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Quality of Life in Women after Vaginal Delivery and Cesarean Section in Armenia

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ABSTRACT

***Background**: The postpartum period is attended by numerous variations in women's health and quality of life. These alterations can affect the health of mothers and children. Considering the importance of postnatal quality of life and its different contributing factors, this study aimed to compare women's quality of life after vaginal delivery and cesarean section.*

***Aim:** This study was aimed to assess the relationship between mode of birth and quality of life for women's health during the postpartum period.*

***Methods:** The study was conducted at the Erebouni medical center of Armenia. The participants' quality of life was examined, using Short Form-36 (SF-36) questionnaire, evaluating three periods of time including 3, 6 and 12 months after delivery (either vaginal or cesarean delivery). Data were analyzed using t-test. Questions were about pain intensity, frequency, and location, as well as medical treatment and impact on daily living.*

***Study design:** A descriptive study design was used in the current study.*

***Study sample**: A total of 100 women attended the outpatient clinic using a purposive sample.*

***Data collection Tools**: The data have been collected a structured interview questionnaire and a SF-36 form in order to assess the women`s life quality used a purposive sample method. The study carried out from May 2020 to June 2021.*

***Results**: The mean age of women was 26.3 ± 2.2 years and 26.3 ± 7.51 years of the caesarean and vaginal birth group, respectively. Quality of life was significantly higher in women with vaginal delivery, compared to women with cesarean section in all periods including three months (93.7 ± 11.2 vs. 50.4 ± 12.7), six months (94.2 ± 14.5 vs. 65.1 ± 12.3), and one year (106.9 ± 10.5 vs. 63.9 ± 9.6) after delivery.*

***Conclusion & Recommendation:** According to the study results, the vaginal birth group had higher scores of SF-36 compared to caesarean delivery. Thus, vaginal birth is the safe and less expensive option choice for mothers and their family, if there were no indications of caesarean delivery.*

Keywords

Caesarean Birth, Quality of Life, Vaginal Birth, Postpartum Period.

Introduction

More than 18 years ago, obstetricians and gynecologists at the 16th World Congress in Santiago summed up: "Expansion of indications for caesarean section (abbreviated as C-section) is

justified only when it leads to a decrease in perinatal morbidity and mortality". This summary has not lost its relevance today. In modern obstetrics, there is a need for the maximum rejection of C-section during the first birth. Prevalence of C-section can be considered as one of the first consequences of technological advances related to childbirth [1]. According to World Health Organization (WHO) recommendations, the reasonable rate for cesarean is 10-15% of all deliveries performed. Rates more than 15% are considered inappropriate and unnecessary and do not produce better health outcomes. In most countries and in developing countries in particular, it has been continuously rising and has gone well beyond the WHO recommendations, without being accompanied by any decline in maternal mortality or morbidity rates [1-3].

The prevalence of C-section in the last 25 years has increased, based on the results of the analysis showing that between 1990 and 2014, the global C-section average increased 12.4% (from 6.7% to 19.1%) with an average annual increase of 4.4%. Asia and North America are regions with the highest annual average rate of increase (6.4% and 1.6%, respectively) [4]. This statistic shows a global C-section rate of 18.6% of all births – almost 1 in 5 women around the world will give birth via C-section. The same trend has been affecting Armenia in recent decades.

Several countries in Europe have managed to control or reduce their C-section rates over time. Countries such as Finland, Iceland and Norway have had very low increases with their C-section rates being around 15%. These countries, which have managed to keep their C-section rates low, face the same issues other European countries do, with more women becoming mothers older and the prevalence of obesity and health complications. These countries successfully keeping their C-section rates down focus more on higher rates of vaginal births through having strict guidelines about elective C-sections, cultural normalizing of vaginal birth, different legal attitude to medical litigation, and access to high quality midwifery led care.

With the declining maternal mortality rates and general improvement in pregnancy outcomes in recent decades, the aims of maternity care in developed countries have now expanded to areas beyond the mere detection and management of risk factors that threaten the outcome of pregnancy. One of the components of this broadened view of maternity care has been the adoption of enhancement in quality of life (QOL) as one of the aims of prenatal and postnatal care [5]. As a result, many studies have been undertaken to investigate the effects of pregnancy and delivery outcomes on maternal QOL [6].

