International Journal of Research in Medical Sciences
*Jabeen M et al. Int J Res Med Sci. 2025 Dec;13(12):5255-5259*
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20253946

**Original Research Article**

# A clinico-epidemiological study of non-venereal genital dermatosis and its association with serological markers

**Masarat Jabeen[1], Gunjan Gupta[1], Iqra Shafi[1], Rahul Sudan[2], Jasim Rashid Bhat[1]***

[1]Department of Dermatology, Venereology and Leprosy, Government Medical College, Jammu, Jammu and Kashmir, India
[2]Department of Medicine, Government Medical College, Jammu, Jammu and Kashmir, India

**Received:** 18 May 2025
**Revised:** 03 November 2025
**Accepted:** 20 November 2025

***Correspondence:**
Dr. Jasim Rashid Bhat,
E-mail: jasimrashidbhat@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Non-venereal genital dermatoses are non-sexually transmitted diseases which can be contagious diseases caused by viruses, fungi, bacteria and parasites or non-contagious including contact dermatitis, lichen sclerosus chronicus, fixed drug eruption, skin tags, vitiligo, papulosquamous disorders and others. The aim of the study was to describe the clinic-epidemiological pattern of non-venereal genital dermatosis among patients who attended the skin and STD clinic of Acharya Shri Chander College of Medical Sciences (ASCOMS) from 2007 to 2017 (10 years) and significance of serological tests in non-venereal genital dermatosis.
**Methods:** This descriptive study included 167 adults with non-venereal genital dermatoses who attended the clinic from January 2007 to January 2017. Patients diagnosed with venereal diseases were excluded.
**Results:** Of 308 patients (88 females, 79 males) visiting the STD clinic 167 patients were non-STD cases. Patient age ranged from 16-60 years. 20 different dermatoses were identified with Tinea cruris (36.5%) being most common followed by Furunculosis 7.8% and scabies (7.1%). Among 167 patients, 99 were found to be sero-positive to VDRL, HIV, HBS and HSV, out of which 32(19.2%) were VDRL positive followed by HSV 27 (16.2%) and HIV 9 (5.4%). It was found that most of the patients of Tinea cruris (27) were found to be VDRL reactive followed by HSV (2).
**Conclusions:** This study emphasizes the importance of recognizing common non-venereal genital dermatoses in the general population and highlights the value of routine serological testing. Asymptomatic or latent venereal infections may be missed without appropriate screening.

**Keywords:** Non-sexually transmitted diseases, Non-venereal dermatosis, Non-venereal genital dermatoses

## INTRODUCTION

Dermatosis involving genitalia can be divided into two groups, venereal and non-venereal dermatosis. Venereal dermatosis are those which are sexually transmitted whereas non-venereal dermatosis are those which are not sexually transmitted. Non-venereal genital dermatosis include variety of diseases which can involve the genitalia alone or may affect other parts of body, and they are caused by multiple etiologies.[1] Non-venereal dermatosis can be classified into five groups based on pathogenesis: inflammatory diseases, infections and infestation, congenital disorders, benign abnormalities, premalignant, and malignant lesions.[2] Non-venereal disorders are one of the major cause of mental distress and discomfort among patients of reproductive age group leading to restriction in their social life. Proper evaluation of the patients pertaining to cause and aggravating factors can help these patients to get rid of anxiety and improving their quality of life. The aim of the study was to find the pattern of non-venereal dermatosis presenting with genital lesions and its association with serological markers.

## METHODS

A total of 167 patients with non-venereal genital lesions attending the skin and STD clinic at Acharya Shri Chander College of Medical Sciences (ASCOMS) from January 2007 to January 2017 were included in this descriptive study. Informed consent and ethical approval from the ethics committee was obtained. All patients greater than 18 years of age who presented with genital complaints were screened for non-venereal dermatosis. A detailed history, including demographic data, chief complaints, onset and duration of disease and associated medical or skin disorders where recorded. History of sexual exposure was also taken. Cases having any venereal diseases were excluded from the study.

The external genitalia were examined and findings were noted. A detailed physical examination was done to see any associated lesions elsewhere on the body. Investigations such as gram stain, KOH mount, venereal disease research laboratory (VDRl) test, HIV test, and histopathological examination were done.

