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Short Communication

# Antenatal Digital Perineal Massage with Lubrigyn® Cream: An Observational Study

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**Received:** February 21, 2018; **Published:** March 16, 2018

## Background

The pelvic floor or pelvic diaphragm consists of the inferior portion of the anterior pelvic floor. Its function is to support the pelvis during the labor and to work against the effects of the gravity and/or the intra-abdominal pressure. The margins of this region are anteriorly the pubic symphysis, posteriorly the coccyx, laterally the ischiopubic rami and sacrotuberous ligaments. The roof of the pelvic floor consists of the pelvic diaphragm and the ground is represented by the fascia and the skin. The perineum is the anatomical structure located below the pelvic diaphragm and in women it is comprised between anal orifice and vaginal opening. The perineum controls also the muscles and the neurovasculature associated with the rectum and the urogenital organs who are in the pelvis [1]. Injuries to the perineum commonly were linked to vaginal birth. They can result from intentional surgical incision (episiotomy) to enlarge vaginal opening or from spontaneous lacerations classificated in first, second or third-degree according to the severity of the injurie. First-degree lacerations are superficial, involve skin and/or mucosa and often require a minimum suture. Second degree lacerations involve the muscles and require suture using local anesthesia infiltration of perineum. Third degree lacerations extend to the anal sphincter and can have serious consequences such as infection, hematoma, bleeding, vesicovaginal- and/or rectovaginal-fistulas, urinary and/or fecal incontinence, dyspareunia. All these complications represent an extremely stressfull experience for the women and have a very negative impact, physically and above all psychologically [2-4]. Recent literature shows that about 85% of women experience a perineal trauma especially having first delivery [2,5]. More than 2/3 of such women required to repair. Pain and dyspareunia occur in more than 60% of the cases [1,2]. Several interventions are performed to reduce perineal trauma including prenatal perineal massage. Indeed, the softly stretch of the pregnant women perineum, starting at 34$^{th}$ week, using a moisturizer compound can prepare the birth vaginal canal to passage of the baby. Practice of perineal massage is performed introducing daily a lubricant or a moisturizer compound using one or two fingers into the vagina for about 3 - 4 centimeters, applying and maintaining pressure two minutes to each side of the vaginal opening. This procedure combined with the use of oils or moisturizer creams, increases the elasticity of the perineum, improves the perineum vasculature and decrease the incidence of the vaginal lacerations during the childbirth [6]. Many different types of nourishing oils are available for the perineal massage: sweet almond oil, Vitamin E, coconut or avocado seed oil. Also, synthetic, petroleum-based oils such as mineral oil or Vaseline (Unilever, United Kingdom) is available too. A recent randomized trial compared perineal massage with lubricant during the second stage of delivery compared to a control group. The authors reported that perineal massage with Vaseline in the second stage of labour increases perineal integrity and decreases perineal traumas (episiotomy and tears). Moreover, the authors concluded that perineal massage could be an effective way to preserve an intact perineum in labour [7].

Vitamin E is an essential fat-soluble nutrient that has interesting antioxidant properties and because of that skin care industry began to pay more attention to this vitamin. Literature evidences suggest that topical and oral vitamin E has photoprotectant anticarcinogenic properties. In addition, supplementation of vitamin E improves the stabilization of the skin barrier [8]. Although scientific evidences support the topical use of vitamin E for skin damage prevention, the benefit of vitamin E on dermal lesions remains uncertain. Baumann and

Spencer [9] failed to show the skin damage prevention by topical administration of vitamin E as well as Jenkins., *et al* [10]. Recent studies on diabetic mouse models suggest an involvement of oxidative stress in diabetic scar healing and a significantly improved scar healing by administration of topical vitamin E [11,12]. Topical vitamin E was proven to be beneficial for a variety of dermatologic disorders as depigmentation [13], photoprotection [14,15], chloasma and pigmented contact dermatitis lesions [16] and others. Adverse fetal effects due to the use of topical vitamin E are no reported.

