

## A Prospective Cohort Study of Prevalence of Anorectal Diseases during Pregnancy

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Received: 30-01-2023 / Revised: 03-03-2023 / Accepted: 09-04-2023

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Conflict of interest: Nil

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### Abstract

**Introduction:** Anorectal disorders are among the most common digestive complications among pregnant women. Due to the physical and psychological problems they cause a significant reduction in the quality of the life of those afflicted. In this study, we study the prevalence of Anorectal diseases and the factors influencing it during pregnancy.

**Materials and Method:** This research is an observatory study based on the descriptive and sectional methods. 230 pregnant women reporting to the OPD of obstetric and gynaecology at tertiary centre were selected and history taking, inspection, digital rectal examination and proctoscopy done and final diagnosis made. The examination of pregnant women was done in only one time during pregnancy.

**Results:** Total prevalence of anorectal diseases during pregnancy was 43.48%. There was a significant statistical association seen between 25-30 years age group and development of anorectal diseases, mean±S.D [ 25.72± 3.72 ] [P=0.0314]. There was also a statistical association observed between the socioeconomic status and anorectal diseases. The highest prevalence of anorectal diseases were observed in people which belongs from lower and middle class [p=0.0427]. The frequency of perianal symptoms during pregnancy, most common symptoms was constipation (37.82%), then bleeding PR(33.91%), then pruritus(25.65%) and last painful defecation(17.39%). A significant statistical association was observed between trimesters and constipation. About 29.13% pregnant women developed constipation during last trimester [p=0.0001]. A significant statistical relationship was also observed between trimesters and prevalence of anorectal diseases[32.17%, p=0.0001], haemorrhoids were most common in last trimesters (29.13%). A statistical relationship was observed between parity (2or>2) and anorectal diseases during pregnancy[ p=0.259]. A significant statistical relationship was observed between type of the previous childbirth and anorectal diseases (p=0.0447). Out of four anorectal diseases, haemorrhoids (60.71%) was found most common which having history of previous vaginal delivery.

**Conclusion:** The total prevalence of anorectal diseases during pregnancy was 43.48%, of them haemorrhoids was most common (37.82%), fissure (5.65%), anorectal polyps (2.17%) and rectal ulcer (0.87%). Haemorrhoids and anal fissures are common during the last trimester of pregnancy. Constipation, past history of peri-anal diseases, the level of parity and previous normal vaginal delivery are independently associated risk factors. Further studies must be performed to evaluate measures to reduce the incidence and prevalence of anorectal diseases during pregnancy.

**Keywords:** Haemorrhoids, Fissure in Ano, Anorectal polyps, Rectal Ulcer.

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## Introduction

Anorectal disorders including Hemorrhoid and Fissure in Ano are among the most common digestive complications among pregnant women. Due to the physical and psychological problems they cause to the patient, these disorders which are observed among 30 to 50 percent of women can cause a significant reduction in the life quality of those afflicted with them [1,2].

It is hypothesized that pregnancy, due to the rise of vascular pressure and abdominal pressure, may contribute to the rise of Hemorrhoid [3]. However, there is no such hypothesis concerning Fissure. Although it has been reported that pregnant women exhibit higher prevalence of Fissure as compared to the public, however; the cause of it is not clear.

Other reasons such as hormonal changes, excessive weight gain of mother, lack of movement, consuming iron supplements (which aggravate constipation) have been mentioned as the causes of great prevalence of this disease during the pregnancy period [4,5]. As for Fissure, it is less common than Hemorrhoid. This can be due to the severe pain and anal bleeding which make the patient see a doctors soon as possible. The other point about this disease is its progress which is due to its vicious cycle (pain, Sphincter contraction, Fissure intensification) [1,6].

In several similar studies, the prevalence of anorectal diseases (Hemorrhoid and Fissure) after childbirth was 20 to 40 percent. In anorectal conditions a large population of

pregnant women and can be treated successfully by a primary care physician in OPD. Appropriate diagnosis of haemorrhoids and other anorectal diseases are necessary by using proctoscopy, anoscope, colonoscopy and digital rectal examination. Based on the level of disease, various medical and surgical treatments have been proposed for Hemorrhoid and Fissure.

This study seek the prevalence of Anorectal diseases during pregnancy . This study was an observatory and comparative study on the prevalence of various anorectal diseases during pregnancy in our patient population.

## Methods

This was an observational study based upon descriptive-sectional methods. 400 pregnant women who reported to our tertiary care centre.

