



Original Article

Prevalence of Coccydynia Among Postpartum Women

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ABSTRACT

Coccydynia is a painful condition of the coccyx that can have various etiologies. Females are affected five times more than males by this condition. In addition to being chronic and difficult to manage, its symptoms can be detrimental to quality of life. **Objective:** To determine the prevalence of coccydynia among postpartum women. **Methods:** In this study, 881 postpartum women were selected through non probability convenience sampling from obstetrics and gynecology ward of Allied Hospital, Faisalabad. Self-structured questionnaire was used which contains different sections; section 1 contains Demographic information of the participants; section 2 contains subjective and Objective assessment. Two tests straight leg raise and per rectal were performed confirm coccydynia. SPSS version 21.0 were used to enter and analysis the data. **Results:** Test According to SLR test, 396(45%) were positive and 485(55%) were negative in SLR test. According to PR test, 538(61%) were positive and 343(39%) were negative in PR test. The finding of the study shows that 538(61%) postpartum females have coccydynia. A significant relationship was found between Coccydynia and the method of delivery ($p < .005$), position with less pain ($p < .001$), and intensity of pain ($p < .001$). **Conclusions:** Coccydynia is most commonly found in postpartum women based on the results of this study. Coccydynia was also significantly associated with the method of delivery, the position with less pain, and the intensity of the pain during childbirth.

INTRODUCTION

Coccydynia, is also recognized as tailbone pain, is described as: "pain in or around the coccyx" and is evaluate as a symptom not a disease itself [1]. The condition occurs approximately more than five times in women than in men. This condition is considered as a kind of lower back pain but how it influences neuromuscular presentation in the lumbopelvic region is unclear [2]. In 1859 Simpson first give a descriptive name to the coccyx pain which is known as coccydynia, the accounts of coccygeal pain date back to the 16th century. Coccydynia considered as miserable, tortuous and irritating condition. The precise incidence of coccydynia has not been announced and outlined

nevertheless circumstances, connected with expanded danger of advancing coccydynia joint heftiness and female gender [3]. Youths and grown-ups are more dependable to give coccydynia than offspring's [4, 5]. The clinical presentation of the disease is usually characterized by sharp shooting pains or sometimes aching pain in the lower sacrum or coccyx, especially when sitting on hard surfaces. An individual may suffer from mild to excruciating pain depending on the severity of the pain. The pre-menstrual period is often associated with exaggerated symptoms in women. These patients may also experience exaggerated symptoms due to activities causing increased

strain on their levator ani muscles, such as defecation and sexual intercourse [2]. Western world has relatively low prevalence of coccydynia and there is little research covers this demographic; consequently, figures for prevalence and incidence are unavailable. Official reports which are concerned with the epidemiological research on coccydynia are lacking. Women health physiotherapy professionals observed that within female community coccydynia was an ordinary, regular and recurrent disorder and this ache could be completely rehabilitated. As noticed, coccydynia customarily accompany with other orthopedic dysfunction in the region of lumbo-pelvic, like low back pain and in some patients' urine incontinence may also include. Coccydynia is also related with obesity and the most usual origin of coccydynia is related with shock reaction of following going on the rumps, repeated minor continues damage or labor [6, 7]. Predominance cases of coccydynia were found to be aggravated by pregnancy and childbirth (postpartum). Coccydynia which is concern with postpartum, no free interval is found in the mid of childbirth and progression of pain. As soon as sitting position is taken on coccyx pain appeared. This makes new mother's life tough and limitations occurs in activities such as sitting to feed the baby it may also lead to socially limited activities. According to this study report frequent tail bone pain is observed with sitting, which can provide attention to a dysfunction demanding both quick and follow up awareness [8]. Productive and successful interventions, incorporate conservative treatment or surgery are not evident to date [9]. Finite understanding of coccydynia to physician and allied health professionals restricts the progress of treatment intervention. Thought, manual examination of the coccyx is likewise very significant [10]. This study was conducted to determine prevalence of coccydynia in postpartum females and reported association risk factors with coccydynia pain.

