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A comparative study on effect of early versus delayed dressing removal of caesarean section wound on surgical site infections and patients comfort level in a tertiary care hospital

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Abstract
Aim: To evaluate the effect of early versus delayed exposure of surgical wound following caesarean section on:
1. Surgical site infections (SSI) 2. Patients' comfort level 3. Length of hospital stay
Materials and Methods: A hospital based prospective observational study was conducted over a period of 18(1st October 2022 to 31st March 2024) months in the department of Obstetrics and Gynaecology, Midnapore Medical college and Hospital, West Midnapore, West Bengal. All pregnant mothers with age 19-35 years and had undergone emergency caesarean section were included in the study.
Results and Analysis: The women in the early exposure group reported a significant lower pain level than those of delayed exposure group (p=0.000065). The women in the early exposure group reported a significant higher percentages of all items of comfort scale than those in delayed exposure group (p>0.05). In addition the percentages of wound complications were slightly higher in delayed exposure group than early exposure group with no significant difference (p=<0.05). The duration of hospital stay was significantly more in delayed exposure group than those of other group. (p=0.001)
Conclusion: The present study concluded that early exposure of the wound (3rd post-operative day) reduces the incidence of wound complication and SSI with no significant difference. Furthermore, it has significant effect to reduce the pain level, increase all aspect of comfort level and decrease in the duration of hospital stay among the women who underwent LSCS.

Keywords: Surgical site infections, caesarean section, early exposure, delayed exposure, comfort level

Introduction
Caesarean section (CS) is widely performed in the field of obstetrics globally and was primarily developed as a life-saving measure for both mother and foetus during challenging or obstructed deliveries [1]. Over the past few decades, there has been a significant increase in the incidence of caesarean deliveries, with an estimated 22.9 million worldwide in 2012 [2]. In India, the population-level caesarean section rate appears to be 21.5% according to NFHS-5 data [3]. A common complication associated with caesarean section deliveries is surgical site infection (SSI).
The estimated incidence of surgical site infections (SSI) globally ranges from 3% to 15% [4] Over the past three decades, the risk of SSI has notably decreased, primarily due to advancements in prophylactic antibiotics, improved hygiene conditions, implementation of sterile techniques, and various other practices [5]. Despite this decline, it is expected that the occurrence of SSI will rise due to the increasing prevalence of caesarean deliveries. SSI following caesarean sections is linked to higher rates of maternal morbidity and mortality. Additionally, SSI can have a negative impact on women recovering from surgery while caring for their newborns; it may prolong hospital stays, increase healthcare costs, and have various socioeconomic and financial consequences [6].
The perfect timing for removal of wound dressing in order to prevent the occurrence of SSI is incomprehensible topic and the literature concerning it is still limited. A few professional like to keep the wounds exposed and uncovered from the first moment of closing while, others prefer to keep them uncover after a specific timeframe, and even now others prefers to cover the wounds until removal of the suture [15].

Some few literatures found an association between the early wound exposure and increase a risk of infection and SSI especially if the dressing removed for a time less than 48 hours postoperative (National Collaborating Centre for Women's and Children's Health, 2011). Nevertheless, other studies had recommended that covering the wound for long time have no advantage [8].

While, several randomized controlled studies have revealed that early exposure of clean surgical incisions have many benefits. The short dressing times not only decrease the cost of dressing materials but also decrease the workload, improved the level of patient's comfort and the observation of the wound become even easier, it showed no significant difference in wound related complications [7]. Based on the current recommendation according to NICE guideline on CS (2011), routine wound care should improve on removal of the dressings 24 hours after the CS and this is based on level four evidence.

Aim: To evaluate the effect of early versus delayed exposure of surgical wound following caesarean section on:

1. Surgical site infections (SSI)
2. Patients' comfort level
3. Length of hospital stay.

Operational Definition

Surgical Site Infections: The Centres for Disease Control and Prevention defines SSI as an infection occurring within 30 days from the operative procedure in the part of the body where the surgery took place [9].

Early Exposure: Removal of the wound dressing on 3rd post operative day

Delayed Exposure: Removal of the wound dressing on 5th postoperative day

Visual Analogue Scale (VAS) of Pain: Based on the distribution of pain, VAS scores in post-surgical patient who described their postoperative pain intensity as none, mild, moderate, or severe, the following cut points on the pain VAS have been recommended:

No pain (0-10mm), mild pain (10-30 mm), moderate pain (40-60 mm) and severe pain (70-100 mm).

