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Influence of sociodemographic, clinical, obstetric and neonatal variables on postpartum quality of life

Influência de variáveis sociodemográficas, clínicas, obstétricas e neonatais na qualidade de vida de puérperas

Influencia de variables sociodemográficas, clínicas, obstétricas y neonatales en la calidad de vida posparto

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ABSTRACT

Objective: to analyze the quality of life (QOL) of postpartum women and to correlate it with sociodemographic, clinical, obstetric and neonatal variables. **Method:** quantitative, cross-sectional study conducted in a teaching hospital in Uberaba-MG. 103 postpartum women were interviewed. Data were collected in 2017 and analyzed using simple descriptive statistics, Pearson correlation and Student's t-test. To measure QoL scores, the Ferrans and Powers Quality of Life Index instrument was used. The project was approved by the Research Ethics Committee. **Results:** adolescent mothers, income higher than two minimum wages, number of prenatal consultations, newborns over 4,000g and high Apgar score in the first minute favored the best QOL. Complications during pregnancy and / or childbirth, newborn health problems and alcoholism impaired QOL. **Conclusion:** the puerperal women had high QoL scores, highlighting the family and psycho-spiritual domains. Sociodemographic, clinical, obstetric and neonatal aspects influenced QOL.

Descriptors: Postpartum period; quality of life; obstetrics; women's health.

RESUMO

Objetivo: analisar a qualidade de vida (QV) das puérperas e correlacioná-la com variáveis sociodemográficas, clínicas, obstétricas e neonatais. **Método:** estudo quantitativo, de delineamento transversal realizado em um hospital de ensino de Uberaba-MG. Foram entrevistadas 103 puérperas. Os dados foram coletados em 2017 e analisados por estatística descritiva simples, correlação de Pearson e o Teste t de Student. Para mensurar os escores de QV foi utilizado o instrumento Índice de Qualidade de Vida de Ferrans e Powers. O projeto foi aprovado pelo Comitê de Ética em Pesquisa. **Resultados:** puérperas adolescentes, renda superior a dois salários, número de consultas pré-natal, recém-nascido (RN) macrossômico e Apgar no primeiro minuto favoreceram a melhor QV. Intercorrências durante gestação e/ou durante o parto, problemas de saúde do RN e etilismo prejudicaram a QV. **Conclusão:** as puérperas apresentaram altos escores de QV, destacando-se os domínios família e psicoespiritual. Aspectos sociodemográficos, clínicos, obstétricos e neonatais influenciaram a QV.

Descritores: Período pós-parto; qualidade de vida; obstetrícia; saúde da mulher.

RESUMEN

Objetivo: analizar la calidad de vida (CV) de las madres y correlacionarla con variables sociodemográficas, clínicas, obstétricas y neonatales. **Método:** estudio transversal cuantitativo realizado en un hospital universitario de Uberaba-MG. Se entrevistaron 103 mujeres posparto. Los datos se recopilaron en 2017 y se analizaron mediante estadísticas descriptivas simples, correlación de Pearson y prueba t de Student. Para medir los puntajes de la calidad de vida, se utilizó el instrumento Ferrans and Powers Quality of Life Index. El proyecto fue aprobado por el Comité de Ética en Investigación. **Resultados:** madres adolescentes, ingresos superiores a dos salarios mínimos, número de consultas prenatales, recién nacidos de más de 4.000 gy puntaje de Apgar alto en el primer minuto favorecieron la mejor calidad de vida. Complicaciones durante el embarazo y / o parto, problemas de salud del recién nacido y la calidad de vida deteriorada por el alcoholismo. **Conclusión:** las mujeres puerperales tuvieron altos puntajes de calidad de vida, destacando los dominios familiar y psicoespiritual. Los aspectos sociodemográficos, clínicos, obstétricos y neonatales influyeron en la calidad de vida.

Descriptores: Periodo posparto; calidad de vida; obstetricia; salud de la mujer.

