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Relationship Between Mode of Birth and Quality of Life for Women's Health During Postpartum Period

Sabah Lotfy Mohamed El Sayed, Hanan Abdel Mohdy Emarah

Department of Obstetrics & Gynecology Nursing, Faculty of Nursing, Zagazig University, Zagazig, Egypt

Email address:
sl_200878@yahoo.com (S. L. M. El Sayed), dr.hanan_mohdy@yahoo.com (H. A. M. Emarah)

Abstract: Background: The postpartum period is attended by numerous variations in women's health. 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 outpatient clinic of Belbeis Hospital, Belbeis City, Al Sharkia Governorate, Egypt. Study design: A descriptive study design was used in the current study. Study sample: A total of 400 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 to June 2017. Results: The mean age of women was 27.5 ± 7.86 years and 26.3 ± 7.51 years of the caesarean and vaginal birth group, respectively. The mean total of SF-36 scores was higher among vaginal birth group compared to caesarean birth with statistically significant differences. 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 choice for mothers and their family, if there were no indications of caesarean delivery.

Keywords: Caesarean Birth, Quality of Life, Vaginal Birth, Postpartum Period

1. Introduction

1.1. Background

Caesarean birth rates continue to increase worldwide, with differences between countries and regions [1]. This increase is unlikely to be the result of a dramatic change in the risk of childbirth, but increased in the scope of caesarean birth indications, most likely for non-medical reasons [2]. A descriptive study done on 509 women attending postnatal clinics in three primary care units in Ismailia governorate, Egypt. The study included 266 participants (52.3%) that delivered by CS in their last delivery [3]. [4] mentioned that normal vaginal birth is superior to physical health while caesarean birth is supported by good mental health.

The postpartum period is characterized by physiological, psychosocial changes and familial roles and responsibilities. which can affect the quality of a mother's life. Several studies were conducted for determining the quality of life for postnatal women have reported a moderate to low quality of life after birth [5]. It is the most critical, transition and life changing event which filled with strong emotions, physical changes, and changed relationships, assumptions and adjustments into the mother role [6].

After the vaginal birth, women may suffer from fatigue, lethargy, sleep problems, breast pain, physical pain, hemorrhoids, constipation, sexual dysfunction and postpartum depression. After caesarean birth, they may suffer from an increased hospital stay, obstetric complications such as infection, bleeding, coagulation, pelvic injury, caesarean wound, and neonatal breathing problems. The experiences of mothers in postpartum problems affect their physical and mental health, quality of life and the health of their children [7].

1.2. Significance of the Study

Rates of caesarean sections have increased worldwide, both in developed and developing countries for various reasons [8]. Fears of increased caesarean section rates

without any medical indications or no improvement in postpartum mortality or morbidity compared with vaginal deliveries and consequent delay in returning to normal life activities and increasing costs. Therefore, it's far essential to assess the impact of the birth mode on women's quality of life in the postpartum period. This study was aimed to assess the relationship between the mode of birth and healthy quality of life for women during the postpartum period.

1.3. 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.

1.4. Research Questions

a. What is the relationship between mode of birth and quality of life for women's health during the postpartum period?
b. What are the factors affecting quality of life for women's health during the postpartum period?

2. Subjects and Methods

2.1. Study Design

A descriptive design was used in the current work.

2.2. Study Setting

The study was directed at the postnatal outpatient clinic of infant vaccination and family planning of Belbeis Central Hospital, Belbeis city, Al Sharqia governorate. The hospital provides free health care for the mothers during the antenatal, natal and postnatal period as well as gynecological patients.

2.3. The Study Sample

Sample type & size: A purposive sample of 400 postpartum women was selected based on hospital outpatient clinic statistic (2017), which received about 4,556 women for vaccination their infants 2, 4, 6, and 12 days after delivery and family planning. The sample size was calculated according to Yamane formula:

$$n = \frac{N}{(1 + Ne^2)}$$

Where:

N = sample size, N = population size, and e = Margin of error (MoE), e = 0.05 based on the research condition. At 5% MoE., the sample size would be:

$$n = \frac{4556}{(1 + 4556 * 0.05^2)} = 367.71 \sim 368$$

The sample size was increased to 400 women with 200 in each group (200 NVD and 200 CS).

Sample criteria: All women undergoing a normal vaginal birth and caesarean birth with single full-term pregnancy during the past year, have one child at least, during postpartum period with 40 days without any medical and obstetric complications.

