

Quality Of Life after Vaginal and Cesarean Deliveries Among A Group of Egyptian Women

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Abstract: The birth of a child may have a major impact on the health-related quality of life (HRQOL) of the new mother. The concept of health-related quality of life (HRQOL) is multidimensional and includes psychosocial, physical and emotional status, as well as patient autonomy, and is applicable to a wide variety of medical conditions. The aim of this study was to evaluate the health-related quality of life (HRQOL) of Egyptian women who had undergone different types of delivery and to identify factors that significantly affect the HRQOL of these women. A comparative cross-sectional retrospective design was used, the data was collected from 300 women (150) study group were approached during their follow up in postpartum period or seeking medical advice in gynecological department in Shatby hospital Alexandria Governorate and (150) comparator group selected from the individuals or relatives accompanying women at Shatby Hospital. The two groups were matched in terms of sample size, and age. Quality of life data was collected from both study group and comparative group by using the Arabic version of Short Form Health Survey (SF-36). It includes eight concepts that assess the following general health measures: physical functioning (PF), role limitations due to physical health problems (role-physical, RP), body pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitation due to emotional problems (role-emotional, RE), and mental health (MH). In addition, demographic data were collected using an interview questionnaire included recording age, educational level, employment status, and number of children and period after delivery. The result revealed that, study group had significantly higher mean scores in the physical functioning, role-physical, vitality, role-emotional and mental health subscales. The greatest differences were observed in mental health (48.96 vs. 45.65) and role-emotional subscales (44.77 vs. 41.01). There were no significant differences observed in mean scores for general health & social functioning subscales. As regarding body pain, delivered women (study group) reported a significantly lower mean score than (Comparator group), there was a correlation between type of delivery and HRQOL.

Conclusion: The findings suggest that normal vaginal delivery might lead to a better quality of life especially resulting in a superior physical health. Further prospective studies are needed to further assess the impact of different factors and types of delivery on the quality of life and to overcome the inherent disadvantages associated with backward studies.

Keywords: Health-related quality of life, Different types of delivery, identifying factors.

Introduction

According to World Health Organization (WHO) recommendations, the reasonable rate for cesarean is 5-15% of all deliveries performed. Rates more than 15% are considered inappropriate and unnecessary and do not produce better health outcomes.^[1] 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.^[2]

The extent of postnatal morbidity in vaginal delivery and caesarean section has increasingly been recognized in recent years.^[3] The focus on obvious morbidity such as anemia, infections and hemorrhage has been widened to include other areas such as sexual functioning, backache, painful perineum and constipation. Screening for postnatal depression is also well established.^[4] However, the debate on the best practice (vaginal delivery versus caesarean section) to minimize postnatal morbidity still is a matter of controversy both from professionals' perspectives.^[5] and from women's perceptions of the childbirth experience.^[6]

Health-related quality of life (HRQOL) is primarily concerned with the way quality of life is affected by health and disease. HRQOL simply means health as assessed by the individual concerned. HRQOL expresses "the total effect of individual and environmental factors on function and health status."^[7,8]

There are three dimensions of HRQOL: physical function, which includes activities of daily living; psychological function, which includes cognitive, perceptual, and personality traits of a person; and social function, which involves the interaction of the individual with society.^[8] Streiner and Norman (2003).^[9] suggest that the safest option is to use a generic instrument such as the SF-36 in all studies of the quality of life, and to supplement it with a disease-specific one. The SF-36 is a well-known generic measure of quality of life.

An investigation on psychometric evaluation of health-related quality of life measures in women after different types of delivery showed that women with vaginal delivery had better health-related quality of life compared with elective or emergency cesarean section.^[10] In particular comparing health-related quality of life between three modes of delivery (vaginal, elective, and emergency cesarean) it was found that patients after vaginal delivery had higher mean physical health-related quality of life scores than after cesarean section, while mean mental health-related quality of life were similar among three groups.^[10] In contrast, some investigators showed that in addition to variables such as the occurrence of pregnancy complications, life stress and less social support, cesarean delivery is predictor of poorer mental health in postpartum women.^[11]

A number of studies on cesareans have reported increased risk of maternal morbidities such as; hysterectomy, hemorrhage, infection, thrombosis and postpartum depression.^[12] 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.^[13] weeks after delivery are higher in women who delivered by cesarean section than those who underwent vaginal delivery (VD).^[13,14] It is evident that the experience of pain and fatigue can negatively affect QOL after birth.^[15]