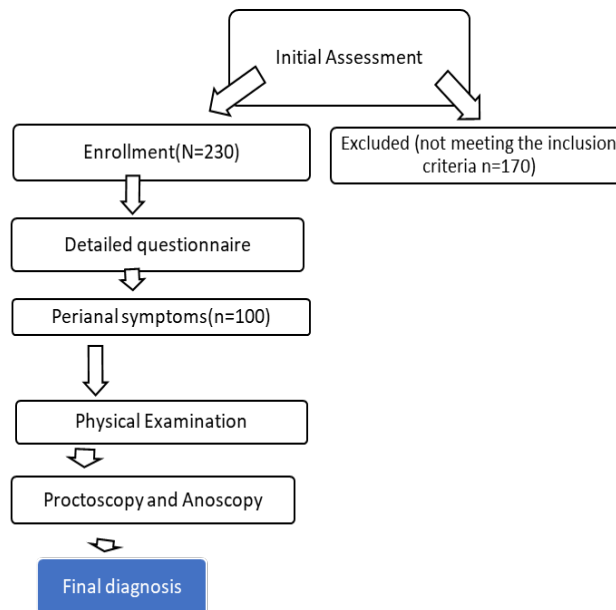
In the years 2021 and 2022, out of which 230 pregnant women were selected and their demographic information was recorded in proforma. The existence of Anorectal diseases were diagnosed through history, inspection, digital rectal examination and proctoscopy during pregnancy. The main goal of this study was to find the prevalence of Anorectal diseases during the pregnancy. The variables studied included: age, level of education, occupation, parity, previous childbirth, past history of anorectal disease. During the visit, interview of all 230 women was done. Each women was asked to complete a detailed questionnaire, including demographic (age,

nationality, family status), social (education, family income, place of residence, conditions of the life), anthropometric measurements (body mass index, diet, bowel habit, family history, past history of anorectal diseases, previous pregnancy) factors and delivery-related questions.

If any perianal symptoms — pain, rectal bleeding, perianal tissue enlargement or protrusion or any perianal discomfort reported by the patient, a surgeon examine the women (inspection of perianal region and anoscopy) and made a diagnosis. Digital rectal examination and proctoscopy and anoscopy was done to made a final diagnosis.

All women was examined for single visit during pregnancy.

The flow chart of the examination was as follows:-



## Results

In our study total 400 pregnant women visited from 2021 to 2022, of them 170 women which were not meeting in the inclusion criteria and declined to participate were excluded and 230 women who give the consent and fullfil the inclusion criteria, participate in the study during their pregnancy period were included. Women's mean age was 25.72 years (18–36 years).

Out of 230 women, 114 were primigravida, 116 were multipara. Of the 116, 84 had previous normal delivery and 32 had previous cesarean-section. 70 (30.43%) of the 230 women had a past history of peri-anal diseases before the current pregnancy. Constipation was present in 87 (37.82%)

## Inclusion Criteria

- Pregnant women age >18 years with haemorrhoids and fissure and other anorectal problems.
- Willing to participate in the study.

## Exclusion Criteria

- Patients <18 years of age
- Non Pregnant Women.
- Patient not willing to participate in the study.

Using chi-square test calculated P value, which was taken as a significant <0.05. Calculations were performed using statistical software package SPSS, version 21.

women. Out of 230 pregnant women, 100(43.48%) women developed anorectal diseases during pregnancy. The anorectal symptoms like bleeding PR, painful defecation, pruritus, itching, mucous discharge and constipation.

**Table 1: Age Distribution**

Age	Total no. of patients [N]	Haemorrhoids (%)	Fissure (%)	Anorectal polyps (%)	Rectal Ulcer (%)	Total diseases cases (%)	Total health cases (%)
18-24 yrs	89	13.47 (31)	3.47(08)	0.43(01)	0.43(01)	16.95 (39)	21.73 (50)
25-30 yrs	110	21.30(49)	2.17(05)	1.73(04)	0	23.47(54)	24.34 (56)
>30 yrs	31	3.043(07)	0	0	0.43(01)	3.04(07)	10.43 (24)
Total	230	37.82 (87)	5.65 (13)	2.17 (05)	0.87 (02)	43.48 (100)	46.02 (130)

In this present series, we found the maximum patients were in the age group of 25-30 years which was 23.47%, then the age group of 18-24 years which was 16.95%, then the age group of >30 years which was 3.04%. Most commonly affected age group between 25-30 years of pregnant women because maximum pregnancies are conceive in this age group and reported.

the p value 0.0314. In the study, mean age group was 25.72 years and S.D. 3.72 (Mean±S.D.)

