## RATE OF EPISIOTOMY AND PERINEAL INJURIES DURING VAGINAL DELIVARIES AT MATERNITY HOSPITAL IN DUHOK CITY

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(Received: July 22, 2019; Accepted for Publication: August 27, 2019)

#### ABSTRACT

Episiotomy is a surgical incision done at the end of the second stage of labor to expand the opening of the vagina to prevent tearing and injury of the perineum during the delivery of the baby. The aim of this study is to estimate the episiotomy and perineal injuries rates and the indication for episiotomy.

A descriptive cross-sectional study was conducted retrospectively between the  $1^{st}$  of Jan. 2018 till 31 of Dec. 2018 at Maternity Hospital in Duhok city. The data were obtained from the information in the case sheets of the women who attended this hospital for vaginal deliveries, the total number of vaginal deliveries was (12302) during that period. The results revealed that the episiotomy and perineal injuries rate was (23%), as the episiotomy rate was (14.7%) and perineal injuries rate was (8.3%) overall. The primiparous episiotomy rate was (40.3%) while multiparous episiotomy rate was (15.8%). The primiparas women were (52.3%) of the mothers who had episiotomy and perineal injuries, their episiotomy rate was (88.1%) and the perineal injuries rate was (38%). The main indication of episiotomy was primigravida, which was done routinely in (71.8%). The rigid perineum, previous perineal tears, previous episiotomy and previous cesarean section C/S were the indication in (11.8%) of the mothers. The low and high birth weight were the indications in (7.5%) in those who needed episiotomy.

Episiotomy and perineal injury (tear) rate was considered as acceptable rate even it is higher than what was reported in developed countries as well as the result revealed that episiotomy was minimizing the rate of perineal injury.

KEYWORDS: Episiotomy, Perineal injuries, Vaginal Deliveries, primiparous, multiparous.

#### INTRODUCTION

Episiotomy is an obstetric intervention Which was introduced for the first time in 1714, more than 200 years ago, but it became a common practice from the beginning of 20th century (Ali, Zangana, 2016). It is a surgical incision made into the perineum in the 2<sup>nd</sup> stage of labour (the second stage of childbirth involves pushing and the delivery of baby) to prevent serious tears and injuries of the perineum (Saadia, 2014).

Episiotomy (EP) required to be performed immediately prior to enlarge the vaginal outlet and to assist the birth of the baby, it can be median, lateral or medio-lateral. This procedure was routinely performed on all primigravida with the idea that a clean surgical incision is better to heal as compared to irregular perineal tears and that routine EP will reduce the incidence of perineal injuries and to protect fetal head and the pelvic floor (Ahmed, 2015).

Internationally, wide variations in EP practice are reported, ranging from routine use in all births to use only when clinically indicated .It is more prevalent in America and Canada than in Europe, because European mothers chose side position during childbirth that provides the gradual stretching of perineum and lower incidence of episiotomy (Carroli *et al.*, 2005).

Restrictive episiotomy is associated with less posterior perineal trauma, less suturing, fewer complications, but is associated with an increased risk of anterior perineal trauma. Currently, there is no scientific evidence is available to support the use of routine episiotomy to prevent intracranial hemorrhage in preterm deliveries (Kettle, 2011). A systematic review of randomized controlled trials shows that policies of restrictive EP have benefits compared to routine episiotomy, including less posterior perineal trauma, less suturing and fewer healing complications. However, it being one of the most frequently administered surgical procedures in the world, the efficacy of episiotomy was introduced without strong scientific evidence (Carroli and Mignini, 2009).

World Health Organization (WHO) has recommended that EP practice should be limited to strict indications and should not be administered as routine practice (Liljestrand, 2003). The same in the guideline of the American College of Obstetricians and Gynecologists, EP was reported to be restricted (ACOG, 2006). EP is associated with increased blood loss at the time of delivery, hematoma formation, infection, and rarely abscess and recto-vaginal fistula formation (Carroli and Mignini, 2009).

Despite these suggestions, prevalence of episiotomy varies significantly between countries. The rate of EP varies between 9.7% (the lowest) in Sweden, and 100% (the highest) in Taiwan, in both primipara and multipara women (Kartal *et al.*, 2017)

The suggestion is that EP was to be administered in complicated vaginal deliveries (breech, shoulder dystocia, face presentation, and in forceps and vacuum delivery), incision-related scars in the genital area, poorly healed or 3<sup>rd</sup> and 4th degree tears, and fetal distress cases (WHO, 2017).