Longitudinal studies measuring HRQOL postpartum show serious physical and emotional problems in more than 50% one year postpartum. Some of these symptoms are still present more than 12 months postpartum. HRQOL in patients after vaginal delivery (VD) was found to be significantly different from HRQOL in women after cesarean section (CS).^[16,17] With a prevalence of 60-70%, fatigue is the most frequent symptoms after 1 year.^[16,18]

Due to the presence of only a few studies have investigated HRQOL in women after delivery in Egypt. HRQOL measure can be used to help evaluate health care intervention or treatment's efficacy, its economic value, or both. Hence this was done to evaluate the HRQOL in women postpartum using the SF-36 questionnaire and to investigate the factors significantly impacting HRQOL in them.

Aim of the study:

The present study aimed to evaluate the health-related quality of life (HRQOL) of Egyptian women who had undergone different types of delivery.

Research questions:

- 1- What are the difference between Health related quality of life of natal women and non natal women (comparative group)
- 2- Is there any difference between Health related quality of life after normal vaginal delivery and cesarean section

Study Design and Setting:

In this comparative cross-sectional retrospective study, 150 women were approached during their postpartum care. The study was conducted in Shatby governmental hospital in Alexandria.

Subjects:

Convenience sample technique was used to select 300 women (150 study group, and 150 comparative group) were approached during their follow up in postpartum period or seeking medical advice in gynecological department. Applying inclusion and exclusion criteria, 150 women (75 with normal delivery, and 75 with cesarean section) were included in the study. Inclusion criteria were: 1- Giving birth since 2-3 months, 2- Aged between 21 to 45 at the time of delivery, 4- Having one or two children, 5- Experience of just one type of delivery method, and 6- Receiving antenatal care. Exclusion criteria were: 1- Having history of instrumental delivery, 2- Having a diseased or handicapped child, 3- History of general medical conditions, disabilities, depression, major psychological problems, 4- Having stress-inducing experiences such as lose of a family member, divorce, or family problems.

The comparator group consisted of an equal number of healthy volunteers selected from the individuals or relatives accompanying women at different centers to assess the difference in health quality of life differ after delivery. Exclusion criteria for subjects in the comparative group included any major disease that could affect the quality of life. The two groups were matched in terms of sample size, and age.

Normal delivery was defined as non-instrumental vaginal delivery and the type of cesarean section included both emergency and elective cesareans.

– Tools :

Data of this study was collected using the following two tools:

Tool 1. Structured Interviewing Questionnaire (SIQ) was developed by the researchers based on literature review, it used to collect demographic data such as age, educational level, employment status, and number of children and period after delivery.

Tool II :Quality of life was measured using the Arabic version of Short Form Health Survey (SF-36).They were adapted from longer instruments completed by patients participating in the Medical Outcomes Study (MOS), an observational study of variations in physician practice styles and patient outcomes in different systems of health care delivery (Hays & Shapiro, 1992¹⁹; Stewart, Sherbourne, Hays, et al., 1992²⁰). A revised version of the RAND 36-Item Health Survey (Version 1.1) that differs slightly from Version 1.0 in terms of item wording is currently in development. It includes eight concepts to assess the following general health measures: physical functioning (PF), role limitations due to physical health problems (role-physical, RP), body pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitation due to emotional problems (role-emotional, RE), and mental health (MH).These eight dimensions each have between two and six levels. The raw subscale scores converted to a 0-100 scale. Higher scores mean a better quality of life. Subscale scores are calculated according to standard procedures, yielding score values of 0 (zero) to 100 (hundred), where higher scores indicated better quality of life. The validity of the Arabic version of the SF-36 is well documented.

Validity and Reliability

Content validity of the questionnaire was determined using the comments of eight experts including gynecologists and mental health faculty members and its reliability using test-re-test. Cronbach's alpha coefficients was ranged from 0.73 to 0.92 indicating that each concept had good internal consistency.

Administrative Design

An official permission was obtained from the concerned departments to conduct the proposed study. Once permission was granted to proceed with the proposed study, the data was collected via face - to - face interviews.A trained female nurse in each setting collected quality of life data from both study group and comparative group.

