

MENTAL HEALTH OF MOTHERS AFTER NATURAL CHILDBIRTH AND CESAREAN SECTION: A COMPARATIVE STUDY IN KOHAT, KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

Objective: to compare the quality of life of women after natural childbirth and cesarean section from a mental health perspective.

Method: this is a causal-comparative study that included 104 women, 52 of whom underwent natural childbirth and 52 cesarean sections. It was conducted in the gynecology ward of Liaqat Memorial Hospital in Kohat Khyber Pakhtunkhwa, Pakistan using the Quality-of-Life Questionnaire. Pakistani Nurses made direct translation of it into Urdu language, interview by interview (read in English and told in Urdu). The results related to Emotional Health Problems, Energy, Emotions and Social Activities were analyzed.

Results: women after cesarean section reported more problems regarding emotional health variables than women after natural childbirth. The mean quality of life score among the natural childbirth group was 89.94 and 66.02 among the cesarean section group ($p < 0.001$).

Conclusion: women who undergo natural childbirth have better quality of life than women who undergo cesarean section (average versus poor quality of life). Mental health is also affected, especially for those who undergo cesarean section. Thus, natural childbirth demonstrates benefits in the puerperium in terms of emotional indicators.

DESCRIPTORS: Mental health. Quality of life. Postpartum period. Natural childbirth. Cesarean section.

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SAÚDE MENTAL DE MÃES APÓS PARTO NORMAL E CESARIANA: UM ESTUDO COMPARATIVO EM KOHAT, KHYBER PAKHTUNKHWA, PAQUISTÃO

RESUMO

Objetivo: comparar a qualidade de vida de mulheres após parto normal e cesariana na perspectiva da saúde mental.

Método: estudo causal-comparativo que incluiu 104 mulheres, das quais 52 tiveram parto normal e 52 cesarianas. O estudo foi realizado na enfermaria de ginecologia do Liaqat Memorial Hospital em Kohat Khyber Pakhtunkhwa, Paquistão, usando o Questionário de Qualidade de Vida. As enfermeiras paquistanesas fizeram a tradução direta para o idioma Urdu, entrevista por entrevista (lida em inglês e falada em urdu). Foram analisados os resultados relacionados aos Problemas de Saúde Emocional, Energia, Emoções e Atividades Sociais.

Resultados: as mulheres após cesariana relataram mais problemas em relação às variáveis de saúde emocional do que as mulheres após o parto normal. O escore médio de qualidade de vida no grupo de mulheres após parto normal foi de 89,94 e 66,02 no grupo de mulheres após cesariana ($p < 0,001$).

Conclusão: as mulheres que realizaram parto normal apresentaram melhor qualidade de vida do que as mulheres após cesariana (média versus má qualidade de vida). A saúde mental também é afetada, principalmente para aquelas que são submetidas a cesariana. Assim, o parto normal demonstra benefícios no puerpério em termos de indicadores emocionais.

DESCRITORES: Saúde mental. Qualidade de vida. Período pós-parto. Parto normal. Cesariana.

SALUD MENTAL DE MADRES DESPUÉS DEL PARTO NORMAL Y CESÁREA: UN ESTUDIO COMPARATIVO EN KOHAT, KHYBER PAKHTUNKHWA, PAKISTÁN

RESUMEN

Objetivo: comparar la calidad de vida de las mujeres después del parto natural y cesárea desde la perspectiva de la salud mental.

Método: estudio causal-comparativo que incluyó 104 mujeres, de las cuales 52 tuvieron parto natural y 52 cesáreas. El estudio se realizó en la enfermería de ginecología del Liaqat Memorial Hospital en Kohat Khyber Pakhtunkhwa, Pakistán, utilizando el Cuestionario de Calidad de Vida. Las enfermeras paquistaníes hicieron la traducción directa al idioma Urdu, entrevista por entrevista (leída en inglés y hablada en urdu). Los resultados relacionados con los Problemas de Salud Emocional, Energía, Emociones y Actividades Sociales fueron analizados.

Resultados: Las mujeres después de la cesárea reportaron más problemas en relación a las variables de salud emocional que las mujeres después del parto natural. El puntaje medio de calidad de vida en el grupo de parto natural fue de 89,94 y 66,02 en el grupo de cesárea ($p < 0,001$).