Women Comfort: The ability of the women to sit up easily, can stand easily, can walk easily and can squat easily.

Methodology

This is a hospital based prospective observational study conducted in the Department of Obstetrics and Gynaecology, Midnapore Medical College and Hospital, west Bengal after obtaining necessary clearance from the Institutional Ethics Committee over a period of 18 months from 1st October 2022 to 31st March 2024. Informed written consents were obtained from all the women who participated in the study. All the required data were collected through available documents and were written on previously designed proformas. The study enrolled 260 pregnant mothers. The inclusion criteria were: low risk obstetrics patient aged 19-35 years, not had complications during pregnancy, first, second and third repeat caesarean sections will be included and transverse Pfannenstiel incision. Exclusion criteria includes Prior surgical site infection, known preoperative infectious disease, pyrexia before caesarean section, previous medical illness like Tuberculosis, bronchial asthma, haematological disorders, skin infections, hypertensive disorders in pregnancy and pre gestational or gestational diabetes mellitus and BMI of 35 kg/m2 and above.

- Firstly, in the postoperative postnatal ward the women were assessed and their medical records were revised as specified by the inclusion and exclusion criteria, demographic and obstetric details of women were recorded and the written consent was obtained from the suitable women for participating in the study.
- From the prepared caesarean sections deliveries list, mothers were randomly assigned into two groups. The odd numbers were recruited as an early exposure group and the even numbers were recruited as delayed exposure group.
- The early exposure group consists of 130 women in whom surgical wound was exposed on 3rd postoperative day and delayed exposure group consists of 130 women in whom surgical wound was exposed on 5th postoperative day from the time of skin closure in caesarean section.

At operating room, all women were adhered by a standard surgical technique. A standard gauze dressing covered with Elastoplast was applied for covering the surgical incision to all the women. Also, similar antibiotic and analgesic regimen were administered to all women.

Dressing was removed at the designated time. Sutures were removed on 6th postoperative day. Wounds were examined prior to removal of stitches for evidence of any complication. Women were routinely discharged on postoperative day 7 unless requiring management of wound complications.

The comfort level of women was assessed on the 3rd and 5th postoperative day in both groups on the basis of comfort assessment sheet which included the ability to perform the daily routine tasks (sitting, standing, walking and squatting).

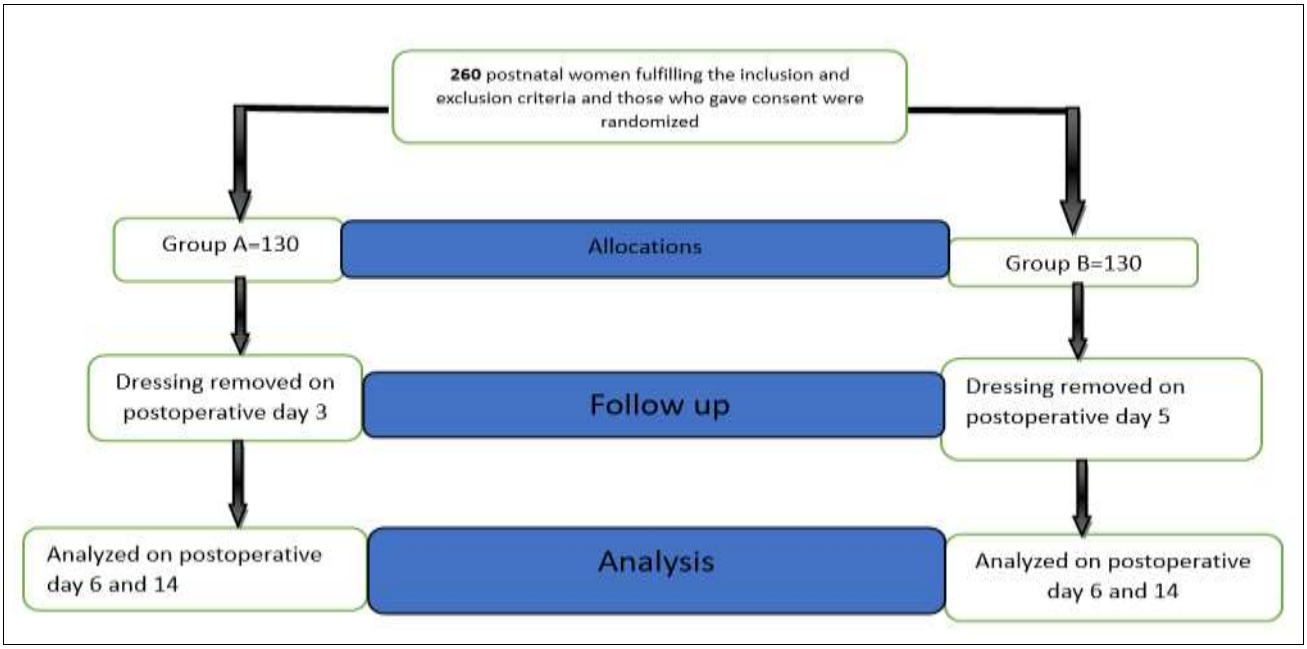
Pain and tenderness were assessed on the basis of visual analogue scale on 3rd and 5th postoperative day.

