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# Obstetrical attitude towards performing a trial of labor after cesarean section in Greece: A cross-sectional study

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## Abstract

**Introduction:** There has been a notable worldwide rise in the percentage of women delivering via cesarean section. Although cesarean section is generally considered safe, there is a possibility of significant health risks and even mortality associated with it. The aim of this study was to collect pertinent data on the perspectives of healthcare providers, particularly obstetricians, who are involved in the field of labor and delivery in Greece, regarding the choice of Trial Of Labor After Cesarean (TOLAC).

**Material and Methods:** This was a cross-sectional study, conducted at the Third Department of Obstetrics and Gynecology, School of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, Greece; obstetricians were interviewed via certain questionnaires. Detailed analysis of the different characteristics regarding obstetricians' background, workplace, preferences, willingness to take risks and safety concerns was conducted. These variables were compared and correlation between them was thoroughly investigated.

**Results:** In total, 333 responses to the questionnaire were collected through Google online forms. Few obstetricians seem to enjoy taking risks, while most of them are neutral and willing to perform a planned TOLAC. It seems that as the experience of obstetricians increases, their tendency to recommend TOLAC on their own does not increase. The majority of obstetricians who had a failed TOLAC were more negative than those who had not had a failed attempt; whereas, they were willing to undertake TOLAC when the time required to transfer the women from the labor ward to the operating table was the minimum possible. Concerning the security as an important element in every aspect of obstetricians' lives, the majority of them responded neutrally or positively. Following gender analysis, results showed that both male and female obstetricians were neutral or would avoid situations that have an uncertain outcome.

**Conclusion:** Obstetricians and healthcare providers are willing to offer TOLAC as an option, provided

that certain criteria are met and safety considerations are addressed. Finally, the acceptance and practice of TOLAC may vary between different regions, hospitals and individual healthcare providers.

**Key words:** Vaginal birth, cesarean section, VBAC, trial of labor, TOLAC, obstetricians, attitude

## Introduction

Over recent decades, there has been a significant global increase in the proportion of women delivering via cesarean section (CS)<sup>1</sup>. However, there is an ongoing debate about the rates of CS and the outcomes for both the mothers and the neonates<sup>2</sup>. Nevertheless, it is important to note that CS, may be associated with health risks and even mortality, albeit these occurrences are relatively rare<sup>3</sup>.

In the United States, a consensus conference was organized to evaluate the safety and outcomes of Trial Of Labor After Cesarean (TOLAC), acknowledging it as a viable option for many women who have previously undergone a CS<sup>4</sup>. The success rate of TOLAC, often referred to as Vaginal Birth After Cesarean (VBAC), can be as high as 72% to 75% depending on the specific demographic and obstetric characteristics of the women involved<sup>5</sup>. In several countries the rates of VBAC are notably low, standing at less than 5%<sup>6</sup>.

Regarding the rates, it is reported in the literature that the chances of a successful VBAC are significantly higher when compared to recurrent indications such as cephalopelvic disproportion<sup>7</sup>. Additionally, prior vaginal deliveries, especially those following a previ-

ous CS, constitute strong indicators for a successful VBAC; however, maternal obesity, diabetes mellitus, hypertensive disorders have been found to negatively impact VBAC outcomes<sup>8</sup>. The inter-pregnancy interval is crucial regarding the VBAC success, with success rates decreasing as the interval increases<sup>9</sup>. Moreover, more than two-thirds of post-dates pregnancies may successfully deliver via VBAC<sup>10</sup>.

The aim of this study was to collect pertinent data concerning the perspectives of healthcare providers, particularly obstetricians, who are involved in the field of labor and delivery, regarding the choice of TOLAC.

## Material and methods

This was a cross-sectional study, conducted at the Third Department of Obstetrics and Gynecology, School of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, Greece; obstetricians were interviewed via certain modified questionnaires [6]. The questionnaire had three parts. The first part included obstetricians' demographic background, such as age, gender and personality prefer-

Table 1. First part of the questionnaire.

1.	Age (years) (<40, 40-50, 50-60, >60)
2.	Gender (male/female)
3.	Are you currently working on the obstetric field? (last 3 years)
4.	I enjoy taking risks.
5.	I try to avoid situations that have uncertain outcomes.
6.	Taking risks does not bother me if the gains involved are high.
7.	I consider security an important element in every aspect of my life.
8.	People have told me that I seem to enjoy taking risks.
9.	I rarely, if ever, take risks when there is another alternative.

Table 2. Second part of the questionnaire.

Q1:Willingness	Are you willing to undertake a planned VBAC when the situation allows it, considering patient safety and health care facility conditions?
Q2:Actual experience	At your current place of employment, have you ever undertaken a planned VBAC for a patient?
Q3:Managerial attitude	Is the managerial attitude of your current working environment supportive of undertaking a planned VBAC?
Q4:Past failure	Have you ever had a failed VBAC experience?
Q5:Opposition	Were you previously pro-VBAC but now against it?

ence toward risk and uncertainty (Table 1). The second part involved their willingness to undertake VBAC (Table 2). In the third part of the questionnaire, the assessment of VBAC was completed by the collection of information about the obstetricians' working place, including hospital attributes and the availability of a supporting team in case of complications during delivery (Table 3).