Conclusión: las mujeres que tuvo parto natural tienen mejor calidad de vida que las mujeres después de la cesárea (media versus mala calidad de vida). La salud mental también se ve afectada, especialmente para aquellos que se someten a cesárea. Por lo tanto, el parto natural muestra beneficios en el período posparto en términos de indicadores emocionales.

DESCRITORES: Salud mental. Calidad de vida. Período posparto. Parto normal. Cesárea.

INTRODUCTION

Childbirth involves physiological changes of hormonal imbalance, body changes and sleep deprivation, and it is possible - even in the face of a full-term birth and with healthy results - to associate childbirth as a threat to the body's integrity and with a feeling of fear and loss of control. Thus, although the women deal well with the childbirth, it can have negative (as well as positive) psychological effects, and women during the postpartum period can experience psychological distress and some may even develop mental disorders such as postpartum post-traumatic stress disorder (PTSD)¹.

Maternal mental health during pregnancy or puerperium are considered a public health problem of great importance². The quality of life (QOL), including mental health of these women, can be affected by many factors³. Regarding mental health, anxiety and depression affect one in seven women in perinatal period; however, during pregnancy and perinatal period, 50% of women with depression remain undiagnosed⁴. Studies also point out that women in mental distress are more likely to have unfavorable outcomes such as premature birth, reduced bonding between mother-child binomials and delayed cognitive/emotional development of the infant⁵.

According to the National Institute for Health and Care Excellence (NICE), depression and anxiety affect 15-20% of women in the first year after childbirth. During pregnancy and postnatal period, anxiety disorders, including panic disorder, generalized anxiety disorder (GAD), obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), and tokophobia (extreme fear of childbirth), can occur and coexist with depression. Psychosis may resurface or be exacerbated during pregnancy and the postnatal period⁶.

Puerperium causes daily changes that could interfere with quality of life. A current review has provided new evidence on the influence of type of delivery and quality of life in the puerperium. The results indicated that women who gave birth vaginally had a significantly higher postpartum quality of life than those who gave birth by cesarean section. The association was statistically significant for the physical component, physical role, physical function, vitality, and social function⁷.

However, although the puerperium causes many changes that can affect women's quality of life, few recent studies address the quality of life of postpartum women. Health-related quality-of-life and associated factors among post-partum women in Arba Minch town and maternal health-related quality of life and its predicting factors in the postpartum period in Iran⁸⁻⁹. Due to the importance of studying the quality of life in the puerperium and the factors that can influence it, like the mode of delivery, the present study aimed to compare the quality of life of women after vaginal and cesarean deliveries from a mental health perspective.

METHOD

This is a causal comparative study carried out in the gynecology ward of Liaquat Memorial Hospital in Kohat Khyber Pakhtunkhwa, Pakistan, with all parturients treated on site. The study was approved by both the Graduate Committee of the Institute of Nursing Sciences (INS) and Khyber Medical University Study and Research Council (KMU ASRB). Data collection was initiated upon approval and after that it took six months to the study be done.

The sample size for the present study was calculated using the Open Epi software sequentially at 59% and 39%, with a 95% confidence interval of 5% error and a margin size of 80%. A 10% non-sample response rate was added, and the total sample size reached 104. In the end, 52 participants were recruited each in the normal and cesarean group.

It was adopted as exclusion criteria puerperal women in a serious state of health and with a previous diagnosis of mental illness. To recruit participants for the study, a non-probabilistic technique was used.

The Health Survey Questionnaire (SF-36) was developed in the USA. The support is available in English since 1987, for researchers around the world, with mandatory citation of authorship¹⁰. The SF-36 has been translated into many languages, and used around the worldwide to gauge the health of local populations¹¹. The mental health, vol III, includes the instrument in English and the matrix for analysis¹². The instrument has not been translated to Urdu language yet. Therefore, Pakistani Nurses made direct translation of it in to Urdu language, interview by interview (read in English and told in Urdu).

The complete questionnaire consists of two sections. Section "A" contains information on sociodemographic variables such as age, number of pregnancies, family type, number of children, occupation, education and religion. In section "B" the questions are divided into seven sections and a total of 36 questions on: General Health, Activity Limitations, Physical Health Issues, Emotional Health Issues, Social Activities, Energy and Emotions, and Social Activities. In this article, results related to Emotional Health Problems, Social Activities, Energy and Emotions and Social Activities will be presented.

However, to compare the quality of life between women who natural childbirth and cesarean section, the entire quality of life questionnaire (SF-36) was considered¹³. The mean quality of life score was calculated between the natural childbirth group and the cesarean group. T-Test was used for independent samples, considering that this characteristic follows approximately the model of the Normal Curve (Gauss).

