

Surgical Repair versus Non-Surgical Management of Spontaneous Perineal Tears that Occur during Childbirth

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Abstract Background: Trauma to the perineum of varying degrees constitutes the most common form of obstetric injury. In clinical practice, these tears are often sutured. However, small tears may also heal well without surgical interference. **Aim:** The aim of this study was to investigate whether surgical intervention for first and second-degree perineal tears sustained during childbirth could affect primary and secondary outcome compared to conservative management. **Subject & Methods:** Cohort Prospective study conducted in Obstetrics and Gynecological Department at Helwan General Hospital. One hundred women; 50 of them were using surgical repair by using suture for perineal tears compared with 50 ones leaving the wound to heal spontaneously, by using conservative management. A Structured-Interviewing-Questionnaire-sheet, Physical-assessment-sheet, Labor-outcomes-sheet, McGill-pain-rating-scale, and follow-up sheet were used for data collection. **Results:** The majority (86.0 %) of women with surgical repair suffering from severe pain compared to 24.0% non-surgical repair group ($P < 0.05$). Throughout a period of 6 weeks to 3 months; 90.0% of women of surgical group reported wound healing, compared to only 46.0% of non-surgical repair group, also, sexual life in term dyspareunia has affected among 16.0% of surgical group compared to 2.0% in non-surgical repair group, ($p < 0.05$). The outcome, after 3 to 6 months, as regard tear state and complications among women in the two studied groups, it is evident that 74.0% of women in the non-surgical repair group had wound break occurred compared to 6.0% of surgical wound repair had the same complaint, ($p < 0.05$). **Conclusion:** There are evidence and significant differences between the two groups regarding type and intensity of pain. Moreover, there is evidence that the perineal tear did not heal so well in women up to six weeks postpartum who are not sutured. **Recommendations:** information sheets or booklets, that the mother can take home, should be distributed for postpartum women before their discharge to act as a reference for perineal tear and its proper care.

Keywords: surgical, non-surgical, perineal tears, repair, childbirth

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1. Introduction

Trauma to the perineum of varying degrees constitutes the most common form of obstetric injury. The perineum is the area between the vagina and rectum which can tear during childbirth. Eighty-five out of 100 women will have a perineal tear after a vaginal birth, tears vary widely in severity, the majorities is superficial and require no treatment, but severe tears can cause significant bleeding, long-term pain, dyspareunia or dysfunction [1,2].

Tears are described in degrees first-degree tears; these are small, involving the skin only, which may heal naturally. If there is no excessive blood loss from the area these can also be left to heal naturally, and do not require

stitches. The second degree tears are slightly deeper, affecting and involving the perineal muscles as well as the skin. All second-degree tears require stitches. For some women (1.0% to 9.0%) the tear may be more extensive, involving the muscle around the anus (the anal sphincters) and/or the lining of the back passage. A midwife will use some local anesthetic to numb the area to stitch the tear together. The stitches are dissolvable so don't need to be removed. First and second degree tears rarely cause long term problems [3].

According to Al-hussaini (2012), a study in Egypt, the incidence of perineal tears was 1.6% out of 95% of vaginal deliveries [4]. Fortunately, the incidence of perineal tears decreases with subsequent births, from 90.4% in women who are nulliparous to 68.8% in women who are multiparous undergoing vaginal deliveries [5].

Bick et al. (2012) in a study in United Kingdom reported that trauma affects around 85.0% of women have a vaginal birth [6]. Meanwhile Baghurst and Antoniou (2012) in Australia have similar outcomes, with 66.0% of women experiencing some form of perineal trauma, moreover, a large number of these women require perineal suturing [7]. The results found that women who didn't have sutures were more comfortable.

Surgical repair can be associated with adverse outcomes, such as pain, discomfort, and interference with normal activities during puerperium, discomfort with passing urine or feces and possibly breastfeeding. Surgical repair also has an impact on clinical workload and human and financial resources as well as the care of her newborn [8]. First and second-degree tears rarely cause long-term problems [1].

As suture itself, is painful and tight sutures may lead to maternal discomfort. Non-suturing of perineal trauma has been practiced throughout history [9]. Nutter (2014) supports that non-suturing of perineal tears can have a positive effect on breastfeeding outcomes as women half less painful perineum and, therefore, are more comfortable postpartum [10]. Lundquist et al., (2000) reported a higher breastfeeding rate in the non-sutured group [11].

According to Langley et al., (2006), healing is faster in the early stages following suturing but not in the longer term and initial pain relief is required less in the group of women who had a non-sutured perineal tear [12]. The results, however, suggest that suturing may disturb and interferes with initial breastfeeding.

Fleming et al., (2003) suggested that there was evidence that the perineum didn't heal as well for women in the non-suture group up to six weeks in the post-partum period [13]. The authors recommended that perineal tears should be sutured. Non-suturing is also associated with the lesser use of oral analgesia in the post-partum period, compared with sutured laceration of similar degrees. No evidence is available on long-term effects or pelvic floor muscle function after non-suturing of 2nd degree lacerations or episiotomies [14].

1.1. Significant of the Study

Maintaining intact perineal tissue is an important goal in midwifery practice because childbirth and perineal tear are linked, therefore, the midwife has an important role in providing advice and education to women in the antenatal, intra-partum, and postnatal periods to decrease and prevent trauma and tear [15]. Nurses and midwives have a major role in identifying and providing necessary supportive-educative care to clients who have undergone perineal tears during childbirth, nurses have to give women instructions about perineal care, hygiene, and information for caring of perineal tears to decrease discomfort and the risk of infection, aid healing and pain relief.

The present study will contribute to more understanding of surgical repair versus non-surgical management of spontaneous perineal tears that occur during childbirth. Since this study was not done before at Helwan University. Thus, it is essential to provide a detailed description of the two routes for the repair of spontaneous perineal tears that occur during childbirth.

1.2. Aim of the Study

The aim of this study was to investigate whether surgical intervention compared to conservative management for first and second-degree perineal tears sustained during childbirth could affect the primary and secondary outcome.