All women were assessed on three occasions, on the 6th postoperative day before removal of suture in the post operative postnatal ward and after two weeks in postnatal clinic to identify the occurrence of SSI by using wound assessment sheet. In case if any complication was observed, the suitable medical and nursing care was provided irrespective of the study groups. All the data were collected and recorded in the proforma.

Statistical Analysis

The statistical analysis were done for the collected raw data after it was coded, computed by using SPSS Inc. version 21. Data were presented as frequency and percentages (qualitative variables) and mean ± SD (quantitatives continuous variables). Chi square was used for comparision of categorical variables. The difference was considered significant at $p \leq 0.05$.

Study Flow Chart



Results

A total 260 postnatal mothers were enrolled in this study from 1st October 2022 to 31st March 2024.
They were divided into 2 groups:

Group A (N=130): Early exposure group (Surgical wound was exposed on 3rd postoperative day)

Group B (N=130): Delayed exposure group (Surgical wound was exposed on 5th postoperative day)

Table 1: Age wise distribution

Ages (in years)	Group A N (%)	Group B N (%)	Total
≤20	40 (30.76%)	46 (35.38%)	86 (33.07%)
21-25	58 (44.62%)	56 (43.07%)	114 (43.85%)
26-30	19 (14.62%)	22 (16.92%)	41 (15.77%)
31-35	13 (10.00%)	6 (4.63%)	19 (7.31%)
TOTAL	130 (100%)	130 (100%)	260 (100%)

Analysis of age in group A, shows a mean age of 23.15 years, whereas in group B it was 22.58 years.
P value is 0.354 which is not significant.

Table 3: Gravid index of the study

Gravid Index	Group A	Group B	Total
G1	59(45.38%)	55(42.30%)	114(43.85%)
G2	51(39.23%)	46(35.38%)	97(37.31%)
G3	20(15.39%)	29(29.30%)	49(18.84%)
Total	130(100%)	130(100%)	260(100%)

Table 4: Gestation age in weeks (GAW)

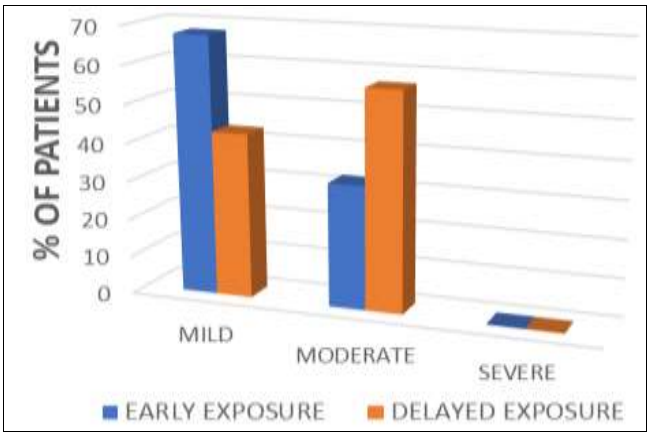
Gaw	Group A	Group B	Total
≥ 32-36	15(11.54%)	13(10%)	28(10.77%)
36-40	66(50.77%)	67(51.54%)	133(51.15%)
40+	49(37.69%)	50(38.46%)	99(38.08%)
Total	130(100%)	130(100%)	260(100%)

Table 3 and 4 shows that the percentages of different gravidities and gestatational ages of current pregnancy are nearly close in both groups with no significant differences. (p.0.05)

Table 5: VAS of pain among the studied groups

VAS	Degree	Group A (130)		Group B (130)		P Value
		NO	%	NO	%	
Mild	1-3	88	67.69	56	43.08	0.000065
Moderate	4-7	42	32.31	74	56.92	
Severe	8-10	0	0	0	0	

Table 6 shows that women in early exposure group who removed the wound dressing early had reported **significant** lower pain than those were in delayed exposure group. (P=0.000065).



