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The Impact of Low Back Pain on Functional Status of Postpartum Women: Survey in Bangladesh

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ABSTRACT

Objective: *The study assesses how low back pain affects postpartum women's function in standard and cesarian cases.*

Methodology: *This cross-sectional study selected 93 women with low back pain after delivery within six months. A semi-structured questionnaire was used to collect sociodemographic, obstetric, low back pain status, and functional data in face-to-face interviews. The Visual Analogue Scale and Oswestry Disability Index assessed pain and function.*

Results: *For the study, patients' average age was 25.6 (± 4.5) years, most patients (65.6%) were primiparous, and 66.7% had Cesarean sections. 49.5% suffered delivery-related pain, and 59.1% had constant low back pain. Low back pain hindered daily activities in 66 individuals (71.0%). In addition, 19 patients (20.4%) suffered sleep interruption due to low back pain. 86.0% of 80 patients had pain reduction with rest. Medications were given to 62 individuals (66.7%). Massage was used by 38 patients (40.9%). Sitting worsened pain in 79 individuals (84.9%). Daily activities also raised pain in 58 individuals (68.4%). However, standing for long durations increased discomfort in 29 individuals (31.2%). Patients reported an average VAS score of 5.1 (± 1.8), with 63 (67.8%) experiencing moderate pain and 15 (16.1%) reporting severe pain. Patients had an average ODI score of 26.1 (± 9.9), with 58 (62.4%) suffering moderate impairment and 6 (6.5%) reporting severe disability. Pain was significantly higher in older women (P=0.005), higher-income women (P=0.016), first-time mothers (P=0.008), and Cesarean-section mothers (P<0.001). There was a greater prevalence of impairment among primiparous women (P=0.007) and Cesarean section mothers (P<0.001).*

Conclusion: *Among the postpartum women, the pain was significantly higher in patients in higher age groups, wealthier, multiparous, and who had caesarian sections. Multiparous mothers and women with cesarean sections had more functional disability.*

Keywords

Post-partum low back pain, Pain intensity, Functional status.

Introduction

The second most common reason for medical treatment is low back pain (LBP). Low back pain is a widespread health issue that burdens individuals and society physically, psychologically, and economically. The occurrence of low back pain is equal in men and women and is mainly found in people aged 30–50 [1]. Back pain during pregnancy affects 20%–90% of women. Stapleton et al. [2] found that up to 75% of pregnant women with back pain may still have it after giving birth. Research suggests that postpartum back pain is poorly understood, with estimates ranging from 2% to 75% of women experiencing it for up to 3 years [3]. Gutke et al. [4] found that women with back pain three months after giving birth were more likely to acquire chronic low back

pain. Musculoskeletal back pain is discomfort in the lower lumbar area. It has mechanical, physiological, hormonal, circulatory, and psychological causes [5]. At younger mothers age, rigorous employment, a higher number of prior pregnancies, previous lower back pain (LBP), and LBP and pelvic girdle pain (PGP) during an earlier pregnancy have been linked to postpartum pain [6]. This pain can be debilitating to the mother, affecting activities of daily living such as caring for her newborn, sleep patterns, and other household activities [7]. The pain reporting rate decreased by time, but it doesn't mean that functional disability index scores, fell as well.