Also, in a comparison of limited use of episiotomy and routine EP in deliveries without any complication, the WHO reported that episiotomy decreased the risk of posterior perineal trauma and the need for perineal repair, and that there was no difference between the two groups in terms of risks of vaginal and perineal trauma, pain, dyspareunia, and urinary incontinence (Kartal *et al.*, 2017)

The rate of perineal trauma is indicated to be high in countries where EP is frequently administered. Moreover, perineal trauma caused due to EP can affect the sexuality and selfconfidence of women, and lead to perineal pain and infections (Hartmann *et al.*, 2005).There are also studies emphasizing that episiotomy has a protective role against the formation of 3rd degree tears (Lam *et al.*, 2006: Rodriguez *et al.*, 2008). Perineal injuries mean injury to perineal muscles or anal sphincter and may be to the labia, vagina, urethra, and clitoris. This may occur spontaneously during a vaginal birth, or from the trauma of an operative delivery or by an episiotomy (Bodner-Adler *et al.*, 2018).

Tears, described by Fernando who divided them into four degrees, most frequently involve perineal skin and mucosa (1st degree), they may extend to perineal muscle (2nd degree), anal sphincter complex (3rd degree), and anal mucosa (4th degree) (Lane *et al.*, 2017:Fernando *et al.*, 2015).

In Jordan the PE rate was 41.4% overall (91% of primiparous women and 24% of multiparous women) (Hussein *et al.*, 2016). The PE rate in a study was done in Sultanate of Oman (66%) (Al-Ghammari , 2016). The World Health Organization recommends the restrictive use of episiotomy with a rate of 10–20% considered acceptable (Hussein *et al.*, 2016).

No study was done for determining the rate of EP and perineal tear in Duhok. The aim of this study which was conducted retrospectively is to determine the rate of episiotomy with its indications and the rate of perineal injuries in the Maternity Hospital in Duhok city.

## MATERIALS AND METHODS

This cross-sectional study was conducted retrospectively at Maternity Hospital in Duhok city, from the 1<sup>st</sup> of Jan.2018 till 31 of Dec.2018. A tool was prepared for the data collection, the information in the case sheets of the mothers who attended this hospital for vaginal deliveries and had an episiotomy, vaginal tear or both. Prior to data collection, permission to conduct this study was obtained from the Scientific Committee of College of Nursing/ Duhok University and the Ethics Committee of Duhok General Directorate of Health.

The total number of vaginal deliveries was (12305) during that period. The information from archive records included: name, age, phone number, residence, baby weight, parity, past obstetric history, history of previous episiotomy or perineal tears, type of perineal injury, and indication of EP.

This study aimed to find out the rates of EP with its indications that was done during the vaginal deliveries and the perineal injuries which were happened spontaneously. All the data were analyzed through the use of Statistical Package for Social Sciences (SPSS) version 23. Categorical measurements are given as number and percentage.

#### RESULTS

It was determined that the number of vaginal deliveries was (12305), out of (18995) total deliveries in 2018. The Cesarean section deliveries were (6690), the rate was (35%). The number of Primiparous and multiparous were (3685) and

(8620) respectively. Of all the mothers who had vaginal deliveries, the primiparas were (30%) and 2842 (23.0%) gave birth with episiotomy (EP), perineal tear (PT) or both. The primiparas episiotomy rate was (40.3%) while multiparas EP rate was (15.8%). Also, (97.8%) of the vaginal deliveries were live births. The highest percentage in age interval from age group (23-30 years) which was (50.6.%), (33.8%) were at age interval (15-22 year). The results revealed that (89.8%) of the delivered babies with normal birth weight (2500 -4000gm) Table as in 1.