## RESULTS

There were 308 patients who visited the STD clinic. The mean (SD) age of the patients was 32.2±10.86 years with similar proportion of male (160, 51.9%) and female patients (148, 48.1%).

Out of these patients about half (167, 54.2%) were cases of non-sexually transmitted diseases (STDs). For the profiling of the patients all 167 non-STD cases were considered. The mean (SD) age of these patients was 32.0±10.14 years. The sociodemographic characteristics of those patients are provided in Table 1.

The non-STD cases observed in the clinic were that of tinea cruris (61, 36.5%), furunculosis (13, 7.8%), scabies (12, 7.1%), vulvovaginal candidiasis (11, 6.6%), pemphigus vulgaris (09, 5.4%), scrotal calcinosis (07, 4.2%), vitiligo (07, 4. 2%), vulval pruritis (05, 2.9%), psoriasis (05, 2.9%), lichen simplex chronicus (04, 2.3% ), lichen planus (04, 2.3%), seborrheic keratosis (04, 2.3%), skin tag (06,7.6%), fixed drug eruption (06 ,7.6%), herpes zoster (03, 1.8%), hidradenitis suppurativa (03, 1.8%), angiokeratoma (01,0.6%), bartholin's cyst (02, 1.2%), scrotal eczema (03,1.8%) and vestibular papillomatosis (01, 0.6%). The details are further described in Table 2.

Out of the 167 patients more than half (99, 59.3%) were tested positive for either VDRL, HIV, HbsAg or HSV. The details of the distribution of test results are further described in Table 3 and Table 4. Out of the positive test results obtained majority (32, 33%) of them were VDRL positive and least (1, 1.0%) were positive for HbsAg. Few patients (21, 12.6%) were following any method of contraception. History of prior contact was present in 15.0% of those patients. None of the patients were intravenous drug users and 4.8% were commercial sex workers.

Homosexuality was practiced by 3.6% of the patients. History of blood transfusion (1, 0.6%) and promiscuity (4, 2.4%) was present in few patients. Consumption of tobacco, alcohol and smoking were 4.8%, 12% and 8.4% respectively. There was history of peno-anal sex (4, 2.4%) and sexual abuse (2, 1.2%) in few patients. The bivariate analysis of positive VDRL and HSV with certain patient characteristics like age, gender, marital status, level of education, use of contraception, EMC, and place of residence is provided in Table 5.

**Table 1: Socio-demographic characteristics of the patients other than non-STD cases attending the clinic (n=167).**

| Variables | N (%) |
|---|---|
| **Age (in years)** | |
| 16-24 | 39 (23.3) |
| 25-40 | 99 (59.2) |
| 41-60 | 29 (18.0) |
| **Gender** | |
| Male | 79 (47.3) |
| Female | 88 (52.7) |
| **Marital status** | |
| Unmarried | 40 (24.0) |
| Married | 127 (76.0) |
| **Education level** | |
| Illiterate | 75 (44.9) |
| Primary or Middle school | 36 (21.6) |
| High school or above | 56 (33.5) |
| **Place of residence** | |
| Rural | 66 (39.5) |
| Urban | 101 (63.5) |