2. Subjects and Methods

2.1. Operational Definitions

1. Group 1: refers to the group of participant women who used surgical repair of first-degree (involving only the perineal or vaginal skin) or second-degree tears (also involving muscle) by using suture for perineal tears. The suture may be continuous or interrupted with any type of suturing material such as glue or, chromic or Vekreal suture.
2. Group 2: refers to the group of participant women who leave the wound to heal spontaneously, by using conservative management which may include a salt bath, cold or hot packs, lotions or vaginal douches.
3. Wound infection: refers to wound whose characteristics are; (1) Secretions with offensive odor, (2) Pus in the stitches, (3) Fever, (4) Vaginitis

2.2. Research Design

Cohort Prospective study was conducted in this study research.

2.3. Subjects & Setting

2.3.1. Setting

This study was conducted in the Obstetrics and Gynecological Department at Helwan General Hospital, Egypt from 1st January 2018 till the end of June 2018 was included.

2.3.2. Sample

2.3.2.1. Sample criteria:

Multiparous women, of all ages, with vaginal birth, diagnosed as sustained first or second-degree perineal tears during childbirth, and with no obstetric complications; attending the above-mentioned study setting. One group (50 women), used surgical repair of first-degree or second-degree tears by using suture for perineal tears. The suture may be continuous or interrupted with any type of suturing material such as glue or, chromic or, Vekreal suture. And another group (50 women) left the wound to heal spontaneously, by using conservative management which may include a salt bath, cold or hot packs, lotions or vaginal douches.

2.3.2.2. Sample size:

Sample size involving 100 women having the above criteria; 50 of them (group 1) were using surgical repair of first-degree or second-degree tears by using suture for perineal tears compared with 50 ones (group 2) leaving the wound to heal spontaneously, by using conservative

management which may include a salt bath, cold or hot packs, lotions or vaginal douches.

2.4. Tools of Data Collection

Data collection was done by using the following tools:

Tool I: A Structured Interviewing Questionnaire sheet which includes the following parts:

A. Personal data: These include the following variables: general data as body mass index (BMI), age, educational level, occupation, family income, and residences

B. Obstetrical history: It included the following variables: gravidity, parity, number of previous abortion, and previous mode of delivery. History of previous perineal tear repair was involved.

Tool II: Physical assessment sheet: General, local and vaginal physical examinations were done for the women

Tool III: Labor outcomes sheet: perineal tears type, suturing the tear, suturing technique, labor techniques, suturing materials and suturing number, perineal pain scale (scoring pain) and conservative management types.

Tool IV: McGill-pain-rating-scale: is the most used and sensitive tool for the verbal assessment of the multidimensional aspects of pain [16]. It consists of primarily of 3 major classes of word descriptors sensory/affective/evaluative that is used by patients to specify subjective pain experience. It also contains an intensity scale and other items to determine the properties of pain experience [17]. McGill-pain-questionnaire was translated into Arabic words by Harrison [18] at Al-Kuwait University to be applied for the non-English speakers. Pain intensity is detected according to five words: mild (1), moderate (2), severe (3), excruciate (4) and intolerable (5).

Tool V: Follow-up sheet (postnatal sheet): This sheet designed by the researchers and utilized to evaluate maternal outcomes of using surgical repair versus non-surgical management of spontaneous perineal tears that occur during childbirth. Follow-up period started immediately following perineal tears during childbirth until patient's discharge. Patients were asked to attend the follow-up visits within 10 days post-partum tear, then within six-weeks, than within three and six-month post-partum tear in the outpatient clinic for reassessment primary and secondary maternal post-partum outcomes. Meanwhile, the researchers made more than four attempts to follow-up calls for all women who failed to return for the outpatient clinic.

The assessment divided into two stages:

1. Primary maternal post-partum outcomes
 - a. *Primary outcomes* (short-term outcomes): up to 10 days postpartum immediate
 - b. *Primary outcomes* (long-term outcomes): within six-weeks and three-months postpartum)
2. Secondary outcomes at three and six-months postpartum (late outcomes)

2.5. Validity/Reliability of the Tool

A panel of 3 experts in the field of maternity, obstetrics and gynecologic nursing reviewed the tool to test its content validity. Modifications were done accordingly

based on their judgment. The reliabilities of the tool were based on Cronbach Alpha (0.85).

2.6. Administrative/Ethical Considerations

Official permission was obtained by submission of an official letter from the Faculty of Nursing, Helwan University to the responsible authorities of the study setting (Helwan General Hospital) to obtain their permission for data collection for our study. All ethical issues were taken into consideration during all phases of the study; the researcher maintained the anonymity/confidentiality of the women. The researcher introduced herself to every woman and briefly explained the nature, and the objectives of the study before participation. Participant women were enrolled voluntarily after the oral informed consent.

2.7. Pilot Study

The pilot study was carried out on 10.0% of the studied women in the study setting (that were excluded from the study sample) to test the applicability, clarify and the feasibility of the study tools as well as to estimate the time needed to complete the tools. It also helped to find out any obstacles and problems that might interfere with data collection, based on findings of the pilot study, certain modifications of the tools were done. Following this pilot study, the process of data collection was performed.

2.8. Field Work

Data collection took 6 months period. The researcher visits the previously mentioned setting twice/week. The researcher met the study sample in the above mentioned setting, and after dividing them into groups she scheduled with them the time for each visit. In this section; One hundred women having the above criteria 50 of them (group 1) were using surgical repair of first-degree or second-degree tears by using suture for perineal tears compared with 50 ones (group 2) leaving the wound to heal spontaneously, by using conservative management which may include a salt bath, cold or hot packs, lotions or vaginal douches were chosen. Structured-Interviewing-Questionnaire-Sheet was used to obtain personal and, obstetrical history for both groups. Pain assessment sheet after using each method was utilized for both groups. Follow up sheet (post-natal sheet) was utilized to evaluate maternal outcomes of using surgical repair versus non-surgical management of spontaneous perineal that occur during childbirth. Follow-up period started immediately for both groups.

