ORIGINAL PAPER

THE IMPACT OF CHILDBIRTH ON WOMEN'S SEXUAL LIFE AND WELLBEING

M. Bănacu[1,2], C. A. Ionescu[1,2], A. Pelinaru[3], N. Zygouropoulos[4], Ina Bănacu[2], A. Neacșu[1,4], M. Popescu[5], B. Socea[2,7], M. C. T. Dimitriu[1,2], I. Lascăr[3,6]

[1]Department of Obstetrics and Gynecology and Neonatology, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
[2]"Sf. Pantelimon" Emergency Clinical Hospital, Bucharest, Romania
[3]Bucharest Emergency Clinical Hospital, Bucharest, Romania
[4]"Sf. Ioan" Emergency Clinical Hospital, Bucharest, Romania
[5]"Rm. Sărat" Municipal Hospital, Râmnicu Sărat, Romania
[6]Department of Plastic Surgery and Reconstructive Microsurgery, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
[7]Department of Surgery, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Corresponding author: Mihail Bănacu
Email: mihail.banacu@umfcd.ro

ABSTRACT

Sexual life is an important factor to a woman's wellbeing. Pelvic floor disorders caused by vaginal birth are common but not life threatening and cause multiple problems – anatomical and also functional. These problems can cause a decline quality of life (QOL) and specifically sex life, and pose a major health problem because as gynecologists we are not used to addressing these problems. We conducted a study based on a questionnaire to evaluate certain demographical and obstetric factors associated with a lower quality of sex life as evaluated by personal assessment of women with at least one birth. The article will present the most significant obstetrical factors that negatively affect the quality of life subjectively perceived after the first birth. The results are preliminary data for a more complex analysis that will be published.

KEYWORDS: *quality of life, sexual life, childbirth*

INTRODUCTION

As gynecologists and obstetricians, in our daily practice we find ourselves taking care of health problems that women feel they can address. We treat both morphological and functional pathologies, we monitor pregnancies but rarely do we tend to women's wellbeing, more so when this concerns their sexual or psychological life, as they rarely consult a doctor regarding these matters. According to World Health Organization, sexual health is "…a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity" [1].

Even though at 6 weeks after childbirth we consider that a woman is able to resume the sexual activity in reality the sexual intercourse is often painful, the women are either too tired or unable to disconnect from daily routine [2]. Studies conclude that at 18 months after delivery, up to 21% of women perceive a decline in their sexual life [3].

There are multiple internationally validated questionnaires regarding quality of

sexual life but they don't take into account obstetrical factors that impact perineal dysfunctions [4-6].

Our belief is that the mode of delivery has a great impact on women's wellbeing, especially regarding the quality of their sexual life.

MATERIALS AND METHOD

We conducted a retrospective study based on women's personal responses to an online questionnaire which contained questions that targeted specific aspects of their intimate life.

As part of a larger and a more complex study we conceived a questionnaire that was derived from the FSFI questionnaire. We handed the questionnaire to 218 women from Israel and 260 women from Romania. By including women from different cultures, different levels of education and financial status we were trying to capture a broader perspective over women's sexual life and wellbeing after birth.

We collected data from the online questionnaire during 6 months – November 2018-April 2020 and introduced the data obtained in a Microsoft Excel database for processing.

Our questionnaire consists of 31 questions divided in 3 parts annotated with A, B, C. The first part (A) consists of 7 questions referring to demographic data such as age, parity, age at the birth of the first child, level of education, marital status, residence and skin prototype. The second part (B) consists of 12 questions with single answer concerning the delivery method and complications associated with birth (perineal trauma, operative delivery, wound complications) and also physiological and psychological aspects following the childbirth (breastfeeding, postpartum depression, returning to work) and two questions regarding desire for elective plastic surgery (for aesthetic or functional purposes). The third part of the questionnaire (C) named Quality of Life consists of 12 targeted questions with single numeric answer from 1 = minimum to 5 maximum. The 12 questions address quality of sexual life issues (frequency, desire, satisfaction, stimulation, orgasm, partner closeness, general quality of life, pain during intercourse, perception on own body) before and after birth.