**Table 2: List of non-venereal genital dermatoses observed in our study.**

| Genital dermatoses | Males N (%) | Females N (%) | Total percentage (%) |
|---|---|---|---|
| **Tinea cruris** | 29 (36.7) | 32 (36.4) | 36.6 |
| **Furunculosis** | 6 (7.6) | 7 (8.0) | 7.9 |
| **Scabies** | 7 (8.9) | 5 (5.7) | 7.3 |
| **Vulvovaginal candidiasis** | 0 | 11 (12.5) | 6.6 |
| **Pemphigus vulgaris** | 5 (6.3) | 4 (4.5) | 5.5 |
| **Scrotal Calcinosis** | 7 (8.9) | 0 | 4.3 |
| **Vitiligo** | 3 (3.8) | 4 (4.5) | 4.2 |
| **Fixed drug eruption** | 6 (7.6) | 0 | 3.6 |
| **Skin tag** | 2 (2.5) | 4 (4.5) | 3.6 |
| **Vulval pruritis** | 0 | 5 (5.7) | 2.9 |
| **Psoriasis** | 2 (2.5) | 3 (3.4) | 2.9 |
| **Lichen simplex chronicus** | 0 | 4 (4.5) | 2.3 |
| **Lichen planus** | 3 (3.8) | 1 (1.1) | 2.3 |
| **Seborrheic Keratosis** | 2 (2.5) | 2 (2.3) | 2.3 |
| **Scrotal Eczema** | 3 (3.8) | 0 | 1.8 |
| **Herpes zoster** | 1 (1.3) | 2 (2.3) | 1.8 |
| **Hidradenitis suppurativa** | 1 (1.3) | 2 (2.3) | 1.8 |
| **Bartholin's cyst** | 0 | 2 (2.3) | 1.2 |
| **Angiokeratoma** | 1 (1.3) | 0 | 0.6 |
| **Vestibular papillomatosis** | 0 | 1 (1.1) | 0.6 |
| **Melanocytic nevus** | 0 | 0 | 0 |
| **Bullous pemphigoid** | 0 | 0 | 0 |
| **Linear IgA disease** | 0 | 0 | 0 |
| **Genital varicosities** | 0 | 0 | 0 |
| **Lymphangiectasia** | 0 | 0 | 0 |
| **Total** | 79 | 88 | - |

**Table 3: Profile of seropositivity of the patients for VDRL, HIV, HbsAg and HSV (n=167).**

| Investigation | Positive | Proportion (95 % CI) |
|---|---|---|
| **VDRL** | 32 | 19.2 (13.5-25.9) |
| **HIV** | 9 | 5.4 (2.5-9.9) |
| **HBS** | 1 | 0.6 (0.01-3.2) |
| **HSV** | 27 | 16.2 (10.9-22.6) |
| **Non-reactive** | 68 | 40.7 |
| **Total reactive** | 99 | 59.3 (51.4-66.8) |

**Table 4: Profile of seropositivity of the patients in various non-venereal genital dermatoses.**

| Genital dermatoses | VDRL (+) | HIV (+) | HBS (+) | HSV (+) |
|---|---|---|---|---|
| **Tinea cruris** | 27 | 01 | 0 | 02 |
| **Furunculosis** | 0 | 02 | 0 | 0 |
| **Vulvovaginal candidiasis** | 03 | 0 | 0 | 08 |
| **Scabies** | 0 | 01 | 0 | 0 |
| **Pemphigus vulgaris** | 0 | 0 | 01 | 03 |
| **Scrotal calcinosis** | 02 | 0 | 0 | 05 |
| **Vulval pruritis** | 0 | 0 | 0 | 04 |
| **Lichen simplex chronicus** | 0 | 01 | 0 | 03 |
| **Seborrheic keratosis** | 0 | 01 | 0 | 0 |
| **Fixed drug eruption** | 0 | 03 | 0 | 0 |
| **Herpes zoster** | 0 | 0 | 0 | 02 |

**Table 5: Association of positive VDRL and HSV with patient characteristics (n=167).**

| Variables | VDRL | | | HSV | | |
|---|---|---|---|---|---|---|
| | N (%) | OR | P value | N (%) | OR | P value |
| **Age (years)** | | | | | | |
| ≤ 30 | 10 (10.8) | 0.28 (0.12-0.65) | 0.002* | 14 (15.1) | 0.83 (0.36-1.89) | 0.661 |
| >30 | 22 (39.7) | | | 13 (17.6) | | |
| **Gender** | | | | | | |
| Male | 16 (20.3) | 1.14 (0.54-2.79) | 0.734 | 15 (19.0) | 1.48 (0.65-3.40) | 0.348 |
| Female | 16 (18.2) | | | 12 (13.6) | | |
| **Education** | | | | | | |
| Illiterate | 20 (26.7) | 3.70 (1.29-10.61) | 0.011* | 9 (12.0) | 0.95 (0.33-2.74) | 0.931 |
| Primary or middle | 7 (19.4) | 2.46 (0.71-8.46) | 0.144 | 11 (30.6) | | 0.033* |
| Higher secondary or above | 5 (8.9) | 1 | -- | 7 (12.5) | 3.08 (1.06-8.91) 1 | -- |
| **Marital status** | | | | | | |
| Unmarried | 1 (3.3) | 0.79 (0.01-0.60) | 0.002* | 9 (22.5) | 1.75 (0.72-4.29) | 0.212 |
| Married | 31 (27.2) | | | 18 (14.2) | | |
| **Contraception use** | | | | | | |
| Yes | 2 (9.5) | 0.40 (0.90-1.84) | 0.230 | 3 (14.3) | 0.84 (0.23-3.10) | 0.802 |
| No | 30 (20.5) | | | 24 (16.4) | | |
| **EMC** | | | | | | |
| Yes | 14 (18.4) | 0.91 (0.42-1.99) | 0.824 | 13 (17.1) | 1.13 (0.49-2.59) | 0.764 |
| No | 18 (19.8) | | | 14 (15.4) | | |
| **Place of residence** | | | | | | |
| **Rural** | 14 (23.0) | 1.45 (0.66-3.18) | 0.345 | 9 (14.8) | 0.84 (0.35-2.02) | 0.707 |
| **Urban** | 18 (17.0) | | | 18 (17.0) | | |