Many pregnant women and their obstetricians blame spinal anesthetic for low back pain. Wang et al. examined postpartum low back pain (LBP) in natural and cesarean-delivered women with spinal anesthesia in 1994 [8]. The study found no significant difference in LBP frequency across groups. However, one review of 11,701 women found that persistent lower back pain (LBP) was more common among women who underwent epidural analgesia (EA) during birth (19% vs 11%). EA causes back pain, according to the study [9]. Epidural labor analgesia does not increase the risk of chronic low back pain, according to other prospective studies by these authors and others. In a prospective observational cohort study, To, et al. [10] examined the prevalence of back pain during pregnancy and the factors that predict its development and persistence two years after birth. We purposefully selected 326 consecutive low-risk obstetric patients with singleton pregnancies. Two hundred and fifty (76.6%) pregnant women had substantial back pain. Patients experiencing discomfort during pregnancy had a higher history of back pain throughout previous pregnancies (66% vs. 40%, $p < 0.025$) and postpartum (40% vs. 6.6%, $p < 0.001$). Pregnancy outcomes were similar for those with and without discomfort. 21.1% had ongoing back pain 24 months after delivery. Persistent pain sufferers were older, had earlier beginning of pain symptoms in the index pregnancy than those without pain at 24 months, and experienced worse symptoms earlier in the pregnancy. At 24 months, those with persistent pain gained more weight (6.8 kg, SD3.0) compared to those without pain (4.0 kg, SD2.8) ($p < 0.01$) and lost less weight compared to early postpartum weight (8.1 kg, SD4.8 vs. 1.1.5 kg, SD5.6) ($p < 0.01$). A prospective Chinese study by Wang et al. [11] examined chronic pain following cesarean birth and its risk factors. This study prospectively recruited 786 elective cesarean patients under spinal anesthesia. Pain rates at 3, 6, and 12 months were 12.2%, 3.8%, and 0.8%, respectively. Most patients experiencing pain at 3 months had daily (43.7%) or daily intervals (41.7%), with mild to moderate severity.

To assess the effect of low back pain on functional status among post-partum women and to determine the socio-demographic status of the post-partum women, measure the severity of low back pain by Visual Analog Scale (VAS) among post-partum women, determine the functional status of post-partum women with Oswestry Disability Index (ODI), also compare the severity of low back pain between normal vaginal delivery and cesarean section.

Materials and Methods

Study Design

This cross-sectional study was conducted in the Department of Physical Medicine and Rehabilitation and the Department of Gynecology and Obstetrics, Dhaka Medical College and Hospital (DMCH), Dhaka, for one year following approval from the Ethical Review Committee (ERC), DMCH. The study ran from October 2020 to September 2021.

Study Population

Postpartum women with low back pain attend the Department of Physical Medicine and Rehabilitation and the Department of Gynecology and Obstetrics, Dhaka Medical College and Hospital (DMCH). The inclusion criteria were, postpartum women experiencing low back pain, Women who gave birth within six months, and Women over 18 years old. The exclusion criteria were inflammatory low back pain, pre-pregnancy disabling LBP, known disc disorder, known spinal malformations, previous low back surgery, women with mental illness and not willing to engage in the study.

Sample Size

The sample size was determined by using the following formula

$n=z^2pq/d^2$

Here, n = sample size, z= 1.96 at 95% confidence level, p= 0.33 (Joshi & Parikh, 2016); q= 1-p = 0.67, d = Acceptable error 10%= 0.1, So, $n= [(1.96)^2 (0.33)(0.67)]/(0.1)^2 = 84.9$. Considering 10% non-response rate, the final sample came to 93.3. Therefore, 93 patients were required for the study. Here, a purposive sampling technique was applied.

Study Variables

Study variables refer to a characteristic or attribute of interest that is being measured or studied within the population. It is the specific aspect that researchers want to investigate or understand. The study variable can take different forms depending on the research objectives and the nature of the survey. Here, independent Socio-demographic variables are considered as age, educational status, occupational status, monthly family income, residence and BMI.

Study procedure

A total of 93 postpartum women with low back pain attending the study place were selected purposively and data were collected by face-to-face interview using a semi-structured questionnaire. Pain and Functional status were assessed in Visual analog scale (VAS) and Oswestry Disability Index (ODI).

Data Collection Tool

Data were collected in a semi-structured questionnaire and Data were collected by face-to-face interview. Collected data were entered into SPSS and checked. Data were analyzed and presented in tabulated form.

Data Analysis

The data collected from the patients were analyzed. After completion of data collection, the data were checked and edited

manually and verified before tabulation. Data were coded, entered and analyzed in a computer. The statistical analysis was conducted using SPSS (statistical package for the social science) version 26 statistical software. The findings of the study were presented by frequency and percentage in tables and graphs. Means and standard deviations for continuous variables and frequency distributions for categorical variables were used to describe the characteristics of the total sample. Associations of categorical data were assessed using Fisher exact test while associations of continuous data were assessed using Student's t test and One way ANOVA test where $p<0.05$ was considered significant.