The inclusion criteria for the study were: female responders with minimum one birth, with active sexual life, willingness to participate in the study. Each participant completed the questionnaire voluntarily by themselves after being assured in terms of anonymity and confidentiality. Each participant agreed to the publication of the results emerging from the gathered data under the protection of the anonymity. Questionnaires with incomplete answers were excluded from the statistical data.

RESULTS

By means of this article we intend to present our partial results with emphasis on the sexual life after birth highlighted from responses to questions 21 to 31.

In Table 1, we recorded the general characteristics of the responders. We had 478 responders of which 218 from Israel and 260 from Romania. From the group of responders 349 had a high educational level, 113 a medium educational level and 16 a low educational level according to formal education. Regarding the marital status 437 responders were married and 41 not married at the time of interrogation, but sexually active. 379 responders live in an urban area and 99 in a rural area. In this group of responders 258 had a vaginal birth with the fetus in cephalic presentation, 28 had a vaginal birth with the fetus in breech presentation, 81 had given birth through caesarian section done in labor and 111 through caesarian section done before labor. Regarding the weight of the largest fetus that the responders ever gave birth we chose to group them into the following groups: 39 responders gave birth to fetuses under 2500 g, 148 responders gave birth to fetuses that weighted 2500-3000 g, 269 responders gave birth to fetuses that weighted 3000-4000 g, 22 responders gave birth to fetuses larger than 4000g.

Regarding the participants' mental health, from 478 participants 112 suffered from postpartum depression, 39 of them being women from Israel and 73 from Romania. Therefore 17.89% of Israeli responders and 28.08% of Romanian responders suffered from

postpartum depression. Analyzing the incidence of depression in relation to the educational level the following results emerged: 25% of responders with low educational level, 18.58% with medium educational level and 24.93% of responders with high educational level suffered from postpartum depression. With respect to the questions referring to sexual life, the participants were allowed to choose a score (from 1 to 5) that best described their status. Each question was answered twice - once referring to the status prior to birth and the other after birth. Each response was given a score from 1 to 5. The highest score (5) was assigned to the response which is considered to mirror a better sexual life whilst the lowest (1) to the worst. Participants were not aware of the underlying score. The only exceptions were questions 27, 28 and 31 where the scoring was inverted since the questions referred to negative aspects such as frequency and intensity of pain during sexual intercourse and frequency of urinary incontinence, respectively. All in all, after the adjustment of the priory mentioned negative scores, we resulted in obtaining an arithmetic scale in which: any negative score achieved by subtracting the afterbirth score from the prior to birth score defined a worsening of that parameter, a null score a stationary state, while a positive score an improvement. The score obtained for each parameter by using the above means we called Δ. Further, we assumed that each aspect interrogated by each question carries an equal weight to the quality of life of the women. We proceeded in calculating for each question pair (before and after birth) as well as total score (T Score) by summing the score of each pair. Since the first 9 questions of this section are referring to the sexual aspects, we decided to calculate a separate score, which we named S Score, in order to emphasis primarily the quality of sexual life.

Characteristics	**Number of participants (percentage)**
Country of Origin	
Israel	218 (45.61%)
Romania	260 (54.39%)
Education	
Low Educational Level	16 (3.34%)
Medium Educational Level	113(23.64%)
High Educational Level	349 (73.01%)
Marital status	
Married	437 (91.47%)
Not Married	41 (8.57%)
Residence	
Urban	379 (79.28%)
Rural	99 (20.71%)
Mode of birth	
Vaginal (fetus in cephalic presentation)	258 (53.97%)
Vaginal (fetus in breech presentation)	28 (5.85%)
Caesarian section (in labor)	81 (16.94%)
Caesarian section (before labor)	111 (23.22%)
Fetal weight (largest fetus)	
<2500g	39 (8.15%)
2500-3000g	148 (30.96%)
3000-4000g	269 (56.27%)
>4000g	22 (4.6%)
Breastfeeding	
Yes	390 (81.59%)
No	88 (18.41%)

Table 1 – General characteristics of respondents

Our main hypothesis for the study was that, generally, every aspect of sexual life is negatively affected by birth. Regarding the frequency of sexual activity, as shown in table 2, the mean score before birth was 3.50 and after birth 2.63 (with variance of 0.69 and 0.76 and a $p<0.01$ CI 95%), with a mean Δ of -0.87 (image 1). On a scale from 1 to 5, where 1 is "extremely rare or none" and 5 is "very frequent", our responders' sexual activity was mainly situated at a level between "moderate" and "frequent" before birth. After birth the frequency of sexual activity decreased to a mean score of 2.63, situating the responders at a lower level – between "moderate" and "rare".