Note: *-Staistically significant.

## DISCUSSION

It is very important to differentiate between venereal and non-venereal dermatosis as it causes detrimental effect on mental well-being of the individual. Non-venereal genital dermatoses include a wide range of diseases with variable etiology and clinical presentations. This study was done on 167 patients with non-venereal genital dermatoses attending dermatology venereology and leprosy OPD at ASCOMS from 2007 to 2017 (10 years).In this study, the age of the patients ranged from 16-60 years whereas in another study conducted by Acharya et al the age of the patients was found to be 1 month-80 years and in another study conducted by Singh N et al patients were in the age group ranging from 1-85 years.[3,4] Most of the patients in our study belong to the age group of 25 to 40 years while in other studies, it was seen mostly in the age group of 21 to 40 years.[5-7]

In our study, patients of reproductive age group were commonly seen which may be due to the fact of increased social awareness about genital hygiene among younger age group. Females were slightly more than males in our study, suggesting the equal prevalence of non-venereal genital dermatoses among both males and females and decreased social inhibition among females, which earlier was the main cause of decreased reporting among females. Male and female ratio was similar as seen in study done by Neerja Puri et al.[8] A total of 20 different dermatosis were observed in our study of which Tinea cruris (36.5%) was found to be most common followed by furunculosis (7.8%) and scabies (7.1%). However, in a study conducted by Babu et al, scabies followed by dermatophytosis were found to be most common non-venereal genital dermatoses but in the study conducted by Saraswat et al the most common dermatosis was vitiligo (18%) followed by pearly penile papules and fixed drug eruption.[9]

In our study, the second most common dermatoses was furunculosis (7.8%) followed by scabies (7.1%) and these results were consistent with the studies conducted by Acharya et al in which scabies was found to be second most common non-venereal genital dermatoses. Infections and infestations were the most common non-venereal genital dermatoses seen in our study constituting 64.6%. However, in the study conducted by Acharya et al infections and infestations were found to be 34.5%. This might be because of the fact that we have included patients with genital complaints only. 9 (5.4%) patients had genital pemphigus vulgaris in this study which was close to the study conducted by Su et al who reported 12 patients of genital pemphigus Vulgaris in this study, scrotal calcinosis was seen among 7 (4.2%) patients which is almost similar to the study done by Saraswat et al and Maalik babu et al who reported 6 patients of scrotal calcinosis.[6,9,10] 5 patients had psoriasis, out of which 2 were male and 3 were female, in which 4 patients also had extra genital psoriasis. Acharya et al and Singh et al reported 5 patients with psoriasis affecting genitalia each.[3,11] Tinea cruris (36.4%)

was found to be most common among females followed by vulvovaginal candidiasis (12.5%) and furunculosis (8.0%) and among males, tinea cruris was most common (36.7%), followed by balanoposthitis (10.1%) and scabies (8.9%). So, tinea cruris was the most common NVGD observed among both the sexes and it could be because of the fact that it is one of the common contagious infections prevalent in general population and easily transmissible between couples.

