	M	CP	1	PD	GP	6-9mnth	OD	PIH+FA	2
46	27	F	BV	5	acne	phr	<3mnth	BD	Agg	2
47	28	M	cmb(cp)	cmb(1)	acne	f/f	>12mnth	BD	Agg	2
48	30	M	cmb(cp)	cmb(1)	fng	phr	6-9mnth	BD	TI	2
49	67	F	BV	5	PD	phr	9-12mnth	BD	PIH+pl/t	2
50	55	F	BV	5	PD	phr	<3mnth	OD	FA	2
51	41	F	CP	1	PD	GP	3-6mnth	BD	PIH+htr	2
52	50	F	CP	1	fng	phr	<3mnth	OD	TI	2
53	31	M	cmb(bv)	cmb(5)	PD	phr	>12mnth	BD	PIH	2
54	65	M	CP	1	PD	GP	<3mnth	BD	PIH+FA	2
55	23	M	BV	5	fng	phr	<3mnth	BD	TI	2
56	18	F	CP	1	acne	phy	<3mnth	OD	Agg	2

MASTER CHART

S. No.	Age	Sex	Steroid	Class	Indication	Source	Months	Frequency	Side effects	Modified hartwing and seigel scale
57	19	M	cmb(mf)	cmb(4)	PD	slf	6-9mnth	OD	FA	2
58	22	M	cmb(mf)	cmb(4)	PD	slf	3-6mnth	OD	FA	2
59	23	F	cmb(cp)	cmb(1)	fai	slf	9-12mnth	BD	PIH+htr	2
60	65	F	cmb(cp)	cmb(1)	fng	slf	3-6mnth	BD	TI	2
61	52	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	OD	TI	2
62	66	M	CP	1	fng	phr	3-6mnth	OD	TI	2
63	19	F	cmb(bv)	cmb(5)	acne	slf	6-9mnth	OD	Agg	2
64	27	F	NK	-	PD	f/f	3-6mnth	OD	FA	2
65	24	F	cmb(cp)	cmb(1)	fng	phr	3-6mnth	OD	TI	2
66	17	F	cmb(cp)	cmb(1)	fai	phr	<3mnth	OD	PIH	2
67	21	M	cmb(cp)	cmb(1)	fng	phr	6-9mnth	BD	FA	2
68	34	F	cmb(mf)	cmb(4)	PD	phr	6-9mnth	BD	PIH+pl/t	2
69	22	F	cmb(mf)	cmb(4)	fng	derma	9-12mnth	BD	FA	2
70	33	F	cmb(cp)	cmb(1)	PD	f/f	<3mnth	BD	FA	2
71	19	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	BD	TI+SD	2
72	33	F	cmb(cp)	cmb(1)	PD	f/f	<3mnth	BD	FA	2
73	24	F	cmb(mf)	cmb(4)	fng	phr	<3mnth	OD	TI+str	
74	17	F	cmb(cp)	cmb(1)	fai	phr	6-9mnth	BD	PIH	2
75	21	M	cmb(cp)	cmb(1)	fng	derma	3-6mnth	OD	TI	2
76	34	F	cmb(mf)	cmb(4)	PD	phr	>12mnth	BD	PIH	2