INTRODUCTION

The puerperium or postpartum period corresponds to the period of physical, psychic and social changes caused by pregnancy and childbirth in women, which tend to return to normal non-pregnancy status. It begins after placental detachment, but its termination is undetermined and individually variable, extending up to one year after birth[1].

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During this period, women experience a series of changes in their routine ranging from deprivation of activities to loss of autonomy, as parenting requires the mother to commit to the care of the newborn (NB)[2].

Given the emotional lability of the period, study found that women feel insecure, worried, afraid, angry and guilty, due to changing habits, the birth of the child, in addition to scarce social conditions and loss of freedom imposed by motherhood[3].

A study that analyzed quality of life (QoL) among mothers identified important changes in the following aspects: relationship with the family; with the husband; work; feelings with the child; major responsibility; housekeeping economy; social life; sleep; health; happiness; body, breastfeeding and food. The following areas had lower scores: work, sleep and body, demonstrating that the puerperium directly influences women's QoL[4].

A study conducted in Egypt with 400 postpartum women showed that vaginal delivery positively influenced QoL of these puerperal women[5]. In Canada, a study conducted with 3,355 postpartum women showed that those with spontaneous conception had higher QoL scores in the physical domain than those with assisted conception. In the psychological domain, the latter presented higher scores than those with spontaneous conception[6].

In addition, several other QoL domains may be compromised in the postpartum period, such as changes in functional capacity, physical appearance, pain, vitality, social aspects, and mental health, which may interfere with adaptation and, consequently, QoL[7]. A study conducted in the United States with 63 women admitted on the first day of postpartum showed that there was no statistically significant association between postpartum hemoglobin and postpartum ferritin levels with these women's QoL scores[8]. Therefore, the puerperium should be seen as a period of fragility and significant systemic changes that can affect women's QoL.

The study aimed to analyze the quality of life of the mothers and to correlate them with sociodemographic, clinical, obstetric and neonatal variables.

LITERATURE REVIEW

The World Health Organization has conceptualized QoL as an individual's perception of their position in life within the cultural context and value system in which they live in relation to their goals, expectations, standards and concerns. The concept encompasses the following: physical health, psychological and emotional state, level of independence, social relationships, spiritual and environmental dimensions, substantially affecting the health of individuals[9].

Knowing the perception of women's QoL in the postpartum period aims to understand this phase and improve the quality of maternal care provided[10]. It is noteworthy that the Stork Network is a strategy of the Ministry of Health that emerged to ensure quality, safe and humanized care for all women, and for this has been adopting the improvement of QoL as one of the objectives of prenatal care and puerperium[11]. In this sense, preventing and resolving complications is not enough, it is necessary to promote expanded care that positively affects women's QoL during pregnancy, childbirth and the puerperium[4].

From the literature review, it appears that the puerperal period has specificities that need to be considered in care[1-3]. Postpartum adaptation may interfere with women's QoL, as it is a period characterized by the emergence of drastic physiological and psychological changes.

Thus, it is necessary to further explore the experience of women during the postpartum period, such as values, feelings and needs, and general elements that interfere with adaptation to maternity, with the purpose that health professionals create interventions that collaborate to improve QoL of postpartum women[12]. However, despite the rich literature on QoL, studies addressing its impact on women's (physical and mental) health and, more specifically, assessing it during the postpartum period and its influence on maternal well-being are little explored, justifying this study.

METHODOLOGY

This is a cross-sectional study, carried out in a teaching hospital located in the city of Uberaba, state of Minas Gerais.

In context, before hospital discharge, postpartum returns are scheduled for all clients who had at least one prenatal consultation at the institution, adolescents, women who did not have any prenatal consultation and need to be followed up at the service. Women who have received prenatal care in Basic Health Units (BHUs) or Family Health Strategies (FHS) are counter-referenced to these units. On average, 32 postpartum appointments are scheduled weekly.