Pilot Study

In preliminary work ; the items were translated into Arabic to be appropriate for arab language The study tools were pre-tested on a random sample of 30 women (10%) selected from the same study setting to check the clarity, applicability, any difficulties with their application, and to determine the time needed for completion of the tools. Modification of the tools was done according to the pilot study results. Subjects who shared in the pilot study were excluded from the study subjects.

Procedure:

- The aim of this phase was to collect data about women to evaluate Health related quality of life.
- Subjects who agreed to participate in the study, the researchers introduced themselves to the respondents, and explained the aim of the study to them in the study settings.
- Then, they were individually interviewed by the researcher to complete the basic data using an Interviewing questionnaire sheet.
- Women were interviewed to evaluate their health related quality of life according to the following physical functioning (PF) was assessed using ten items, role limitations due to physical health problems (role-physical, RP)was assessed using four items, body pain (BP) was assessed using two items, general health perceptions (GH) was assessed using five items, vitality (VT) was assessed using four items, social functioning (SF) was assessed using two items, role limitation due to emotional problems (role-emotional, RE) was assessed using three items, and mental health (MH) was assessed using five items.
- The time taken for every questionnaire to be completed was about 20-30 minutes for each subject

Ethical Consideration

Before the beginning of the study, an informed oral consent was taken from the women after explaining the aim of the study. The participants were assured of the confidentiality of their personal information. Women were allowed to withdraw from the study at any time.

Statistical Analysis:

Results were expressed as frequencies, means and standard deviation. Data analysis was divided into two parts. Initially, SF-36 subscale scores for the participants were compared across the two main study groups using multivariate analysis of variance (MANOVA). Then, the SF-36 subscales of delivered women were compared for the two different types of delivery, normal delivery, or caesarean section. MANOVA was also used to investigate the impact of different socio-demographic, and other related factors on the quality of life of the patients.

Results

Table -1: shows distribution of the study sample according to their socio-demographic characteristics, the range of age was 21-40 years, with a mean of 25.5 ± 3.80 years. A majority (93%) were educated to at least secondary school level. More than two thirds (69%) have two children, whereas (30%) were employed. The observation period after delivery before completion of the SF-36 ranged from 2-3 months, with a mean of 2.15 ± 0.2 months. The comparator group (n=150) consisted of healthy volunteers matched with cases for age, educational level, number of children, and employment.

Table -2: shows that delivered women (studygroup) had significantly higher mean scores in the physical functioning, role-physical, vitality, role-emotional and mental health subscales. The greatest differences were observed in mental health (48.96 vs. 49.65) and role-emotional subscales (44.77 vs. 41.01). There were no significant differences observed in mean scores for general health & social functioning subscales. As regarding body pain, delivered women (case group) reported a significantly lower mean score than controls (Comparator group) (48.50 vs 54.10)

Table -3: shows a comparative analysis of HRQOL by type of delivery. Women who underwent caesarean section had significantly worse mean scores for all HRQOL domains, except for body pain, while the normal delivery women reported the highest HRQOL scores. The overall test statistic was statistically significant ($p < 0.001$) for the eight subscales, indicating that there was a correlation between type of delivery and HRQOL.

Table - 4 : revealed the impact of socio-demographic factors on HRQOL. Factors such as age, number of children, level of education and employment significantly affected the HRQOL of women.

Table -1: Distribution of the study sample according to their socio-demographic characteristics

Subjects Demographics	Study Group N= 150
Age(years), mean + S.D.	25.5 ± 3.80 years
Level of education n (%)	
Secondary	93%
Read and write	7%
Numbers of children n %	
2	69%
1	31%
Occupation n %	
Employed	30%
Housewife	70%
Period after delivery in months mean + S.D	2.15 ± 0.2

Table -2: Comparison of SF-36 Subscales between Women who had undergone Delivery and Comparator group

SF-36 Subscale	Mean		SD		F-Statistic	P Value
	Study Group N=150	Comparator Group N=150	Study Group N=150	Comparator Group N=150		
Physical Functioning (PF)	45.43	47.15	16.30	13.56	11.37	0.001

Role-Physical (RP)	45.70	48.02	9.96	11.57	5.46	0.035
Body Pain (BP)	48.50	54.10	13.50	12.90	3.67	0.060
General Health (GH)	49.42	49.28	8.39	9.33	1.85	0.035
Vitality (VT)	60.55	48.46	12.55	12.51	6.75	0.027
Social Functioning (SF)	40.04	49.01	12.73	13.86	0.223	0.642
Role-Emotional (RE)	44.77	41.01	12.53	13.55	8.127	0.005
Mental Health (MH)	48.96	49.65	10.95	11.22	10.55	0.000

