Original Article

Health-related Quality of Life of Mothers at 12 Weeks after Normal Vaginal Delivery in Selected Hospitals in Enugu Metropolis, Nigeria

Eleke C, Agu-Okereke IS[1]

Faculty of Clinical Sciences, University of Port Harcourt, Rivers State, [1]Department of Nursing Sciences, University of Nigeria, Enugu Campus, Enugu, Nigeria

ABSTRACT

Background: The process of birth may mean extra pressure on a mother's well-being, and this could affect her health-related quality of life (HRQoL). The paucity of published Nigeria-based studies on HRQoL highlights the need to examine the HRQoL of mothers after normal vaginal delivery.

Objective: The objective of this study is to assess the HRQoL of mothers at 12 weeks after normal vaginal delivery in selected hospitals in Enugu metropolis.

Settings: The study was carried out in one military, one private, and two university teaching hospitals within Enugu metropolis. Enugu metropolis is a city in the southeastern part of Nigeria.

Materials and Methods: The study adopted a cross-sectional descriptive design. All 79 participants who delivered between August and September 2015 were enrolled in the study. Adapted SF-36 questionnaire was used in measuring HRQoL. Data were collected from each participant after informed consent and ethical clearance have been obtained. Descriptive statistics and analysis of variance were used to analyse the collated data. Level of statistical significance was set at 0.05.

Results: The mean (standard deviation [SD]) age and parity of participants were 34.17 (5.56) years and 3 (1) children, respectively. Findings revealed that the mean (SD) HRQoL was 58.14 (15.47), but participants rated their physical functioning and role limitation due to emotional problem at score range 0–49.

Conclusions: The findings demonstrated that in this group of post-partum mothers, HRQoL was moderate, amid poor physical functioning and role limitation due to emotional problem. Health-care providers should consider post-partum counselling on physical and emotional aspects of maternal health.

Key words: Post-partum, quality of life, vaginal delivery

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INTRODUCTION

Childbirth has a major impact on women.[1] It is an experience full of change, enrichment, and challenges for mothers, couples and the family unit. Childbirth takes not only one's mind and body through a stream of change but it also takes the family through psychological adjustments. It is a time when couples as family confront their fears and expectations about becoming parents. In other words, parenthood may have physical and psychological changes in both mother and father depending on the circumstances of pregnancy, labour and mode of delivery.

In this study, vaginal childbirth which is the natural method of birth for humans refers to normal/spontaneous vaginal delivery.[2] Pregnancy and motherhood may have some minute but significant changes in a mother's mental/cognitive ability.[3,4] Since the brain controls or regulates the functioning of the human body, it may be logical to assume a resultant change in functioning of the mother's body.

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Address for correspondence: Mr. Eleke C, Faculty of Clinical Science, University of Port Harcourt, Rivers State, Nigeria. E-Mail: choaxdance@yahoo.com

According to the World Health Organisation (WHO) statistics, the highest maternal mortality and morbidity are seen in post-partum period (period following delivery).[5] The post-partum period is accompanied by significant changes in women's quality of life.[6] Huang *et al*.[1] noted that studies have reported that the post-partum period is a time when women complained of numerous physical or psychological problems such as fatigue/physical exhaustion, pain, sex-related concerns, haemorrhoids/constipation, breast problems, anxiety, stress, depression, sleep disorders, bleeding, endometriosis, urinary incontinence, post-traumatic stress disorders, increase in workload and decrease in time on their own. In addition, these problems have a significant effect on the physical, emotional and social health, breastfeeding, relationships with family, community, childcare, and housework.[5] Post-partum mothers have to cope not only with body changes but also with new responsibilities involved in the role of a mother. Therefore, the process of birth and motherhood may mean extra pressure on the functioning of a mother's general system or her health and well-being during the post-partum period, which, in turn, could affect her quality of life.

One of the components of the broadened view of maternity care has been the adoption of enhancement in quality of life as one of the aims of prenatal and postnatal care.[7] Quality of life (QoL) is the effect of the physical and social environment on an individual and the ontological and emotional reactions to his/her environment.[5] An individual's perceived meaning to the multidimensional experience of physical health, adjustment to socioenvironmental demands and coping with activities of daily living qualifies health-related quality of life (HRQoL). In other words, a mother's perceived feeling of comfort and satisfaction with ability to cope with activities of daily living amounts to her HRQoL. The WHO definition of HRQoL includes six dimensions: physical health; psychological-emotional status; level of independence; social relationships; spiritual dimensions and environmental situations.[5] Sadat *et al*.[8] noted that several studies confirm that socioeconomic deficiencies and medical problems are risk factors for decreased HRQoL and depressive symptoms in women during the post-partum period. If a variety of medical, psycho-social and obstetric factors affect the HRQoL of a mother after delivery, a mother's negative perception of her own health may have an unhelpful impact on their infant care behaviour. The health of women after childbirth may be a primary contributor to their children's health.[1]

