Received: 10 June 2019 | Accepted: 14 July 2019

DOI: 10.1002/nau.24124

CONTROVERSIAL TOPIC

Neurourology Urodynamics ICS SUFU WILEY

ICS debate article—childbirth, modes of delivery, and pelvic floor dysfunction—challenges in educating women about modes of delivery and granting an informed decision process

Nucelio Lemos MD, PhD[1,2] | **Stergios K. Doumouchtsis MSc, MPH, PhD, MRCOG**[3,4]

[1]Department of Obstetrics and Gynecology, Women's College Hospital, Mount Sinai Hospital, University of Toronto, Toronto, Canada

[2]Division of Pelvic Functional Surgery and Neuropelveology, Department of Gynecology, Federal University of São Paulo, São Paulo, Brazil

[3]Department of Obstetrics and Gynaecology, Epsom & St Helier University Hospitals, NHS Trust, St George's University of London, UK

[4]Laboratory of Experimental Surgery and Surgical Research, Faculty of Medicine, University Athens, Greece

Correspondence
Nucelio Lemos, MD, PhD, University of Toronto, 700 University Avenue, Room 8-917, Toronto, ON. M5S 1Z5, Canada.
Email: nucelio@gmail.com

Abstract

The impact of the mode of birth on the mother and fetus has been a popular topic for a long-standing debate. Several morbidities have been associated with one mode of delivery or another. When this debate focuses specifically on the effects of vaginal birth or cesarean delivery on pelvic floor function and dysfunction, current research-based evidence fails to provide clear answers as many contributing and confounding factors, and other limitations inherent to the evidence itself blur the links between causes and outcomes.

This debate article provides and overview of the biopsychosocial gaps on this subject and raises questions to the current state in patient counselling on labour and delivery.

KEYWORDS

Labour and Delivery, Pelvic Floor Dysfunction, Surgical Counselling, Elective C-Section

1 | INTRODUCTION

The impact of the mode of birth on the mother and fetus has been a popular topic for a long-standing debate. Several morbidities have been associated with one mode of delivery or another. When this debate focuses specifically on the effects of vaginal birth or cesarean delivery on pelvic floor function and dysfunction, current research-based evidence fails to provide clear answers as many contributing and confounding factors, and other limitations inherent to the evidence itself blur the links between causes and outcomes. Taking a step back, we realize that this area is only one aspect of a number of considerations to be taken when choosing the mode of delivery as an elective choice or in the context of an emergency, where factors, such as suspected fetal distress, obstructed labor or other acute events may eventually dictate the decision on timing and mode of delivery. In addition, the umbrella term "vaginal birth" covers a series of different modes of delivery (forceps, vacuum, spontaneous, vaginal breech, and waterbirth) with different risk profiles with regard to pelvic floor sequelae. This commentary aims to contribute to the ongoing debate, with viewpoints that may add insights into the decision-making processes on a day to day clinical practice, and hopefully add aspects to the wider perspective.

2 | THE MOTION IN SUPPORT OF CESAREAN DELIVERY

Pregnancy and delivery have always been surrounded (or haunted) by dogmas. Naming vaginal delivery as

 © 2019 Wiley Periodicals, Inc.

"Normal" or "Natural" is one of such.[1] Some groups even accuse women choosing an elective C-Section of being "too posh to push", claiming that to be a real mother a woman needs to feel the pain of natural delivery[1] and if she fails to do so, she is actually delegating the act of giving birth to "the cut" or to "the surgeon" or to "the male."[2] Such arguments are eloquently voiced as an act of women empowerment, but what empowerment comes out of denying women the right of choice?

C-Section rates have been imposed since 1985, based on the mere statement that countries with some of the lowest perinatal mortality rates in the world have cesarean section rates of less than 10%.[3] Unfortunately, this analysis is too shallow both at limiting the only predicting factor of maternal and perinatal mortality to mode of delivery and at failing to acknowledge that the role of obstetrical and perinatal care is to provide not only survival but also long term quality of life to both the mother and the infant.

It is the duty of an evidence-based health care system to prevent cultural dogmas from unduly influencing women's decisions. Women must be informed on their first antenatal consult that mode of delivery is a decision they will need to make in the near future and all available data should be explained to them in an unbiased manner. This means that they need all the information relevant to their case, including that the risks associated with C-sections nowadays are much lower than in the past, yet they still exist.