Although many studies have shown that C-section could lead to numerous complications, according to statistics, increased risk of maternal morbidities such as; hysterectomy, hemorrhage, infection, thrombosis and postpartum depression [7]. Also, results of some studies indicate that symptoms such as fatigue, headache, lack of sleep, anemia, urinary infection and other conditions needing treatment in the first 8 weeks after delivery are higher in women who delivered by cesarean section than those who underwent vaginal delivery (VD) [8]. It is evident that the experience of pain and fatigue can negatively affect QOL after birth [9]. Despite the extent of postnatal morbidity, there are only a limited number of studies comparing quality of life of new mothers after different modes of delivery and even studies on ante-and postnatal quality of life in general are rare. Traditionally, postnatal period is believed to last for six months; however, longitudinal studies, evaluating mothers' quality of life, have been indicative of physical and anxiety problems among 50% of women one year after delivery; even some of the symptoms persisted up to 18 months after C-section [10].

Women are the key to family and community health, in other words, women's health problems especially quality of life affect the health of families, communities and future generations therefore it is important to know how the quality of life of women after childbirth, especially after cesarean section, so that later actions can be taken to improve their quality of life.

In addition, cesarean delivery is a surgical intervention, which imposes a financial burden on the family and requires hospitalization and anesthesia tolerance. Therefore, it seems necessary to meticulously examine and analyze this issue in our country.

Aim of the Study

The study aimed to assess the relationship between mode of birth and quality of life for women's health during the postpartum period in Armenia.

Subjects and Methods

Study Design

A descriptive design was used in the current work.

Materials and Methods

In this retrospective, cohort research, study population included mothers with childbirth experience over the last year. The sample included all mothers, who referred to Erebouni medical center of Armenia during 3, 6, and 12 months after delivery. A pilot study was conducted on 126 patients (60 women for vaginal group & 66 women for Caesarean group) of the study sample and excluded from the main study sample.

Quality of life questionnaire (SF-36)

Ware and Sherburne developed the Short Form-36 (SF-36) questionnaire. This instrument evaluates one's quality of life and includes 36 items; normal individuals need 5-15 min to answer the questionnaire. The scores obtained in this questionnaire range from 0 to 100. In fact, higher scores indicate higher quality of life. This questionnaire includes 9 sections of items related to quality of life in domains of physical performance, activity limitation due to physical injury, activity restriction caused by spiritual trauma, energy, exhaustion, vitality, social functioning, physical pain, and general health. Each item is graded from 0 to 100 and high scores

indicate high quality of life in each section.

Demographic questionnaire

A demographic questionnaire was designed to gather women s demographic data and personal information. The questionnaire was in accordance with research objectives and included the subject's age, weight, height, number of children, frequency of childbirth, setting of birth, conditions of pregnancy, health status of the newborn, mode of childbirth, education, occupation, as well as husband's education, age, and occupation.

Permission was obtained from hospital authorities in order to perform the study. After describing the study objectives to the participants, their consents were obtained and they were asked to complete the questionnaire in cooperation with research administrators (who were taught how to complete the questionnaire).

Mothers, who had experienced childbirth over the past year and were currently in perfect health, were included in the study. The exclusion criteria were as follows: 1) previous history of diabetes, connective tissue diseases, cardiac diseases, epileptic disorders, kidney problems, and other types of debilitating diseases; 2) psychological disorders such as depression, mania, and anxiety disorders, based on medical charts; 3) obstetric complications; 4) stressful events in recent months; 5) non-addiction to drugs; 6) preterm birth; 7) twins and multiple births; 8) being under infertility treatment; 9) undergoing tubectomy; and 10) childbirth experience within the past two years.

Ethical Considerations

Oral consent was obtained from all participants after explaining the aim of the study and confirmed that the information would be used for research purpose and they had the right to go out from the research at any time.

Table 1: Demographic characteristics of participants.