77	22	F	cmb(mf)	cmb(4)	PD	phr	<3mnth	OD	FA	2
78	32	F	cmb(bv)	cmb(5)	PD	phr	<3mnth	BD	PIH+pl/t	2
79	38	M	cmb(bv)	cmb(5)	fng	phr	3-6mnth	BD	TI	2
80	16	M	cmb(cp)	cmb(1)	fng	phr	9-12mnth	BD	TI	2
81	37	F	cmb(cp)	cmb(1)	PD	phr	6-9mnth	BD	PIH+pl/t	2
82	32	F	cmb(cp)	cmb(1)	fng	phr	3-6mnth	OD	TI	2
83	36	F	cmb(mf)	cmb(4)	fng	phr	9-12mnth	OD	TI	2
84	40	F	NK	-	PD	phr	<3mnth	OD	PIH	2
85	42	F	cmb(cp)	cmb(1)	fng	phr	3-6mnth	BD	TI	2
86	26	M	NK	-	fng	phr	<3mnth	OD	TI	2
87	18	M	cmb(bv)	cmb(5)	fng	phr	<3mnth	OD	TI	2
88	25	F	CP	1	fng	slf	<3mnth	OD	TI	2
89	46	M	cmb(cp)	cmb(1)	fng	slf	6-9mnth	BD	TI	2
90	28	F	cmb(mf)	cmb(4)	fai	slf	3-6mnth	OD	PIH	2
91	40	F	cmb(mf)	cmb(4)	fai	slf	<3mnth	OD	FA	2
92	21	F	cmb(mf)	cmb(4)	fai	phr	<3mnth	OD	FA	2
93	35	F	cmb(bv)	cmb(5)	PD	phr	6-9mnth	OD	PIH+pl/t	2
94	25	F	cmb(cp)	cmb(1)	PD	slf	9-12mnth	OD	FA	2
95	41	F	cmb(cp)	cmb(1)	PD	slf	3-6mnth	OD	FA	2
96	20	M	BV	5	acne	GP	<3mnth	OD	Agg	2
97	35	F	cmb(bv)	cmb(5)	fng	phr	<3mnth	OD	TI	2
98	40	F	cmb(cp)	cmb(1)	fng	phr	6-9mnth	BD	TI	2
99	42	F	cmb(mf)	cmb(4)	fai	phr	3-6mnth	OD	PIH+pl/t	2
100	36	M	BV	5	fng	phr	<3mnth	OD	TI	2
101	50	F	BV	5	fng	GP	<3mnth	BD	TI	2
102	32	M	cmb(cp)	cmb(1)	fng	phr	6-9mnth	OD	TI	2
103	20	M	cmb(cp)	cmb(1)	fng	phr	9-12mnth	OD	TI	2
104	34	M	cmb(mf)	cmb(4)	fai	phr	3-6mnth	OD	FA	2
105	26	M	MF	4	acne	phr	<3mnth	BD	Agg	2
106	35	M	cmb(cp)	cmb(1)	fng	slf	<3mnth	BD	TI	2
107	17	F	BV	5	acne	f/f	6-9mnth	OD	Agg	2
108	22	M	MF	4	fng	phr	9-12mnth	OD	TI	2
109	25	F	cmb(cp)	cmb(1)	fai	phr	3-6mnth	OD	PIH+pl/t	2
110	42	M	CP	1	fng	phr	<3mnth	OD	TI	2
111	17	F	cmb(bv)	cmb(5)	acne	phy	9-12mnth	OD	Agg	2
112	22	M	MF	4	fng	phr	3-6mnth	OD	TI	2