They must be informed that vaginal delivery is not "harmlessly natural". When compared with C-Section, it is associated with a higher risk of pelvic organ prolapse[4] perineal tears and fecal incontinence[5]; and that there is a 5.2 odds ratio of developing these three types of pelvic floor dysfunction combined[6]; that C-Section has a protective effect, especially in women with high body mass index, less than 160 cm of height or more than 40 years of age and/or when fetuses weight ≥4 kg.[7] They should also be informed that the available treatment of these conditions is not very effective and often multiple surgical interventions are required.[8] Moreover, women with these conditions face a higher risk of social isolation, depression, and institutionalization.[9,10]

3 | THE MOTION IN SUPPORT OF VAGINAL CHILDBIRTH

On the other hand, pelvic floor damage may occur in the first stage of labor or even during pregnancy. Therefore, a cesarean section is not necessarily protective, even if electively performed before labor, especially with regard to urinary and anal incontinence. In the Term Breech Trial, irrespective of whether primarily a vaginal delivery mode or an elective cesarean section was planned, 2 years after delivery stress urinary incontinence (planned cesarean 17.8% vs planned vaginal delivery 21.8%), fecal incontinence (2.4% vs 2.2%), and flatus incontinence (13.1% vs 11.5%) were observed in approximately equal numbers in both groups.[11] Another study showed similar findings 6 months after birth.[12] Even in studies with longer follow up, cesarean delivery provides only partial protection from urinary incontinence—eight or nine cesarean sections need to be performed to prevent one case of urinary incontinence.[13]

Elective cesarean section can certainly prevent mechanical trauma to the anal sphincter but not neurological trauma. A large US population-based study indicated that 29.3% of postpartum women suffer from fecal incontinence (including flatus) when assessing for immediate postpartum symptoms and one in five of these women had undergone a cesarean delivery.[14] This problem is clearly prevalent not only after vaginal delivery but also following cesarean delivery.

4 | REBUTTAL IN SUPPORT OF CESAREAN DELIVERY

While the provision of information is important, it needs to be delivered in an accessible manner and should be combined with impartiality and procedural guarantees to make sure women are making a free and informed choice. This is where striking the right balance becomes a complicated issue; several factors may impact/bias the information women receive, knowledge transfer, and decision-making process.

The first of these factors are provider beliefs, as many advocates toward one or the other mode of delivery. Women cannot be deprived from information because healthcare providers are afraid they are going to opt for a C-Section if they know about the risks[15] or be led to choose a C-Section for believing that this is a safer mode of delivery.[16]

Another factor is the social one. Many women choose to undergo an elective C-Section due to fear of preventable problems of vaginal delivery, such as fear of labor pain,[16] while others will be coerced into vaginal delivery by ideological pressures of the society.[1]

With so many variables at stake, "better" becomes an extremely relative concept, which will demand a lot of introspection and reflection from the woman to weigh each piece of information individually, and this is where the third influencing factor comes into play: timing and quality of consent. It is not unusual for women to only be offered a C-Section during delivery and if they ask for one

—there could be no worse timing for that. In this situation, consent is usually based on informing the risks of the most invasive procedure,[17] leaving the impression that a "natural" delivery is free of risks.

5 | REBUTTAL IN SUPPORT OF VAGINAL CHILDBIRTH

In most cases, the mode of delivery is not a matter of a woman's choice, given the unpredictable nature of pregnancy and labor. Therefore, taking into account the rights of the fetus, the mode of birth—be it an assisted or unassisted vaginal birth or a cesarean section—may be decided upon a true emergency or unpredictable factors.

The World Health Organization states that Cesarean sections can cause significant and sometimes permanent complications, disability or death particularly in settings that lack the facilities and/or capacity to properly conduct safe surgery and treat surgical complications. Cesarean sections should ideally only be undertaken when medically necessary.[18]

More recently, International Federation of Gynecology and Obstetrics published a position statement on "how to stop the cesarean epidemic"[19] acknowledging the increasing cesarean section rates worldwide and the mortality and morbidity associated with cesarean deliveries.

6 | FINAL REMARKS

Women must be informed at their first antenatal consult that mode of delivery is a decision they will need to take in the near future and all available data should be explained to them in an unbiased manner throughout antenatal care. This process should also include information about long term risks and future pregnancy and childbearing implications, such as risks of the morbidly adherent placenta and ectopic scar pregnancy in pregnancies after cesarean delivery, or risks of recurrent anal sphincter injuries and associated anal incontinence after a vaginal birth with an obstetric anal sphincter injury.

Psychometrically assessed tools must be developed and will certainly play a crucial role in the effective and unbiased transmission of information about the different modes of delivery, as well as women's freedom to choose between any of these.

The UK Supreme Court decision on the Montgomery Case has brought attention to how biased this process is. Rather than waiting for courts, health care systems and healthcare providers can do a better job in dispelling myths, challenging dogmas, and proactively enabling women to exercise their right to choose, while providing the best possible care to ensure safety and optimal outcomes for both mothers and newborns.

FUNDING INFORMATION

Nucelio Lemos has nonfinancial support from the External Researcher Programs from Medtronic and Laborie Inc, none of which are related to this publication.

CONFLICT OF INTEREST

Stergios K. Doumouchtsis declare that there is no conflict of interest.