Graph 1: VAS of pain among the studied groups

Table 6: Distribution of the studied group according to comfort level

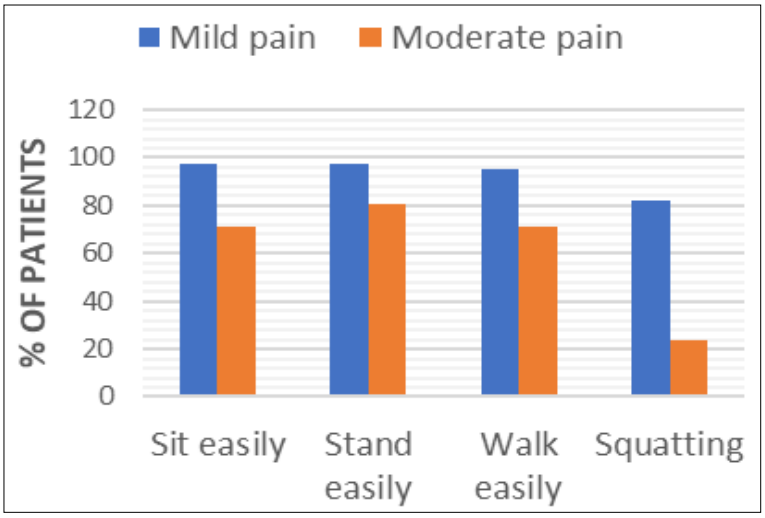
Items of comfort	Items	Group A		Group B		P value
		No	%	No	%	
Sit easily	Yes	116	89.23	60	46.15	0.00001
	No	14	10.77	70	53.85	
Stand Easily	Yes	120	92.30	82	63.08	0.00001
	No	10	7.70	48	36.92	
Walk Easily	Yes	114	87.70	76	58.46	0.00001
	No	16	12.30	54	41.54	
Squatting	Yes	82	63.08	56	43.08	0.01233
	No	48	36.92	74	56.92	

Table 6 women in early exposure group reported a significant higher percentage of all items of comfort scale (sit easily, stand easily, walking easily and squatting) than those in delayed exposure group. ($p<0.05$)

Table 7: Relationship between pain level and comfort state among women in early Exposure group

Items of comfort	Items	Level of pain				P value
		Mild pain (88)		Moderate pain (42)		
		No	%	No	%	
Sit easily	Yes	86	97.72	30	71.43	0.00001
	No	2	2.28	12	28.57	
Stand easily	Yes	86	97.72	34	80.95	0.00078
	No	2	2.28	8	19.05	
Walk easily	Yes	84	95.45	30	71.43	0.000096
	No	4	4.55	12	28.57	
Squatting	Yes	72	81.82	10	23.81	0.00001

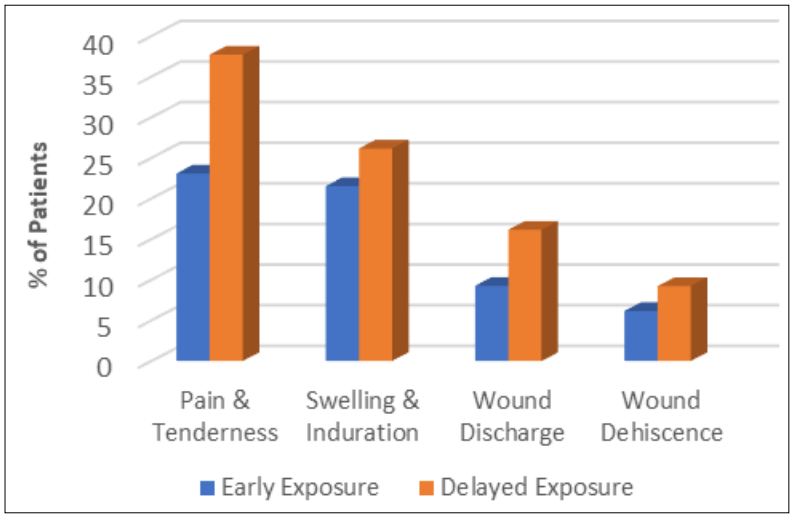
Table 8 shows that the women in early exposure group, the percentages of those reporting all items of comfort scale (sit easily, stand easily, walking easily and squatting) higher in women with mild pain compared to those with moderate pain. This mean that there was a significant association of comfort with less pain level.