Research Article
Artigo de Pesquisa
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In relation to the NB, the family member is given the referral for the return schedule, in outpatient consultation, by the pediatrics/childcare team. This consultation occurs in another sector of the outpatient clinic, on a different day from the maternal consultation. Pediatric and childcare consultations are scheduled for all newborns born in the institution. In order to obtain a larger number of postpartum women interviewed, it was decided to collect data in the environments where the puerperal consultations are performed, as well as in the pediatric and childcare returns of the newborn.

The study included women who were experiencing the puerperium (in the first week or up to 90 days after delivery), who had postpartum and/or newborn return scheduled at the institution; who could read and write; who were able to answer the questionnaire and who consented to participate in the study, regardless of age (puerperal women under the age of 18 had the Free and Informed Consent Form (FICF) also signed by parents and/or legal guardians).

Postpartum women whose outcome was abortion, fetal death, stillbirth or neonatal death were excluded; as well as postpartum women who were referred for puerperal return at a BHU or FHS where they had antenatal consultations and women who had assisted childbirth in other institutions.

In all, 103 puerperal women were included in the study. To determine the sample size, the PASS (*Power Analysis and Sample Size*) application, version 15, was used, where the following values and information were entered in it: an a priori coefficient of determination R^2=0.13 was considered in a linear regression model with at least three predictors, with a significance level α=0.05 Data was collected from March to December 2017.

Respecting the inclusion criteria and considering the exclusion criteria, the participants were informed about the study and, after consent, signed the informed consent form. The study was approved by the Research Ethics Committee (REC) of the Federal University of Triângulo Mineiro, Opinion No. 1,774,885, on October 14th, 2016, and its development was guided by the Guidelines and Regulating Standards for Research involving Human Beings, Resolution 466/12/National Health Council/Ministry of Health.

The women were invited to answer the questionnaire that addressed sociodemographic data, health conditions, obstetric history, birth and newborn data. This questionnaire was prepared by the researchers themselves, based on the information contained in the institutional records and tested through a pilot study, proving adequate to investigate the variables of interest of the study. Data was obtained through interviews with the mothers and/or extracted from their medical records.

To measure the QoL scores, the generic version of the Quality of Life Index (QoLI) was used, developed by researchers Carol Estwing Ferrans and Marjorie Powers of the University of Chicago and Illinois in 1984 to assess life satisfaction. The instrument has two parts: the first is associated with satisfaction and the second reflects the importance attached to its items[13,14]. It is a validated instrument, translated into Brazilian Portuguese and available for free and out of charge usage, as well as its syntax.

The instrument measures overall QoL and subdivides its items into four domains, for which it generates the respective scores. They are as follows: health and functioning; psychological and spiritual; family and socioeconomic status. The score ranges from 0-30 for all versions, and the higher the final score, the better the QoL[13,14].

In search of an appropriate instrument to evaluate postpartum QoL, it was observed that there is no specific instrument. Ferrans & Powers' QoLI of 2011 was considered adequate for the objectives, since it allows for the measurement of QoL in healthy people, since the puerperium is not a state of morbidity[10], justifying its use in this study.

The collected data were stored in an *Excel®*, spreadsheet, with double-digit technique and validation of the database. They were then transported to the *Statistical Package for the Social Sciences* (version 23), analyzed by simple descriptive statistics and, to determine the correlation between the variables of interest and the QoL scores, Pearson's correlation was used for quantitative variables (number of prenatal consultations and first minute Apgar score). And the Student's t-test for qualitative variables and quantitative scores (postpartum adolescents, income higher than two minimum wages, alcohol consumption, newborns weighing more than 4 kg, pregnancy and/or delivery complications and newborn health problems). Variables with $p \leq 0.05$ were considered significant.

