



PATTERN OF SKIN DISEASES IN PREGNANCY: A CROSS SECTIONAL STUDY IN A TERTIARY CARE HOSPITAL

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Abstract

Background: Pregnancy is a normal physiological process of woman of reproductive age group. In pregnancy there is some chance of developing specific or non-specific skin diseases. The pattern of skin disease may be different in different community.

Aim and objectives: To observe various patterns of skin diseases during pregnancy.

Materials and methods: A cross sectional observational study was conducted on 228 pregnant women in a tertiary care hospital in Dhaka during 2024. Clinical history, pregnancy profile and skin manifestation was examined and recorded in a data collection sheet from the participants who were fulfilled the criteria and had given informed written consent to participate.

Results: Mean age of the cases was 23 ± 2.36 years. A maximum case was in third trimester of their pregnancy. Most of the skin disease was non-specific for pregnancy. About 75% cases were diagnosed as infective skin disease and 25% was with non-infective skin conditions. There were 25 different skin diseases was identified among in the cases. The top three common skin diseases were superficial dermatophytic infections (37.28%), scabies (31.57%) and bacterial skin infection (6.57%).

Conclusion: Dermatophytosis, bacterial skin infection and scabies are the three commonly occurring skin diseases in study subjects. It seems that there is increased susceptibility of infections in pregnancy. On the other hand the frequency of infections also increased in our community irrespective to gender.

Key words: pregnancy and skin diseases, specific dermatoses in pregnancy, non-specific dermatoses in pregnancy.

Introduction:

Pregnancy is a normal physiological change in reproductive women. There are some hormonal and metabolic changes occurs physically and internally in pregnancy.¹ Cutaneous manifestations in pregnancy can be manifested as some changes or some definite skin diseases. All the skin changes and diseases are grouped as specific and non-specific dermatoses in pregnancy.² Some skin changes are found in early pregnancy and some are found in late stage. These dermatoses are occasionally

differed according to different trimester.³ Pigmentary changes like diffuse hyperpigmentation, focal hyperpigmentation and linea nigra are the common changes of skin in pregnancy but melasma is a common pigmentary disorder that persists after delivery and needs treatment.⁴ Striae gravidarum, acne hirsutism and madarosis are less severe changes in the course of pregnancy.^{5,6} Hyperhidrosis, weight gain leg swelling and susceptibility to infection is some common reversible manifestation during pregnancy period.^{7,8} These types of changes are mild and tolerable. Preexisting skin diseases may be improved or flared in pregnancy.⁹ The common chronic inflammatory disease like psoriasis may improves most of the times but there are some chance of exacerbation.¹⁰ Atopic dermatitis and lupus erythematosus group is commonly aggravate in pregnancy. Some immunological alteration inside human body in the course pregnancy is the probable cause of improvement or worsening of inflammatory skin diseases. In any kinds of pregnancy related dermatoses there is almost no abnormality in pregnancy outcome. In severe cases some evidence of fetal involvement of same disease is found. And chance of abnormal events during delivery is very rare findings.

The specific skin disease or conditions that usually appear de novo in pregnancy are pemphigoid gestation is, impetigo herpetiformis or generalized pustular psoriasis of pregnancy, polymorphic eruption of pregnancy, intrahepatic cholestasis of pregnancy, and atopic eruption of pregnancy. There are three general categories of pregnancy related skin conditions: 1) benign changes of skin may be some hormonal changes 2) preexisting skin conditions that change during pregnancy, and 3) pregnancy specific dermatoses. Skin infections during pregnancy and drug reactions during pregnancy are out of that classification.¹¹

Pruritic Urticarial Papules and Plaques of Pregnancy (PUPPP) is newly named as polymorphic eruption of pregnancy (PEP). There are itchy, red papules and plaques and sometimes vesicles usually appeared on the abdomen, upper part of thighs, back and buttocks, and breasts. Patient complaints mild to severe pruritus. In early stage it mimics with scabies and or miliaria rubra. It usually occurs in later trimester of pregnancy.¹²

Pemphigoid Gestationis is a rare condition characterized by pruritic tense vesicle or bullae appeared during the course of pregnancy histopathology and direct immunofluorescent (DIF) test is needed to confirmation.¹³

Intrahepatic Cholestasis of Pregnancy (ICP) usually manifested as intense itching and features of cholestasis in the period of pregnancy. Pruritus and jaundice without other specific types of lesions is the diagnostic clues of ICP.¹⁴

Impetigo Herpetiformis or generalized pustular psoriasis of pregnancy is a rare condition characterized by itchy painful non follicular pustules with scales and erythematous background. Patients may have history of plaque type psoriasis or not. Low dose systemic steroid or cyclosporine A is the treatment of choice.¹⁵

Pruritic Folliculitis of Pregnancy is appeared as pruritic and inflamed hair follicles different than impetigo herpetiformis.¹⁶

Atopic eruption of pregnancy (AEP) is a common itchy eczematous skin condition that can be developed during pregnancy. The patient may have self or family history of atopic dermatitis or the newly diagnosed atopic dermatitis in the course of pregnancy. The condition appears as adult onset atopic dermatitis with or without allergic rhinitis, allergic conjunctivitis and bronchial asthma.^{17,18}

Materials and methods:

A cross sectional study was conducted at the department of Dermatology and Venereology Gynecology and Obstetrics OPD from June to December 2024. Pregnant woman with skin disease was the target cases. Two hundred and twenty eight participants were included in this study. Pregnant women who were willing to participate in this study and was given informed consent, age above 18 years and had skin disease was eligible for this study. Complete clinical history, physical examination and diagnosis of skin disease was confirmed and noted in a preformed data collection sheet. Skin scraping for fungus and skin biopsy for histopathology was required in several cases. Data was preserved in a secured computer device. Data was analyzed with SPSS 23 program and the result is presented in text and tables.