Many studies have been carried out regarding HRQoL within the post-partum period. Majority of these studies were carried out outside Africa. Compared with many non-African countries, Nigeria has many discrete traditions, customs and habits. Perceptions of HRQoL by post-partum women in Nigeria may also be peculiar under the different cultures and environment. Based on the premise that 'HRQoL is a multidimensional concept that affects the performance of the individual in physical, psychological, social and spiritual aspects of life and can be affected by political, cultural, economic and spiritual beliefs';[5] assessing HRQoL in the post-partum period within the Nigerian context, especially in small towns or settlements may provide health-care professionals and governments with basis for further health promotion of women's and infant's post-partum health. Due to the paucity of published Nigeria based studies on post-partum HRQoL, this study sought to assess the HRQoL of mothers at 12 weeks after vaginal delivery in selected hospitals in Enugu metropolis, Nigeria.

MATERIALS AND METHODS

Setting

Enugu metropolis is a city in the Southeast Nigeria. Enugu metropolis is urban and also mainly inhabited by English and Igbo-speaking Nigerians. The selected hospitals within the metropolis include one federal university teaching hospital, one federal military hospital, one state university teaching hospital and one private hospital, in which all the participants in the study gave birth in.

Instrument

A structured questionnaire was used to elicit their socio-demographic characteristics and obstetric variables. HRQoL was assessed using the RAND-36 version 1.0 (SF-36) questionnaire (a free questionnaire designed by the Research and Development Corporation). The RAND-36 version 1.0 (SF-36) questionnaire is a well-known generic HRQoL instrument and proved to be highly feasible, reliable and is a good choice to measure health-related QoL after delivery.[8] It consists of 36 items, organised into eight scales: General health, Vitality, Physical functioning, Role limitation due to physical problems or role physical, Bodily pain, Role limitation due to emotional problems or role emotional, Social functioning and Emotional well-being. The scores on each subscale range from 0 to 100 with higher scores indicating a better condition. Furthermore, the scores for the general HRQoL range from 0 to 100 averaged from the subscales with higher scores indicating a better condition. For the present study, the RAND-36 version 1.0 (SF-36) questionnaire was adapted to meet the needs of the study. The adaptations that were made were converting the phrase 'within the past 4 months' to within the past 4 days. The adaptation was made because the present study considers 12 weeks post-partum mothers. Operationally, the general HRQoL was categorised as 0–49 = poor, 50–69 = moderate and 70–100 = good HRQoL. The reliability of the adapted RAND-36 version 1.0 (SF-36) questionnaire was investigated in a pilot study by the researcher, and all its scales met minimum reliability of standard (Cronbach's alpha correlation >0.7). Participants were interviewed strictly guided by the adapted questionnaire.

Procedure

A cross-sectional descriptive design was used for the study. The study was carried out from December 2015 to January 2016 among women who attended four selected urban hospitals within Enugu metropolis for childbirth 12 weeks prior being August and September 2015. Ethics Committee of

University of Nigeria Teaching Hospital approved the study protocol (Approval No. UNTH/CSA/329/OL.5). Four hospitals were purposively selected for the study based on the amount of deliveries they handle. The four hospitals included two public university teaching hospitals, one federal military hospital and one private hospital. No sampling was done in each of the selected hospitals in enrolling participants in the study. After explaining the aim of the study and obtaining signed consent from the study participants, a total of 79 participants who attended the selected hospitals for 12 weeks post-partum medical check-up, and met the inclusion criteria were enrolled into the study. Twelve weeks following childbirth was chosen as time frame for this study because the researcher expects that the strain of childbirth would have dwindled and HRQoL had returned to optimum. The inclusion criteria were willingness to participate in the study, 12 weeks after delivery, women aged 15–49 years at the time of data collection, women with a living newborn and women without post-partum complications at delivery. The exclusion criteria were acute stressful events during the course of study (e.g., loss of a family member or divorce).

Data analysis

Data were collected once from each participant at 12 weeks post-partum. Collected data were subjected to descriptive statistics (frequency, percentage, mean and standard deviation [SD]). The analysis of variance (ANOVA) was used to compare HRQoL based on age and parity. Level of statistical significance was set at $P < 0.05$. All data were analysed with the aid of the Statistical Package for the Social Sciences (SPSS) software version 21 (SPSS Inc., Chicago, IL, USA).