2.9. Statistical Analysis

All data were collected, tabulated and statistically analyzed using SPSS 20.0 for Windows (SPSS Inc., Chicago, IL, USA). Quantitative data were expressed as the mean \pm SD & (minimum-maximum), and qualitative data were expressed as absolute frequencies (number; N) & relative frequencies (percentage; %). Independent samples Student's t-test was used to compare between two groups of normally distributed variables. Percent of

categorical variables were compared using the Chi-square test or Fisher's exact test when appropriate. All tests were two-sided. p -value < 0.05 was considered statistically significant (S), and p -value ≥ 0.05 was considered statistically insignificant (NS).

3. Results

Table 1 presents the socio-demographic characteristics of women in the two study groups. The table points statistically significant differences between the two groups as regards occupation, education, and income, ($p < 0.05$). It is evident that the majority of non-surgical repair group women were housewives (70.0%), compared to 48.0% of the surgical group women. Additionally, nearly half of the surgical group (46.0%) had university education compared to only 12.0% in the non-surgical repair group. In addition, the majority of the surgical group (62.0%) had sufficient monthly income compared to 44.0% in the non-surgical group.

Table 2 reveals the distribution of women according to their obstetrical history in the two study groups. The table points to statistically significant differences between the two groups as regards the mode of last delivery, and previous perineal tear repair ($p < 0.05$). It is evident that the great majority of women in the surgical repair group (88.0%) with normal last delivery compared to 56.0% in the non-surgical repair group. Meanwhile, the majority (68.0%) of non-surgical repair group had a previous history of perineal tear repair compared to more than one third (38.0%) of women in those surgical repair group. As for the previous degree of perineal tears and number of suture performed, it was almost the same for both groups with no statistically significant difference, $p > 0.05$.

Table 3 and Figure 1 demonstrate a statistically significant difference between the two study groups as regards the quality of knowledge about perineal tear and its proper care ($X^2 = 18$, $p < 0.05$). Women in the surgical

repair group had significantly higher percentages of quality of knowledge about perineal tear and its proper care compared to the non-surgical group (20.0% & 8.0%, respectively).

Table 4, Figure 2 and Figure 3 illustrate that almost three-quarter of women with surgical repair had continuous pain and need for analgesia immediately after perineal stitches (72.0% & 94.0%) compared to non-surgical repair women (intervention management) (38.0% & 0.0%, respectively). Also, it revealed that the majority (86.0%) of women with surgical repair suffering from severe pain compare to 24.0% non-surgical repair group. The difference observed was statistically significant, $p < 0.05$. Regard daily activity; 72.0% of women of the surgical group their pain interfere with daily activity compared to 24.0% non-surgical repair group, the difference statistically significant, $p < 0.05$. Unfortunately, 66.0% of women of surgical group un-successfully breastfeed her baby compared to 32.0% non-surgical repair group, the difference statistically significant, $p < 0.05$. The same table points to a statistically significant difference between the two studied groups as regards the inspection of tears immediately after perineal stitches and after intervention management. Surgical repair women were more likely for tenderness, irritation and swollen of perineal area (100.0% & 98.0%, respectively) compared to non-surgical repair group (68.0% & 34.0%). The difference observed was statistically significant ($X^2 = 19$, $p < 0.05$ and $X^2 = 49$, $p < 0.05$).

Table 5, Figure 4 and Figure 5 represent the primary outcome as regard tear state and complication (6 weeks to 3 months). It is observed that 90.0% of women of the surgical group reported wound healing, only 46.0% of non-surgical repair group their wound was healed, the difference statistically significant; $p < 0.05$. Also, sexual life in term dyspareunia has affected among 16.0% of the surgical group compared to 2.0% in the non-surgical repair group, the difference statistically significant; $p < 0.05$.

Table 1. Comparison between Surgical repair group and non-Surgical repair group regarding socio-demographic characters

	Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
Age						
Mean \pm SD	24.0 \pm 5		26.0 \pm 6		t = 1.94	0.055
Minimum-Maximum	17 - 38		17 - 39			(NS)
BMI	No	%	No	%		
Normal weight (18.5 - 24.99)	24	48	27	54.0		
Overweight ≥ 25 -	18	36	20	40.0	t = 1.83	0.07
Obesity ≥ 30 -	8	16	3	6.0		(NS)
Mean \pm SD	26.0 \pm 4		24.4 \pm 3			
Minimum - Maximum	19 - 34.5		18.3 - 32			
Occupation						
House wives	24	48.0	35	70.0	5	0.025 (S)
Employees	26	52.0	15	30.0		
Education						
Illiterate	16	32.0	12	24.0		
Primary	7	14.0	21	42.0	20	0.0001 (S)
Secondary	4	8.0	11	22.0		
University	23	46.0	6	12.0		
Income						
Indebted	9	18.0	22	44.0		
Sufficient	31	62.0	22	44.0	8	0.02 (S)
Saving	10	20.0	6	12.0		
Residence						
urban	20	40.0	13	26.0	2.2	0.14
rural	30	60.0	37	74.0		(NS)

χ^2 = chi square test, (t) = t test, S = significant.

Table 2. Comparison between Surgical repair group and non-Surgical repair group regarding obstetric history

	Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
	No	%	No	%		
Mode of last delivery						
Normal delivery	44	88.0	28	56.0	12.7	0.0001 (S)
Assist delivery	6	12.0	22	44.0		
Place of last delivery						
Medical place	47	94.0	44	88.0	f	0.48
Home	3	6.0	6	12.0		(NS)
Previous perineal tear repair						
Yes	50	100.0	50	100.0		
No	0	00.0	0	00.0		
Previous degree of perineal tears						
First degree	26	52.0	25	50.0	0.65	0.42
Second degree	24	48.0	25	50.0		(NS)
Number of sutures						
One	9	18.0				
Two	20	40.0				
Three	14	28.0				
Four	4	8.0				
Five	3	6.0				

χ^2 = chi square test, (f) = Fisher's exact test, S = significant.