Table -3: Comparison of SF-36 Subscales between the women who had Undergone normal or caesarean section

SF-36 Subscale	Mean		SD		F-Statistic	P Value
	Caesarean Section N=75	Normal Delivery N=75	Caesarean Section N=75	Normal Delivery N=75		
Physical Functioning (PF)	40.82	50.33	10.50	3.72	35.82	0.000
Role-Physical (RP)	45.73	49.24	10.13	6.73	19.95	0.000
Body Pain (BP)	55.06	50.24	10.74	4.83	5.16	0.002
General Health (GH)	45.70	48.58	9.46	5.79	6.01	0.007
Vitality (VT)	56.22	60.76	10.45	10.68	18.40	0.000
Social Functioning (SF)	45.25	47.66	12.30	7.54	8.96	0.000
Role-Emotional (RE)	41.64	53.52	16.31	6.77	27.11	0.000
Mental Health (MH)	45.08	55.01	12.09	8.16	29.23	0.000

Table -4: Factors affecting HRQOL of delivered women (n=150)

Factors	F-Statistic	P-Value	Partial Eta squared
Age	4.27	0.02	0.09
Number of Children	5.10	0.003	0.12
Level of Education	3.36	0.02	0.33
Employment	3.57	0.01	0.13

Discussion

Although many studies assessed different problems resulting from normal vaginal delivery and caesarean section, but a few studies have focused on women's health related quality of life. Therefore, the findings of this study could contribute to the existing literature and a better understanding of maternal health care outcomes among Egyptian women. What is the most disturbing in the literature on postpartum health is not the presence of widespread morbidity but the profound silence that surrounds this pivotal period in women's lives. Several studies noted that many women (up to 25%) with postpartum health problems did not consult a health professional.^[21]

We showed that there were differences between health-related quality of life among women after normal vaginal delivery and caesarean section. The current study revealed favorable HRQOL scores in seven of the eight SF-36 subscales for post-delivery Egyptian women a few weeks after their delivery, with significantly higher scores for PF, RP, VT, RE, and MH domains compared with the healthy comparative group (Table 1). Such results may indicate the positive effect of having a baby on their quality of life. These women seem to have a better appreciation of their health, both physically and emotionally, after having a baby than before. The improvement in HRQOL may also be explained by the so-called response shift.¹⁸ According to this theoretical model, the often-seen improvement in HRQOL can be a result of an accommodation process that involves changing internal standards and values. It is conceivable that the improved the quality of life seen in this study is due to such a response shift. One of the most important factors that should be considered by clinicians when selecting the delivery procedure for a given patient is the expected changes in HRQOL after the intervention.^[22]

This study shows that patients delivered by caesarean section had significantly lower scores for all domains except body pain, whereas those delivered by normal delivery had the highest scores (Table 2). Normal delivery is the most physiological route of delivery, which may explain the differences in the HRQOL scores between normal delivery and caesarean section. Patients undergoing an emergency caesarean section

experienced both labor and an operative procedure, which may explain the worse HRQOL scores. Patients undergoing an elective caesarean section experienced the effect of an operation. The effects of surgery and anesthesia might be of more influence on the HRQOL scores than normal delivery. From a HRQOL point of view, greater support and care for women who undergo caesarean section seems necessary.^[23,24]

Patient's age, number of children, level of education, and employment were the factors with a significant impact on the HRQOL in this study. This was particularly true for age, as all domains were associated with poorer quality of life, followed by number of children and employment, where four domains were found to be significantly affected (Table 3).

Limitation of the study :

This may be rectified in a future study through periodic follow up and regular assessment of Egyptian women quality of life. In addition to, stressful life events were not assessed in this study. It is well known that such events can influence HRQOL and negatively impact individual perception of health status.

Conclusion and recommendation

The findings suggest that normal vaginal delivery might lead to a better quality of life especially resulting in a superior physical health. Indeed in the absence of medical indications normal vaginal delivery might be better to be considered as the first priority in term pregnancy. Further longitudinal and prospective studies are warranted to further assess the impact of different factors and types of delivery on the quality of life and to overcome the inherent disadvantages associated with backward studies. HRQOL measure can be used to help evaluate health care intervention or treatment's efficacy, its economic value, or both.

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