RESULTS

Study population and demographic profile

The responses of 79 participants were fit for the analysis. The socio-demographic characteristics of the participants are given in Table I. Mean (SD) age was 34.17 (5.56) years with age ranging from 23 to 46 years. Mean parity was 3 (1) children with parity ranging from 1 to 5. Most (76, 96.2%) of the participants were currently married and largely (76, 96.2%) Christians. 29 (36.7%) had only primary education, 24 (30.4%) had also secondary education and 26 (32.9%) have had tertiary education.

Table I: Socio-demographic characteristics of the study participants (*n*=79)

Category	Details
Age (years), mean (SD)	34.17 (5.56)
Parity, mean (SD)	3 (1)
Marital status, *n* (%)	
Single	1 (1.27)
Married	76 (96.20)
Separated	2 (2.53)
Religion, *n* (%)	
Christianity	76 (96.20)
Islam	3 (3.80)
Educational level, *n* (%)	
Primary	29 (36.71)
Secondary	24 (30.38)
Tertiary	26 (32.91)

SD: Standard deviation

Table II shows mean scores of the participants in all HRQoL subscales. The participants rated as moderate their general HRQoL (58.14 [15.47]). The participants rated as poor their physical functioning (40.23 [21.91]), as well as role limitation due to emotional problem (43.30 [22.96]).

Table III shows the HRQoL mean scores of the participants arranged based on age range. Using ANOVA, Table III revealed no significant difference in HRQoL based on age ($P = 0.84$). The participants across the age ranges had moderate (50–69) HRQoL. The lowest HRQoL score was obtained among the 41–46 years old (58.6 [18.6]). The highest HRQoL score was obtained among the 23–28 years old (66.8 [21.2]).

Table IV shows the HRQoL mean scores of the study participants arranged based on parity status. Using ANOVA, Table IV revealed no significant difference in HRQoL based on parity ($P = 0.94$). The participants had moderate QoL across parity 1–5. The lowest HRQoL was obtained among mothers who have parity of 4 (60.1 [15.5]). The highest HRQoL was obtained among mothers who had a parity of 1 (62.1 [24.2]).

DISCUSSION

Adapted RAND-36 version 1.0 (SF-36) was used in the study to describe HRQoL among mothers at 12 weeks after normal vaginal delivery in selected hospitals. Results of the study indicate that majority of the participants were poor in physical functioning and role limitation due to emotional problem; moderate in vitality, role limitation due to physical problem, pain and social functioning; and good in general health and emotional well-being. On physical function, the participants reported poor ability for moving a chair or cupboard, lifting or carrying foodstuff, climbing several flights of stairs, running bending, walking more than a mile, kneeling, stooping, walking several buildings and lifting heavy objects. Nevertheless, they reported moderate ability for bathing and dressing. On role limitation due to emotional problems, the participants responded that they poorly cut down time spent on work and accomplished tasks less than they would like. They also did not do work as carefully as usual. Majority of the participants had moderate HRQoL based on age and parity. There was no significant difference in HRQoL based on age and parity.

The finding of the present study is not completely in line with a prospective study comparing the HRQoL of mothers at 6–8 weeks and 12–14 weeks post-partum in Iran, whereas Bahrami *et al.* [5] reported that at 12–14 weeks post-partum, vaginally delivered women had moderate in physical function (59.5 [17.31]) but poor role limitation due to emotional problem (47.51 [17.56]). This disparity in finding

Table II: Health-related quality of life subscale category and scores of the study participants (*n*=79)

HRQoL sub-scales	Poor *n* (%)	Moderate *n* (%)	Good *n* (%)	HRQoL, mean (SD)
General health	9 (11.4)	19 (24.0)	51 (64.6)	73.25 (11.14)
Energy (vitality)	12 (15.2)	49 (62.0)	18 (22.8)	62.10 (9.58)
Physical functioning	57 (72.1)	13 (16.5)	9 (11.4)	40.23 (21.91)
Role physical	14 (17.7)	47 (59.5)	18 (22.8)	55.63 (28.63)
Pain	17 (21.5)	51 (64.6)	11 (13.9)	63.17 (11.45)
Role emotional	55 (69.6)	18 (22.8)	6 (7.6)	43.30 (22.96)
Social functioning	11 (13.9)	56 (70.9)	12 (15.2)	67.25 (11.23)
Emotional well-being	14 (17.7)	18 (22.8)	47 (59.5)	60.15 (6.89)
General HRQoL	24 (30.4)	34 (43.0)	21 (26.6)	58.14 (15.47)