ORCID

Nucelio Lemos http://orcid.org/0000-0002-3184-8229

REFERENCES

1. Egbert CK. Eve's punishment rebooted: The ideology of natural birth. https://www.feministcurrent.com/2014/07/03/eves-punishment-rebooted-the-ideology-of-natural-birth/. Accessed July 22, 2019.
2. Jordan NA. The Swallowed Mother: C - Sections, Metaforms and Male Cuts. Metaformia: a journal of menstruation and culture. http://www.metaformia.org/articles/swallowed-mother. Accessed March 31, 2018.
3. Appropriate technology for birth. *Lancet*. 1985;2(8452):436-7.
4. Gyhagen M, Bullarbo M, Nielsen T, Milsom I. Prevalence and risk factors for pelvic organ prolapse 20 years after childbirth: a national cohort study in singleton primiparae after vaginal or caesarean delivery: pelvic organ prolapse 20 years after childbirth. *BJOG*. 2013;120(2):152-160. https://doi.org/10.1111/1471-0528.12020
5. Gyhagen M, Bullarbo M, Nielsen TF, Milsom I. Faecal incontinence 20 years after one birth: a comparison between vaginal delivery and caesarean section. *Int Urogynecol J*. 2014;25(10):1411-1418. https://doi.org/10.1007/s00192-014-2390-1
6. Gyhagen M, Åkervall S, Milsom I. Clustering of pelvic floor disorders 20 years after one vaginal or one cesarean birth. *Int Urogynecol J*. 2015;26(8):1115-1121. https://doi.org/10.1007/s00192-015-2663-3
7. Jelovsek JE, Chagin K, Gyhagen M, et al. Predicting risk of pelvic floor disorders 12 and 20 years after delivery. *Am J Obstet Gynecol*. 2018;218(2):222. https://doi.org/10.1016/j.ajog.2017.10.014
8. Chapple CR, Cruz F, Deffieux X, et al. Consensus statement of the european urology association and the european urogynaecological association on the use of implanted materials for treating pelvic organ prolapse and stress urinary incontinence. *Eur Urol*. 2017;72(3):424-431. https://doi.org/10.1016/j.eururo.2017.03.048

9. Vo K, Forder PM, Byles JE. Urinary incontinence and social function in older Australian women. *J Am Geriatr Soc*. 2016;64(8):1646-1650. https://doi.org/10.1111/jgs.14250
10. Keighley MR, Perston Y, Bradshaw E, Hayes J, Keighley DM, Webb S. The social, psychological, emotional morbidity and adjustment techniques for women with anal incontinence following obstetric anal sphincter injury: use of a word picture to identify a hidden syndrome. *BMC Pregnancy Childbirth*. 2016;16(1):275.
11. Valsky DV, Lipschuetz M, Bord A, et al. Fetal head circumference and length of second stage of labor are risk factors for levator ani muscle injury, diagnosed by 3-dimensional transperineal ultrasound in primiparous women. *Am J Obstet Gynecol*. 2009;201(1):91.
12. Borello-France D, Burgio KL, Richter HE, et al. Fecal and urinary incontinence in primiparous women. *Obstet Gynecol*. 2006;108(4):863-872.
13. John LJ, Ommen R, Sreedharan J, Muttappally Myalil J. Prevalence of urinary incontinence (UI) 20 years after childbirth in a national cohort study in singleton primiparae after vaginal or caesarean delivery. *BJOG*. 2013;120(9):1151-1152.
14. Guise JM, Morris C, Osterwil P, Li H, Rosenberg D, Greenlick M. Incidence of fecal incontinence after childbirth. *Obstet Gynecol*. 2007;109:281-288.
15. Sokol DK. Update on the UK law on consent. *BMJ*. 2015;350:h1481-h1481.
16. Domingues RM, Dias MA, Nakamura-Pereira M, et al. Carmo Leal Md. Process of decision-making regarding the mode of birth in Brazil: from the initial preference of women to the final mode of birth. *Cad Saude Publica*. 2014;30(suppl 1):S1-S16.
17. Touqmatchi D, Boret T, Nicopoullous J. The quality of operative consenting against RCOG advice as standard. *J Obstet Gynaecol*. 2010;30(2):159-165. https://doi.org/10.3109/01443610903470254
18. WHO. Statement on caesarean section rates. Geneva, 2015. https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/cs-statement/en/. Accessed October 16, 2018.
19. Visser GHA, Ayres-De_Campos D, et al. FIGO position paper: how to stop the caesarean section epidemic. *Lancet*. 2018;392(10155):1286-1287.

How to cite this article: Lemos N, Doumouchtsis SK. ICS debate article—childbirth, modes of delivery-, and pelvic floor dysfunction—challenges in educating women about modes of delivery and granting an informed decision process. *Neurourology and Urodynamics*. 2019;1-4. https://doi.org/10.1002/nau.24124