Table 3. Comparison between surgical repair group and non-surgical repair group as regarding their knowledge, source of knowledge and quality of knowledge about perineal tear and its proper care

	Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
	No	%	No	%		
Knowledge						
Have knowledge	14	28.0	17	34.0	0.42	0.52
Have no knowledge	36	72.0	33	66.0		(NS)
Source of knowledge						
Medical	3	6.0	5	10.0	0.54	0.46
Non-medical	47	94.0	45	90.0		(NS)
Quality of knowledge						
Correct & enough	10	20.0	4	8.0	18	0.0001(S)
Correct & not enough	29	58.0	14	28.0		
Not correct	11	22.0	32	64.0		

χ^2 = chi square test, S = significant.

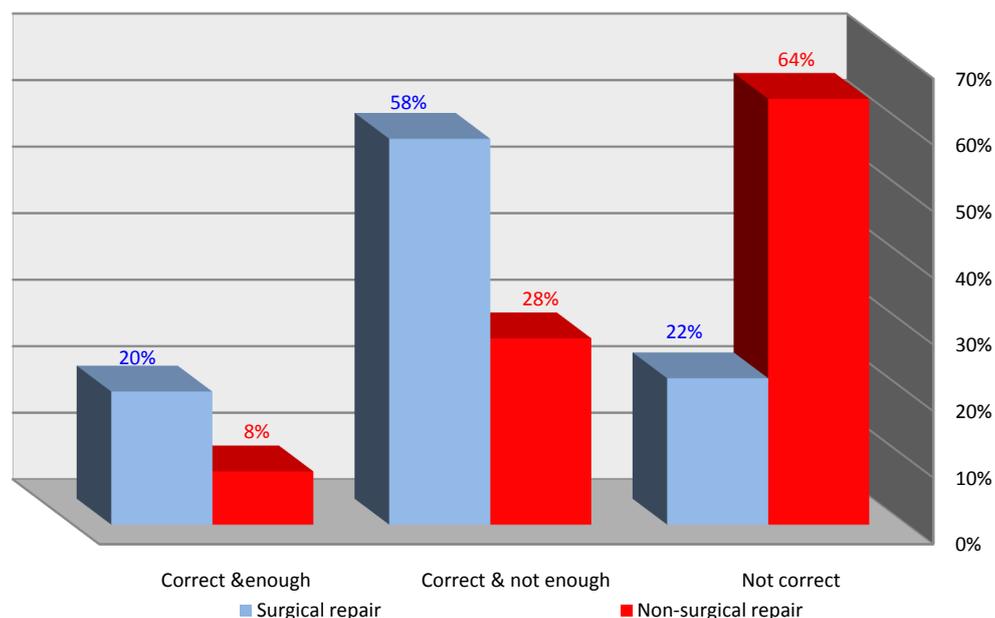


Figure 1. Surgical repair group and non-surgical repair group as regarding their quality of knowledge about perineal tear and its proper care

Table 4. Comparison between surgical repair group and non-surgical repair group as regarding primary outcome up to 10 days postpartum

Primary outcome up to 10 days postpartum	Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p	
	No	%	No	%			
Pain characteristic	Perennial pain						
	Yes	50	100.0	50	100.0	-	
	No	0	00.0	0	00.0	-	
	Type of pain						
	Continuous	36	72.0	19	38.0	11.7	0.001
	Interrupted	14	28.0	31	62.0		(S)
Inspection tears	Analgesic						
	Yes	47	94.0	0	0	88	0.0001
	No	3	6.0	50	100		(S)
	Intensity pain						
	Mild	3	6.0	23	46.0	39	0.0001
	Moderate	4	8.0	15	30.0		
Severe	43	86.0	12	24.0	(S)		
Outcome	Tenderness						
	Yes	50	100.0	34	68.0	19	0.0001
	No	0	0.0	16	32.0		
	Swollen						
	Yes	49	98.0	17	34.0	49	0.0001
	No	1	2.0	33	66.0		
Interfere of daily activity							
Yes	36	72.0	12	24.0	23	0.0001	
No	14	28.0	38	76.0			(S)
Women's Compliance	Hematoma						
	Yes	5	10.0	22	44.0	14	0.0001
	No	45	90.0	28	56.0		
	Breast feeding						
	Successful	17	34.0	34	68.0	11.7	0.001
	Un-successful	33	66.0	16	32.0		
Dysuria							
Yes	22	44.0	14	28.0	2.7	0.1	
No	28	56.0	36	72.0			(NS)
Yes	43	86.0	31	62.0	4.1	0.006	
No	7	14.0	19	38.0			(S)

χ^2 = chi square test, S = significant.