Mode of delivery	Vaginal delivery (n=60)		C-section (n=66)		p-value
	Frequency	Percentage	Frequency	Percentage	
Residence places					
Rural	11	18.3	15	22.7	**
Urban	49	81.6	51	77.3	*
Education					
Master's degree	30	50	38	57.5	*
Associate degree	17	28	11	16.7	**
High school degree	13	22	17	25.8	-
Total	60	100	66	100	
Occupation					
Working	21	35.0	19	28.8	**
Housewife	39	65.0	47	71.2	**
Level of income					
Low	18	30	14	21.2	**
Average	39	65	55	83.3	**
High	3	5	1	7.5	*
Weight (kg)					
>80	5	8.3	4	6.1	**
60-80	38	63.3	44	66.6	*
<60	17	28.31	18	27.3	-
Total	60	100	66	100	
Age (years)					
18-29	58	96.7	38	58.1	**
30-49	2	3.3	28	41.9	**
Total	60	100	66	100	
Parity					
Primipara	11	18.3	22	33.3	**
Multipara	49	81.7	44	66.7	**
Number of Children					
None	15	25	13	19.7	**
1-2	35	58.3	39	59.1	-
≥3	10	16.7	14	21.2	**
Newborn's gender					
Female	32	53.3	32	48.5	**
Male	28	46.7	34	51.5	*
Total	60	100	66	100	
Abortion history					
Yes	10	16.7	8	12.1	**
No	50	83.3	58	87.9	*

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to analyses the data. Chi-square and t-test test were used to test the significant difference between the two groups as well as the significant difference between the mean and the standard deviation of the two groups, respectively. P<0.05 was statistically significant and <0.001 was highly statistically significant.

Results

Overall, 126 mothers participated in this study. They were divided into two groups of 60 and 66 participants. The demographic characteristics of the study population are shown in Table 1. That shows that the most of the studied groups were from urban area (81.6% & 77.3%), graduated educated, particularly master`s degree (50% & 57.5%), were housewife (65% & 71.2%) and had an average level of income (65.0% & 83.3%) had a good quality of life. Test of proportion showed that proportion of patients in the age group between 18-29 years (96.7% & 58.1%) was significantly higher than other groups, and proportion of patients with weight between 60-80 kg (63.3% & 66.6%) was significantly higher. Moreover, the most of them had a good quality of life were multiparous (81.7% & 66.7%), had one to two children (58.3% & 59.1%), both sexes and hadn't a history of abortion (83.3% & 87.9%). The differences observed were statistically significant between two groups.

According to Table 2, the difference between natural delivery and caesarean groups was highly significant in terms of the mean score of quality of life in all periods. In fact, after vaginal delivery, the quality of life during the third month, sixth month, and twelfth month was significantly higher than that observed in caesarean delivery, what is presented in table 3.

Table 2 indicates that`s there is a statistically significant difference between the two studied groups of all objects of quality of life scale (p<0.0001). While, women who delivered vaginally had higher mean scores of the total quality of life (98.24 ± 10.2) than women delivered by caesarean section (59.8 ± 4.7).

In Table 3, it can be clearly seen that the mean scores of qualities of life for natural delivery are higher than those of C-section in all periods of the study.

Thus, the difference between natural delivery and C-section groups was significant regarding the mean score of quality of life; with 95% confidence, it can be said that quality of life of mothers with natural delivery was higher than that of the C-section group. The difference in the mean scores of mothers' quality of life was highly significant after delivery at different times. With 95% confidence, mothers' quality of life gradually improved after delivery.

Discussion

The findings of the current research are in consistence with the results of another many studies carried [1-6,8,10-25]. Various reasons can explicate the obtained results. One reason might be the pain mothers experience after both modes of delivery. Fabris [26], compared the pain of mothers who had undergone natural delivery or C-section. As he stated, individuals with vaginal delivery experienced acute pain for a short period of time. The International Association for the Study of Pain (IASP) considers childbirth pain as an unpleasant feeling and a stressful experience, caused by injuries to body tissues or the like. Chronic pains might take longer to recover, compared to particular types of injuries or illnesses. Melzac et al. [19] reported that 65-68% of mothers, who had a previous experience of vaginal delivery, described their pain as severe or acute. Moreover, 23% of mothers who had their first natural delivery and 11% of women with previous natural birth experiences described their pain as excruciating.

Pain of vaginal delivery may be caused by the contractions of myometrium against cervical and perineal resistance, incremental expansion of the cervix and lower parts of the uterus, and tension or pressure on the pelvis and perineum [26-28]. Clement stated that the contraction of myometrium and perineum tear led to severe pain after delivery [29]. This pain lasted up to three months for 11% of mothers. In addition, Nikolajsen et al. showed that 36% of mothers with vaginal delivery experienced severe pain a day after childbirth, whereas only 6% felt the same amount of pain a week after delivery [9].

