

Prevalence of Low Back Pain among postpartum women with Cesarean and Normal delivery

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Abstract

Introduction: The aim of the study is to find out prevalence of postpartum pain among females who had undergone normal delivery and C-section

Methods: Total 120 women were recruited in this study who met the inclusion criteria. Two forms were designed to obtain data. Form I contains Demographics and Form II used for follow up data. Data was collected by direct contact on first day after delivery, follow up for week 1, 1 month and 3 months were on telephone. Primary variable used for outcome was Visual Analogue Scale (VAS). Two groups were formed Group A for females who had normal delivery and Group B who were having C-section. Out of 120 women, 60 were in group A and 60 in group B respectively.

Results: The prevalence of low back pain among postpartum in normal vs cesarean group was 40.9% vs 40% on day one and 32.2% versus 35.2% after 1 week whereas after 3rd month follow up backache was less in natural delivery group than cesarean group. There was no significant difference between two groups in VAS pain score.

Conclusion: The current study concludes that there is high prevalence of women who had C-section than normal

delivery group. The actual reason of low back pain among postpartum women is still unknown.

Background

One of the most common problems during and after the pregnancy is back pain in lower lumbar region which is musculoskeletal in nature. Studies have shown that backache is prevalent among pregnant women although it even persists after the pregnancy ^{[1] [2] [3]}. The etiology is still unknown ^[4]. Its consequences lead not only to disability but also effect the well-being of patient. The incidence of low back pain varies from 5-40% in postpartum phase.

A study has reported that women who complained backache during pregnancy have complained of constant pain even 3 years after delivery. However females who have low back pain before pregnancy are more prone to have pain in postpartum phase ^[5].

In order to facilitate the enlarging uterus a lot of body changing occurs and due to that posture muscles get weakened. Moreover, hormonal changes occur that slacken the joints and ligaments of pelvic girdle that causes difficulty in walking. Due to multiple stresses, integrity of spine is compromised in order to hold and lift the child. It causes repetitive injury to the zygoapophyseal

joints, disc, muscles, ligaments and joints of spine due to twisting, torquing and poor posture. Mainly due to hormonal changes during pregnancy in which estrogen, progesterone and relaxin plays a major role and causes muscle and joint laxity that compromises the stability of spine [6].

Hormonal changes that causes muscle separation, weight gain and postural changes all these factor contributes to back pain. In later stages of pregnancy postural changes causes anterior shift of centre of gravity as uterus expands. To maintain the balance women used to lean backward. This leaning backward causes extra stress over back muscles that lead to stiffness and pain.

There are some mechanical changes that also cause backache. As fetus grows it expand the uterus and pushes against the abdominal wall causing them to stretch. This prolonged stretch leads to muscle weakness that would lead to backache [7]

Women who had undergone C-section having backache followed by such disability which affects their daily activities and quality of life. Either epidural anesthesia is responsible for postpartum back pain or not is still under debate [8] Recent studies has shown that there is no difference of postpartum pain in women who were given spinal anesthesia during labor and who do not [9] [10] [11]. Likely, some studies have reported spinal anesthesia has not linked with postpartum pain during vaginal delivery and C-section [12]

Higher BMI, younger age, previous history of back pain during pregnancy, multiparity and joint hypermobility have been vulnerable factors of low back pain in women after childbirth [13]

Epidural analgesia has been used as a labor pain reliever since ages. It has been accepted as effective means of analgesia for women during labor and its efficacy is well acknowledged [14].

It is appraised as a gold standard technique for pain control in medical specialty [15]. Epidural or spinal anesthesia has been preferred all over the world [16]. There are many factors liable for usage of epidural anesthesia in obstetrics. In our hospitals factors include insufficient patient understanding, cultural difference, lacking of anesthesia services, and fear of complications. During counseling most frequent question asked by patients and their care givers is linked to backache after delivery and perceived level of disability [17]. Studies do not show any link between epidural anesthesia and postpartum back pain [18].

Rationale of this study is to find out the prevalence of low back pain in women who had underwent normal delivery and C-section.

Methodology

Study Design

Non-randomized cohort study

Inclusion Criteria

Women aged 20-35

Exclusion criteria

- Back pain before pregnancy
- Any spinal deformity
- Chronic back pain
- Women who had C-section

The purpose of the study was explained and consent form was taken in their first language. Duration of the study was 1 year after its approval. Visual analogue scale was explained to patients. 120 women were enrolled in the study. Women were categorized into two groups women who had normal delivery were in Group A whereas who had undergone cesarean was in group B.