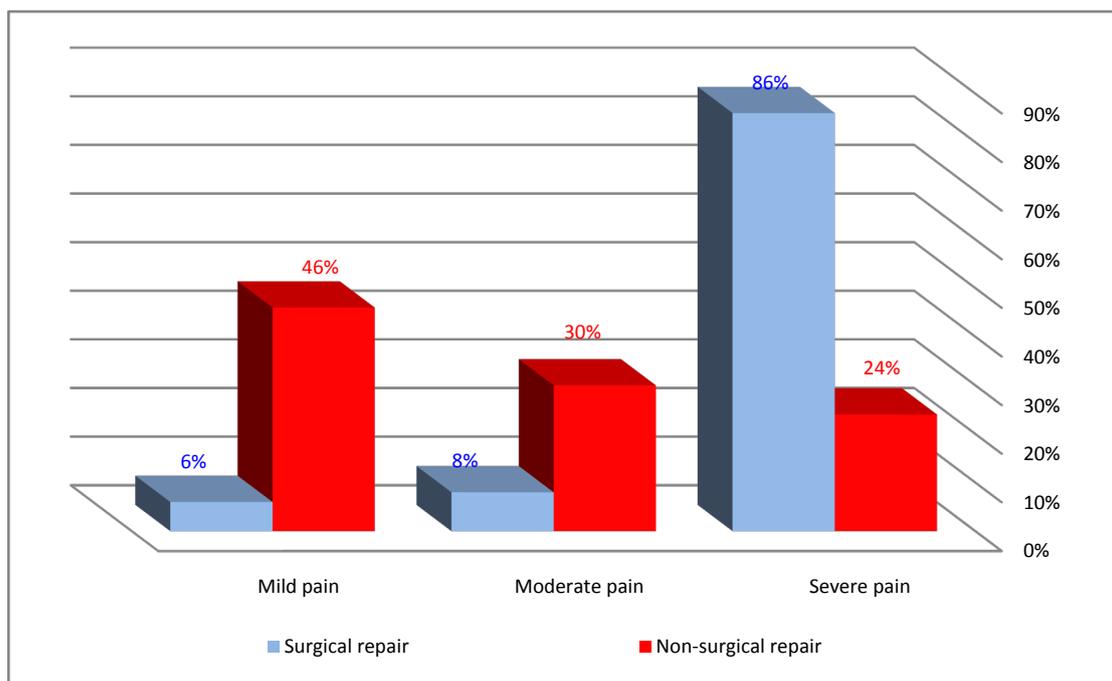


Figure 2. Percent of intensity pain among studied groups immediately after perineal stitches after intervention management.

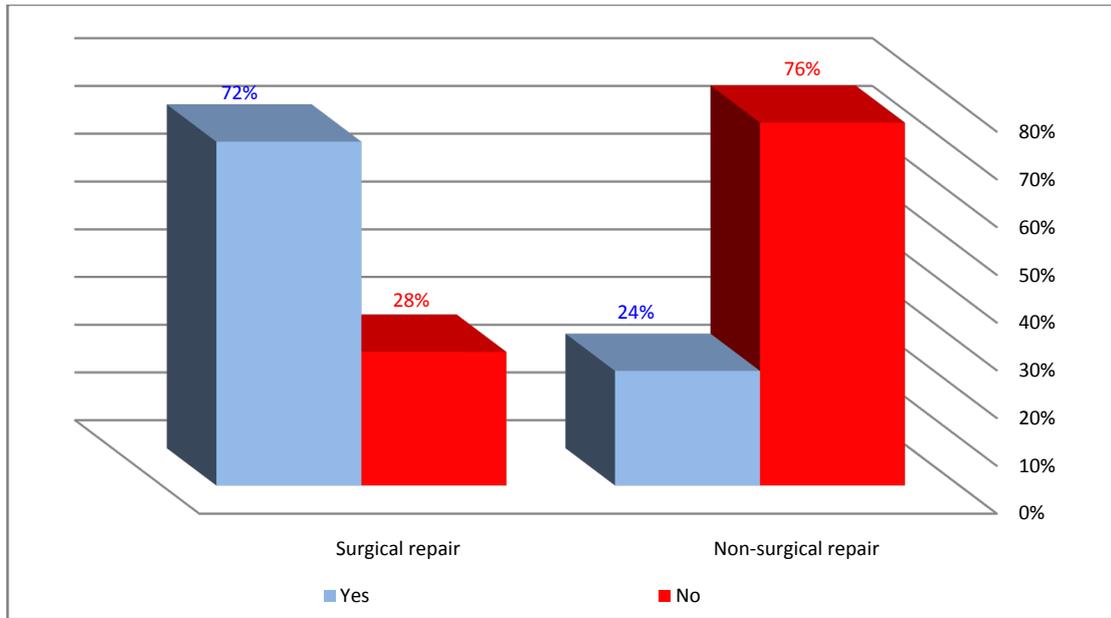


Figure 3. Percent of interfere daily activity among studied groups immediately after perineal stitches after intervention management.

Table 5. Comparison between surgical repair group and non-surgical repair group as regarding primary outcome as regard tear state and complication (6 weeks to 3 months)

After 6 weeks to 3 months postpartum		Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
		No	%	No	%		
Wound state	Dehiscence					22	0.0001 (S)
	Delayed healing	5	10.0	27	54.0		
	Healing	45	90.0	23	46.0		
	Infection					0.66	0.4 (NS)
	Yes	28	56.0	32	64.0		
	No	22	44.0	18	36.0		
Swollen					11	0.001 (S)	
Yes	33	66.0	16	32.0			
No	17	34.0	34	68.0			
Complication	Dyspareunia					f	0.03 (S)
	Yes	8	16.0	1	2.0		
	No	42	84.0	49	98.0		
	Dysuria					f	0.99 (NS)
Yes	2	4.0	1	2.0			
No	48	96.0	49	98.0			

χ^2 = chi square test, S = significant.

