

ORIGINAL ARTICLE

Incidence and Risk Factors for Perineal Trauma

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ABSTRACT

Objective: To identify the Incidence of and risk factors for perineal trauma.**Study Design:** Prospective research**Place and Duration of Study:** Department of Obstetrics & Gynaecology, Ayesha Hospital Nishat Colony Lahore from 01-07-2021 to 31-12-2021.**Methodology:** Four hundred and sixteen pregnant women with perineal trauma condition were enrolled who either delivered at homes or hospitals were detailed interviewed for their clinical history and characteristics regarding their condition.**Results:** The mean age of pregnant women was 24.2 ± 3.3 years. Out of total births in singleton 264 were at hospital while 152 at home. The results showed that 2nd degree tear was significant higher ($P < 0.05$) in hospital delivery multiparous case. Conclusion: Women having multipara had a 3-fold higher incidence of intact perineum than nullipara.**Keywords:** Perineal trauma, Nulliparous, Multiparous

INTRODUCTION

Perineal trauma (PT) is any type of damage caused during labour and results into the injury of female genitalia that can occur iatrogenically (instrumental delivery) or spontaneously.¹ Internationally published data showed that, approximately 85% females sustain certain degree of PT during delivery.² Diagnosis of obstetric anal sphincter injury (OASIS) stated that ~3% of the females after childbirth face third or fourth degree perineal tear.³ Findings of systematic review even highlighted higher incidence of perineal tear upto 11%.⁴

Various studies indicated that frequency of perineal tear is markedly varying according to geographical region and incidence rate is also becoming higher as compared to last decade.⁵⁻⁸ These changes could be the result of greater awareness and advanced identification/diagnostic approaches or actual cause of this surge is still unclear. Various underlying factor that could be the cause of PT includes: iatrogenic delivery with forceps⁹⁻¹¹, occipito posterior position^{9,12,13}, long duration of 2nd stage labour¹³⁻¹⁵, multiparity and birth weight or large for gestational age.^{10,11} Interestingly, a considerable reduction in perineal tear in Norway was found after an intervention program that attributed in slowing the childbirth process and instructing the mother not to push head of the baby during delivery.^{7,16}

Obstetric anal sphincter injury is related with substantial short/long term implications on mothers and sometime also results into maternal mortality and morbidity. Bowel symptoms appeared to be the most common marker of identification of OASIS that varies from 7.6% to 61% depending upon the severity of the condition.¹⁷ Postpartum perineal pain and sexual dysfunction can also happen. The present study was designed for assessing the perineal trauma in pregnant women for better understanding of its effects which can be further controlled.

MATERIALS AND METHODS

This prospective-observational study was performed at Department of Obstetrics and Gynaecology, Ayesha Hospital Nishat Colony Lahore from 01-07-2021 to 31-12-2021. A total of 416 pregnant women having a singleton were enrolled in the study after their initial permission. The data was collected from deliveries in hospital as well as those from home. Data was documented by the labour duty doctors which included their gravida and parity, age, length of active as well as passive second stage labour, period of pushing, pre-crowning stretching of perineum, BMI, maternal positioning at delivery, delivery type and technique and clinical information regarding either episiotomy was performed and dystocia of shoulder occurred or not. Neonatal weight information was also noted. The major outcomes of the study were categorized as no trauma in case where perineum was undamaged, labial tear

(one or both), anterior tear (as clitoral/urethral), vaginal wall involvement with perineal integral skin, 1st degree tear as one with vaginal wall plus perineal skin, 2nd degree as additionally involving superficial and deep perineal muscles, and 3rd degree as including anal sphincter with 50% involvement of external-anal sphincter-fibers (3A), >50% external anal-sphincter fibers (3B), or external. Internal anal-sphincter ruptures (3C). The 4th degree was determined with complete rupture of anal sphincter extending to anal epithelium. Data was analyzed by SPSS- 25.

RESULTS

The age of pregnant women was between 19-38 years with a mean age as 24.2 ± 3.3 years. There were 264 births at hospital while 152 births were delivered at home setting. Women having multipara had a 3-fold higher incidence of intact perineum than nullipara with a variance as high as 31.2%. The present study showed that 6.6% nullipara had perineal tear while 2.7% multipara suffered from OASIS (Table 1).