	Before birth	**After birth**	**p value (CI 95%)**
Frequency of sexual activity			
Mean	3.50	2.63	<0.01
Variance	0.69	0.76	
Sexual desire			
Mean	3.55	2.79	<0.01
Variance	0.69	0.83	
Sexual arousal			
Mean	3.76	3.17	<0.01
Variance	1.04	1.35	
Lubrication			
Mean	3.59	3.06	<0.01
Variance	1.46	1.61	
Frequency of Orgasm			
Mean	3.56	3.16	<0.01
Variance	1.3	1.56	
Emotional Closeness			
Mean	4.01	3.70	<0.01
Variance	0.82	1.34	
General quality of sexual life			
Mean	3.82	3.08	<0.01
Variance	0.79	1.17	
Frequency of discomfort/pain during sexual activity			<0.01
Mean	1.89	2.45	
Variance	0.94	1.36	
Intensity of discomfort/pain during sexual activity			<0.01
Mean	1.78	2.37	
Variance	0.80	1.37	
Esthetics of intimate region			
Mean	3.80	3.38	<0.01
Variance	1.02	1.24	
Perception on general appearance			
Mean	3.62	2.84	<0.01
Variance	0.84	1.07	
Urinary incontinence			
Mean	1.31	1.31	<0.01
Variance	1.47	1.47	

Table 2 – Mean values and variances of scores before and after birth and their statistical significance

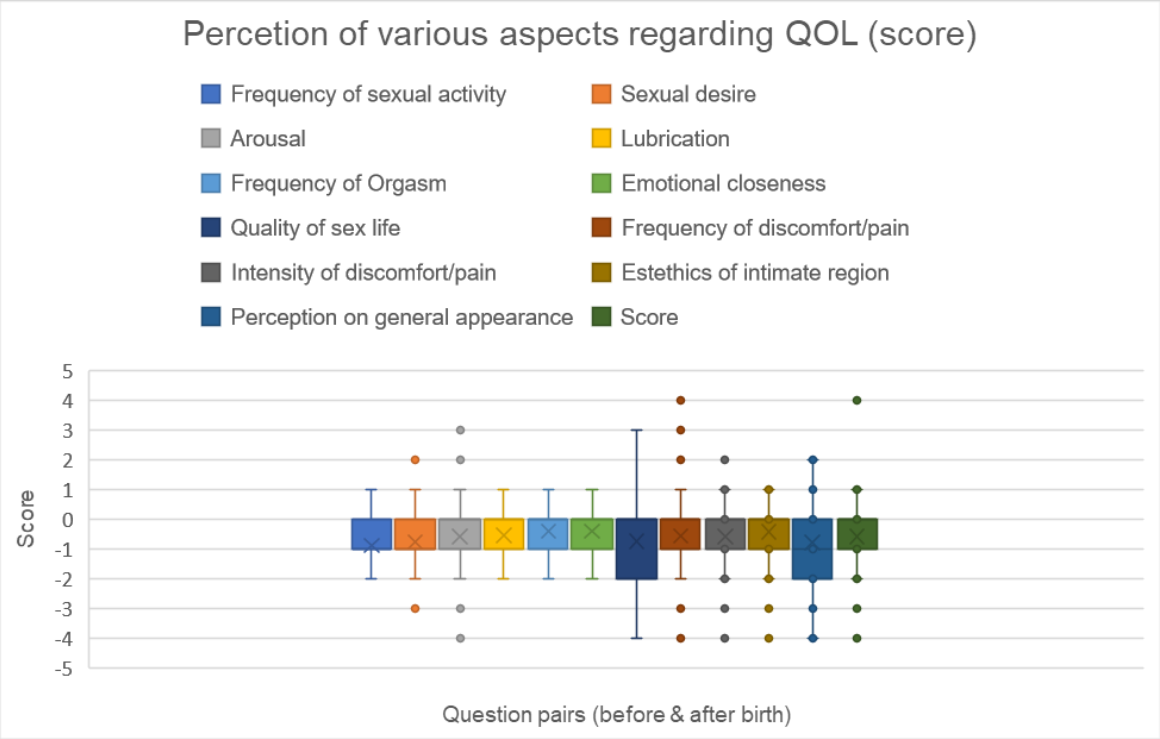

Figure 1 – Distribution of scores based on the responders' perception of various aspects regarding QOL