Table (1): Distribution of the mothers based on demographic and obstetric characteristics

Variables	No.	%	
Delivery methods (no. 18995)			
Vaginal deliveries	12305	65	
Cesarean section	6690	35	
Obstetric history in vaginal deliveries (no. 12305)			
primiparous	3685	30	
multiparous	8620	70	
Vaginal deliveries (no. 12305)			
Delivery with episiotomy+ perineal tear	2842	23	
Delivery without episiotomy	9463	77	
Types of perineal injuries (PI) (no.2842)			
Delivery with episiotomy	1789	63	
Delivery with perineal tear	1018	35.8	
Delivery with episiotomy+ perineal tear	35	1.2	
Parity ( in EP + PT group ) (no.2842)			
Primipara ( had one delivery)	1486	52.3	
Multipara & Grandmultipara( had $> 2$ or $> 5$ delivery)	1365	47.7	
Age interval (year) (no. 2842)			
15-22	961	33.8	
23-30	1439	50.6	
31-38	420	14.8	
39-45	22	0.8	
Neonatal weight (gm) (no. 2842)			
Low birth weight (1000gm- 2400gm)	155	5.5	
Normal birth weight (2500gm- 4000gm)	2551	89.8	
High birth weight >4000gm	133	4.7	

The highest percentage (63.0 %) of mothers had EP only in both primipara and multipara, and the lowest percentage (1.2%) in those who had both EP and PT. The primiparas women were (52.3%) of the mothers who had EP and PT, their episiotomy rate was (88.1%) and the PS rate was (11.9%). While the perineal injuries were more in multiparas mothers (62%) and EP rate was (38%) as shown in Table 2.

Table (2): Distribution of vaginal delivery-related characteristics of the women in terms of parity number

Deliveries related characteristics Parity
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	Primiparous		Multiparous		Total		
	No.	%	No.	%	No.	%	
Delivery with episiotomy (EP)	1282	86.3	507	37.4	1789	63.0	
Delivery with perineal tear (PT)	177	11.9	841	62.0	1018	35.8	
Delivery with EP & PS	27	1.8	8	0.6	35	1.2	
Total	1486	52.3	1356	47.7	2842	100	

In Table 3: About the indications for current episiotomy the most common indication is the primigravida (71.8%), then the most common indication is the primigravida (71.8%), then age of the mother less than 20 year in (5.6%).

Table (3): Indications of episiotomy.					
Indications	No.	%			
*Age of mother below 20 years	102	5.6			
*Bad obstetric history: Breech, Twin, previous 2 or 3 & more abortions, shortning of the second stage of labour.	60	3.3			
*Previous episiotomy	72	4.0			
*Previous vaginal tear	53	2.8			
*Previous cesarean section	56	3.1			
*Rigid perineum.	35	1.9			
*Primipara	1309	71.8			
*Low birth weight (1000g- 2400gm)	78	4.3			
High birth weight >4000g	59	3.2			
Total	1824	100			

#### DISCUSSION

According to the WHO recommendation, the EP should be restricted in uncomplicated cases of delivery. Episiotomy is suggested in order to step up the delivery in cases with fetal distress, in order to prevent intracranial hemorrhage with forceps, premature vacuum applications, or breech delivery, and in cases where exertion of the mother's strength during delivery should be prevented (i.e. cardiac failure), and if there is a risk of 3rd degree perineum tears especially when 3rd degree tears occurred in the previous delivery. Babies with occipito-posterior position deliver as face to pubes and increase the risk of perineal injury and instrumental delivery because second stage of labour is prolonged. So it's justified to recommend EP in this case (Kartal, 2017).

In the present study, it was determined that two third of the women (65.0%) having vaginal deliveries and the primiparas were (30%), and the overall rate of EP and PT was (23%), (40.3%) of the primipara underwent EP and PT, while (15.8%) of the multipara women received EP. This rate is similar to the rate of episiotomy which was (40.6%) in primipara women in a study conducted in Italy in 2013 (Kartal, 2017). But is not similar to a study was conducted in Jordan, the EP rate was (41.4%) overall (91% of primiparous women and 24% of multiparous women) (Hussein et al., 2016).

So there are differences between EP rates depending on the countries. In a study conducted in primipara women in Nigeria, the rate of EP was determined as (62.1%). In Australia, they found that the EP rate was (27%) in Australian-born primipara women, and (48%) in Vietnamese-born women (Kartal, 2017). In a study conducted in Oman, the rate of EP was 66% (Al-Ghammari, et al., 2016).