Decision rule: Score of 0–49=Poor, 50–69=Moderate, 70–100=Good. HRQoL: Health-related quality of life, SD: Standard deviation

Table III: Health-related quality-of-life category and scores of the study participants arranged based on age range (*n*=79)

Age (years)	Poor, *n* (%)	Moderate, *n* (%)	Good *n* (%)	HRQoL, mean (SD)	ANOVA (*P*)
23-28	1 (12.5)	5 (62.5)	2 (25.0)	66.8 (21.2)	0.8356
29-34	4 (10.5)	27 (71.1)	7 (18.4)	61.4 (20.4)	
35-40	4 (18.2)	12 (54.5)	6 (27.3)	62.8 (8.8)	
41-46	3 (27.3)	6 (54.5)	2 (18.2)	58.6 (18.6)	

Decision rule: Score of 0–49=Poor, 50–69=Moderate, 70–100=Good; *P*<0.5 significant. HRQoL: Health-related quality of life, SD: Standard deviation, ANOVA: Analysis of variance

Table IV: Health-related quality-of-life category and scores of the study participants arranged based on parity (*n*=79)

Parity	Poor, *n* (%)	Moderate, *n* (%)	Good, *n* (%)	HRQoL, Mean (SD)	ANOVA (*P*)
1	6 (26.1)	13 (56.5)	4 (17.4)	62.1 (24.2)	0.9411
2	3 (16.7)	10 (55.6)	5 (27.7)	53.5 (25.1)	
3	3 (25.0)	7 (58.3)	14 (16.7)	60.4 (18.7)	
4	1 (10.0)	6 (60.0)	3 (30.0)	60.1 (15.5)	
5	3 (18.8)	9 (56.2)	4 (25.0)	61.4 (26.0)	

Decision rule: Score of 0–49=Poor, 50–69=Moderate, 70–100=Good; *P*<0.5 significant. HRQoL: Health-related quality of life, SD: Standard deviation, ANOVA: Analysis of variance

could be related to differences in the sampling method. In the present study, no sampling was done, all mothers who met the inclusion criteria were used for the study whereas Bahrami *et al*.[5] used non-probability quota sampling method. Using all mothers available may have eliminated the bias which non-probability quota sampling method may have introduced in Bahrami *et al*.[5] Furthermore, Majzoobi *et al*.[6] found good physical functioning (86.28 [16.92]) and role limitation due to emotional problem (77.98 [33.38]) among 8 weeks post-partum Iranian mothers in a prospective study. The difference between findings of the present study and Majzoobi *et al*.[6] may be connected to differences in education (a sociodemographic variable). The participants in the present study were almost equally divided between those who had primary (36.7%), secondary (30.4%) and tertiary education (32.9%). In Majzoobi *et al*.,[6] the respondents were distributed as primary (63.7%), secondary (26.6%) and tertiary education (9.7%). Since in Majzoobi *et al*.,[6] majority of the respondents have primary education, this may have produced biased responses to the individual questionnaire items. This bias may have been offset in the present study. In terms of HRQoL based on and parity, the findings of the present study are in agreement with Mousavi *et al*.[7] who reported moderate (50–69) HRQoL across parity status.

The finding of the present study contributes to understanding the nature of HRQoL in mothers at 12 weeks after vaginal delivery based on age and parity. The result of the present study showed that vaginally delivered mothers had poor HRQoL subscale scores in physical functioning and role limitation due to emotional problem. This therefore underlines the need for health-care providers to continually craft opportunities for discourse between all facets of health workers and society on post-partum health and well-being. The findings of the present study may be of use to governments in crafting policies that may favour post-partum health. For all inclusiveness, maternity leave should extend beyond 12 weeks in all sectors of work. This could be done through interactive forums between governments and employers of labour within the private sector.

Study limitations

The present study utilised an adapted RAND-36 version 1.0 (SF-36) questionnaire for measuring post-partum

HRQoL. RAND-36 version 1.0 (SF-36) questionnaire is a generic instrument which is not specifically designed for post-partum mothers. This might be considered a limitation of the study. Another limitation to the study could be that the number of participants may not have been enough to make conclusions pertaining to HRQoL based on age and parity. It is possible that a study using a larger number of participants would produce different results.

CONCLUSIONS

The findings of the present study suggest that in this group of post-partum mothers at 12 weeks after vaginal delivery HRQoL based on age and parity was moderate. Meanwhile, there was poor physical functioning and role limitation due to emotional problem. To ensure quick return to optimal post-partum HRQoL, health-care providers should consider post-partum counselling on physical and emotional aspects of maternal health.

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Conflicts of interest

There are no conflicts of interest.

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