We found out that birth also has an impact on sexual desire, as shown in image 1. Therefore, as per table 2, while the mean score of sexual desire before birth was 3.55, after birth it became 2.79 (with a p value < 0.01 and a mean Δ of -0.75). In this case, the mean score placed the responders on a lower level after birth.

Regarding sexual arousal, with a mean Δ of -0.57, the mean score of the responders went down from 3.76 to 3.17 (p<0.01 CI 95%). Even though the decrease is statistically significant, the level of satisfaction regarding sexual arousal is maintained between levels 3 and 4 (between "sometimes" and "often").

By registering a mean score of 3.59 before birth and 3.06 after birth (p<0.01 CI 95%) and a mean Δ of -0.53 the satisfaction regarding lubrication also suffers after birth but, same as sexual arousal, doesn't suffer a level descend. Also, in case of frequency of orgasm we noticed the maintenance of the level while still registering a worsening of this aspect, with a mean score of 3.56 before birth and 3.16 after birth (p<0.01 CI 95%) and a mean Δ of -0.39.

The smallest variation, at equality with frequency of orgasm, was registered in case of emotional closeness towards the partner – mean Δ of -0.39. The mean score for emotional closeness towards the partner before birth of 4.01 decreased only to 3.70 (p<0.01 CI 95%) but still situating the majority of responders on a lower level on the 1 to 5 scale.

The component forming the S Score that suffered the greatest variability, with a mean Δ of -0.74, was the responders' perception of general quality of sexual life. The mean score of this criterion before birth was 3.82 and 3.08 after birth (p<0.01 CI 95%).

Regarding both frequency and intensity of discomfort/pain during sexual activity (as per questions 27 and 28) – the before birth mean values associated to them were 1.89, respectively, 1.78, while after birth values 2.45, respectively 2.37, with statistical significance in both cases (p<0.01 CI 95%). Keeping in mind that these values characterize negative aspects of sexual life, when calculating both S score and T score we subtracted the latter from the prior.

The last 3 variables, are part of the T score but not part of the S score. Both satisfaction regarding the esthetics of the intimate region and general appearance suffer after birth – with initial mean score of 3.80, respectively, 3.62, after birth the mean scores associated to these variables being 3.38, respectively, 2.84 (p<0.01 CI 95%). While for the esthetics of the intimate region the mean Δ

was -0.42, for the general aspect the variability is higher - mean Δ of -0.78.

Concerning urinary incontinence, the mean score before birth was 1.31, 1.88 after birth, with a mean Δ of -0.58.

In the end, we calculated the S score and T score per responder. The mean S score was -5.32 and the T score was -6.10.

Regarding the mode delivery the mean S score for women who gave birth through caesarian section was -5.28 and -6.65 those who had at least a vaginal birth (p=0.026).There was no statistical significance when comparing the mean S score of the women who had the caesarian section in labor or before the labor. The mean S score for the women who had a vaginal birth with the fetus in cephalic presentation was -7.18, while for the cases of vaginal birth in breech presentation the mean S score was -1.71 (p<0.01 CI 95%).

In what concerns the fetal weight, when comparing the 4 groups mentioned in the beginning of the article, we did not find any statistical significance regarding S scores.

DISCUSSION

At this point, we mention that by means of this article we present only partial data of our retrospective study. Different correlations between groups are to be published in a future paper.

Due to the slightly different perspectives from which every researcher watches the matter there is no consensus regarding the quality of life after birth. Results vary due to the differences such as the amount of time between the birth and the enquiry, the more or less exact period of time they are trying to question and the number of variables the researchers are taking into consideration. Also, because the term "Quality of sexual life" has such a great number of variables, taking all of them into consideration is probably impossible. More so, there is a great number of possible variables that are able to tip the scales and modify the result.