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S. No.	Age	Sex	Steroid	Class	Indication	Source	Months	Frequency	Side effects	Modified hartwing and seigel scale
113	25	F	Cmb (cp)	Cmb (1)	fai	phr	<3mnth	OD	FA	2
114	18	M	CP	1	fng	GP	9-12mnth	OD	TI	2
115	30	F	Cmb (mf)	Cmb (4)	fai	phr	<3mnth	OD	FA	2
116	20	M	BV	5	acne	f/f	6-9mnth	OD	Agg	2
117	58	M	Cmb (bv)	Cmb (5)	fng	phr	3-6mnth	OD	TI	2
118	32	F	BV	5	fng	slf	<3mnth	OD	TI	2
119	15	F	BV	5	acne	phr	3-6mnth	BD	FA	2
120	12	F	Cmb (cp)	Cmb (1)	acne	phr	6-9mnth	BD	Agg	2
121	18	M	BV	5	acne	phr	6-9mnth	BD	Agg	2
122	24	M	MF	4	fng	GP	<3mnth	OD	TI	2
123	21	F	Cmb (mf)	Cmb (4)	fng	phr	<3mnth	3/wk	TI	2
124	28	F	MF	4	fng	phr	<3mnth	BD	TI	2
125	23	F	Cmb (bv)	Cmb (5)	fng	f/f	3-6mnth	OD	TI	2
126	34	F	MF	4	fng	GP	<3mnth	OD	TI	2
127	18	M	Cmb (mf)	Cmb (4)	acne	GP	3-6mnth	OD	Agg	2
128	15	M	CP	1	fai	slf	3-6mnth	BD	FA	2
129	26	F	BV	5	fai	phr	6-9mnth	OD	FA	2
130	28	F	Cmb (cp)	Cmb (1)	fai	f/f	3-6mnth	OD	PIH	2
131	22	F	CP	1	fng	slf	<3mnth	OD	TI	2
132	34	F	BV	5	fai	slf	3-6mnth	BD	FA	2
133	26	F	BV	5	fng	slf	3-6mnth	BD	TI	2
134	25	F	Cmb (cp)	Cmb (1)	PD	derma	<3mnth	BD	PIH+pl/t	2
135	18	F	Cmb (cp)	Cmb (1)	fng	phr	3-6mnth	BD	TI	2
136	60	M	Cmb (bv)	Cmb (5)	fng	phr	3-6mnth	BD	TI	2
137	20	M	Cmb (cp)	Cmb (1)	fng	phr	3-6mnth	BD	TI	2
138	25	M	Cmb (cp)	Cmb (1)	fng	phr	9-12mnth	BD	TI	2
139	27	M	Cmb (bv)	Cmb (5)	PD	phr	3-6mnth	BD	PIH+pl/t	2
140	20	F	Cmb (cp)	Cmb (1)	PD	phr	<3mnth	OD	PIH+pl/t	2
141	47	M	Cmb (cp)	Cmb (1)	acne	f/f	3-6mnth	OD	Agg	2
142	50	M	Cmb (cp)	Cmb (1)	fng	phr	3-6mnth	BD	TI	2
143	21	M	BV	5	fng	phr	<3mnth	BD	TI	2
144	40	M	BV	5	fng	phr	<3mnth	BD	TI	2
145	64	F	CP	1	PD	GP	6-9mnth	OD	PIH	2
146	20	F	CP	1	fai	phr	6-9mnth	OD	FA	2
147	28	F	cmb(bv)	cmb(5)	PD	derma	3-6mnth	BD	PIH+pl/t	2
148	17	F	cmb(mf)	cmb(4)	PD	f/f	3-6mnth	OD	FA	2
149	42	M	NK	-	PD	phr	<3mnth	OD	PIH+pl/t	2
150	45	M	BV	5	fng	phr	3-6mnth	OD	TI	2
151	14	F	cmb(mf)	cmb(4)	acne	phr	<3mnth	BD	Agg	2
152	13	F	cmb(bv)	cmb(1)	fai	phr	>12mnth	OD	PIH+FA	2
153	57	M	NK	-	fng	phr	6-9mnth	BD	TI	2
154	30	M	cmb(cp)	cmb(1)	fai	slf	<3mnth	OD	PIH+FA	2
155	23	M	cmb(mf)	cmb(4)	fng	slf	<3mnth	OD	TI	2
156	70	M	cmb(bv)	cmb(5)	fng	slf	>12mnth	OD	TI	2
157	14	M	NK	-	fai	slf	3-6mnth	BD	PIH+pl/t	2
158	18	F	cmb(mf)	cmb(4)	fai	slf	6-9mnth	BD	FA	2
159	24	M	cmb(mf)	cmb(4)	fng	phr	3-6mnth	BD	TI	2
160	16	M	cmb(cp)	cmb(1)	acne	phr	6-9mnth	BD	Agg	2
161	17	F	CP	1	acne	f/f	3-6mnth	BD	Agg	2
162	21	M	CP	1	PD	derma	<3mnth	BD	PIH+pl/t	2
163	62	M	cmb(bv)	cmb(5)	fng	phr	<3mnth	BD	TI	2
164	60	M	CP	1	fng	phr	>12mnth	OD	TI	2
165	14	F	cmb(mf)	cmb(4)	fai	phr	<3mnth	BD	PIH+pl/t	2
166	24	M	cmb(cp)	cmb(1)	PD	phr	3-6mnth	BD	PIH	2
167	50	F	cmb(cp)	cmb(1)	PD	phr	<3mnth	BD	FA	2
168	30	F	cmb(bv)	cmb(5)	PD	phr	3-6mnth	BD	PIH	2