Ethical Consideration

Ethical clearance was taken from the Ethical Review Committee (ERC) of DMCH. After the approval of research protocol by the committee, permission for the study was taken from the Department of Physical Medicine and Rehabilitation, and Department of Gynecology and Obstetrics, DMCH. Informed written consent was taken from all patients after adequate explanation of the purpose of the study. They were assured of protection of their autonomy, privacy and confidentiality.

Result and Discussion

Mild to severe discomfort might impede a mother's ability to sleep, care for her newborn, and do domestic chores [7]. Pain complaints have decreased, but functional impairment index scores have remained consistent. The cesarean incision cuts superficial and deep fascia, damaging abdominal wall muscles. Transitional posture is problematic due to supporting tissue changes. Khansari et al. [12] found that NVD patients' disability index ratings did not change following pain reduction. Physical impairment, low back pain intensity, BMI, and height were linked by Korovessis et al. [13]. One study found that 56.4% of patients experience low back pain or 26.8% have sciatica. In 2003, 10.4% of women had sciatica and low back pain (To & Wong). Thirdly, 33.3% of postpartum women had lumbar back pain, 43.6% posterior pelvic pain, and 2.1% both [14]. The posterior pelvic/sacroiliac joints and lumbar spine can also cause postpartum back discomfort, according to Nilsson-Wikmar et al. [15]. They found postpartum women had lower back discomfort six to ten months after giving birth [15]. Among postnatal women, Vøllestad and Stuge [16] discovered that 13% experienced symphysis-only pain, 24% across all three pelvic joints, and 63% across all three and one or two sacroiliac joints. Many prenatal LBP pathophysiology theories are highly questionable. Mechanical factors include belly sagittal diameter extension, center of gravity shift to the front, and maternal weight rise are typical. Counteracting this forward movement with posture changes can cause lordosis and lower back discomfort [17]. Pregnant women with low back pain have spinal compression and delayed healing [18]. Biomechanical research shows that pregnant women's weight on the spine causes back pain and muscle tiredness [17]. Besides early pregnancy lower back pain may be induced by hormones that flex pelvic and spinal tissues [19]. Biomechanical and musculoskeletal changes may induce pregnancy back pain. Pregnant women acquire 20–40 pounds. Sabino and Grauer [18] say pregnancy's forward center of gravity strains the lumbar spine. Some pregnant women may not have enough dynamic sacroiliac (SI) joint stability muscle force due to tight and weak abdominal muscles, which will expand with the baby. Pregnancy alters rectus abdominis muscles. Her abdomen-front is covered by xiphoid and pubic symphysis muscles. The fibrous linea alba in the center of the abdomen lengthens when the abdominal wall spirals during pregnancy [20].

Table 1: Socio, physical and economical demographic status.

Parameters	Frequency (f)	Percentage (%)	Mean ±SD
Age (in years)	18-22	26	
	23-27	36	
	≥28	31	
Educational status			
Up to primary	**12**	**12.90**	
Secondary School Certificate	**24**	**24.80**	
Higher Secondary Certificate	**21**	**22.60**	
Above Higher Secondary Certificate	**36**	**38.70**	
Occupational status			
Homemaker	**50**	**53.80**	
Service holder	**36**	**37.75**	
Bussinessman	**03**	**3.27**	
Laborer	**04**	**4.31**	
Monthly family income (in taka)			
Up to 15,000	15	16.1	
16,000-30,000	45	48.4	
>30,000	33	35.5	
Comorbidity			
No comorbidity	**79**	**84.90**	
Diabetes mellitus	**11**	**11.80**	
Hypertension	**3**	**3.33**	
Other	**2**	**2.22**	
BMI category			
18.5 – 24.9 (healthy weight)	**31**	**33.33**	25.5±2.0 (19.3-31.6)
25.0 – 29.9 (over weight)	**59**	**63.58**	
≥ 30.0 (obese)	**03**	**3.23**	
Mode of delivery			
Normal vaginal delivery (NVD)	**31**	**33.33**	
C section	**62**	**66.76**	
First onset of pain (in days)			
From the day of delivery	46	49.5	
21	6	6.4	
30	11	11.8	
40	5	5.4	
45	9	9.7	
60	12	12.9	
90	4	4.3	