Analyzing only the data from part C of our questionnaire we are able to state that to a certain degree, after birth all aspects of sexual life worsen. While aspects such as frequency of sexual activity, level of desire or general quality of sexual life suffer major variations other aspects such as frequency of orgasm and the level of emotional closeness towards the partner suffer the least.

Other authors consider that childbirth has no impact on desire [7] stating that the postpartum depression is responsible for the decrease of desire [3]. We agree that postpartum depression has a major role to play but, as part of our responders had given birth many years before answering the questionnaire, postpartum depression was out of the question.

We found statistical significance regarding the impact that the mode of delivery has on the quality of sexual life but others studies on the matter conclude that the mode of delivery has no impact on sexual functioning [8].

We found statistical significance regarding the impact of mode of delivery on the quality of sexual life. The worsening of sexual life in case of vaginal birth seems to be higher in comparison to caesarian section delivery. The caesarian section performed before labor doesn't improve the quality of sexual life when compared to caesarian section performed in labor. The one aspect we cannot explain is the better quality of sexual life of the responders that gave birth to fetuses in breech presentation versus those who gave birth to fetuses in cephalic presentation.

In what concerns the fetal weight, when comparing the 4 groups mentioned in the beginning of the article, we did not find any differences in quality of sexual life that would be statistically significant.

CONCLUSION

Although the study has some limitations regarding the selection and number of participants and by not taking into account other pathologies that affect quality of life, we consider that the questionnaire is an easy to use tool for evaluation of childbirth implications on sexual life.

In conclusion we have presented reliable data that objectivize the burden childbirth poses on women and demonstrate the negative impact it has on quality of life, especially sex life.

Health professionals should be aware of the physical and psychosocial impact of birth and use the existing QOL questionnaires to

evaluate maternal wellbeing, not only from a clinical point of view but by having a holistic approach to clinical, sexual and family problems.

The purpose of this article is to raise awareness about the negative impact a birth can have on the life of a young women and by this to improve maternal care before and after birth and to understand obstetrical factors that have a negative impact on QOL. The ultimate goal isto preserve or improve sexual health of women.

REFERENCES

[1] World Health Organization, "Defining Sexual Health," World Heal. Organ., 2006.

[2] J. F. Thompson, C. L. Roberts, M. Currie, and D. A. Ellwood, "Prevalence and persistence of health problems after childbirth: Associations with parity and method of birth," Birth, 2002, doi: 10.1046/j.1523-536X.2002.00167.x.

[3] A. Faisal-Cury, H. Huang, Y. F. Chan, and P. R. Menezes, "The relationship between depressive/anxiety symptoms during pregnancy/postpartum and sexual life decline after delivery," J. Sex. Med., 2013, doi: 10.1111/jsm.12092.

[4] R. Rosen et al., "The female sexual function index (Fsfi): A multidimensional self-report instrument for the assessment of female sexual function," J. Sex Marital Ther., 2000, doi: 10.1080/009262300278597.

[5] N. L. McCoy, "The McCoy female sexuality questionaire," Qual. Life Res., 2000, doi: 10.1023/A:1008925906947.

[6] J. Rust, L. Derogatis, C. Rodenberg, P. Koochaki, S. Schmitt, and S. Golombok, "Development and validation of a new screening tool for hypoactive sexual desire disorder: The Brief Profile of Female Sexual Function© (B-PFSF©)," Gynecol. Endocrinol., 2007, doi: 10.1080/09513590701592306.

[7] A. Faisal-Cury, P. R. Menezes, J. Quayle, A. Matijasevich, and S. G. Diniz, "The Relationship Between Mode of Delivery and Sexual Health Outcomes after Childbirth," J. Sex. Med., 2015, doi: 10.1111/jsm.12883.

[8] K. Klein, C. Worda, H. Leipold, C. Gruber, P. Husslein, and R. Wenzl, "Does the mode of delivery influence sexual function after childbirth?," J. Women's Heal., 2009, doi: 10.1089/jwh.2008.1198.