## Results

A total of 337 answers were collected through Google's online form. Out of 337 answers, 333 obstetricians (98.8%) stated that are currently working in the field of obstetrics (last 3 years), whereas, 4 obstetricians (1.2%) answered negatively and they were excluded from the study. According to the responders' age, out of 333 obstetricians, 88 (26.5%) were younger than 40 years old, 141 (42.3%) were between 40 to 50 years, 79 (23.7%) were between 50 to 60 years old and 25 (7.5%) were older than 60 years old. As far as the gender is concerned, 210 (63%) were males and 123 (37%) were females.

Regarding working experience, 85 (25.5%) obstetricians reported a working experience of less than 5 years, 121 (36.3%) reported experience of 5-10 years and 127 (38.2%) had an experience of more than 10 years. Concerning institutional factors, 227 (66%) obstetricians worked in a private clinic, whereas 45 (13%) of them worked in a tertiary hospital and 72 (21%) were employed in a community hospital. Multiple answers could be given, resulting in a total of 344 responses. Regarding working facilities, 100 (14.4%) stated that there was an available neonatal care unit, 293 (42%) stated there was always an anesthesiologist on call, 301 (43.2%) claimed that a neonatologist was available and 3 (0.4%) stated that there was a second obstetrician available. Multiple responses were available as well.

In terms of physician's attitude toward performing TOLAC, 256 (76.9%) of the responders answered negatively, while 77 (23.1%) were positive. Regarding institutional factors such as the time required to transfer women from the labor ward to the operating table in an emergency situation, 195 obstetricians (58.6%) stated that this is feasible in less than 5 min-

Table 3. Third part of the questionnaire.

1. Do you recommend TOLAC on your own in women with favourable conditions?
2. How many years have you been an obstetrician? (<5, 5-10,>10 years)
3. Have you ever had any previous experience with a malpractice legal lawsuit?
4. Is your workplace a private clinic, a community hospital, a tertiary hospital?
5. Does your workplace have a neonatal intensive care unit?
6. Is there any pediatrician on standby duty 24 hours a day in your workplace?
7. Is there any anesthesiologist on standby duty 24 hours a day in your workplace?
8. Do you think the supporting personnel in your workplace have sufficient professional ability to support VBAC?
9. How long does it take to transfer a woman from the labor and delivery room to the operating room? (<5, 5-15, 15-30, >30 min)

utes, 102 (30.6%) claimed that it takes 5-15 minutes, 35 (10.5%) claimed that this feasible in 15-30 min and 1 (0.3%) claimed that this requires more than half an hour. Concerning their willingness to advise women with the appropriate prerequisites undergoing TOLAC, 228 (68.5%) answered negatively, while 105 (31.5%) positively. Finally, concerning a potential accuse of medical malpractice, 326 (97.9%) responded negatively and 7 (2.1%) positively.

Regarding the willingness to take risks, 70 (21.1%) answered that they strongly disagree, 129 (38.7%) just disagreed, 109 (32.7%) were neutral, 21 (6.3%) agreed and 4 (1.2%) strongly agreed. Furthermore, 160 responders (48.1%) try to avoid situations that have uncertain outcomes, 128 of them (38.5%) strongly agreed with this statement, 27 (8%) disagreed, while only 18 people (5.4%) strongly disagreed. Additionally, 10 (3%) obstetricians strongly agreed with the statement that they do not bother taking risks if the gains involved are high, 72 (21.7%) agreed, 147 (44.1%) were neutral, 28 (8.4%) strongly disagreed, 76 (22.8%) disagreed. Moreover, 137 (41%) obstetricians strongly agreed about considering security an important element in every aspect of their lives, 113 (34%) agreed, 73 (22%) were neutral, 10 (3%) disagreed. Regarding the response to the statement “people have told me that I seem to enjoy taking risks”, 69 (20.7%) strongly disagreed, 137 (41.1%) disagreed, 92 (27.6%) were neutral, 26 (7.8%) agreed, 9 (2.8%) strongly agreed. Concerning the question “when there is an alternative, I rarely choose to take risks”, 8 (2.4%) strongly disagreed, 21 (6.3%) disagreed, 126 (37.8%) were neutral, 96 (28.8%) agreed, 82 (24.7%) strongly agreed.

Regarding the assessment of VBAC, 232 (69.7%) answered positively regarding their willingness to undertake a planned VBAC, whereas the rest 101 (30.3%) answered negatively. A total of 146 (43.8%) responders answered positively in the second ques-

tion, regarding previous experience of performing VBAC, whereas 187 (56.2%) answered negatively. Moreover, 228 (68.5%) responded positively regarding the supportive managerial attitude of their current working environment to undertake a planned VBAC, whereas 105 (31.5%) responded negatively. Regarding Q4, 229 (68.8%) responders claimed that they had a previous, failed VBAC, while 104 (31.2%) responders answered negatively. In total, 309 (93%) responded negatively on the question Q5: “have you ever been for VBAC at the past and now you are against” and 23 (7%) answered positively.