Graph 2: Relationship between pain level and comfort state among women in early Exposure group

Table 8: Wound complication assessment on POD 6

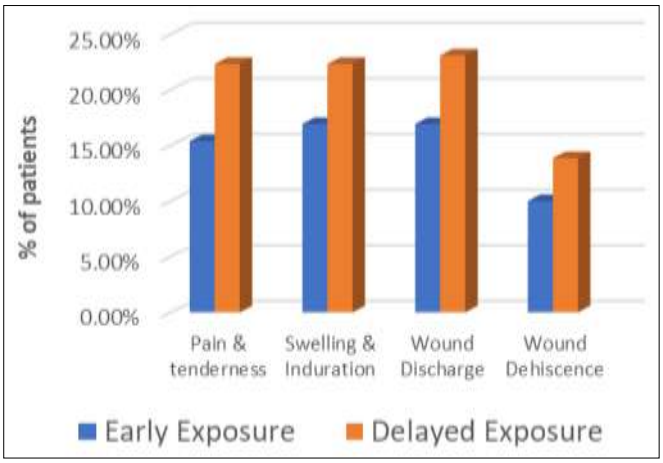
Wound complication	Group A		Group B		P value
	No	%	No	%	
Pain & Tenderness	30	23.08	49	37.70	0.01
Swelling & Induration	28	21.53	34	26.15	0.382
Wound Discharge	12	9.23	21	16.15	0.093
Wound Dehiscence	08	6.15	12	9.23	0.351



Graph 3: Wound complication assessment on POD 6

Table 9: Wound complication assessment on POD 14

Wound Complication	Group A		Group B		P Value
	No	%	No	%	
Pain & Tenderness	20	15.38	29	22.31	0.153517
Swelling & Induration	22	16.92	29	22.31	0.274276
Wound Discharge	22	16.92	30	23.08	0.214847
Wound Dehiscence	13	10	18	13.85	0.338627

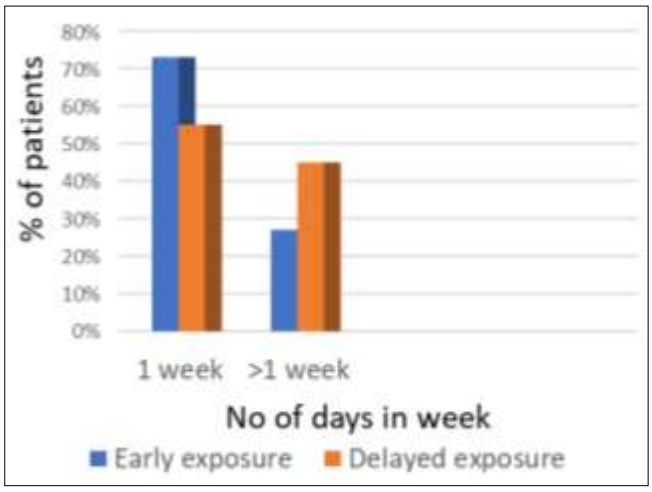


Graph 4: Wound complication assessment on POD 14

Table 8 and 9 shows that the percentage of wound complications is slightly higher in delayed exposure group than those were in early exposure on POD6 and POD 14 with no significant difference except pain and tenderness on POD6 which is significant ($p \leq 0.05$)

Table 10: Distribution of the study population according to length of hospital stay

Length of hospital stay	Group A No (%)	Group B No (%)	P value
1 week	95 (73%)	71 (55%)	0.001
>1 week	35 (27%)	59 (45%)	
total	130 (100%)	130 (100%)	



Graph 5: Distribution of the study population according to length of hospital stay

Out of 130 women in early exposure group 27% of the mothers stayed in hospital for greater than 1 week compared to 45% in delayed exposure group. This means there is a significant increase in the duration of hospital stay among delayed exposure group. (P=0.001)

Discussion

Dressing put on caesarean section wound can be removed early or delayed until the suture is removed. However, we could not find any review comprehensively assessing the effect of early or delayed removal of dressing following LSCS in reducing surgical site infection, wound dehiscence or patient's comfort level or perception of satisfaction.