2.4. Data Collection Tools

Two tools were used to collect the necessity data.
a. An Interview structured questionnaire. The study was directed thru an organized questionnaire counting questions related to social-demographic background (such as age, place of residence, level of education, occupation and income; and obstetrical history such as parity, the number of children and history of abortion).
b. Short Form Health Survey (SF-36). It was developed by Ware and Sherboune (1992) and measures eight domains: (1) Physical Functioning (PF) was measured using 10objects, (2) Role Limitation Due To Physical Health Problems (RP) was assessed using four items, (3) Bodily Pain (BP) was assessed using two items, (4) General Health Perceptions (GH) was assessed using five items, (5) Vitality (VT) was assessed using four items, (6) Social Functioning (SF) was assessed using two items, (7) Role Limitation Due To Emotional Health Problems (RE) was assessed using three items, and (8) Perceived Mental Health (MH) was assessed using five items. The scores on each subscale range from 0 to 100 with higher scores indicating a better condition. This scale was used to collect data about quality of life during the postpartum period among the study samples.

2.5. Validity and Reliability

Tools were tested for content validity by three experts in the field of obstetrics and gynecological nursing. The recommended modifications were done. Several studies have confirmed the validity and reliability of this questionnaire. Reliability was previously done by (9) at 0.94, based on Cranach's alpha.

2.6. Pilot Study

A pilot study was conducted on 10% (20 women for Vaginal group & 20 20 women for Caesarean group) of the study sample and excluded from the main study sample.

2.7. 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.

2.8. Field Study

Consent was gotten from the hospital authorities for the study. The study was approved by the Board of the Scientific Research Ethics, Faculty of Nursing, Zagazig University, Egypt, after explaining the aims of the study, their verbal consent was obtained. The researchers attended outpatient

clinics in the study setting, two days a week. The time needed to questionnaire was about 25-35 minutes. Data collection was directed thru 2017.

2.9. Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to analyse 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.

3. Results

Table 1 shows the distribution of postpartum women regarding their personal data. The mean age of women was 27.5 ± 7.86 years and 26.3 ± 7.51 years for a caesarean and vaginal birth group, respectively. Regarding residence, 85.0% of the caesarean group lived in rural areas compared to 78.0% of the vaginal group. Regarding the level of education, 73.0% of CS and 66.0% of NVD groups were university grraduate. Moreover, most of them (82.0% & 76.0%) were housewives. Also, 55.0% of CS and 65.0% of VD reported that they have an average level of income. Statistically significant differences between the modes of birth.

Concerning parity, the most (63.0% & 76%) of the caesarean and vaginal group were multiparous, respectively, with no statistically significant differences (P = 0.05). Regarding to the number of children, a high proportion (89.3% and 74%) of the considered groups has one or two children, respectively. In addition, the highest percentage (88.0% & 82.0%) had no history of abortion. With a statistical significant difference (P ≤ 0.000 & P = 0.003).

Table 1. The distribution of the studied women in relation to their demographic and obstetric data.

Items	Caesarean birth (n=200) No (%)	Vaginal birth (n=200) No (%)	Test of significance	P-Value
Age (years)				
<20	10 (5.0)	25 (12.5)		
20-29	124 (62.0)	135 (67.5)	$t = 0.273$	0.003[*]
≥ 30	66 (33.0)	40 (20.0)		
Mean ±SD	27.5±7.86	26.3± 7.51		
Place of residence				
Rural	170 (85.0)	156 (78.0)	$X^2 = 177.543$	
Urban	30 (15.0)	44 (22.0)		0.001[**]
Level of education				
Illiterate	14 (7.0)	16 (8.0)	$X^2 = 166.434$	
Primary school	8 (4.0)	24 (12.7)		0.002[*]
Secondary school	32 (16.0)	28 (14.0)		
University	146 (73.0)	132 (66.0)		
Occupation				
Working	36 (18.0)	48 (24.0)	$X^2 = 154.332$	
Housewife	164 (82.0)	152 (76.0)		0.004[*]
Level of income				
Low	20 (10.0)	46 (23.0)	$X^2 = 154.675$	
Average	110 (55.0)	130 (65.0)		0.004[*]
High	70 (35.0)	24 (12.0)		
Parity				
Primipara	74 (37.0)	48 (24.0)	$X^2 = 123.43$	.055
Multipara	126 (63.0)	152 (76.0)		
Number of children				
None	14 (7.0)	22 (11.0)	$X^2 = 217.88$	≤0.000[**]
1-2	161 (80.5)	148 (74.0)		
≥3	25 (12.5)	30 (15.0)		
Abortion				
Yes	24 (12)	36 (18.0)	$X^2 = 86.19$	.003[*]
No	176 (88)	164 (82.0)		

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 < 0.001). While, women who delivered vaginally had higher mean scores of the total quality of life (95.38 ± 11.21) than women delivered by caesarean section (60.92 ± 5.5).