Table 1: The mainstream of patients was from 3rd degree tears

Hospital Birth (n=264)			Home deliveries (n=152)		
Nullipara = 143			Nullipara = 82		
Multipara = 121			Multipara = 70		
Number with outcome			Number with outcome		
	No.	95% CI	No. (%)	95% CI	
Episiotomy					
Nullipara	10(6.9)	10.3, 24.6	8(9.7)	3.6, 25.0	
Multipara	28(23.1)	32.5, 46.9	29(41.4)	44.7, 68.3	
Labial Tear					
Nullipara	25(17.4)	16.6, 33.0	14(17.1)	14.7, 42.4	
Multipara	17(14)	11.3, 22.2	4(5.7)	1.1, 13.4	
Tear of vaginal wall only					
Nullipara	8(5.59)	2.4, 12.3	3(3.6)	0.0, 11.3	
Multipara	6(4.9)	2.7, 9.7	1(1.4)	0.0, 4.3	

Table 2: Episiotomy and Extensive tear distribution among nulliparous and multiparous women

Hospital Birth (n=264)			Home deliveries (n=152)		
Nullipara = 143			Nullipara = 82		
Multipara = 121			Multipara = 70		
Number with outcome			Number with outcome		
	No.	95% CI	No. (%)	95% CI	
Episiotomy					
Nullipara	31(21.6)	30.0, 34.3	1 (1.2)	---	
Multipara	7(5.7)	5.5, 8.4	0	---	
Episiotomy 3 rd or 4 th degree					
Nullipara	0	0.1, 0.9	0	---	
Multipara	0	2.0, 2.1	0	---	
Extensive tear					
Nullipara	7(4.89)	0.1, 0.9	3(3.6)	---	
Multipara	2(1.6)	2.0, 2.1	0	---	

The results showed that 2nd degree tear was significant higher ($P < 0.05$) in hospital delivery multiparous cases. The 1st degree tear was also showed that multiparous women had higher frequency of OASIS in hospital as well as home delivery. The 4th degree tears were only noticed in 4 nulliparous and 2 multiparous pregnant women (Fig 1).

The study also showed that episiotomy cases were more common in nulliparous (21.6%) women who gave birth at hospital. While extensive tear was also seen in both hospital and home delivery at higher rate in nulliparous women. The variance in hospital and home deliveries was significant with a p value less than 0.05 (Table 2).

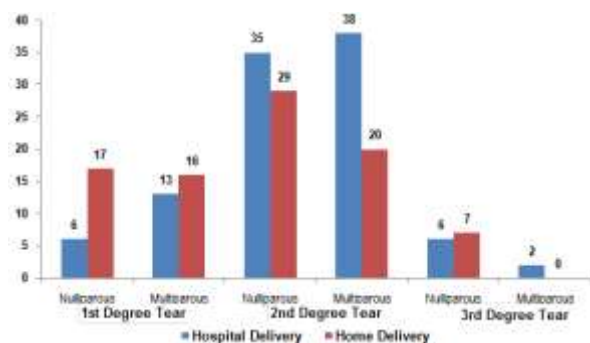


Fig 1: Tear degree and distribution among nulliparous and multiparous women

DISCUSSION

Incidence of perineal trauma and tear during childbirth becomes prevalent in last few decades due to several reasons. Perineal tears are classified into four degrees according to the involvement of muscles and sphincters. Nowadays, different techniques are being used to prevent perineal injury and slow down the birth of neonate head. Ratio of perineal tears is quite higher in community/homebirth as compared to the hospital.¹ Even the pattern and degree of tears differ according to the settings. Vaginal deliveries are mostly associated with PT whereas instrumental/planned deliveries are linked with obstetric anal sphincter injuries.¹⁸

Instrumental deliveries escalate the chances of perineal tears by two-three folds in contrast to spontaneous delivery. Most of the times perineal tears are not sutured especially first and second degree tears. UK survey reports that, 58% of midwives did not repair 2nd degree tears.¹⁹ However, Cochrane review revealed that no difference was observed in clinical outcomes between non sutured and sutured 1st/2nd degree tears.²⁰ Many studies also proved that, multiparity is also the major cause of perineal tear in many childbirths.

Birth weight of the newborn and period/duration of 2nd stage of labour proposed similar magnitude of tear as in case of forceps delivery. Birth environment implicit great impact on intrapartum and delivery outcomes including perineal trauma and tear.^{21,22} Findings of retrospective also proved that, likelihood of OASIS was quite lower in females with homebirth as compared to planned hospital delivery.⁵ However, different hospital and community settings play a significant role in birth outcomes and on the health of mother as well as of the child and sometimes even paved a path to neonate/maternal mortality or comorbidities.

CONCLUSION

Multiparous women had a 3-fold higher incidence of intact perineum than nullipara with a variance as high as 31.2%. The present study showed that 6.6% nullipara had perineal tear while 2.7% multiparous had same.

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