The key findings indicate that the delayed exposure group exhibited slightly higher rates of wound complications and signs of surgical site infections compared to the early exposure group. Additionally, participants in the early exposure group reported significantly lower levels of pain and significantly higher scores across all aspects of the comfort scale compared to those in the delayed exposure group. Duration of hospital stay was also significantly higher in delayed exposure group as compare to early exposure group.

Visual Analogue Scale of Pain (VAS) were to assess the pain level in our study group. In our study, none of the mothers experienced severe pain. 67.69% of the early exposure group had mild pain and 32.31% had moderate pain. 43.08% of delayed exposure group had mild pain and 56.92% had moderate pain. Thus the women in early exposure group who removed the wound dressing early had reported significant lower pain than those were in delayed exposure group. (P=0.000065)

The findings were similar to the study conducted by Hanan El-Sayed *et al.* (2020) [11] over 128 women. In their study also none of the women experienced severe pain level. The women in the early exposure group who removed the wound dressing early had reported a significant lower pain level than those were in delayed exposure group. (P=0.008)

The conclusions drawn in the NICE clinical guideline (2011) [10] were corroborated by a study investigating recovery post-caesarean section. It emphasized the importance of specific aspects in CS wound care, such as applying dressings only upon medical advice. Additionally, the guideline highlighted the significance of early removal of wound dressings within twenty-four hours post-operative CS surgery as a crucial intervention for managing pain and preventing infection.

On the other hand, these findings did not align with those of Kandola (2019) [12] in their review on measures to maintain cesarean section wounds. Kandola's review highlighted that it is typical to encounter symptoms such as wound redness, swelling, and pain following a cesarean section.

Similarly, a comprehensive systematic review conducted by Dumville *et al.* (2016) [13] revealed that there is insufficient evidence to recommend a particular type of dressing for cesarean section wounds. The review found no clear indication that using any specific dressing or even dressing at all reduced the risk of surgical site infection (SSI) and pain.

In our study, the percentage of Surgical Site Infections (SSI) were higher among the women in delayed exposure group (surgical wound exposed on 5th post-operative day) than those in early exposure group (surgical wound exposed on 3rd post-operative day) with no significant difference except pain and tenderness on POD 6 which was significant (p=0.01)

In our study most frequently observed wound complications on POD 6 were pain and tenderness (23.08%) and swelling and induration (21.53%). These findings were concordant with the study conducted at the Obstetric department in Colombo South Teaching Hospital by Chandrasiri & Fernandopullae, (2016) [14] who assess if the early removal of wound dressing has an effect on the occurrence of SSI. They also reported localized swelling and tenderness were the most observed wound complications. However there was no significant difference shown between

both groups.

The study conducted by Clare D Toon (2015) [15] to assess the effect of time (early vs late removal) on SSI post closure of clean and clean-infected surgical wound and found no difference of statistically significant between both the groups.

Moreover another study conducted by Hanan El-Sayed *et al* (2020) [11] at the Obstetrics department of Mansoura University, Egypt reported that the percentages wound complications were slightly higher in delayed exposure group than those of early exposure group ($p<0.05$).

Such agreement found by PC Tan *et al*. (2020) [16] where the rate of SSI were lower (1.3%) in women were wound left exposed compared to (3.2%) in women where the wound were kept dressed after skin closure but the result were statistically not significant. However, in the wound-exposed patients, stated preference for wound exposure significantly increased from 35.5% to 57.5%, whereas in the wound-dressed patients, the stated preference for a dressed wound fell from 48.5 to 34.4% when assessed.

In a study conducted by Wadhwa S.N. *et al*. (2021) [17] to evaluate the efficacy of early versus late dressing removal in caesarean wounds in the department of Obstetrics and Gynecology at ESIC PGIMSR, Basai Darapur, Delhi, India, there was significant difference (p value < 0.001) in the development of surgical site infection (SSI) in both group (16% in early exposure group versus 32% in delayed exposure group).