Moreover, the previous variables were presented as a result of correlation between them. The first correlation was between the statement ‘I enjoy taking risks’ and Q1 (willingness to undertake VBAC). Few obstetricians seem to enjoy taking risks, while most of them are neutral and willing to perform a planned VBAC. The results of the correlation between ‘Taking risks does not bother me if the gains involved are high’ and Q1 (willingness to undertake VBAC), concluded that the decision of the obstetricians performing a VBAC was very important and definitive; it seems that as the experience of obstetricians increases, their tendency to recommend VBAC on their own does not increase. Moreover, the majority of obstetricians who had a failed TOLAC are more negative than those who had not had a failed attempt; whereas, they are more willing to undertake VBAC when the time required to transfer the women from the labor ward to the operating theater is the minimum possible.

Concerning the security as an important element in every aspect of obstetricians’ lives, the majority of them responded neutrally or positively. Furthermore, the results from the correlation between the years of clinical practice and the statement ‘People have told me that I seem to enjoy taking risks’ showed that the option of performing VBAC reduces with more years of professional practice. In the gen-

der analysis, results showed that both male and female obstetricians were neutral or for avoiding situations that have an uncertain outcome. As a result, obstetricians avoid taking risks if there is another option for them.

## Discussion

The main findings of the study indicate that few obstetricians are inclined to take risks, with most having a neutral stance and a willingness to perform TOLAC. Obstetricians' experience does not significantly influence their willingness to recommend TOLAC, those who had experienced a failed TOLAC, they tend to hold more negative views. However, they opted to undertake TOLAC when the time needed to transfer women from the labor ward to the operating table was minimized. The majority of obstetricians expressed a neutral or positive attitude toward the importance of security in various aspects of their profession. Following gender analysis, both male and female obstetricians displayed a neutral attitude or a tendency to avoid situations with uncertain outcomes.

Both planned elective repeat cesarean section (ERCS) and VBAC have their advantages and disadvantages for women who have previously given birth by cesarean section. There is a strong inverse relationship between CS and mortality rates, with maternal, neonatal and infant mortality decreasing as CS rates rise, up to a threshold between 9-16%<sup>11</sup>.

According to our findings, the option of performing TOLAC depends on the different institutions, facilities, transportation time from the delivery room to the operation theatre, as well as the unique characteristics of the obstetricians such as the age, the gender, the clinical experience and the willingness to perform TOLAC. The obstetricians' age and level of risk tolerance are the most important individual factors affecting the rate of VBAC.

Although obstetricians seem to prefer the safer

procedures, they are willing to undertake TOLAC, under certain circumstances. When it comes to individuals who have experienced medical malpractice in the past, even though they form a minority, they face challenges when it comes to choosing VBAC. When considering the decision to proceed with a TOLAC, safety concerns take precedence. Obstetricians from community hospitals tend to emphasize on the safety, where substantial facility shortcomings outweigh the advantages of a VBAC. Gender and age appear to have no important influence on the willingness to perform VBAC. On the other hand, professional experience has a positive effect, with those who have had prior successful experiences being more inclined to undertake it again.

According to a survey in Western-Switzerland, women's preferences during the third trimester and midwifery care during pregnancy were found to be the most important predictors for preferring VBAC at term<sup>12</sup>. Additionally, a survey conducted in Australian hospitals showed that the healthcare providers had an encouraging attitude regarding VBAC<sup>13</sup>. The outcome of a study concerning physicians' knowledge, attitude and practice towards VBAC in Egypt, showed that 76.3% of the responders agreed to encourage women to choose VBAC<sup>14</sup>. These facts underline the importance of the positive attitude of the obstetricians towards VBAC. However, the acceptance and practice of VBAC may vary between different regions, hospitals, and individual healthcare providers. Some healthcare facilities may have policies that are more supportive of VBAC, while others may have more restrictive guidelines due to concerns about safety and resources the existence of some challenges.

This study's primary strength was the relatively large sample size, which may allow for an assessment of current obstetric practices and their applicability regarding TOLAC. Additionally, the sample population may be representative of the population

of Greek practicing obstetricians. However, a notable limitation of this research is that the data collection relied on online questionnaires, potentially excluding older gynecologists less familiar with technology and thus may be associated information bias.

The availability of VBAC as an option offered by obstetricians varies depending on several factors, including the healthcare facility, the specific circumstances of the individual patient and the obstetrician's own policies and practices. This study highlighted the need for healthcare professionals to provide TOLAC as a viable option and suggests areas for improvement. Further studies are recommended to enhance the understanding of VBAC and its implementation in Greece.

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