Lubrigyn® cream (Uniderm Farmaceutici S.r.l. Rome, Italy) is a vaginal lubricant with physiological pH, composed of hyaluronic acid, elastin, almond oil, vitamin A, and calendula. Lubrigyn® cream is a preparation with lubricating, moisturizing, emollient and protective properties against the vaginal mucosa, that is susceptible, for various reasons, to discomfort attributable to stable or contingent dryness [17]. The dryness of the female genital system may have various causes, correlated with endogenous or exogenous situations, sometimes psychological origin too; it is not necessarily related to organically pathological states. The application of this cream on the sensitized area, provides a condition of well-being, softness and hydration, able to alleviate the sensations of discomfort and pain, constituting a barrier against inflammatory agents. The effectiveness is due to the synergistic multi-target action of a combination of functional ingredients: The plant extracts possessing protective, refreshing, soothing, emollient, and nutrients characteristics; the hyaluronic acid is fundamental to tissue regeneration and to cell proliferation, in which elastin also actively participates. LUBRIGYN® CREAM is a preparation that, correctly used, forms a light protective film on the application area. It does not contain added perfumes and is compatible with the use of condoms and internal absorbents.

The purpose of this paper was to investigate whether perineal massage during the second stage of labor with Lubrigyn® cream increases the chances of delivering with an intact perineum comparing like the other oils.

## Patients and Methods

We selected 50 full-term pregnant primiparous or multiparous women with a single fetus in a vertex presentation.

All women performed prenatal perineal massage from 34$^{th}$ week of pregnancy with LUBRIGYN® CREAM (Table 1).

| Item | N | % |
|---|---|---|
| Patients | 50 | 100 |
| Median Age | 33 (Range 20 - 41) | |
| Antenatal Classes | | |
| • Yes | 45 | 90 |
| • No | 5 | 10 |
| Primiparous<br>Multiparous | 39<br>11 | 78<br>22 |
| Type of Delivery | | |
| • Normal | 43 | 86 |
| • Ventouse | 7 | 14 |
| • Forceps | 0 | 0 |

***Table 1:*** *Characteristics of patients.*

We administered to all included patients two questionnaire: The first questionnaire covered awareness and practice of antenatal perineal massage. A 5-point Likert scale was used to assess the opinion of the patients regarding the acceptability of perineal massage and the effectiveness of the cream (Table 2). The second questionnaire regarding the time passed since delivery until mentioning of perineal pain and regarding referred perineal pain intensity (Table 3).

| Satisfaction Questionnaire about Perineal Massage with Lubrigyn | N | % |
|---|---|---|
| Extremely satisfied | 48 | 96 |
| Very satisfied | 2 | 4 |
| Moderately satisfied | 0 | 0 |
| Slightly satisfied | 0 | 0 |
| Not Satisfied | 0 | 0 |

***Table 2:*** *Questionnaire to assess the acceptability of antenatal perineal massage with lubrigin.*

| Variable | N | % |
|---|---|---|
| Time after Delivery (H) | | |
| • < 24 | 4 | 2 |
| • 24 To 48 | 2 | 1 |
| • > 48 | 3 | 1,5 |
| Pain Intensity | | |
| • Mild | 4 | 2 |
| • Moderate | 3 | 1,5 |
| • Strong | 1 | 0,5 |
| • Intolerable | 0 | 0 |

***Table 3:*** *Time passed since delivery until mentioning of perineal pain and regarding referred perineal pain intensity.*

The study protocol was approved by the Local Ethics Committee, and informed written consent was obtained from study subjects.

| Perineal Trauma among Postpartum Women | N | % |
|---|---|---|
| Episiotomy | 8 | 16 |
| Spontaneous Laceration | | |
| • First Degree | 2 | 4 |
| • Second Degree | 1 | 2 |

***Table 4:*** *Perineal Trauma Types.*

## Results

The characteristics of the patients are shown in table 1. The median age is 33 (range 20 - 41). Thirty-nine patients (78%) are primiparous and 11 (22%) women have already given birth. Forty-five (90%) women attended antenatal classes. 86% of patients delivered spontaneously without any manipulation or traction. Only 7 patients needed ventouse extraction. No forceps traction was used. All patients had higher satisfaction rates with the delivery experience after perineal massage with Lubrigyn® cream (Table 2). Women who practice digital perineal massage from 34$^{th}$ weeks pregnancy are less perineal damage during vaginal birth. For every 50 women who practice perineal massage with Lubrigyn®, only eight (16%)received episiotomy and perineal suture after the delivery and only 3 patients suffered of first-second degree lacerations. The most frequent perineal trauma was episiotomy (2%) and, in 3 cases, first-second degree perineal laceration occurred. No third-fourth degree lacerations were observed but only first-second degree.

## Conclusions

In conclusion we can say that Lubrigyn® cream is a valid product for digital antenatal perineal massage, like as other natural oils or synthetic petroleum-based oils (Vaseline). A prospective comparative trial is needed to confirm this preliminary data.

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**Volume 7 Issue 4 April 2018**