Results:

Table 1: clinical and demographic features of cases

Points		Frequency	Percentage
Gravida	Primigravida	107	46.92%
	Multigravida	121	53.07%
Trimester	1 st	78	34.21
	2 nd	57	28
	3 rd	93	40.78
Mean age (years) \pm SD	23 \pm 2.36		
Family history of same disease	Present	37	16%
History of same disease in previous pregnancy	Present	12	5%

Mean age of respondents was 23 \pm 2.36 years. In pregnant women more skin diseases were found in third trimester.

Table 2: Distribution of cases according to skin disease

Skin disease	Frequency	percentage
Superficial dermatophytic infection	85	37.28
Scabies with or without complication	72	31.57
Bacterial skin infection	15	6.57
Seborrheic dermatitis	7	3.07
Miliaria rubra	6	2.63
Melasma	5	2.19
Acne	5	2.19
Pityriasis versicolor	3	1.31
Polymorphic eruption of pregnancy	3	1.31
Diffuse hair fall	3	1.31
Contact dermatitis	3	1.31
Hirsutism	3	1.31
Psoriasis	2	0.88
Pityriasis rosea	2	0.88
Lichen simplex chronicus	2	0.88
Stria gravidarum	2	0.88
Hirsutism	2	0.88
Herpes zoster	1	0.43
Alopecia areata	1	0.43
Lichen planus	1	0.43
Aphthous ulcer	1	0.43
Pyogenic granuloma	1	0.43
Pompholyx	1	0.43
Small vessel vasculitis	1	0.43
Granuloma annulare	1	0.43

Infective diseases were outnumbered the non-infective diseases and the ratio was 3:1. Superficial dermatophytic infections (37.28%), scabies (31.57%) and bacterial skin infection (6.57) were the common findings in participants.

Table 3: Pattern of dermatophytic infection in cases

Type of dermatophytosis	Frequency	Percentage
Tinea capitis	2	2.35
Tinea corporis	21	24.7
Tinea cruris	17	20
Tinea pedis	9	10.58
Tinea corporis with tinea cruris	36	42.35
Total	85	100

A dermatophytic infection was the commonest disease in this study. Tinea corporis with tinea cruris was found in (42.35%) cases and tinea corporis was in (24.7%) patients.

Discussion:

During pregnancy there are some physiological, hormonal and immunological changes may occur. Weight gain, abdominal distension, leg swelling, hair loss and pigmentation are the common reversible changes that may found in women during pregnancy. There are increased susceptibility of infection might be found due to immunological alteration due to pregnancy.

In this study 228 pregnant women who were attended at OPD for treatment of skin conditions was observed and was treated. The mean age of cases was 22 ± 7.38 years. Multigravidas women were more affected than primigravid women and more cases were developed skin diseases at 3rd trimester of their pregnancy. Family history of same diseases was found in 16% cases and 5% of them experienced the same disease in previous pregnancy. In this study there were 25 categories of skin diseases was found in 228 pregnant women. Two third cases were infection and infestations. Top three common skin diseases in this study are superficial dermatophytic infection 37.28%, scabies with or without complication 31.57% and bacterial skin infections 6.57%. Only in 3(1.31%) cases specific skin disease in pregnancy was found that was polymorphic eruption of pregnancy or pruritic urticarial papules and plaques in pregnancy. Pregnancy related changes was found in few cases such as melasma 5(2.91%), acne 5(2.91%), hirsutism 3(1.31%), hair fall 3(1.31%), stria gravidarum 2(0.88%) and pyogenic granuloma 1(0.43%).^{19, 20}

In current study about two third cases (75%) are infective disease and rest of the diseases is non-infective and or inflammatory disease. Alahi N et al found that there are 54.9% infective diseases in general skin OPD in Bangladesh. In another similar study Sattar M A described that non-infective diseases (55%) are more than infective disease (45%) in general skin OPD. That two study results defer from the current study might be due to there is increased susceptibility of infections in pregnancy.²¹

Superficial dermatophytic skin infection and scabies are become the leading skin hazards now a days in our community. These two infections are common in general people and also in pregnancy because of bad compliances, treatment failure and or drug resistance.

The pattern of pregnancy related dermatoses is different in different community due to environmental factors. The skin changes and skin diseases in the course of pregnancy is a long list but in practice there are 25 pattern of disease found in this study. A large scale and multicentric study is needed to assess the whole scenario.²²

All participants were managed as per advice of consultants and followed up accordingly. There was no conflict of interest.

Conclusion:

Pregnancy specific skin diseases are very rarely occurs in our community. Chance of infections are relatively increased in pregnancy than non-pregnant women at reproductive age. So we need to isolate pregnant women from other infectious sources. In dealing with pregnancy we must have proper knowledge and skill to diagnosis and provide safer treatment for mother and embryo.

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