There is an evidence that EP rate of more than 30% is not acceptable and episiotomy should be done on selective basis than done as a routine (Ali, Zangana, 2016). A systematic review study on EP which was carried out in Spain, for vaginal birth concluded that restrictive EP policies appear to have a number of benefits than routine EP policies, which associated with reduced anal sphincter laceration rate by 50 %, and suggested that the use of EP was not more than 30% of vaginal deliveries. (Carroli, 2005).

In this study, the PS rate was determined to be higher in multipara women (62%), in comparison with (11.9%) in primipara. The EP rate in primipara was (88.1%) and higher if compared with (38%) in multipara. These percentages were not gone with Calışkan et al.,(2003), it was reported that the EP rate was (74.2%) in Randomized study at tertiary hospitals in Turkey. In another study conducted in Turkey by Karaçam et al.(2013) it was reported that EP was performed in 64% of vaginal deliveries (95% of first deliveries, 48% of second deliveries, 12% of third and subsequent deliveries). Another Turkish study, in which the EP was reported to be administered in 92% of primipara women and 72% of multipara women ( Hotun-Şahin et al., 2007).

The rate of (10–20%) considered acceptable by WHO recommendation and has clear guidelines stating that liberal use of EP has failed to reduce the rates of perineal tears (Saadia, 2014). Many countries started to manage this point, France started to reduce the EP rates from (55.7%) to (13.3%) from 2004 to 2009 without significantly increasing the perineal trauma (Reinbold, 2012). England by setting the policy of avoiding routine episiotomies has managed to reduce the rates to (20%), EP is not totally free from complications like perineal pain, wound dehiscence and increased bleeding. Routine EP to all women to avoid third and fourth degree perineal tears has been a practice in many developing countries.

Maternal exhaustion is said to occur when the mother fails to push after more than 2 hours of efforts. It has been observed that mothers are asked to push down for a long period of time from early second stage and this leads to maternal exhaustion, this practice also needs re-evaluation and training of the staff. Mothers should not be forced for this action until late in second stage when she has a desire of bearing down, this can also reduce the rates for EP for this indication. Significant efforts are thus required to reduce the rates of EP especially in primigravida which reported that the routine use of EP avoids perineal injury during delivery. Many reports over the last 20 years verify an increase in the likelihood of perineal trauma. Therefore, the restrictive use of an EP was postulated and is reflected in declining rates of EP over the last 15 years (Saadia, 2014)

Episiotomy administration procedures should be adapted to all healthcare personnel who assist delivery through in-service training and the necessity of avoiding routine administration should be emphasized. In addition, increasing alternative practices such as massage and restricting episiotomy in vaginal deliveries will enable a decrease in the EP rate.

#### CONCLUSIONS

Episiotomy and perineal tear rate was considered as acceptable rate even it is higher than what was reported in developed countries, as well as the result revealed that EP was minimizing the rate of perineal injury.

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## يوخته

ريژهيا پرين وبريندارکرنا ناڤبهرکٽ وپٽدڤی بٽ بونا وٽ چهندٽ د دهمٽ ژ دايك بونٽت سروشتی دا د خهستهخانٽت ژ دايك بون و ئافرهتان ل باژٽرٽ دهوکٽ.

باگروهند و ئارمانج: بریندارکرنا ناقبهرکێ به رفرهه کرنهکا نیشتهگهریه د هیّته ئهنجام دان د دوماهیا قوناغا دوویێ ل دایک بوونێ ودانانا زاروکی (ئانکو پێشی هاتنا زاروکی بۆ سهر دونیایێ ب چهند خولهک ژ بۆی بهرفرهه کرنا دهروازێ ناقبهرکێ و رێگری کرنا برینداکرنا وی ب شێوهیهکی ههرهمهکی یان رودانا هندهک برینێت بێ سهروبهر د دهمێ ژ دایک بونا زاروکی. ئارمانجا سهرهکی ل قێ ڨهکولینێ دیارکرنا رێژهیا بریندارکرنا ناقبهرکێ ی یه و د ج دهم پێدڨی دکهت ب تایبهتی ژ دایک بونێت سروشتی .