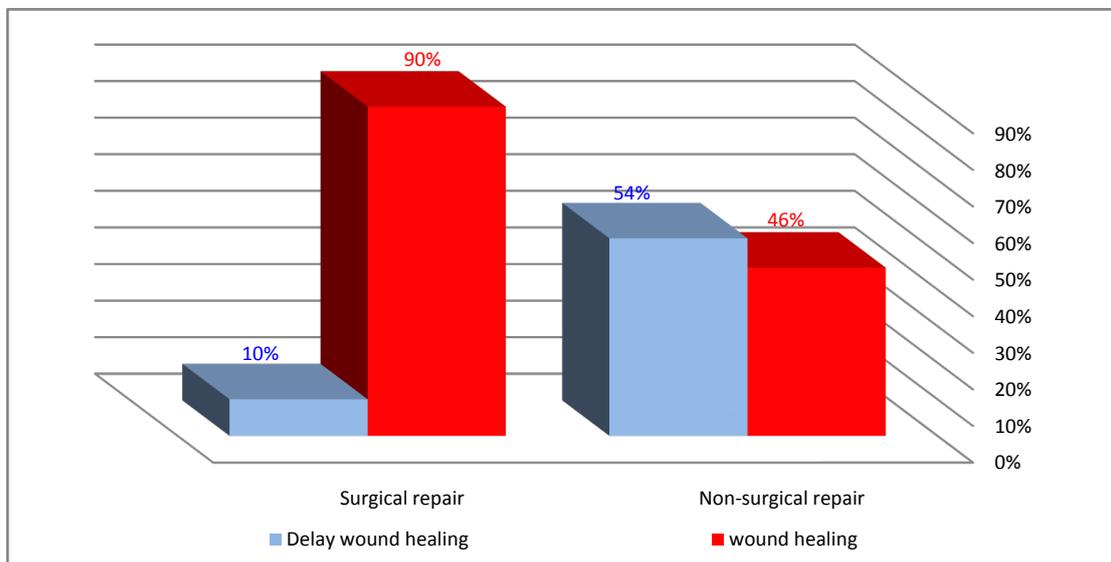


Figure 4. Percent of wound healing among studied groups

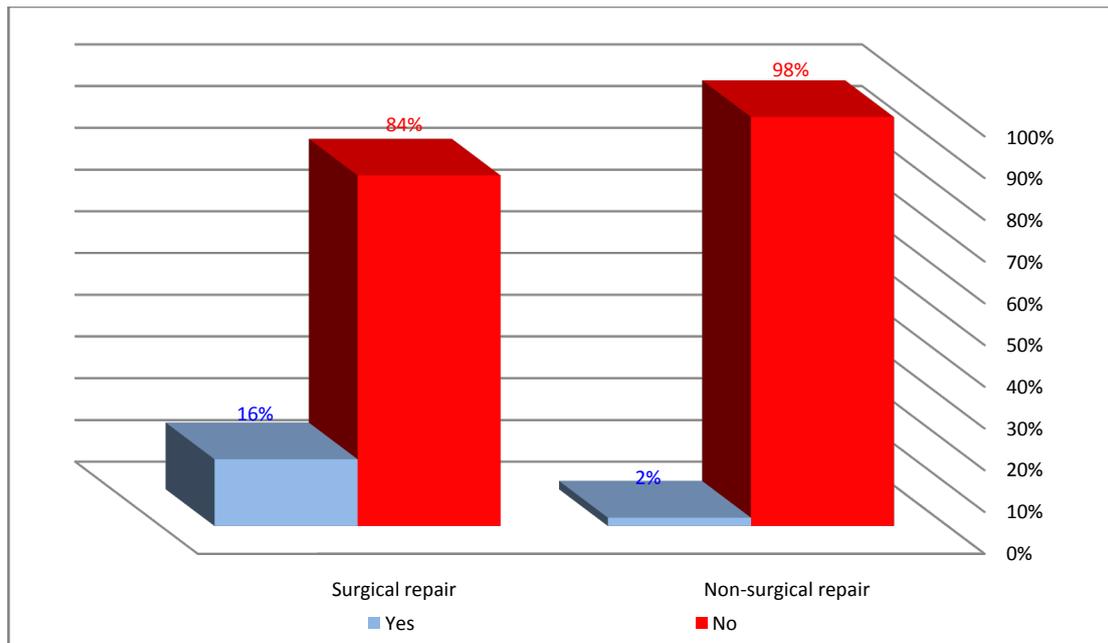


Figure 5. Percent of dyspareunia among studied groups

Table 6. Comparison between surgical repair group and non-Surgical repair group as regard outcome (after 3 months to 6 months) as regard tear state and complication

After 3 months to 6 months		Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
		No	%	No	%		
Wound state	Wound break						
	Yes	3	6.0	37	74.0	48	0.0001
	No	47	94.0	13	26.0		(S)
	Re suturing						
	Yes	1	2.0				
	No	49	98.0				
Complication	Dyspareunia						
	Yes	5	10.0	1	2.0	f	0.2
	No	45	90.0	49	98.0		(NS)
	Dysuria						
	Yes	2	4.0	1	2.0	f	0.99
	No	48	96.0	49	98.0		(NS)
	Urinary incontinence						
	Yes	0	0	2	4.0	f	0.5
No	50	100.0	48	96.0		(NS)	
Faecal incontinence							
Yes	2	4.0	1	2.0	f	0.99	
No	48	96.0	49	98.0		(NS)	

(f) = Fisher's exact test.

Table 7. Comparison between surgical repair group and non-surgical repair group as regard Psychological and emotional problem, satisfaction regard tear repair

		Surgical repair group (n=50)		Non-surgical repair group (n=50)		χ^2	p
		No	%	No	%		
Psychological and emotional problem							
	Yes	1	2.0	2	4.0	f	0.99
	No	49	98.0	48	96.0		(NS)
Satisfaction							
	Yes	40	80.0	44	88.0	1.3	0.27
	No	10	20.0	6	12.0		(NS)

χ^2 = chi square test, f = Fisher Exact test.