Similarly in a prospective randomized study conducted by Khlifi A *et al*. (2022) [18] it was reported that the postoperative SSI rate was significantly reduced when wound dressing was removed the 2nd day postoperatively (3.5%) vs. (10%) when wound dressing were changed every two days beyond 48 hours (p=0.01)

In contrary in a study conducted by Singh N *et al*. (2020) [19] at Institute of Post-Graduate Medical Education and Research (IPGMER), Kolkata, it was found that wound dressings do not play a significant role in wound healing as early removal of the wound dressing at 48hrs hours instead of 5th postoperative did not have a detrimental effect on wound complications in women undergoing scheduled caesarean sections.

The current study found that women in the early exposure group, who had their wound dressings removed on 3rd post-operative day, experienced a significantly higher level of comfort across all aspects compared to those in the delayed exposure group.

These findings align with a study conducted by Chandrasiri & Fernandopulle (2016) [15], which observed that patients who removed their dressings early were better able to perform their daily tasks with ease and efficiency compared to others. Additionally, the results indicated that women who underwent early dressing removal felt more comfortable and found it easier to carry out simple tasks after early exposure, as opposed to delayed exposure.

Similarly, in a study conducted by Peleg *et al* (2016) [20] it was found that more women were pleased and satisfied with their ability to wash or shower soon after wound dressing removal in the early dressing removal group (75.6%) compared to the delayed dressing removal group (56.9%; odds ratio, 2.35; 95% confidence interval, 1.46–3.79).

In contrary, a study conducted by Taijuan Zhang *et al*. (2019) [21] it was found that early dressing removal was favoured with respect to surgical site infections (pooled RR=0.89; 95% CI: 0.61 to 1.29), patients' perception on safety (pooled RR=0.60; 95% CI: 0.48 to 0.76) and comfort (pooled RR= 0.95; 95% CI: 0.74 TO 1.22) while outcomes such as wound dehiscence, patient satisfaction and patient perception on convenience favoured the delayed dressing removal arm.

In a study conducted by Khlifi A *et al* (2022) [18] it was noted that not only the patient's satisfaction rate was significantly higher 94.5% vs. 70% respectively, ($p<10-3$) but also the average cost of the management of postoperative SSI was also reduced ($p<10-3$)

Regarding the duration of hospital stay, 45% of the mothers in delayed exposure group stayed in hospital for >1week as compared to 27% in early exposure group. This means there is a significant increase in the duration of hospital stay ($p<0.05$) in delayed exposure group as compare to early exposure group.

Similar finding was found by Sanjana N Wadhwa *et al*. (2021) [17] who carried out a study to evaluate the efficacy of early versus late dressing removal in caesarean wounds in the department of Obstetrics and Gynecology at ESIC PGIMSR, Basai Darapur, Delhi. They reported that the duration (in days) required for complete wound healing was 6.6 in early removal group and 10.6 in late dressing removal group which was statistically significant. The length of Postoperative Hospital stay (days) was significantly less in early removal group (5.6 versus 10.08).

Moreover, in a study conducted by Clare D Toon (2015) [15] it was found that the hospital stay was significantly shorter (MD -2.00 days; 95% CI -2.82 to -1.18) and the total cost of treatment significantly less (MD EUR -36.00; 95% CI -59.81 to -12.19) in the early dressing removal group than in the delayed dressing removal group.

Conclusion

The present study concluded that early exposure of the wound (3rd post-operative day) reduces the incidence of wound complication and SSI with no significant difference. Furthermore, it has significant effect to reduce the pain level, increase all aspect of comfort level and decrease in the duration of hospital stay among the women who underwent LSCS.

Since the evolving trend is moving towards early discharge home after LSCS, the decision between dressing removal early versus delayed becomes crucial and needs to be clarified in the current literature, with further studies targeting wound complications.

Conflict of Interest

Not available.