The study objectives were duly explained to the participants and consents were granted. Participants were allowed to withdraw from the study at any stage. The interviews were conducted during the postpartum return consultation that occurred until 40 days after delivery. Data were analyzed using SPSS software (version 24). T-Tests were used for independent samples (Student's T Test and Levene's Test).

RESULTS

Participants mean age was 31.19 years with standard deviation of 7.25 years. The majority (89.4%) of the participants were Muslim and had primary education (42.3%). Approximately 26% were illiterate.

In the next sections, data on Emotional Health Problems, Social Activities and Energy and Emotions is presented.

Emotional Health Problems

Women in the natural childbirth group compared to those in the cesarean group had a lower percentage, 76.9% against 90%, in terms of reduced time spent at work or in other activities. In addition, 78.8% of women in the natural childbirth group and 92.3% of the cesarean section group reported difficulty performing work or other activities. The results are summarized in Table 1.

Social Activities

Most women in the natural childbirth group (40.3%) reported that they "in no way" faced emotional problems that interfered with their normal social activities with family, friends, neighbors, or groups. In the same context, more than 90% of the women in the cesarean section reported that they faced "moderately", "severe and very serious" emotional problems that interfered with their normal social life, activities with family, friends, neighbors, or groups. Results are shown in Table 2.

Table 1 – Emotional health problems among women undergoing natural childbirth and cesarean section. Kohat, Khyber Pakhtunkhwa, Pakistan, 2021. (n=102).

Emotional health problems	Natural Childbirth	Cesarean Section
	n (%)	n (%)
Cut down the amount of time you spent on work or other activities	40 (76.9%)	47 (90%)
Accomplished less than you would like	43 (82.6%)	47 (90%)
Limited in the kind of work or other activities	41 (78.8%)	46 (88.5%)
Didn't work or other activities as carefully as usual	41 (78.8%)	48 (92.3%)

Table 2 – Social Activities among women who underwent natural childbirth and cesarean section. Kohat, Khyber Pakhtunkhwa, Pakistan, 2021. (n=102).

Social Activities		Natural Childbirth	Cesarean Section
		n (%)	n (%)
Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?	Not at all	21 (40.3%)	0
	Slightly	20 (38.6%)	3 (5.7%)
	Moderately	11 (21.1%)	24 (46.1%)
	Severe	0	19 (36.5%)
	Very Severe	0	6 (11.5%)
How much bodily pain?	Not at all	1 (1.9%)	0
	Slightly	14 (26.9%)	8 (15.3%)
	Moderately	23 (44.2%)	11 (21.1%)
	Severe	10 (19.2%)	21 (40.3%)
	Very Severe	4 (7.6%)	7 (13.46%)
How much did pain interfere with your normal work (including both work outside the home and housework)?	Not at all	1 (1.9%)	0
	Slightly	25 (48%)	0
	Moderately	23 (44.2%)	12 (23%)
	Severe	3 (5.7%)	31 (59.6%)
	Very Severe	0	9 (17.3%)

The energy expenditure between the group of women with natural childbirth and the cesarean section showed differences that can be observed. Less mood swings were also identified by women who had a natural childbirth compared to those who underwent a cesarean section. In addition, when energy felt was evaluated, women in the natural childbirth group had a different frequency than women in the cesarean group.

In addition, the frequencies of happiness and tiredness were also different between women in the natural childbirth group and those in the cesarean group. These results were presented in Table 3.

Comparison of quality of life among women who underwent natural childbirth and cesarean section

The mean quality of life score among the natural childbirth group and the cesarean section group was 89.94 and 66.02, respectively. In other words, women who underwent natural childbirth reported a higher quality of life score as compared to women who underwent a cesarean section ($p < 0.001$). Results are shown in Table 4 and 5.

Table 3 – Energy and emotions among women who underwent natural childbirth and cesarean section. Kohat, Khyber Pakhtunkhwa, Pakistan, 2021. (n=102).