Table 1 displays that out of the 93 mothers, 26 (20.2%) belonged to the 18-22-year-old age bracket, 36 (38.7%) to the 23-27-year-old bracket, and 31 (33.3%) to the ≥28 year The patients' ages varied from 18.0 to 38.0 years, with an average of 25.6 (± 4.5) years. reveals that just a small percentage of patients had completed secondary school, with a quarter of the total number of patients

having completed only a high school diploma or equivalent. The majority of patients (53.8%) were housewives, whereas 36 patients (38% of the total) worked outside the home. Of the 93 moms surveyed, over half (48.4%) reported a monthly family income between 16,000 and 30,000 taka, while 35.5% reported an income above 30,000 taka. Patients' monthly family incomes varied between 10,000.0 and 50,000.0 taka, with an average of 29329.4 (± 10442.1) taka. Eleven patients (11.8%) had diabetes and three patients (3.3%) had hypertension, although the vast majority (84.9%) did not have any co-morbidities. Groups did not exclude one another. Out of 93 patients, over a third were at a healthy weight, while the majority were overweight. The patients had an average body mass index (BMI) of 25.5 (±2.0) kg/m^2. Looking at the distribution of patients by mode of delivery (n=93), we can see that the majority (66.7%) had cesarean sections performed, while nearly one-third (33.3%) had regular vaginal deliveries. With a total of 93 patients, we can see that half of them (49.5%) experienced pain on the day of delivery, eleven (11.8%) experienced it one month later, twelve (12.9%) experienced it two months later, and four (4.3%) experienced it three months later.

Table 2: Distribution of patients by effect of pain on daily activity (n=93).

Effect of pain	Frequency (f)	Percentage (%)
Daily activity hampered	66	71.0
Sleep disturbance	19	20.4

Table 2 shows that in 66 (71.0%) patients daily activity was hampered due to low back pain while in 19 (20.4%) patients low back pain caused sleep disturbance. Groups were not mutually excluded.

Table 3: Distribution of patients by pain relieving factors (n=93).

Pain relieving factors	Frequency (f)	Percentage (%)
Rest	80	86.0
Medicine	62	66.7
Massage	38	40.9
Hot compression	5	5.4

Table 3 shows that 80 (86.0%) patients relied on rest to relieve pain, 62 (66.7%) patients received medicine, and 38 (40.9%) patients received massage. Groups were not mutually excluded.

Table 4: Distribution of patients by pain worsening factors (n=93).

Pain worsening factors	Frequency (f)	Percentage (%)
Sitting for a long time	79	84.9
Daily activity	58	68.4
Standing for a long time	29	31.2
Baby lifting	4	4.3

Table 4 shows that in 79 (84.9%) patients, pain was worsened by sitting for a long time, daily activity worsened pain in 58 (68.4%) patients while in 29 (31.2%) patients, pain was worsened by standing for a long time. Groups were not mutually excluded.

Table 5: Distribution of patients by intensity of pain in Visual Analog Scale (VAS) (n=93).

VAS score	Frequency (f)	Percentage (%)
2-3 (mild pain)	15	16.1
4-6 (moderate pain)	63	67.8
7-8 (severe pain)	15	16.1
Total	93	100.0
Mean ±SD (Range)	5.1 ± 1.8	(2.0-8.0)

Table 5 shows that among the 93 mothers, 15 (16.1%) had pain score within 2 to 3 on VAS scale, 63 (67.8%) had pain score within 4-6 on VAS scale while rests (n=15, 16.1%) had pain score within 7 to 8. The mean VAS of the patients was 5.1 (± 1.8) which ranged from 2-8.

Table 6: Distribution of patients by disability in Oswestry Disability Index (ODI) (n=93).