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

Items	Caesarean birth (n=200) Mean ± SD	Vaginal birth (n=200) Mean ± SD	t-test	P-Value
Physical functioning	22.2±2.1	25.1 ± 3.7	0.546	0.01*
Role limitation due to physical health problems	5.5±1.45	5.7±3.1	0.466	0.03*
Bodily pain	3.7±1. 5	5.4±2.1	0.876	0.003*
General health perception	16.82±2.05	19.67±3.1	0.53	0.4
Social functioning	9.16±1. 88	6.32±3.64	0.345	0.3
Role limitation due to emotional health problems	2.546±0.845	2.489±0.81	0.623	0.005*
Perceived mental health	12.254±2.326	13.214±2.4215	0.589	0.09
Vitality	10.254±2.246	11.897±1.87	0.259	0.015*
Total mean	60.92±5.5	95.38±11.21	0.432	0.002*

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

Table 3 shows that the most of the studied groups were from rural area (68.5% & 62.5%), secondary educated (68% & 58.5%), were housewife (62% & 61.5%) and had an average level of income (75.0%& 59.5%) had a good quality of life. Moreover, the most of them had a good quality of life were multiparous (54%& 44%), had one to two children (51% & 67%) and hadn't a history of abortion (49%). The differences observed were statistically significant between two groups.

Table 3. Relationship between women characteristics and postpartum quality of life regarding mode of birth.

Items	Vaginal birth (n=200) Poor QoL No (%)	Good QoL No (%)	Caesarean birth (n=200) Poor QoL No (%)	Good QoL No (%)	X^2	P-value
Residence places						
Rural	42 (21)	125 (62.5)	18 (9)	137 (68.5)	VD 0.43	0.51
Urban	12 (6)	21 (10.5)	25(12.5)	20 (10)	CD 46.1	<0.000**
Education level						
Illiterate	0 (0.0)	19 (9.5)	0 (0.0)	0 (0.0)		
Primary	15 (7.5)	0 (0.0)	0 (0.0)	11 (5.5)	VD 21.2	<0.000**
Secondary	24 (12)	117(58.5)	18 (9)	136(68)	CD 46.13	<0.000**
High	10 (5)	15 (7.5)	15 (7.5)	20 (10)		
Occupation						
Working	16 (8)	23 (11.5)	28 (14)	33 (16.5)	VD 0.98	0.32
Housewife	38 (19)	123(61.5)	15 (7.5)	124(62)	CD 35.4	<0.000**
Level of income						
Low	0 (0.0)	18 (9)	18 (9)	0 (0.0)	VD 5.62	0.06
Average	44 (22)	119 (59.5)	25(12.5)	150 (75)	CD 47.29	<0.000**
High	0 (0.0)	19 (9.5)	0 (0.0)	7 (3.5)		
Parity						
Primipara	26(13)	46(23)	4(2)	70(35)	VD 7.38	0.007**
Multipara	40(20)	88(44)	20(10)	108(54)	CD 8.57	0.003**
Number of Children						
None	12(6)	16(8)	0(0.0)	34(17)	VD 1.07	0.58
1-2	14(7)	102(51)	14(7)	134(67)	CD 79.9	< 0.000**
≥3	38(19)	18(9)	18(9)	0(0.0)		
Abortion history						
Yes	114(57)	14(7)	40(20)	14(7)	VD 5.96	0.051
No	20(10)	52(26)	30(15)	98(49)	CD 92.6	<0.000**

Good quality of life ≥ 60% Poor quality of life < 60%.

4. Discussion

The postpartum period is a critical period for women leading to changes in their health. Therefore, the measurement of the quality of life after birth (QOL) important to improve the quality of life (QOL) for mothers and children, individuals and society.

The results of the study showed that a higher proportion of the studied women aged 20 and 29 years old with statistically significant differences. On the contrary, [10] showed that women aged 25 to 29 years had the lowermost caesarean birth rate and women aged 35 years or older had a higher caesarean birth rate. This difference may be that women with age >35 are considered a high risk group and caesarean delivery may reduce complications for the mother and her baby. Also, [11] showed that, due to the increasing of the mother`s age is the main factor associated with caesarean delivery, due to medical conditions such as high blood pressure and diabetes are higher in this age group.

The current study indicated that that women living in country areas had a higher rate of caesarean delivery. In the country areas, prenatal care sessions did not provide information on the medical indicators of caesarean delivery.