References

1. Das RK, Subudhi KT, Mohanty RK. The rate and indication of caesarean section in a tertiary care teaching hospital eastern India. International Journal of Contemporary Pediatrics. 2018;5(5):1733–9.
2. Molina G, Weiser TG, Lipsitz SR. Relationship between cesarean delivery rate and maternal and neonatal mortality. JAMA. 2015;314(21):2263–70.
3. National Family Health Survey (NFHS-5), 2019-21: India. Mumbai: International Institute for Population Science.
4. Zuarez-Easton S, Zafran N, Garmi G, Salim R. Post cesarean wound infection: prevalence, impact, prevention, and management challenges. International Journal of Women's Health; c2017. p. 81–8.
5. Krieger Y, Walfisch A, Sheiner E. Surgical site infection following cesarean deliveries: trends and risk factors. The Journal of Maternal-Fetal & Neonatal Medicine. 2017;30(1):8–12.
6. Salim R, Braverman M, Teitler N, Berkovic I, Suliman A, Shalev E. Risk factors for infection following cesarean delivery: an interventional study. The Journal of Maternal-

Fetal & Neonatal Medicine. 2012;25(12):2708–12.
7. Chandrasiri MD, Fernandopullae RC. Comparison of surgical site infections and patients' comfort level with caesarean section wounds following early exposure versus delayed exposure. Sri Lanka Journal of Obstetrics and Gynaecology, 2016, 38(1).
8. Doleaglenou A, Fortey YK, Ayite AE. Randomized trial comparing dressing to no dressing of surgical wounds in a tropical setting. Journal de Chirurgie. 2008;145(2):143–6.
9. Bulander RE, Dunn DL, Beilman GJ. Schwartz's Principles of Surgery, Eleventh Edition, Chapter 6: Surgical Infections. McGraw Hill Education; c2019. p. 169.
10. National Institute for Health and Clinical Excellence. Surgical site infection. Prevention and treatment of surgical site infection. NICE. 2008; Clinical Guideline CG 74.
11. El-Sayed HE, Mansour SE, Elnegeri MA, Ibrahim AA. Effect of early versus delayed exposure of caesarean section wound on surgical site infections and patients' comfort level. IOSR Journal of Nursing and Health Science. 2020;9(2):9–18.
12. Kandola A. Is my C-section scar ok? Accessed on; c2019. Available from: https://www.medicalnewstoday.com/articles/324428.php.
13. Dumville JC, Gray TA, Walter CJ, Sharp CA, Page T, Macefield R, *et al*. Dressings for the prevention of surgical site infection. Cochrane Database of Systematic Reviews; c2016. p. 12.
14. Chandrasiri MD, Fernandopullae RC. Comparison of surgical site infections and patients' comfort level with caesarean section wounds following early exposure versus delayed exposure. Sri Lanka Journal of Obstetrics and Gynaecology. 2016, 38(1).
15. Toon CD, Ramamoorthy R, Davidson BR, Gurusamy KS. Early versus delayed dressing removal after primary closure of clean and clean-contaminated surgical wounds. Cochrane Database of Systematic Reviews;,c2013. p. 9.
16. Tan PC, Rohani E, Lim MC, Win ST, Omar SZ. A randomised trial of caesarean wound coverage: exposed versus dressed. BJOG: An International Journal of Obstetrics & Gynaecology. 2020;127(10):1250–8.
17. Wadhwa SN, Sanjita DL, Jaiswal S, Rajpurohit N. What's the right time for dressing in a cesarean wound? Early versus late dressing removal in cesarean wound. International Journal of Clinical Obstetrics and Gynaecology. 2021;5(1):296–301.
18. Khlifi A, Alimi A, Smida A, Derouiche M, Lassoued L, Khairi H. Decreasing of post-cesarean section surgical site infection: role of early dressing removal - a prospective randomized study. Clinical Surgery. 2022;7:3404.
19. Singh N, Prakash V, Pathak S, Kamilya G, Mitra A. Early vs late removal of dressing in scheduled cesarean section: a randomized controlled study. Journal of Medical Science and Clinical Research. 2022;10(2):6–12.
20. Peleg D, Eberstark E, Warsof SL, Cohen N, Ben Shachar I. Early wound dressing removal after scheduled cesarean delivery: a randomized controlled trial. American Journal of Obstetrics and Gynecology. 2016;215(3):388.e1–e5.
21. Zhang T, Zhang F, Chen Z, Cheng X. Comparison of early and delayed removal of dressing following primary closure of clean and contaminated surgical wounds: a systematic review and meta-analysis of randomized controlled trials. Experimental and Therapeutic Medicine. 2020;19(5):3219–26.

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