ODI	Frequency (f)	Percentage (%)
0-20 (Minimal disability)	29	31.2
21-40 (Moderate disability)	58	62.4
41-60 (Severe disability)	6	6.5
Total	93	100.0
Mean ±SD (Range)	26.1 ± 9.9	(6.0-50.0)

Table 6 shows that among the 93 mothers, 29 (31.2%) had minimal disability, 58 (62.4%) had moderate disability while 6 (6.5%) had severe disability. The mean ODI of the patients was 26.1 (± 9.9) which ranged from 6.0-50.0.

Table 7: Socio-demographic factors affecting pain and disability scores of patients (n=93).

Socio-demographic factors	N	ODI score (Mean± SD)	Statistics	VAS score (Mean± SD)	Statistics
Age (in years)					
18-22	26	23.6±8.5	*P*=0.135*	4.3±1.5	*P*=0.005*
23-27	36	25.5±11.5		5.1±1.8	
≥28	31	8.7 ±1.6		5.8 ±1.7	
Occupational status					
Homemaker	50	26.5 ±10.7	*P*=0.603*	5.0 ±1.7	*P*=0.891*
Service holder	36	24.2 ±8.6		5.2 ±1.9	
Businessman	3	30.3 ±10.4		4.7 ±1.1	
Laborer	4	24.5 ±5.0		5.5 ±1.9	
Monthly family income					
Up to 15,000	15	25.2 ±8.3	*P*=0.848*	4.2 ±1.2	*P*=0.016*
16,000-30,000	45	26.3 ±10.9		4.9 ±1.7	
>30,000	33	25.1 ±8.6		5.7 ±2.0	

*=One way ANOVA

Table 7 shows that the mean VAS scores of the patients from 18-22 years age group was 4.3 (±1.5) while the mean VAS scores of the patients from ≥28 years age group was 5.8 (±1.7). One way ANOVA showed that pain score was significantly more in patients in higher age group (*P*=0.005). The mean VAS scores of the mothers with monthly family income >30,000 taka was significantly higher compared to others (*P*=0.016). Besides, there was no significant statistical difference among patients with different age group, occupational status and monthly family income regarding ODI

scores as $P>0.05$ (One way ANOVA).

Table 8: Obstetric factors affecting pain and disability scores of patients (n=93).

Obstetric factors	N	ODI score (Mean± SD)	Statistics	N	VAS score (Mean± SD)	Statistics
Parity						
Primiparous	61	24.2±9.3		56	4.7±1.7	
Multiparous	32	29.7±10.2	***P*=0.007***	29	5.8±1.7	***P*=0.008***
Mode of delivery						
Normal vaginal delivery (NVD)	31	19.3±5.7		31	3.9±1.3	
C section	62	29.4±9.8	***P*<0.001***	62	5.7±1.7	***P*<0.001***

*=Independent t test

Table 8 shows that the mean VAS scores of the primiparous mothers was 4.7 (±1.7) while the mean VAS scores of the multiparous mothers was 5.8 (±1.7). Independent sample t test showed that pain score was significantly higher in multiparous mothers compared to primiparous mothers (P=0.008). Again, the mean VAS scores of the mothers having NVD was 3.9 (±1.3) while the mean VAS scores of the mothers having C section was 5.7 (±1.7). Independent sample t test showed that pain score was significantly more in mothers having C section compared to mothers having NVD (P<0.001). It shows that the mean ODI scores of the primiparous mothers was 24.2 (±9.3) while the mean ODI scores of the multiparous mothers was 29.7 (±10.2). Independent sample t test showed that functional disability was significantly more in multiparous mothers compared to primiparous mothers (P=0.007). Again, the mean ODI scores of the mothers having NVD was 19.3 (±5.7) while the mean ODI scores of the mothers having C section was 29.4 (±9.8). Independent sample t test showed that functional disability was significantly more in mothers having C section compared to mothers having NVD (P<0.001).

Table 9: Association between severity of low back pain and functional status of post-partum women (N=93).