METHODS

We conducted a cross sectional survey involving 880 postpartum women who attended Allied Hospital Faisalabad using probability convenience sampling. Subjects with Pain in the region of coccyx for greater than 2 months Subjects having tenderness over coccyx on palpation and subjects with coccyx pain following childbirth [11]. Subjects under 18 years of age and with partial coccygectomy, radiographic abnormalities of coccyx, with co-existing low back pain and with Subjects with total previous coccyx surgery were excluded [12, 13]. The ethical approval for this study was taken from Riphah International University and consent was taken the included participants from selected Hospital. We used a self-structured questionnaire that contains different

sections, the first containing demographic information about participants, and the second contains subjective and objective evaluations. The coccydynia was confirmed by two tests straight leg raise and per rectal measurement. The Straight Leg Raise (SLR) test is commonly used to identify disc pathology or nerve root irritation, as it mechanically stresses the lumbosacral nerve roots. When SLR test performed, increased pain may also be reported [14]. A rectal examination will reveal pain when the coccyx tip is manipulated [15]. Data analysis and entry was done using SPSS version 21.0. Chi square test was used to find out the association of prevalence of coccydynia with its associated risk factors.

RESULTS

This study includes 483(54.8%) postpartum females from Amna ward and 398(45.2%) from Fatima ward of Allied Hospital. There were 363 postpartum females with 1 to 2 pregnancies, 358 postpartum females with 3-4 pregnancies, and 160 postpartum females with >4 pregnancies (Table 1).

Variables	Frequency (Percentage)
Ward Name	
Amna Ward	483 (54.8%)
Fatima Ward	398 (45.2%)
Language of patient	
Urdu	435 (49%)
Punjabi	446 (51%)
No. of pregnancy	
01-Feb	363 (41%)
03-Apr	358 (41%)
>4	160 (18%)
BMI groups	
Underweight	2 (0.227%)
Normal weight	170 (19.29%)
Overweight	289 (32.8%)
Obesity	420 (47.67%)
Residence of patient	
Rural	485 (55%)
Urban	397 (45%)

Table 1: Demographic information of the participants

There were 484 (54.9%) patients who felt pain in the coccyx region when entering or exiting a seated position whereas there were 397 (45.1%) patients who did not feel pain. Coccyx pain/coccyx injury history was reported by 220 (25%) patients, while 661 (75%) patients did not have any history of coccyx pain/coccyx injury. There were 471 (53.4%) patients with pulling or stabbing sensations in the sacrum, lumbar spine, buttocks, and occasionally into the thighs, compared to 410 (46.5%) patients with no pulling or stabbing sensations. A total of 544 patients (61.7%) reported worsening pain after prolonged sitting, while 337 patients (38.3%) did not experience worsening pain. A total

of 586 patients (66.5%) experienced increased pain when leaning backward in a sitting position, while 295 patients (33.5%) did not. 500 (56.3%) patients experienced the worst pain in the sitting position, while 136 (15.4%) patients experienced the worst pain while standing, while 54 (6.1%) patients experienced the worst pain when lying. There were 191 (19.7%) patients who did not experience any pain in any position. 179 (20.3%) patients' pain got relieved while 702 (79.7%) patients' pain didn't get relieved as a result of sitting on hard surfaces (Table 2).

Questions	Frequency (Percentage)
Pain in the coccyx region, during going into or coming of a seated position	
Yes	484 (54.9%)
No	397 (45.1%)
Previous history of coccyx pain/coccyx injury	
Yes	220 (25%)
No	661 (75%)
Pulling or stabbing sensation that radiate to sacrum, lumbar spine, buttocks, and occasionally into the thighs	
Yes	471 (53.4%)
No	410 (46.5%)
Pain gets worse after prolonged sitting	
Yes	544 (61.7%)
No	337 (38.3%)
Pain increases when you lean backward in sitting position	
Yes	586 (66.5%)
No	295 (33.5%)
Pain increases with bowel movement or sexual intercourse	
Yes	492 (55.8%)
No	389 (44.2%)
Which Position (You Experience Worst Pain)	
Sitting	500 (56.8%)
Standing	136 (15.4%)
Lying	54 (6.1%)
No pain	191 (21.7%)
Relief in pain while sitting on hard surface	
Yes	179 (20.3%)
No	702 (79.7%)
Pain during menstruation	
Yes	537 (61%)
No	344 (39%)
Days/weeks of postpartum	
01-02	530 (60.2%)
03-04	259 (29.4%)
>4	92 (10.4%)

Table 2: Pain related factors among Postpartum females
When performing a physical exam, does pain increase during the SLR test, 396 (45%) of the participants were positive, which means they have coccydynia, and 485 (55%), were negative. Similarly, when performing a physical examination, does pain increase during a per rectal (PR) test reported that 538 (61%) were positive, meaning these

women suffer from coccydynia, and 343 (39%) remained negative, meaning they do not suffer from coccydynia. (Figure 1).