Two forms were designed Appendix I and Appendix II. Form I contains demographic data and basic information. Data collection was started from first postnatal day by direct contact and through telephonic communication at 1

week, 1 month and 3 months. Form I was filled by investigator and form II was filled by researcher to prevent biasness. It was already decided that those patient who experienced mild backache will be advised to take simple measure of back care at home and for moderate to severe backache they was referred to pain clinic.

Pain lasting more than 1 month was selected because it is indicative of persistent disabling pain.

Prevalence was calculated by frequency tables. Data was analysed by using SPSS version 17. Frequency and percentages were analysed by Chi-square test. Mean and SD were analysed by sample t-test

Results

In the current study 120 participants were recruited as per inclusion criteria, out of which 60 participants had undergone cesarean section and 60 had undergone normal vaginal delivery. Out of the 60 participants who had undergone cesarean section, 47 (78.3%) participants were having low back pain and 13(21.7%) participants were not having low back pain. Out of 60 participants who had undergone normal vaginal delivery, 20 (33.33%) participants were having low back pain and 40 (66.67%) participants were not having low back pain.

The prevalence of postpartum low back pain in cesarean group $47 \times 100 / 60 = 78.3\%$ whereas the prevalence of low back pain in normal delivery $20 \times 100 / 60 = 33.33\%$. The prevalence of postpartum back pain is higher in cesarean group than normal delivery group.

There was no significant difference between groups in reference to age, weight, and height and body mass index. Literacy rates and the number of working women were remarkably high in analgesia group as compare to non-epidural group. Only 58% were primiparous remaining were multiparous. Significant difference was observed between groups on parity.

Majority of women were not on medications in antenatal period. Mean duration of labor was high in epidural analgesia than non-epidural analgesia groups ($P < 0.01$) Frequency of backache in previous pregnancy was high in cesarean than natural birth group ($P = 0.006$). There was no difference found in back pain in current pregnancy. In epidural analgesia group 96% women had epidural analgesia whereas remaining 4% women received combined spinal epidural analgesia.

The prevalence of postpartum back pain was same in both groups on day 1 after delivery. Back pain was insignificant in women after day 1 and 1 week of delivery. Although, at 1 and 3rd month follow up, backache was less in natural birth group than cesarean group. Visual analogue scale was used to measure pain. Mean score of two groups does not show any association between groups at 1st postnatal day, 1st week, and end of 1st and 3rd month.

During follow up, we asked postpartum women about different treatment methods of their use to relieve pain. On 1st post natal day, oral analgesia usage for low back pain was highest in both normal and cesarean group whereas only 20% women were given IV analgesia for the complain of low back pain on 1st post natal day in cesarean. The oral analgesia usage was decreased with the passage of time in natural birth group. Other treatment methods like massage with local anesthetic creams usage were same in normal and cesarean group.

Discussion

The current study shows that there is no difference in the prevalence of low back pain on day 1 and day 7 after delivery in normal and cesarean group.

A study reported that women who had back pain followed by cesarean are common but persistent back pain is less common. Women who had previous history of back pain were prone to have more pain in postpartum period followed by C-section [19]. Another study has reported

spinal and epidural analgesia have not complications like back pain hence they are more safe and reliable^[20]. In contrast Robin Russell et al reported that there was increased number of back pain in women who had epidural analgesia^[21]

R Russell et al has shown that there was no difference in nature of back pain between who had normal delivery and C-section. The choice of having C-section depends on different factors and one of the most important factors was frequency of backache in previous pregnancy. However it was remarkably high in cesarean group than normal group (P=0.006) back pain in previous pregnancy was one of the major reason to avoid C-section.

A study conducted by Buttler and fuller reported that prevalence of low back pain in both group was same after 1 day of delivery whereas long term back pain was found in 7.5% and 6.9% of patients at 3 months in normal vs cesarean group in contrast another study has given their values of 3 months follow up which was 3.9% versus 11.3% back pain in normal and C-section^[23]

There was no any link found between number of attempts for epidural catheter insertion and low back pain. The most confound result was prevalence of low back pain on 1st post natal day was same in both groups.

Conclusion

Current study results showed that women who reported low back pain after C-section were significantly higher than who had normal delivery. Although an increased number of persistent pain was found among women who had C-section, previous history of back pain and primiparous. The actual cause of back pain is still under debate.

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