یړین و برینداکرنا ناقبهرکٽ ب بخوه ئانکو بٽ دهستکاری هاتینه ریدان (23%) ئاکو ریژهیا (14,7) بۆ یړینا ناقبهرکٽ و رێژهیا (8,3) بۆ برینداکرنا بخوه (بٽ دهست کاری). ورێژهیا ژ دایك بون بۆ ئێکهم جار (52,3) د وان دهیکێت کو یړین وبریندارکرنا ناقبهرکٽ ب سهربخوه بۆ چێبوی، رێژهیا یړینا ناقبهرکٽ (88,1) ورێژهیا شهقکرنٽ (62%) بو یړینا (العجان) د ژ دایك بونێت دوباره دا د ههمان گروپ دا. ژ دایك بونا ئێکهم جار وکارٽ یړینا ناقبهرکٽ ب شێوازهکٽ روتینی ئهگهرٽ سهرهکی یه بۆ یړینا ناقبهرکٽ ی ورێژهیا (71,8) لاواز بون و رهق بوونا ناقبهرکٽ و ههبوونا برینان و وتێک چونا وی یا پێشی و ( 11.8%), و ( 7.5%) ب ئهگهرٽ ژ دایك بونا زاروکی کێمتر یان زیاتر ل ئاستٽ کێشا سروشتی.

دەر ئەنجام: دڨٽ ڤەكولىنٽ دا دىار بوو كو رێژەيا برىنداكرنا ناڤبەركٽ و رێژەيا رىدانێت برىنداركرنا وى يا بخوە دھىتە رىدان د دەمٽ ژ دايك بونێت سروشتى دا رێژەيەكا پەسەندە سەرەراى كو رێژەيەكا زۆر كێمترە د وان رێژێن تومار كرى ل ولاتێن پێشەكەفتى دا، وديار بوو كو ئەنجام دانا برىنداكرنا ناڤبەركٽ ب نشتەرگەرىٽ رێژەيا رىدانا برىنێت ڤەبوون وبەرفرە بونا ناڤبەركٽ ێن بخوە رىددەن كێمتر لێدەكەت.

# نسبة قص العجان ودواعيه وجرح العجان التلقائي اثناء الولادات المهبلية في مستشفى الولادة والنسائية في مدينة دهوك

# الخلاصة

الخلفية والاهداف: جرح العجان هو شق جراحي يعمل في نهاية المرحلة الثانية من عملية الولادة والوضع (اي قبل خروج الطفل بدقائق) لتوسيع فتحة المهبل وتفادي جرحها عشوائيا او احداث تمزقات غير نظامية اثناء ولادة الطفل. الهدف الاساسي من الدراسة هو لبيان نسبة جرح العجان وقص العجان والدواعي لاجرائه خلال الولادة المهبلية.

النتائج: دراسة وصفية استرجاعية للفترة من الاول من شهر كانون الثاني ولغاية الواحد والثلاثون من شهر كانون الاول لسنة 2018 في مستشفى النسائية والولادة في مدينة دهوك. تم الحصول على المعلومات من طبلات المرضى في قسم الاحصاء بعد اصدار الموافقة بذلك . وتبين ان عدد الولادات المهبلية هي 12305 خلال تللك الفترة وعامة ان نسبة قص وجرح منطقة العجان تلقائيا هي( 23%) بواقع( 14.7%) لقص العجان و( 8.8%) للجرح التلقائي . وان نسبة الولادات البكر هي ( هي( 25%) بواقع( 14.7%) لقص العجان و( 8.8%) للجرح التلقائي . وان نسبة الولادات البكر هي ( 8.52 %) في الامهات اللواتي لديهن قص وجرح العجان التلقائي , وكانت نسبة قص العجان 8.88%) ونسبة الشق ( 11.9%) بينما كانت ( 62%) للشق و ( 38%) لقص العجان في الولادات المتعددة في نفس المجموعة . الولادة البكر وعمل جرح العجان روتينيا احيانا كان السبب الرئيسي لقص العجان ونسبته ( 1.8%) يليهم تثخن العجان ووجود جرح سابق وتمزقه سابقا ( 11.8%), و (

الاستنتاجات: تبين من هذه الدراسة ان نسبة جرح العجان اونسبة حدوث شق تلقائيا اثناء الولادة المهبلية هي نسبة مقبولة بالرغم من انها اكثر بقليل من النسبة المسجلة في الدول المتقدمة ,وتبين ان اجراء جرح العجان يحدد من نسبة حدوث الشق التلقائي