Conclusion

Considering the mothers' higher quality of life after vaginal delivery, compared to cesarean section, it seems that vaginal delivery is a safer and less expensive option, recommended for all pregnant women.

Table 2: The distribution of the studied women by their quality of life means scores.

Items	Vaginal birth (n=60)	Caesarean birth (n=66)	t-test	p-value
	Mean ± SD	Mean ± SD		
Physical functioning	18.2 ± 2.1	14.7 ± 1.6	1.295	0.0001**
Role limitation due to physical health problems	6.9 ± 2.5	5.8 ± 1.2	0.397	0.06*
Role limitation due to emotional health problems	2.7 ± 1.2	2.4 ± 0.5	0.231	0.015*
Physical pain	5.8 ± 1.2	3.9 ± 0.7	1.161	0.0001**
General health	20.13 ± 2.1	17.31 ± 1.4	1.113	0.0001**
Social functioning	7.6 ± 2.6	8.5 ± 1.2	0.343	0.3
Mental health	13.4 ± 1.5	11.2 ± 2.2	0.826	0.04*
Fatigue	12.4 ± 1.6	10.4 ± 2.6	0.655	0.005*
Total mean	98.24 ± 10.2	59.8 ± 4.7	0.423	0.0001**

*p < 0.05: significantly. **p < 0.001: high significant. t: t student test.

Table 3: Independent sample t-test for examining the difference min quality of life after caesarean or vaginal delivery.

Time	Quality of life (and subscales)	Vaginal delivery (n=210) mean ± SD	C-section (n=210) mean ± SD	t-test	p-value
Third month	Physical functioning	15.9 ± 2.2	10.5 ± 0.7	2.330	<0.0001
	Physical limitations	6.5 ± 0.2	3.6 ± 0.6	3.984	<0.0001
	Emotional limitations	2.5 ± 0.3	1.5 ± 0.2	2.774	<0.0001
	Fatigue	2.7 ± 0.4	2.0 ± 0.3	1.400	<0.001
	Mental health	13.9 ± 1.2	10.5 ± 0.8	2.358	<0.001
	Social functioning	7.4 ± 0.6	8.0 ± 0.4	0.832	<0.001
	Physical pain	5.2 ± 0.6	3.5 ± 0.4	2.358	<0.0001
	General health	20.4 ± 1.5	16.4 ± 1.3	2.015	<0.0001
	Total score	93.7 ± 11.2	50.4 ± 12.7	2.557	<0.0001
Sixth month	Physical functioning	18.9 ± 1.5	17.5 ± 2.1	0.543	<0.001
	Physical limitations	5.9 ± 1.1	6.6 ± 0.5	0.579	<0.001
	Emotional limitations	2.6 ± 0.8	3.4 ± 0.4	0.894	<0.001
	Fatigue	2.5 ± 0.3	2.6 ± 0.6	0.149	<0.02
	Mental health	12.5 ± 1.1	11.3 ± 1.1	0.771	<0.001
	Social functioning	7.4 ± 0.5	8.6 ± 0.2	2.228	<0.001
	Physical pain	5.9 ± 0.4	3.9 ± 0.6	2.774	<0.0001
	General health	19.3 ± 1.7	19.7 ± 1.5	0.176	<0.02
	Total score	94.2 ± 14.5	65.1 ± 12.3	1.530	<0.001
Twelfth month	Physical functioning	19.8 ± 1.7	16.2 ± 2.3	1.259	<0.001
	Physical limitations	8.2 ± 0.7	7.2 ± 0.4	1.240	<0.001
	Emotional limitations	3.0 ± 1.3	2.3 ± 0.1	0.537	<0.001
	Fatigue	2.9 ± 1.1	2.6 ± 0.8	0.221	<0.02
	Mental health	13.8 ± 1.2	11.8 ± 1.3	1.131	<0.001
	Social functioning	7.9 ± 1.3	8.9 ± 0.4	0.735	<0.001
	Physical pain	6.3 ± 0.4	4.3 ± 0.3	4.00	<0.0001
	General health	20.7 ± 1.1	15.8 ± 1.3	2.877	<0.0001
	Total score	106.9 ± 10.5	63.9 ± 9.6	3.02	<0.0001

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