RESULTS AND DISCUSSION

The mean age of the interviewed mothers reached 25.81 years old, ranging from 14 to 42 years old, 9.7% were adolescents and 10.7% were older than 35 years old; 41.8% declared themselves to be brown; 38.8% had completed

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high school; 48.5% were Catholic. Most were married (65%), and had no paid activities (55.3%); they had a family income of up to two minimum wages (59.2%), lived in their own home (57.3%) and came from the municipality itself (68%).

Regarding health conditions and habits, 8.7% reported alcoholism, 5.7% smoking and only one postpartum reported using illicit drugs; 30.1% had pathologies prior to pregnancy, the most frequent being hypertension (25.8%) and hypothyroidism (22.6%); however, 70.9% of the pregnancies had some pathology, the more frequent being the following: hypothyroidism (18.4%); hypertensive syndromes (15.5%), gestational diabetes (8.7%); anemia and syphilis (both 3.9%) and depression (2%).

Regarding the obstetric data, the mean number of pregnancies reached 2.46±1.54, and the mean number of births was 2.23±1.41; the average number of prenatal consultations reached 8.14±2.45 and the mean gestational age at birth was 38.54±1.53 weeks, ranging from 33 to 42 weeks.

Regarding the type of delivery, 47.6% were cesarean and, of these, 40.8% were indicated due to altered fetal vitality; 22.4% due to maternal pathology de-compensation and 22.4% due to iterativity. Normal delivery with episiotomy corresponded to 28.1% and normal delivery without interventions to 24.3%, totaling most of the delivery routes (52.5%).

Birth weight averaged 3090±637 grams, with 81.9% being age-appropriate, 13.3% underweight and 4.8% weighing over 4000 grams. There was a slight predominance of male newborns (51.5%).

When asked about breastfeeding, 90.3% were breastfeeding, 70.9% in exclusive breastfeeding and 19.4% in mixed breastfeeding; 64.1% considered breastfeeding optimal; 24.2% reported occurrence of nipple trauma, the most common being abrasion (15.5%) and cleft (8.7%).

The postpartum return to the institution ranged from eight to 90 days, with a mean return of 36.1±18.7 days postpartum.

Among the interviewees, the average overall QoLI score, considering all domains evaluated, corresponded to 24.77 points, with a 16.11 point variation between the lowest and highest values assigned. The evaluation by domains of QoL indicated that the most affected aspects were the socioeconomic aspects (22.33), while family relationships presented higher scores (27.55). The psychological/spiritual domain was the one that revealed greater variation of scores in the responses as shown in Table 1.

TABLE 1: Total Quality of Life Index (QoLI) and by domains of the interviewed mothers. Uberaba, 2018. (N = 103)

QoLI	Mean	SD	Minimum	Maximum
Total	24.77	3.21	13.89	30
Health and functioning	24.51	4.00	12.79	30
Social and economic	22.33	4.46	10.38	30
Psychological/Spiritual	25.80	4.25	4.64	30
Family	27.55	2.40	20.4	30

When compared to studies that used the same instrument to measure QoL, it was observed that there was variation between the general scores, and in a study with adolescents, a mean of 21.48 was obtained[14] and, among puerperal women, in general, a mean score of 25.82[10]. However, in both studies, the socioeconomic domain reached the lowest score and the family domain reached the highest score[10,14].

Among the sociodemographic variables investigated, the comparison of the family domain score among adolescent puerperal women was statistically significant (p=0.011), as shown in Table 2. This association points out the importance of family support for the postpartum adolescent, who had higher scores in this domain. Postpartum women with a family income above two minimum wages revealed higher scores in the socioeconomic domain (p=0.05), indicating the relevance of income for QoL. The other sociodemographic variables were not statistically significant for any domain or for the general QoLI of the interviewed mothers.

A study evaluating QoL among adolescent mothers concluded that in this group there were higher scores for the family domain, demonstrating its importance for the incorporation of motherhood in the context of these young girls' life[14], similar to the results of this study.

Research Article
Artigo de Pesquisa
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In the same vein, a study of 274 Indian postpartum women interviewed between the sixth and eighth weeks postpartum showed that age and socioeconomic status were positively associated with postpartum QoL. Thus, older women with better socioeconomic status had higher QoL scores[15].