Severity of low back pain	Functional status			P value
	Minimal disability	Moderate disability	Severe disability	
Mild	11 (37.9%)	4 (6.9%)	0 (0.0%)	
Moderate	17 (58.6%)	41 (70.7%)	5 (83.3%)	0.002
Severe	1 (3.4%)	13 (22.4%)	1 (16.7%)	

Among the patients with mild pain, 11 (37.9%) had minimal disability, 4 (6.9%) had moderate disability while no patients had severe disability. On the other hand, among the patients with severe pain, 1 (3.4%) had minimal disability, 13 (22.4%) had moderate disability while 1 (16.7%) patients had severe disability. Fisher exact test showed that there was statistical significant difference among the groups regarding severity of pain (p=0002).

Discussion

The present study was designed to assess the effect of low back pain on functional status among post-partum women. A total of 93 postpartum women with low back pain were included in the study. Moderate pain was complained by 67.7% mothers while 16.1% had severe pain. In majority cases, the pain was continuous in nature and hampered the daily activities. Pain score was significantly more in patients of higher age group, higher income group, multiparous mothers and mothers who underwent CS. Functional disability was significantly more in multiparous mothers and mothers who underwent CS.

The mean age of the patients was 25.6 years which ranged from 18.0-38.0 years. Mean age of the respondents was shown 28 years in the Pakistani study of Rasheed, et al. [21]. Jin, et al. [22] assessed the incidence and risk factors of chronic pain after cesarean delivery in China where they found the mean age of mothers was 29.0 years. Munro, et al. [23] conducted a study to identify the prevalence of pre-existing pain, pain in pregnancy, and persistent postpartum pain among Canadian women where they found the mean age was 30.0 (±5.0). This variation may be due to the practice of early marriage of Bangladeshi women.

Most of the patients (84.9%) had no comorbidity. Ten mothers were found diabetic and three were hypertensive. The number of comorbidities increases with age and found more in older individuals [24]. As these mothers were young, the proportion of comorbidities were low.

Since 1993, the international healthcare community has considered the ideal rate for caesarean sections to be between 10-15% [25]. The 2017-2018 Bangladesh Demographic and Health Survey data reported the C-section delivery rate to be 33 per cent [26]. The rate is much higher among women of higher educational attainment and from the wealthiest households. In this study, 62.0% mothers underwent C section. In Iran, the reported prevalence of CS was 51.5% [12]. There is no logical justification for any country to have C-section deliveries exceeding 10-15 per cent of total childbirths as per the World Health Organization [25].

Half of the patients had pain since delivery of the baby. Pain appeared after two months in 12.9% mothers. In 71.0% mothers, this pain hampered their daily activities and in 20.4% mothers it caused sleep disturbance. In most of the mothers, the pain worsened by sitting for a long time. Daily activities worsened pain in majority of the mothers which included care of the baby. In one third patients, pain was worsened by standing for a long time. Main pain relieving factors were rest, followed by taking medicine and massage. Jin, et al. [22] reported that most of the women experienced pain at rest and in most of the cases general activity was hampered due to the pain. Sleep disturbance was also mentioned in majority of the cases. Eggen, et al. [27] reported that the pain was often worse in the evenings and at night. Likewise, the evening pain was often related to the amount of activity during the day [27]. Wang, et al. [11] described that at three months, majority patients with pain reported that it occurred both at rest and during normal physical activities, the remainder reported that it only occurred during normal physical activities. Most patients experienced pain daily. Almost half of the patients reported that pain had interfered with one or more of daily activities, mood,

sleep and child care. Only two patients consulted with doctor and took analgesics.

The mean VAS of the patients was 5.1 (± 1.8) which was comparable with other studies [23,28]. Moderate pain was complained by 67.7% while 16.1% had severe pain. Jayameri & Thenmozhi [28] found 53% cesarean section mothers had moderate pain, and 27% of them had severe pain.

Pain score was significantly more among patients in higher age group. Jayameri & Thenmozhi [28] also found that age was significantly associated with pain. This was supported by other studies [10,29]. Post-partum pain can be caused by structural problems that relate to age [29]. Moreover, higher age group mothers of the present study were mainly multiparous mother.