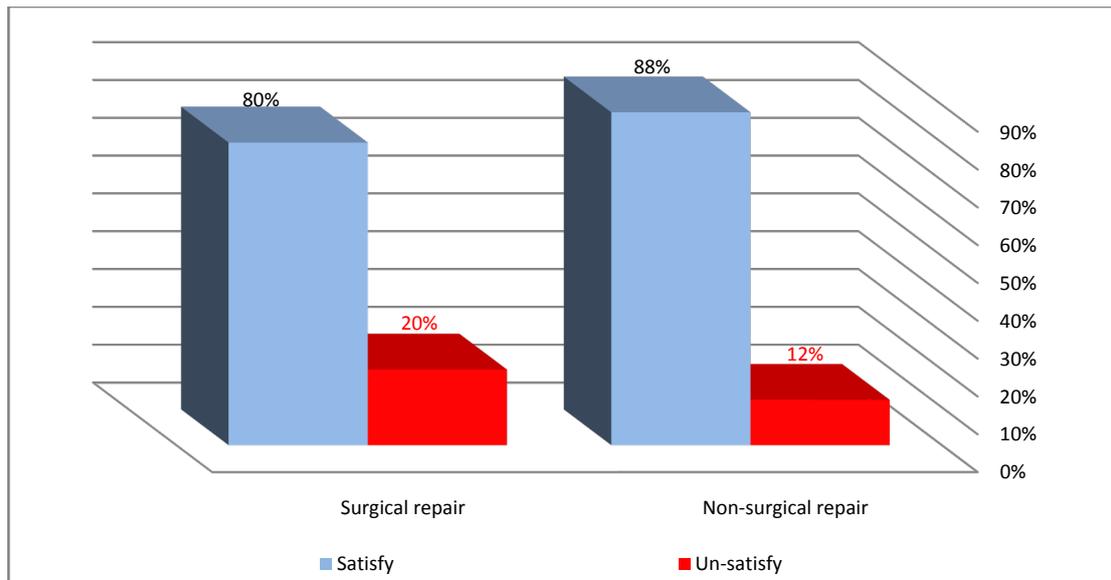


Figure 6. Percent of satisfaction about outcome among studied groups

Table 6 compares the outcome after 3 to 6 months as regard tear state and complications among women in the two studied groups. It is evident that nearly three-quarter (74.0%) of women in the non-surgical repair group had wound break occurred compared to 6.0% of surgical wound repair had the same complaint, the difference was statistically significant, $p < 0.05$.

Table 7 and Figure 6 portray women's emotional problem, satisfaction regard tear repair and compliance of correct washing. It is revealed that 80.0% of women satisfy about tear repair of the surgical group compared to 88.0% non-surgical repair group, the difference is statistically insignificant in the overall percentage of psychological, emotional problems and satisfaction regarding tear repair; $p > 0.05$.

4. Discussion

Vaginal births are often associated with some form of trauma to the genital tract, which can sometimes be associated with significant short and/or long term problems for the woman. Perineal tears mainly occur in women as a result of vaginal childbirth. Tears vary widely in severity. The majority is superficial and requires no treatment, but severe tears can cause significant bleeding, long-term pain or dysfunction [19].

The results of this study showed that there were no statistically significant differences between the studied groups as regarding mother's age and BMI. These findings are corroborated with those reported by Elkhshen [20] in Egypt who conducted a study about the effect of current nursing care strategies on relieving episiotomy pain and on improving its healing process. On the same line with, Christianson et al., [21] in Virginia found no significant differences in the baseline characteristics of patients. Such finding is beneficial to the present study as it ensures the generalization of the study results as well as avoids the effect of other confounding variables.

The present study has revealed statistically significant differences between the two groups as regards occupation, education, and income, this finding was supported by

Judith [22] who studied the effectiveness of teaching on episiotomy and perineal care. These results are similar to those achieved by Goldman et al., [23] that examine the perineal trauma rates and found that educational level plays a role in reducing the overall number of trauma. However, in the study done by Mohammed [24] to examine the perineal trauma among low-risk women and its associated risk factors and found that perineal trauma was common in non-working mothers and the results were not affected by women's educational level as well.

Investigating the relation between the mode of last delivery, previous perineal tear, and occurrence of the perineal tear; the results of this study showed that there were statistically significant differences between the studied groups in relation to the mode of last delivery. In which most of the women in the study sample have spontaneous normal delivery and occurrence of perineal tear was subsequent delivery. The researchers attribute this finding to perineal was commonly occurs in spontaneous normal delivery. These results are similar to those achieved by Youssif [25] in Egypt and Baghurst et al., [6] in South Australia. This finding is not supported by Otoide et al., [26], in Nigeria, who reported that the incidence of episiotomy decreased with increasing parity, while the incidence of spontaneous vaginal tears increased with parity.

Concerning complication of last delivery, the present study findings have demonstrated that a high percentage of women in perineal tear has a history of episiotomy and perineal tears during their last delivery. This finding is in the same line Baghurst et al., [6] and Bruce [27], in their studies of spontaneous perineal tears at second delivery. They reported that having a perineal trauma at 1st delivery increases the risk of spontaneous perineal trauma at the second delivery.

The risk of spontaneous perineal tear increased with the severity of previous perineal tear at birth and tears result from the scar of previous tears. Similarly, Bick et al., [28] reported that perineal trauma at first delivery increases the risk of subsequent tearing and women who experience perineal tears or episiotomy during first delivery are more than three times likely to sustained perineal trauma at the

birth of their second baby. In this study, it was observed that no significant differences between studied groups according to previous perineal tears, number of sutures performed and history of perineal tears. An important factor related to perineal tears is the previous of perineal tears whether the first or second degree and a number of sutures performed. The results of the current study showed that previous perineal tears were the most common indications of perineal tears.

As regarding the knowledge about the perineal tear and proper care for it; 72.0% in the surgical repair group and 66.0% of the non-surgical repair group had no idea about the perineal tear and its proper care. This percentage of knowledge deficit is considered very high when compared with another study conducted by Judith [22], who found that the knowledge deficit about episiotomy care and perineal care was 22.5%.

Also, the results showed that most of the mothers were seeking their medical advice from non-medical personnel. These results may attribute that considerable percentages of the study sample were rural residences, housewives and had neither adequate level of education nor family income; which in turn may oblige women to seek health advice from non-medical personals. Women who were housewives and hadn't an adequate level of education were more liable to use non-surgical repair than counterparts ones. This result may be because work ensures independence & financial security and get a chance to improving women's status and may be a way of increasing their leverages in the decision-making process. Moreover, poverty might increase the burden on women caring for many individuals and striving hard for a living which may force the woman to neglect herself to saving her family [29]. Additionally, rural residences used to take their advice from family and not seeking medical intervention. These results may, also, reflect the lack of proper medical advice in our MCH centers that made women seeking their medical advice from non-medical personnel.

In the current study all mothers of studied surgical repair group were instructed about how to do perineal care properly because this will aid in minimizing postnatal pain and in improving the tear healing and this is shown in the results of the study which revealed that women in surgical repair group had significantly higher percentages of quality of knowledge about perineal tear and its proper care compared to the non-surgical group

In the current study up to 10 days postpartum the comparison between the surgical repair and non-surgical repair groups as regarding pain characters. Concerning perineal pain related to tear, the present study findings point to no significant differences. It revealed that both groups suffered from pain immediately after performing the perineal repair. This finding was supported by Jeremy and Suzanne [30], and Chao & Lai [31], who reported that perineal tears and episiotomies are not without long term discomfort. Twelve weeks after giving birth, 5.0% of women still experience some degree of pain and 15.0% have perineal discomfort. This may reflect the women's perception of perineal tears according to their past experience. This result is on the contrary with Fleming et al., [13] who stated that a significant difference shown between the groups with regard to perineal pain using either of the measures.