It is noteworthy that a study conducted with 210 postpartum women interviewed, between seven and ten days postpartum, indicated that white women and partners reported higher QoL scores in the puerperal period[4].

TABLE 2: Study variables according to Total Quality of Life Index (QoLI) and by domains, Student's t test and Pearson's correlation of the interviewed mothers. Uberaba, 2018. (N = 103)

Variables	QoLI general	QoLI HF	QoLI SE	QoLI PS	QoLI F
Adolescents	0.106	0.068	0.637	0.179	0.011
Income higher than 2 minimum wages	0.709	0.903	0.050	0.309	0.221
Alcoholism	0.852	0.428	0.036	0.439	0.857
Newborn weighing more than 4 kg	0.142	0.164	0.851	0.275	<0.001
Pregnancy and/or delivery complications	0.122	0.029	0.338	0.662	0.773
Health problems of the newborn	0.007	<0.01	0.099	0.331	0.211
Number of prenatal consultations	0.732	0.789	0.054	0.136	0.545
	(r = 0.096)	(r = 0.027)	(r = 0.191)	(r = -0.148)	(r = 0.007)
Apgar score at 1st minute of life	0.339	0.040	0.596	0.506	0.542
	(r = 0.096)	(r = 0.205)	(r = 0.053)	(r = -0.067)	(r = -0.061)

Notes: QoLI HF - Health and Functioning; QoLI SE - Socioeconomic; QoLI PS - Psychological and Spiritual; and QoLI F - Family. The following were applied: Student's t-test for qualitative variables and Pearson's correlation for quantitative variables. Significant p values (p<0.05)

Among the obstetric and health variables of the postpartum woman, the habit of alcoholism was statistically significant for the socioeconomic domain (p=0.036), that is, alcoholic mothers had lower scores in this domain. Regarding the QoLI scores and the number of prenatal consultations, there was a positive association between the number of prenatal consultations and the socioeconomic domain (p=0.054), i.e., the greater the number of consultations performed, the greater QoLI in this domain, although it presented a weak linear relationship (r=0.191), according to Table 2.

A study of 138 women with alcohol dependence showed that they had psychological disorders and associated comorbidities, having a negative impact on QoL in all their domains. The treatment for dependence positively affected all QoL scores; and alcohol withdrawal showed a positive association with satisfaction and psychological mastery[16], showing the harms of alcohol use and the benefits of treatment in QoL.

A survey evaluating the QoL of 261 pregnant women living in the Northeast of Brazil pointed out that having fewer occupation of children, having a partner, receiving support from a partner and a social support network positively interfered with the QoL of pregnant women[17], demonstrating that the socioeconomic domain directly influences QoL during pregnancy.

Complications during pregnancy and/or delivery had a negative impact on the health and functioning of the mothers, impairing their QoL, as shown in Table 2.

Regarding the neonate, birth weight greater than 4 kg presented higher family domain scores and this association was statistically significant (p<0.001), and according to Table 2. This questionable result points to family satisfaction with the birth of a macrosomic NB, which can be attributed to the popular belief that NB weight may indicate good health.

A positive but weak association (r=0.205) was found between the Apgar score in the first minute of life and the health and functioning domain of the puerperal women in this domain. Already, problems in the health of the newborn were associated with lower scores in the general QoLI and in the domain health and functioning of puerperal women, and the health conditions of the newborn directly affected the health and overall QoL of the puerperal women. See Table 2.

The other clinical, obstetric and neonatal variables showed no statistically significant difference in the analysis of general and domain QoLI.