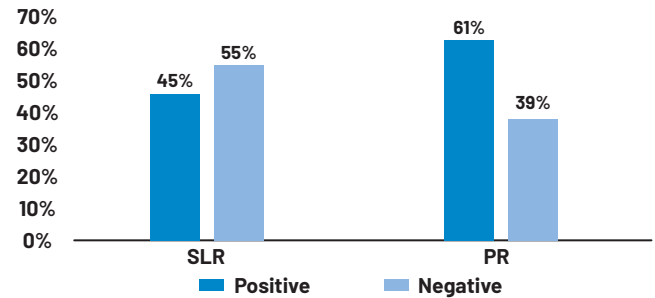


Figure 1: Percentage of Straight Leg Raise (SLR) and a per rectal (PR) Test for Coccydynia

This study reported significant association of coccydynia with method of delivery <.005, position with less pain <.001 and intensity of pain <.00 (Table 3).

Questions	Frequency (Percentage)	p-value
How your delivery occurred?		
Normal	129 (23.9%)	0.005
C-section	240 (44.7%)	
Episiotomy	169 (31.4%)	
In Which Position (You Experience less Pain)?		
Sitting	68 (12.6%)	<.001
Standing	212 (39.4%)	
Lying	258 (48.0%)	
How intense is coccyx pain right now On Visual Analogue Scale?		
No pain	0 (0%)	<.001
1-3 (mild pain)	3 (0.5%)	
4-6 (moderate pain)	147 (27.3%)	
7-9 (severe pain)	259 (48.1%)	
10 (worst pain)	135 (25.1%)	
During palpation was tenderness directly felt over tailbone?		
Yes	402 (74.8%)	<.001
No	136 (25.2%)	

Table 3: Association of coccydynia with method of delivery, tenderness, position and intensity of pain (N: 538)

DISCUSSION

In this study, the primary objective is to determine the occurrence of coccydynia in postpartum females, to discover whether coccydynia is related to the distribution method and any prior history of coccyx, to identify the relationship between coccydynia and number of pregnancies and the relationship between prolonged sitting and coccydynia. Our study reported coccydynia in postpartum women. Lirette *et al.*, claimed in their study that factors associated with increased risk of developing coccydynia include obesity and female gender [16]. In this study 881 subjects were enrolled 56.8% subjects reported sitting posture as worst position with significant p value <.001. The results of the study are supported by Systematic

literature review study performed by Howard *et al.*, in Thomas Jefferson University, Philadelphia, PA, USA that sitting is typically the most painful position for patients having coccydynia [17]. Another study showed that classical coccyx pain is associated with sitting and is exacerbated when rising from a seated position [18]. Straight leg raise test is positive in 45% subjects and negative in 55% subjects and per rectal test is positive in 61% subjects and negative in 39% subjects. SLR test is not permanently helpful with coccydynia for the reason that it may be accompanying with low back pain might exist as one or the other a pelvic girdle agony flanked by the posterior iliac crest and the gluteal fold as a lumbar pain over and around the lumbar spine. A study about pelvic girdle pain in Netherlands shows that 38% of women still have symptoms at 3 months postpartum and 13.8% at 12 months [19]. In this study 881 subjects were enrolled out of 881 subjects 538 subjects (61%) conformed that pain increase during the per rectal test consequently conformed coccydynia. Study of Lirette *et al.*, claimed that intrarectal manipulation can pinpoint possibly positive disrupted sacrococcygeal joint [16, 20]. The result of randomized control study of Maigne *et al.*, concluded that success rate of intra rectal manipulation of coccyx was around 25%. In their study patients were divided into two groups of fifty-one patients each [21].

CONCLUSIONS

As a result of this study, it can be concluded that postpartum women are the most likely to suffer from coccydynia. It was also found that coccydynia was correlated significantly with the method of delivery, the position with less pain, and the intensity of the pain during childbirth as well.

CONCLUSION

For the assessment of PAF and the detection of abscesses, MRI is a beneficial and reliable preoperative examination.

Conflicts of Interest

The authors declare no conflict of interest.

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