Among 167 patients, 99 were found to be sero reactive to VDRL, HIV, HBS and HSV, out of which 32 (19.2%) were VDRL positive followed by HSV 27 (16.2%) and HIV 9 (5.4%). It was found that most of the patients of tinea cruris (27) were found to be VDRL reactive followed by HSV (2). There were 61 patients of tinea cruris out of which 15 were not responding to the conventional line of treatment over 4 to 6 weeks for which we thought of alternate diagnosis and patients were screened for some serological tests out of which VDRL was found to be positive in most of these patients. So, from this we could draw an inference that these patients might have latent syphillis which could be one of the reasons for non-responsiveness. 6 patients of vulvovaginal candidiasis were found to be HSV positive. In our study, most of the patients with vuvlovaginal candidiasis had severe itching and mostly presented to us with vaginal erosions and discharge, so superadded or preceded herpes infection could be missed. So, serology for herpes virus is relevant in such patients. 3 patients of fixed drug eruption were found to be HIV positive. The incidence of cutaneous adverse drug reactions is high in HIV infected persons and there are also reports of FDE's secondary to protease inhibitors used for treatment of HIV.[12]

### *Limitations*

Limitations of the study were the limited sample size and single center used for data collection.

## CONCLUSION

Most patients were of reproductive age with tinea cruris being the most common NVGD. The non venereal genital dermatoses had classical morphology in most of the cases. The study describes the importance of diagnosis of common non-venereal genital dermatoses which are prevalent in general population as well as importance of serological markers which is important in the diagnosis of asymptomatic/latent venereal infections. Hence, it can be concluded that thorough knowledge about the morphological features can aid in the correct diagnosis and management of these patients. Also very few studies have been conducted with serological testing in patients of non-venereal genital dermatosis. So, this study highlights the importance of screening of patients with non- venereal genital dermatosis.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Khaitan BK. Non-venereal diseases of genitalia. In: Sharma VK, eds. Sexually Transmitted Diseases and AIDS. 1st ed. New Delhi: Viva Books Pvt Ltd; 2003: 413-21.
2. Fitzpatrick JA, Gentry RM. Non-venereal diseases of male external genitalia. In: Moschella SL, Hurley HJ, eds. Dermatology. 3rd ed. Philadelphia: WB Saunders Company; 1992: 1008-1015.
3. Acharya KM, Ranpara H, Sakhia JJ, Kaur C. A study of 200 cases of genital lesions of non-venereal origin. Indian J Dermatol Venereol Leprol. 1998;64:68-70.
4. Singh N, Thappa DM, Jaisankar TJ, Habeebullah S. Pattern of non-venereal dermatoses of female external genitalia in South India. Dermatol Online J. 2008;14(1):1.
5. Puri N, Puri A. A study on non-venereal genital dermatoses in North India. Our Dermatol Online. 2013;4:304-7.
6. Saraswat PK, Garg A, Mishra D, Garg S. A study of pattern of nonvenereal genital dermatose s of male attending skin OPD at a tertiary care center. Indian J Sex Transm Dis. 2014;35(2):129-34.
7. Sampath PK, Purnima G, Ganga BV. A clinical study of patterns of non-venereal genital derm atoses of adult males in a tertiary care center. IOSR J Dent Med Sci. 2016;15:47-50.
8. Puri N, Puri A. A study on non-venereal genital dermatoses in north India. Dermatol Onl. 2013; 4(1):304-7.
9. Babu ANMM, Mathan R, Ramasamy PP. A clinical study of non-venereal genital dermatoses. J Evol Med Dent Sci. 2016;5(90):6694-7.
10. Su O, Dizman D, Ozkaya DB, Yildiz P, Demirkesen C, Onsun N. Pemphigus vulgaris localised exclusively to the penis. Indian J Dermatol Venereol Leprol 2015;81:298-9.
11. Singh G, Rathore BS, Bhardwaj A, Sharma C. Non venereal benign dermatoses of vulva in sexually active women: a clinical study. Int J Res Dermatol. 2016;2:25-9.

**Cite this article as:** Jabeen M, Gupta G, Shafi I, Sudan R, Bhat JR. A clinico-epidemiological study of non-venereal genital dermatosis and its association with serological markers. Int J Res Med Sci 2025;13:5255-9.