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S. No.	Age	Sex	Steroid	Class	Indication	Source	Months	Frequency	Side effects	Modified hartwing and seigel scale
169	15	M	cmb(cp)	cmb(1)	fng	phr	6-9mnth	OD	TI	2
170	37	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	BD	TI	2
171	48	F	cmb(cp)	cmb(1)	acne	phr	3-6mnth	BD	Agg	2
172	16	M	cmb(bv)	cmb(5)	PD	phr	<3mnth	BD	PIH+pl/t	2
173	25	M	cmb(cp)	cmb(1)	acne	phr	<3mnth	OD	Agg	2
174	21	F	BV	5	PD	slf	<3mnth	BD	FA	2
175	55	F	BV	5	acne	phr	9-12mnth	BD	Agg	2
176	19	F	cmb(bv)	cmb(5)	acne	phr	<3mnth	OD	Agg	2
177	18	M	cmb(mf)	cmb(4)	PD	slf	3-6mnth	BD	PIH+pl/t	2
178	40	F	cmb(cp)	cmb(1)	fng	btc	3-6mnth	BD	FA	2
179	32	M	BV	5	fng	btc	<3mnth	BD	FA	2
180	45	M	cmb(bv)	cmb(5)	fai	phr	<3mnth	BD	PIH+pl/t	2
181	18	F	cmb(mf)	cmb(4)	fai	derma	3-6mnth	BD	FA	2
182	19	M	cmb(cp)	cmb(1)	fai	derma	<3mnth	BD	FA	2
183	21	F	BV	5	acne	slf	3-6mnth	OD	Agg	2
184	16	M	cmb(mf)	cmb(4)	fng	slf	<3mnth	BD	TI	2
185	21	F	cmb(cp)	cmb(1)	fng	slf	3-6mnth	BD	TI	2
186	25	M	BV	5	fai	phy	6-9mnth	BD	PIH+pl/t	2
187	37	F	cmb(cp)	cmb(1)	fng	phy	<3mnth	OD	TI	2
188	42	F	cmb(cp)	cmb(1)	fng	derma	3-6mnth	BD	PIH+pl/t	2
189	33	F	cmb(cp)	cmb(1)	fng	slf	3-6mnth	BD	TI	2
190	37	F	cmb(cp)	cmb(1)	fng	slf	>12mnth	BD	TI	2
191	42	F	cmb(bv)	cmb(5)	fai	slf	6-9mnth	OD	FA	2
192	33	F	BV	5	fng	phr	3-6mnth	BD	TI	2
193	19	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	OD	TI	2
194	22	F	CP	1	fng	phr	<3mnth	BD	TI	2
195	36	M	cmb(mf)	cmb(4)	fng	phr	<3mnth	OD	TI	2
196	48	F	BV	5	PD	slf	<3mnth	BD	PIH	2
197	20	F	cmb(mf)	cmb(4)	fng	phr	6-9mnth	BD	TI	2
198	54	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	BD	TI	2
199	28	F	BV	5	fai	slf	>12mnth	BD	FA	2
200	37	F	CP	1	acne	slf	<3mnth	BD	Agg	2
201	23	F	cmb(cp)	cmb(1)	fng	phr	6-9mnth	BD	TI	2
202	24	M	cmb(mf)	cmb(4)	fng	phr	<3mnth	BD	TI	2
203	50	M	cmb(cp)	cmb(1)	acne	slf	<3mnth	BD	Agg	2
204	18	F	cmb(mf)	cmb(4)	fng	phr	<3mnth	OD	TI	2
205	24	M	CP	1	fng	phr	>12mnth	BD	TI	2
206	40	F	CP	1	fng	phr	<3mnth	OD	TI	2
207	30	M	cmb(cp)	cmb(1)	fng	phr	9-12mnth	BD	TI	2
208	38	M	MF	4	PD	f/f	<3mnth	OD	PIH	2
209	24	F	CP	1	acne	slf	6-9mnth	BD	Agg	2
210	16	M	cmb(cp)	cmb(1)	PD	btc	>12mnth	BD	FA	2
211	18	F	MF	4	fng	phr	9-12mnth	BD	TI	2
212	40	M	cmb(mf)	cmb(4)	acne	slf	6-9mnth	BD	Agg	2
213	22	F	BV	5	acne	slf	<3mnth	BD	Agg	2
214	19	M	cmb(mf)	cmb(4)	PD	slf	6-9mnth	OD	PIH	2
215	33	F	cmb(mf)	cmb(4)	acne	slf	<3mnth	BD	Agg	2
216	25	F	cmb(cp)	cmb(1)	fng	phr	<3mnth	BD	TI	2
217	29	F	cmb(cp)	cmb(1)	acne	phr	6-9mnth	BD	Agg	2
218	15	F	cmb(bv)	cmb(5)	fng	phr	<3mnth	BD	TI	2
219	21	M	CP	1	fng	phr	<3mnth	OD	TI	2
220	55	M	BV	5	acne	slf	<3mnth	BD	Agg	2
221	30	M	cmb(cp)	cmb(1)	fng	phr	9-12mnth	BD	TI	2
222	42	M	MF	4	fng	phr	>12mnth	BD	TI	2
223	17	M	CP	1	acne	slf	6-9mnth	BD	Agg	2
224	33	M	cmb(cp)	cmb(1)	fng	phr	<3mnth	BD	TI	2

MASTER CHART

S. No.	Age	Sex	Steroid	Class	Indication	Source	Months	Frequency	Side effects	Modified hartwing and seigel scale
225	24	F	cmb(cp)	cmb(1)	PD	phr	<3mnth	BD	PIH	2
226	47	F	cmb(bv)	cmb(5)	fng	phr	<3mnth	BD	TI	2
227	26	F	cmb(mf)	cmb(4)	acne	slf	9-12mnth	OD	Agg	2
228	18	F	cmb(cp)	cmb(1)	fng	phr	6-9mnth	BD	TI	2

229	20	F	cmb(bv)	cmb(5)	fng	phr	<3mnth	BD	TI	2
230	18	F	BV	5	fng	phr	<3mnth	BD	TI	2
231	23	F	MF	4	PD	phr	<3mnth	BD	TI	2
232	40	F	cmb(cp)	cmb(1)	fng	phr	9-12mnth	BD	TI	2
233	22	M	cmb(cp)	cmb(1)	acne	phr	6-9mnth	BD	Agg	2
234	28	M	cmb(mf)	cmb(4)	fng	phr	6-9mnth	OD	TI	2
235	55	F	cmb(mf)	cmb(4)	fng	phr	6-9mnth	BD	TI	2