Energy and emotions		Natural Childbirth	Cesarean Section
		n (%)	n (%)
Have you felt downhearted and blue?	All of the time	0	2 (3.8%)
	Most of the time	0	21 (40.3%)
	A good bit of the time	3 (5.7%)	17 (32.6%)
	Some of the time	30 (57.6%)	11 (21%)
	A little bit of the time	15 (7.6%)	1 (1.9%)
	None of the time	4 (7.6%)	0
Did you feel worn out?	All of the time	0	9 (17.3%)
	Most of the time	0	34 (65.3%)
	A good bit of the time	4 (7.6%)	7 (13.4%)
	Some of the time	24 (46%)	0
	A little bit of the time	18 (34.6%)	2 (3.8%)
	None of the time	6 (11.5%)	0
Have you been a happy person?	All of the time	37 (71.1%)	31 (59.6%)
	Most of the time	12 (23%)	18 (34.6%)
	A good bit of the time	3 (5.7%)	3 (5.7%)
	Some of the time	0	0
	A little bit of the time	0	0
	None of the time	0	0
Did you feel tired?	All of the time	40 (76.6%)	44 (84.6%)
	Most of the time	7 (13.4%)	8 (15.3%)
	A good bit of the time	5 (9.6%)	0
	Some of the time	0	0
	A little bit of the time	0	0
	None of the time	0	0

Table 4 – Mean quality of life score comparison among women who underwent natural childbirth and cesarean section. Kohat, Khyber Pakhtunkhwa, Pakistan, 2021. (n=102).

Group Statistics					
	Mode of delivery	N	Mean	Std. Deviation	Std. Error Mean
Quality of life Score	Natural Childbirth	52	89.94	15.999	2.219
	Cesarean section	52	66.02	9.251	1.283

Table 5 – Independent samples T-Test score analysis among women who underwent natural childbirth and cesarean section. Kohat, Khyber Pakhtunkhwa, Pakistan, 2021. (n=102).

Independent Samples T- Test								
Quality of life Score	Levene's Test			T-test				
	F	Sig.	T	Df	Sig. 2-tailed	Mean Diff	SE* Diff	95% CI [†]
Equal variances assumed	6.87	0.01	9.33	102	0	23.92	2.56	18.84-29.01
Equal variances not assumed			9.33	81.68	0	23.92	2.56	18.82-29.02

*SE: Std. Error, [†]CI: Confidence Interval

Quality of life was categorized as poor quality of life, average quality of life, and good quality of life. Forty-three women (82.6%) in the cesarean section group reported poor quality of life, in contrast with 41 women (78.8%) in the natural childbirth delivery group that reported average quality of life.

DISCUSSION

In this study, overall, 80.7% of women in the natural childbirth and 90% of women in the cesarean section group reported that they cut down the amount of time they spent on work or other activities. 88.4% of women in the natural childbirth group and 92% of women in the cesarean section group reported that they accomplished less than they would like. Similarly, 78.8% of women in the natural childbirth group and 88.46% of women in the cesarean section group reported that they were limited in the kind of work or other activities. In addition, 67.3% of women in the natural childbirth group and 96.1% among the cesarean section group reported that they had difficulty performing the work or other activities. These findings were supported by different studies realized in Malawi (Women who underwent a normal vaginal birth (*N* = 173) were included; Bangladeshi (600 mothers-child dyads (300 mothers had CS in their last birth and 300 mothers had VD in their last birth); Australia (women in the study were Australian-born mothers 1.115; 141 were migrant women from English speaking countries such as the UK and New Zealand, and 243 were overseas born of non-English speaking background) and the findings revealed that both modes of the delivery impact the activities and time they spend on other daily work. Also, the findings estimated that women after both modes of delivery face difficulty and have limitations in the kind of work or other activities they perform in their daily routine¹⁴⁻¹⁶.

A systematic review with meta-analysis investigating the relationship between quality of life and forms of delivery showed that better scores for most of the dimensions evaluated, especially the physical and social dimensions, were higher in natural childbirth than in post-cesarean women. However, for the mental health dimension, the mean quality of life score was higher in women after cesarean section, demonstrated in this systematic review¹⁷. However, another study showed that postpartum depression and caesarean section seem to negatively compromise women's maternal health status demonstrated by systematic review without metanalysis¹⁸.

The puerperium is a period in which emotions arise from the interaction of a woman with the reality of her social context and experiencing opposing feelings. This context brings restrictions on the personal, marital, and social level, which can affect well-being and cause emotional overload, that predisposes to the development of injuries in their emotional health. In this study the sample consisted of 10 women in the puerperal period present at the BHU in Santo Antônio do Aracanguá, a city located in the countryside of the state of São Paulo, Brazil¹⁹. During puerperium, the family context undergoes to sudden changes, such as: schedule adjustments, changes in physical structure and domestic organization. These transformations reflect - considerably - in the social activities of women and their families. Therefore, having constant support is essential for women to achieve a better quality of life²⁰.