**Table 2: The relationship between socio-economic status and different anorectal diseases during pregnancy**

Socio-economic status	Total no. of patients	Haemorrhoids (%)	Fissure (%)	Anorectal Polyps (%)	Rectal ulcers (%)
Lower class	97	19.56 (45)	0.86(02)	0.86(02)	0.43(01)
Middle class	122	17.82(41)	4.78(11)	1.30(03)	0.43(01)
Upper class	11	0.43(01)	0	0	0

In our study, a significant relationship (p value 0.0427) was observed between the lower (20.43%) and middle (22.60%) class socioeconomic status and prevalence of anorectal diseases during pregnancy. Among anorectal diseases, prevalence of haemorrhoids were more common in lower (19.56%) class.

**Table 3: Frequency of Perianal Symptoms During Pregnancy**

Total no of patients	Bleeding PR (%)	Painful defecation (%)	Pruritus (%)	Constipation (%)
N=230	33.91 (78)	17.39 (44)	25.65 (59)	37.82 (87)

In our study, we found that maximum patients of 37.82% had constipation, then 33.91% had bleeding PR, then 25.65% had pruritus and 17.39% had painful defecation.

**Table 4: Constipation at different trimesters**

Trimester	Total no. of patients N=230	Constipation	
		Present (%)	Absent (%)
1st	60	0.86 (2)	25.21 (58)
2nd	58	7.82 (18)	17.39 (40)
3rd	112	29.13 (67)	19.56 (45)

In our study, a significant prevalence was observed between constipation and last trimester (29.13% women had constipation in third trimester) ( $p=0.0001$ ).

**Table 5: The relationship between trimesters and different types of anorectal diseases.**

Trimester	Total no. of patients [N=230]	Haemorrhoids (%)	Fissure (%)	Anorectal polyps (%)	Rectal ulcers (%)	Total diseases cases (%)
1st	60	1.30 (3)	0.43(1)	0	0.43 (1)	1.73 (4)
2nd	58	7.39 (17)	2.17 (5)	0.43(1)	0	9.56 (22)
3rd	112	29.13 (67)	3.04 (7)	1.73 (4)	0.43 (1)	32.17 (74)

In our study it was noted that maximum women developed anorectal diseases during third trimester of pregnancy (32.17%) ( $p=0.0001$ ). Among anorectal diseases, haemorrhoids much more common in 3rd trimester (29.13%) ( $p=0.0001$ ).

**Table 6: The relationship between parity and haemorrhoids and fissure**

Parity	Total no. of patients	Haemorrhoids(%)	Fissure(%)
0	73	10.86 (25)	3.47 (8)
1	76	10.86 (25)	2.17 (5)
2 or >2	81	16.08 (37)	0

In our study, a relationship was observed between parity and haemorrhoids 16.08% ( $p=0.259$ ) (parity level 2 or >2 which had more haemorrhoids)

**Table 7: The relationship between type of previous delivery and various anorectal diseases.**

Types of previous delivery	Total no. of patients	Haemorrhoids(%)	Fissure(%)	Anorectal polyps(%)	Rectal ulcers(%)
Normal Delivery	84	60.71 (51)	3.57(3)	3.57(3)	1.19 (1)
Cesarean section	32	37.5 (12)	6.25 (2)	0	0

In the present series, we observed a significant relationship between previous childbirth type and prevalence of anorectal diseases ( $p$  value is 0.0447 and RR is 1.5). In our study we found that prevalence of anorectal diseases were much more common in previous normal delivery (64.28%) patients than primigravida patients. Out of four anorectal diseases, haemorrhoids (60.71%) are much more common in normal delivery than other diseases.

**Table 8: The relationship between residence and anorectal diseases during pregnancy**

Residence	Total no. of patients [N=230]	Haemorrhoids(%)	Fissure(%)	Anorectal polyps(%)	Rectal ulcer(%)
Urban	130	17.82 (41)	3.91 (9)	1.73 (4)	0.86 (2)
Rural	100	20 (46)	1.73 (4)	0.43 (1)	0

In our study a relationship was observed between rural and urban pregnant women and prevalence of anorectal diseases during pregnancy were equally affected (both 21.73%), but haemorrhoids are quit common in rural (17.82%) and fissure quit common in urban (3.91%) pregnant women. ( $p$  value =0.0834).

**Table 9: The relationship between past history of perianal disease and anorectal diseases during pregnancy**

History of perianal disease	Total no. of patients [N=230]	Haemorrhoids (%)	Fissure (%)	Anorectal polyps(%)	Rectal ulcers(%)
Present	70	7.82(18)	0.86(2)	0.43(1)	0
Absent	160	30(69)	4.78(11)	1.74(4)	0.86(2)

A significant relationship was observed between past history of perianal diseases and prevalence of anorectal diseases [p=0.0026].

## Discussion

The study identified a prevalence of anorectal diseases during pregnancy was 43.48% with most common problem being haemorrhoids (37.82%). 32.17% women developed anorectal diseases during third trimester of pregnancy. In my study, we found that constipation in pregnancy, previous history of perianal diseases, type of previous delivery, level of parity are associated with anorectal diseases of pregnancy.