Moreover, significant differences between studied groups' pain characters were observed, in terms of the type of pain after perineal stitches, a requirement for analgesia, Intensity of pain and perineal tears. This finding is in contrary with, Kettle et al., [32] who studied continuous and interrupted suturing techniques for the repair of episiotomy or second-degree tears. They concluded that there is no evidence that women who are sutured experience more (or less) pain than those who are not sutured. This finding is very close to a study done in Ain Shams University by Sameh [33], on routine versus restricted use of episiotomy in primiparous and emphasized that no differences in analgesia use were detected between study groups.

In the current study, the comparison between outcomes up to 10 days postpartum between the surgical repair and non-surgical repair groups as regarding inspection of tears; the researchers observed significant differences between studied groups according to their inspection of tears immediately after perineal stitches and after intervention management. It is obvious that surgical repair women were more likely for tenderness, irritation and swollen of perineal area. Most surprising were the results on day 10 in the light of the clinical experiences of the researcher involved, all of whom felt that sutured women often experienced tightening of the sutures and an increase in tenderness, irritation and swollen of perineal area. This result is in line with Valerie, et al., [34], who mentioned that less perineal discomfort in the non-sutured group.

The present study results revealed that surgical group women were more likely for interference with daily activity (72.0%) compared to only 24.0% of the intervention group, with a significant difference. These results are similar to Sultan [35] and Kapoor [36]; who reported that pain can result in decreased mobility and discomfort, this is not supported by Deitra & Shannon, [37], who said that using ice packs immediately after labor in the first 2 hours decrease edema and increase comfort because it provides anesthetic effect. Our findings contradict those of Ekanem, et al., [38] about post-partum practices among women in a teaching hospital in Calabar, 70% of women sat in Sietz-bath to aid perineal wound healing and improve vaginal tone.

According to the present study findings regarding wound hematoma as immediately the outcome of tears. The results of the present study showed that an intervention (those who used conservative intervention) group are more likely to have wound hematoma (44.0 %) compared to 10.0% of on surgical repair group with a significant difference. This finding is in agreement with Elharneel et al. [39] who mentioned that suturing or using other adhesive interventions provides better wound approximation and decreases the risk of bleeding and hematoma formation.

Surprisingly, the intervention group breastfed her baby successfully; 68.0% compared to 34.0% of women of the surgical group. The difference was statistically significant. On the same line, Lundquist [11] reported that minor perineal laceration if left un-sutured, may be associated and have a positive effect on breastfeeding. On the other hand, Goldmanjan and Robinson [40] mentioned that perineal pain may negatively impact on the woman's ability to care for her new baby

Concerning women's compliance of correct washing in both groups; the results revealed that the surgical repair group is more compliance of correct washing compared to the intervention group. This revealed that proper hygiene and care for the perineal stitches is important for healing. This is agreed with Zekiye et al., [41], who mentioned that good hygiene is vitally important while the wound is healing and most stitches dissolve after five to six days.

The current study revealed the outcome differences between the two study groups within 6 weeks up to three months post-partum. The results showed that significantly faster healing and wound swollen being associated in the sutured group postpartum period. This result is in line with Fleming et al., [13] who reported significantly faster healing being associated with a better approximation of the wound in the sutured group in the early postpartum period and up to six weeks. However, this finding conflicting with Lundquist et al., [11] who studied "Is it necessary to suture all lacerations after vaginal delivery". They emphasized that there is no significant difference in the healing process with the sutured group having more frequent visits to the midwife. For the presence of wound infection, the results were 56.0 % for the sutured group and 64.0% for the intervention group, with no significant difference. This result in accordance with Hartmann [42] who stated that perineal repair has the risk of increasing pain and discomfort, prolonged healing and infection post-partum.

The above results must grasp our attention as health care providers about the importance of perineal care as it is completely neglected in our hospitals starting from determining if it is necessary or not and ending with giving any information about its indications and the proper care for the wound prenatally or postnatally. Also, it grasps our attention towards the post-partum nurse and her vital role through preparing the mothers to be confident about taking care of herself and to resume her normal role in her family.

As regarding comparing the complications between the two study groups within 6 weeks up to three-month post-partum, the results showed that dyspareunia more significantly associated in the sutured group postpartum period. Whether dysuria was with no significant association, Beckham and Garrett [43] found an association with an overall reduction in the incidence of perineal trauma. There were no differences in the incidence of the degree of perineal trauma, the incidence of instrumental births, sexual satisfaction, urinary or fecal incontinence.

5. Conclusion

Factors related to perineal tear as revealed by this study findings were the mode of the last delivery and previous perineal tear repair. Most of the women included in this study lacked the necessary information that is needed for perineal care in the post-partum period, in spite of receiving their antenatal care from governmental MCH centers. There is no evidence that those women who are sutured experience pain or not than those who are not sutured, however, there is evidence and significant differences between two groups regarding type and intensity of pain. There is evidence that the perineal tear

did not heal so well in women up to six weeks postpartum who are not sutured.

6. Recommendations

1. Information sheets or booklets, that the mother can take home, should be distributed for postpartum women before their discharge to act as a reference about perineal tear and its proper care.
2. More researches about perineal tear and its proper care are needed in the nursing fields.
3. Nurses' knowledge about perineal tear and its proper care in the obstetrical units must be assessed by nursing professionals.
4. Perineal tear and its proper care must be included in the curriculum of maternity and neonatal nursing.
5. In-service training for all health care providers dealing with perineal tear (doctors, midwives, and nurses) must be included in the in-service educational yearly plan in these places.

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