In this study, the average QOL score among the normal vaginal group was 89.94 and the cesarean section group was estimated to 66.02. Women who underwent normal vaginal delivery reported a higher quality of life score as compared to women who underwent a cesarean section. The finding the study realized in Shiraz, Iran with 59 women support the current research and estimated better quality of life among women undergoing normal vaginal delivery as compared to women undergoing cesarean section²¹.

Studies have shown different results according to the QOL among postpartum mothers. One study realized in Spain with 546 healthy primiparae reported different results as compared to this research, revealing no difference between the QOL among mothers who underwent natural childbirth and cesarean section, while another study also estimated opposite findings and estimated that the women who underwent cesarean represent better QOL as compared to natural childbirth²². Besides, other's realized in Tehran with 410 nulliparous women and in Shiraz, Iran. 59 women for vaginal delivery, 39 women for water birth and 39 women for cesarean section, the findings this studies supported this study and revealed that women with natural childbirth reported better QOL as compared to women undergoing cesarean section²³⁻²⁴.

In addition, studies in rural areas of the Indian 231 women were recruited into the pilot study: 60 in Ujjain district of Madhya Pradesh and 171 in Surendranagar district of Gujarat, reported high QOL scores among women who underwent natural childbirth compared the women with cesarean section²⁵. Similarly, supporting the findings of the current study, one realized with 2,161 mothers recruited from a prospective population-based study in the East Midlands of England, revealed that the cesarean delivery without maternal or fetal compromise is associated with poorer long-term health-related quality of life in comparison to natural childbirth²⁶.

In the same context, another study with 150 of Egyptian women (75 with natural childbirth and 75 with caesarean section) women also revealed the same results, supporting the current one and estimated better QOL among women with a natural childbirth as compared to women with cesarean section²⁷. Another research with 272 women in the initial postpartum period in the state of Piauí, northeastern Brazil, evaluated the QOL of women in the postpartum period and the professional that provided the care showed that the average of mental health of women after normal delivery performed by nurses was higher when compared with the normal delivery performed by doctors (75,86), with statistical significant ($p=0,005$)²⁸.

Sleep disturbance (insomnia) during the pregnancy negatively affects the quality of life of women²⁹. Therefore, this care should be part of the care process since the prenatal period because these disorders can affect the quality of life of women after the delivery and can be associated with depressive symptoms²⁹⁻³¹. It shows the roles of healthcare professionals, such as nurses and doctors, are very important to highlight this issue and work on the good quality of life of women who undergo both normal vaginal delivery and cesarean section.

Although most studies have shown that quality of life after cesarean section contributes to lower quality of life in women, the excessive interventions in childbirth care and unnecessary cesarean sections. These situations are present realities in developed and developing countries and permeate both public and private health systems^{22,31-32}.

As recent data show, global cesarean sections rates rose from about 7% in 1990 to 21% in 2018, estimating an increase in the following years. If this trend continues, by 2030 the higher rates are most likely to be in East Asia (63%), Latin America and the Caribbean (54%), West Asia (50%), North Africa (48%) Southern Europe (47%), Australia and New Zealand (45%). At the same time, in underdeveloped localities (like South Asia and Sub-Saharan Africa), the lack of cesarean sections results in an alarming infant morbidity and mortality³³.

The author's recognize the importance the research to validate the Quality of Life Questionnaire to Urdu language (cross cultural translate) on the next time.

CONCLUSION

This study demonstrates that women who undergo natural childbirth have an average QOL while women who undergo cesarean section have a poor quality of life. In addition, women who undergo natural childbirth have a better QOL as compared to women undergoing cesarean section.

The mental health of women who experienced postpartum period was affected, especially for those who underwent cesarean section. The natural childbirth vaginal delivery demonstrates benefits in the puerperium (42 days) in terms of emotional indicators and should be encouraged in the health systems.

Data was collected by the Pakistani Nurses investigator, which results in reducing the bias between English and Urdu language. This study was conducted only in one hospital in Kohat. So, the findings of this study cannot be generalized.

Furthermore, the study did not have the aim to distinguish whether the postpartum woman had a high-risk pregnancy, whether the newborn was premature or the reason for indicating cesarean delivery.

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NOTES

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