In addition, some women had the misconception that episiotomy itself was an "operation", as well as a preference for obstetricians to caesarean delivery, and inadequate monitoring of labor and insufficient staff in health facilities could be an important cause of high rates of non-clinically caesarean section in the hospital. Similarly, [12] who reported that women from the country community accept the attending health care provider's decision for caesarean birth. The high rate of caesarean delivery among rural women may be due to poor of counselling provided during pregnancy on the best mode of birth, they were not aware of the subsequent complications of C.S., and their level of education was lower than urban women. A contradictory of [13] illustrated that, caesarean section was more in urban women compared with those living in rural areas. Access to medical intervention, the presence of health facilities and insurance in urban areas can be a possible cause. Also, Anwar et al. [14] showed that women from rural areas had a lower rate of caesarean birth.

The results of the study shown that, caesarean delivery was significantly connected with highly educated women, housewives and low-income level. [3] stated that CS rate was significantly higher in the highly educated women and high economic standard, where educational level and standards of living affect significantly the proportion of women preferring CS as a method of delivery. Higher education is linked to the independence of women and make their decision to choose the mode of birth. The reason for the preference for caesarean delivery among those women may be fear of pain or previous negative birth experience of vaginal delivery. Moreover, working women may have more information and knowledge than housewives about the risks of unnecessary caesarean delivery. On the contrary, [14] found that women belonging to the poorest households had a lower rate of CS birth. This clarifies that, poverty is accountable for the decline in the use of CS birth in this study. There is a need to educate women about the advantages and disadvantages of mode of birth to ensure their participation in the decision-making process. Strong regulations are needed to ensure that the correct decision is made by obstetricians regarding the delivery mode.

Current results also showed that the highest percentage of the studied women were multiparous, had one and two children, and hadn't history of abortion. [15] reported that lower parity and fewer children were associated with caesarean delivery. In contrast to a study by Maharlouei et al. [16] they found no relationship between the number of kids and the mode of delivery.

The results of this study showed statistically significant differences between the vaginal and caesarean delivery group regarding all mean scores of quality of life except general health perception, social functioning, and role of limitation due to emotional health problems respectively. Where vaginal delivery achieved the highest average scores of QoL. Similarly, a study compared the vaginal and the caesarean birth, [17] indicated that vaginal birth achieved the highest scores in most scores of quality of life.

According to the results of the current study, women who were delivered vaginally had the highest average total of QOL of those who underwent caesarean delivery by a statistically significant difference. This may be due to the support of health care providers during the delivery stages, the use of pain reduction, and low surgical intervention, such as perineal incision. This result is consistent with [18] who showed that the vaginal birth had a higher score than the caesarean birth. The effects of surgery and anesthesia might be of more influence on the QoL scores than normal birth. These findings suggest that the normal vaginal birth leads to a better quality of life. Furthermore, [19], demonstrated that, the difference between vaginal delivery and CS section was highly significant in terms of mean score of QoL in the postpartum period. This result was not in agreement with [20] who displayed that, there were no differences between postpartum QoL of women after vaginal and caesarean delivery.

With regard to the relationship between the characteristics of the studied groups and the QoL with the mode of birth. The current study exposed that, the QoL was linked to county residents, educational level (secondary), housewives, and average level of income). Furthermore, good QoL was connected with multi-parity, women with one child or two children and no history of abortion. Such inconsistencies in the literature may be are due to the fact that the postpartum QoL is influenced by many factors other than the type of birth, such as socioeconomic background and mother/child-related factors. As well as, using different scales for measuring QoL by researchers makes it difficult to compare the results.

Similarly, [21] who found that in Dezful, Iran, they found that the income is an important factor for better QoL. But, [20] stated that, there was no difference between women QoL and their incomes. This can be due to their tending to not expose their real financial situation. They found that women with better education had better QoL than the others. These results may be due to the truth that educated ladies have better fitness knowledge and also higher access to fitness care facilities. So, more interest need to be paid to providing postpartum healthcare for less knowledgeable girls as well as those with a history of ailment in being pregnant Also, the study indicated that housewife had a better score in half of QoL than employed women. Moreover, [22] indicated that, there were no difference between postpartum women's QoL and their employment. In contrast, [23] showed that obstetric and demographic factors predicting deprived health related quality of life during the entire pregnancy period including multiparity.

5. Conclusion

According to the study results, the vaginal delivery group had higher scores of quality of life compared to that caesarean delivery.

6. Recommendation

Early antenatal booking to detect any health problem to

reduce CS and adequate health care for the mother is recommended.

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