- In our study we found the maximum patients in the age group of 25-30 years this may be due to fact that maximum pregnancies are conceived in this age group and reported.
- Although the incidence of peri-anal discomfort in women during pregnancy symptoms of peri-anal pain and bleeding are attributed to haemorrhoids. It has been shown that self-diagnosis of peri-anal diseases is highly inaccurate.[16]
- Also, women in some of these studies were interviewed a few months to a few years after childbirth.[12,23-26]
- Some of the studies specifically excluded symptoms, which occurred during pregnancy.[25]
- The present study gives accurate estimation on prevalence and type of anorectal diseases, as physical examination and anoscopy were used to diagnose the conditions. Some other studies have also included physical examination, anoscopy or colonoscopy.[7,22]
- However, they mostly looked only at specific times in pregnancy last trimester and after delivery, immediately postpartum, or weeks after delivery[16-20,22]. The present study gives accurate estimation on time of occurrence of anorectal diseases, as the women were diagnosed at the point when they complained of peri-anal symptoms during the pregnancy.
- This could explain the difference in findings: Abramowitz et al[4]. found 9.1% incidence of peri-anal disease in the third trimester and 35.2% incidence within 1 month of delivery.
- Our study, in contrast, shows that 32.17% of peri-anal symptoms and diseases occur in the third trimester of pregnancy. Only 1.73% of women developed peri-anal diseases during the first trimester and 9.56% in second trimester. In last trimester we found that most common anorectal disease was haemorrhoids (29.13%), then fissure (3.04%), then anorectal polyps (1.73%) and lastly rectal ulcer (0.43%).
- In the present study we found that most commonly affected age group was 25-30 years (25.72±3.72) but some other studies like Poskus *et al* that found most common age group affected was >30 years. This disparity could be due to maximum no. of pregnancies occurred in 25-30 years age group and reported into hospital.
- The frequency of peri-anal symptoms in our study, most common symptoms occurred that was constipation which

comprised 37.82%, then bleeding PR 33.91% then pruritus 25.65% and lastly painful defecation which comprised 17.39%.

- Our finding is important because prophylactic measures, if any, should be undertaken within or before the third trimester, and not around delivery.
- Our study also identified constipation as the single independent preventable risk factor for peri-anal disease. In our study we found that constipations was most common symptoms which face the pregnant women (37.82%).
- Abramowitz *et al.* identified dyschezia and late birth as significant independent prognostic factors for peri-anal disease.
- In our study some patients had mixed findings like haemorrhoid with anorectal polyps (2.17%) and haemorrhoids with rectal ulcer (0.87%).
- Haemorrhoids are common in pregnancy but largely asymptomatic. The prevalence of symptomatic haemorrhoids is higher in pregnant than in non- pregnant women[9].
- In our study we found majority of cases belong from lower and middle class. This disparity is due to the fact that majority of patients to attend this hospital were from a lower socioeconomic status.
- Constipation was documented early and so was likely to have caused peri-anal diseases later, during the third trimester. This is also a factor that could be influenced by prophylactic measures. Hence studies into how to avoid constipation in pregnant women and hence avoid peri-anal diseases, should be performed.

Hence women with a personal history of peri-anal diseases should avoid difficult labour [avoid prolonged straining during the second stage of labour >20mins and birthweight of >3800gm, go for c-section] if they want to reduce their risk of haemorrhoids and fissures.

## Conclusions

In our study, we found total prevalence of anorectal diseases during pregnancy was 43.48%.

There were different types of anorectal diseases but haemorrhoids was most common( 37.82%) then fissure (5.65%) then anorectal polyps (2.17%) and rectal ulcer (0.87%).

In our study, it was noted that majority of women developed anorectal diseases during 3rd trimester. In the 1st trimester, prevalence of haemorrhoids was only 1.30%, fissure 0.43%, anorectal polyps 0% and rectal ulcer 0.43%. in 2nd trimester, prevalence of haemorrhoids was 7.39%, fissure 2.17%, anorectal polyps 0.43% and rectal ulcer was 0%. During 3rd trimester, prevalence of haemorrhoids significantly increased approximately 29.13%, fissure 3.04%, anorectal polyps 1.73% and rectal ulcer 0.43%.

Haemorrhoids and anal fissures are common during the last trimester of pregnancy. Constipation, past history of peri-anal diseases, the level of parity and previous normal vaginal delivery are independently associated risk factors. Further studies must be performed to evaluate measures to prevent constipation and reduce the incidence and prevalence of haemorrhoids and fissures during pregnancy.

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