The mean VAS scores of the mothers with high monthly family income was significantly higher compared to others. In contrast, studies reported that subjects living in less affluent socio-economic areas report a higher prevalence of pain compared to those living in more affluent area [30,31]. The postpartum mother who belongs to low socio-economic status struggled more. They sometime overlook their physical problems like pain and discomfort. Sometimes they took pain killers without consulting physicians. It may be a cause of lower pain severity among lower income group mothers.

Pain score was significantly more in multiparous mothers compared to primiparous mothers (P=0.028). Kazdal, et al. [29] and Ostgaard, et al. [32] also found similar results. In multiparous women, the severity of pain increased due to the decreased strength of uterine muscles after multiple pregnancies, and increased sensitivity of the central nervous system [33].

Pain score was significantly more in mothers having C section compared to mothers having NVD (P<0.001). Pereira, et al. [34] stated that cesarean section births had higher pain intensity during movement compared to vaginal delivery births. Several other studies also reported similar findings [5,11,21,29]. However, Khansari, et al. [12] found no significant difference between CS and NVD. Somewhat unexpectedly, Bijl, et al. [35] found that CS protected the women from persistent postpartum pain compared to spontaneous vaginal delivery. In most women, CS was performed under spinal or epidural anesthesia. For postoperative analgesia, paracetamol, opioids (eg, methadone or morphine), and nonsteroidal anti-inflammatory drugs were given in case of CS. As discussed by Eisenach et al. [36] it is reasonable to assume that tissue injuries during surgery for a CS, such as traction on abdominal structures and nerves (eg, the ilio-inguinal and hypogastric nerves) and damage to the lower uterine segment, would increase the likelihood of persistent postpartum pain. It is acceptable that the protective effect of CS is related to the postoperative treatment of pain with opioid and/or EA.

Among the 93 mothers, majority (62.2%) of the mothers had moderate functional disability due to the low back pain while 6.5% had severe disability. The mean ODI of the patients was 26.1 (± 9.9) which ranged from 6.0-50.0. Functional disability was significantly more in multiparous mothers compared to primiparous mothers (P=0.007). However, study of Pereira, et al. [34] found no association with the functional limitations and parity.

Functional disability was significantly more in mothers having C section compared to mothers having NVD which was consistent with the result of Khansari, et al. [12]. Pereira, et al. [34] stated that cesarean births showed greater functional limitation for selected movements than vaginal births. During cesarean procedure, some vital supportive tissue like abdominal superficial and deep fascia is cut and abdominal muscles functional ability are affected, some disturbance in spinal column stability is expected. The results of supportive tissue alternation causes some difficulties in a transitional position. Moreover, pain in some casual position may stop new mothers from movement [12].

Management of Postpartum Low Back Pain

Individualized treatment with education, exercises, pelvic belts, analgesics, and acupuncture can help. For pregnant women with back pain, avoid tiredness, twisting while lifting, and unyielding postures; keep excellent upright posture; and rest often. Flex and squeeze knees while turning in bed [37]. A nest-shaped pillow can reduce late-pregnancy pain and sleeplessness. When the woman is lateral recumbent, the pillow supports her abdomen and relieves symptoms. A lumbar roll behind the lower back (with feet slightly elevated), abdominolumbar supports, and sacroiliac belts are more options. Other treatments include massage and local heat and cold [37]. Exercise benefits mostly PLBP patients. PLBP exercises are comparable to those for nonpregnant backache sufferers, with certain pregnancy-specific adaptations. After acute discomfort subsides, back strengthening and stretching routines can be customized. Ostgaard et al. observed that a personalized training program based on information, ergonomic guidance, and exercises reduced sick leave in pregnant women with back pain but not PGP [38]. Paracetamol is safe during pregnancy, although it doesn't seem to work well for certain conditions. After giving birth, breastfeeding mothers can safely use NSAIDs.

Conclusion

Pain score was significantly more in patients in higher age group, higher income group, multiparous mothers and mothers having caesarian section. Functional disability was significantly more in multiparous mothers and mothers having caesarian section.

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