Research Article
Artigo de Pesquisa
Artículo de Investigación

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A Dutch study, which included 2310 postpartum women, pointed out that they negatively influenced the physical domain: having had gestational hypertension; elective and/or emergency cesarean section; having had the birth in a university hospital; and the admission of the newborn in intensive care unit. Postpartum women who had postpartum hemorrhage had higher scores in the mental domain and higher overall QoL scores when compared to groups of women who had hypertensive syndromes during pregnancy or restricted fetal growth. Cesarean section negatively influenced postpartum QoL in all domains[18], demonstrating that maternal and neonatal conditions affect the QoL of postpartum women.

A survey conducted with 2161 mothers in England, one year after delivery, found that women still reported pain or discomfort associated with cesarean delivery, and among the women who complained, low overall and overall QoL scores were obtained in all the domains[19], demonstrating that the mother's physical condition can influence QoL in all its aspects and for a prolonged period of time.

A longitudinal study on postpartum QoL, comparing the sixth week with the sixth month postpartum and the type of delivery, was conducted with 546 women in Spain. There was no difference between QoL scores and domains between the sixth week and the sixth month postpartum. Women with postpartum urinary incontinence and women undergoing forceps delivered the worst scores at week six. However, there were no statistically significant differences in QoL scores associated with delivery type[20], expressing that QoL is directly related to maternal conditions and these conditions may remain for long periods of time.

A longitudinal study with 194 puerperal women compared the QoL of women at three different postpartum periods: from zero to three; from three to seven; and from 21 to 30 days after delivery. Cesarean delivery was associated with reduced ability to perform usual activities and persisted with low scores in all interviews[21], indicating that limitations imposed by maternal conditions may affect all QoL domains.

A survey conducted in Turkey, with 290 mothers interviewed in the fourth week postpartum, showed that in relation to QoL in this period, the most affected domain was relationships (affinity/family/friends) and socioeconomic was the least affected. The ability for postpartum self-care was influenced by education (the lower the education, the worse the ability), the postpartum period (the more recent the worse) and the type of family (stable union was associated with the higher ability). A positive relationship was also found between mental domain scores and self-care ability[22].

A study of 148 women assisted at a university hospital and interviewed between the second and sixth weeks postpartum pointed out that maternal health conditions were directly affected by breastfeeding, postpartum mood, satisfaction with the partner during the postpartum period; sleep quality and need for puerperal care (complications). In addition, postpartum sleep quality improved health conditions and provided relief from all postpartum symptoms[23].

The importance of conducting prenatal and puerperal consultations is also emphasized, in which nurses, doctors and other health professionals have the possibility of guiding these women regarding the changes that occurred during these periods, promoting health and preventing emergence of diseases and illnesses[24,25].

It is necessary to rethink attention in the puerperium, a period of intense transformation, valuing the concept that QoL is complex, multi-factorial and influenced by sociodemographic, clinical, obstetric and neonatal factors. In addition, the inseparability between mother and baby should be emphasized, and both maternal and neonatal conditions affected QoL of both.

CONCLUSION

The puerperal women had high QoL scores. The adolescents showed higher scores in the family domain, showing the importance of family support, and puerperal women with income above two minimum wages achieved higher scores in the socioeconomic domain.

Lower scores were obtained in the socioeconomic domain among mothers who had the habit of alcoholism; and those with the highest scores in this domain had more prenatal consultations, showing greater adherence to care. Women who had complications during pregnancy and/or delivery reached low scores in the health and functioning domain. Thus, certain clinical and obstetric variables also favored QoL during the postpartum period.

High Apgar scores in the first minute of life of the newborn positively influenced health and functioning scores. In cases in which the newborn had complications/health problems, the mothers had lower scores in the QoL domains in general and health and functioning. Infants weighing more than four kilograms positively influenced the family domain.

Research Article
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These results demonstrate the influence of neonatal variables on postpartum QoL and the mother-infant indissociability.

As for the limitations of the research, they are related to the method used (cross-sectional study) which does not include causal relationships and different realities, preventing the generalization of the findings.

It is concluded that QoL is a complex and multi-factorial concept, and that the puerperium is a period of great vulnerability in women's lives.

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