

Health-related quality of life of pregnant women and associated factors

Qualidade de vida relacionada à saúde de gestantes e fatores associados
Calidad de vida relacionada con la salud de gestantes y factores asociados

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Abstract

Objective: To identify the influence of sociodemographic, obstetric and behavioral factors on the quality of life of pregnant women.

Methods: This is a cross-sectional, correlational study conducted between September and January 2015 in four different health locations: three basic health centers and a private obstetric and gynecological imaging service. The sample consisted of 261 low-risk pregnant women. A socioeconomic, obstetric and behavioral questionnaire and the adapted Ferrans & Powers Quality of Life Index were used to measure the quality of life of pregnant women.

Results: Sociodemographic factors had a statistically significant association with older age and schooling, higher income, pregnant women with a steady partner and paid work, revealing that these women have better quality of life. Regarding obstetric data, pregnant women with a history of abdominal delivery expressed a better quality of life. Women who had one or more children had worse quality of life. As for behavioral data, pregnant women who had partner's support, planned their pregnancy, received educational guidance, practiced physical activity and were in follow-up in the private service during pregnancy had better quality of life indexes.

Conclusion: Some sociodemographic, obstetric and behavioral factors directly influence the quality of life of pregnant women and should be prioritized in prenatal care.

Resumo

Objetivo: Identificar a influência dos fatores sociodemográficos, obstétricos e comportamentais na qualidade de vida de gestantes.

Métodos: Trata-se de um estudo transversal, correlacional, realizado entre os meses de setembro a janeiro de 2015, em quatro locais distintos de saúde: três unidades básicas de saúde e um serviço privado de imagem obstétrica e ginecológica. A amostra foi composta por 261 gestantes de baixo risco. Utilizou-se questionário socioeconômico, obstétrico e comportamental e o Índice de Qualidade de Vida de Ferrans & Powers adaptado para mensuração da qualidade de vida de gestantes.

Resultados: Os fatores sociodemográficos tiveram associação estatisticamente significativa com a maior idade e escolaridade, maior renda, gestantes com parceiro estável e que tinham trabalho remunerado, revelando que essas mulheres possuem melhor qualidade de vida. No que tange aos dados obstétricos, gestantes com história de parto abdominal expressaram melhor qualidade de vida. Ademais, mulheres que tinham um ou mais filhos apresentaram pior qualidade de vida. Já quanto aos dados comportamentais gestantes com apoio do parceiro, que planejaram sua gestação, que receberam orientações educativas e que praticavam atividade física e que foram acompanhadas no serviço privado durante a gestação, apresentaram melhores índices de qualidade de vida.

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Conflicts of interest: none to declare.

Conclusão: Alguns fatores sociodemográficos, obstétricos e comportamentais possuem influência direta na qualidade de vida de gestantes, devendo ser priorizados no atendimento pré-natal.

Resumen

Objetivo: Identificar la influencia de los factores sociodemográficos, obstétricos y de comportamiento en la calidad de vida de mujeres embarazadas.

Métodos: Se trata de un estudio transversal correlacional, realizado entre los meses de septiembre y enero de 2015, en cuatro lugares diferentes de salud: tres unidades básicas de salud y un servicio privado de imágenes obstétricas y ginecológicas. La muestra estuvo compuesta por 261 gestantes de bajo riesgo. Se utilizó un cuestionario socioeconómico, obstétrico y de comportamiento y el Índice de Calidad de Vida de Ferrans y Powers adaptado para medir la calidad de vida de mujeres embarazadas.

Resultados: Los factores sociodemográficos tuvieron una asociación estadísticamente significativa con mayor edad y escolaridad, mayores ingresos, gestantes con pareja estable y que tenían trabajo asalariado, lo que reveló que estas mujeres tienen una mejor calidad de vida. En lo que atañe a los datos obstétricos, gestantes con historia de parto abdominal expresaron una calidad de vida mejor. Además, mujeres que tenían un hijo o más presentaron peor calidad de vida. Con relación a los datos de comportamiento, las mujeres embarazadas con apoyo de su pareja, que planificaron la gestación, recibieron instrucciones educativas, practicaban actividad física y fueron tratadas en el servicio privado durante el embarazo presentaron mejores índices de calidad de vida.

Conclusión: Algunos factores sociodemográficos, obstétricos y de comportamiento tienen una influencia directa en la calidad de vida de gestantes y deben ser priorizados en la atención prenatal.

Introduction

Pregnancy is a moment marked by intense transformations in women's lives, whether physical, psychological, personal, emotional, economic and social.

⁽¹⁾ Although pregnancy is a physiological process, it can severely affect women's lives in a negative way and directly impact on their quality of life (QoL).

QoL is a subjective, multidimensional construct and has several concepts. According to the World Health Organization (WHO), QoL can be defined as individuals' perception of their position in life by taking into account the cultural context and values in which they live in relation to their life expectations, personal goals, standards and concerns.⁽²⁾

Given its transversal aspect, QoL appears as the focus of study in several fields of knowledge. In the area of health, it is called health-related quality of life (HRQoL) and defined as the importance that individuals give to their health, therefore becoming essential for nursing research, in which the main subject of care is focused on the entirety of the person/family.⁽³⁾

As the HRQoL of pregnant women is something personal and subjective, it can vary intensely depending on the woman's perception of her life and what she considers important. Thus, sociodemographic, obstetric and behavioral factors can directly influence the HRQoL of pregnant women.

The HRQoL of pregnant women is the target of study among researchers, even though it is usually associated with a dysfunction, whether physical -

such as sexual function, urinary incontinence or low back pain -, or psychological, such as depression and anxiety.^(4,5) In addition, there is no consensus when investigating what factors may affect this construct.

Corroborating this statement, a study conducted with the objective of identifying factors associated with the low QoL of high-risk pregnant women showed that among all sociodemographic and obstetric variables associated, the only variable associated with low QoL was the absence of the partner.⁽⁶⁾

That said, the aim of this article was to identify the influence of sociodemographic, obstetric and behavioral factors on the QoL of pregnant women.

Methods

This is a cross-sectional, correlational study conducted in four different health locations: three basic health centers of the public health system that assist pregnant women and an obstetric and gynecological imaging service associated with the private health system.

The population was composed of pregnant women at normal risk. The inclusion criteria were pregnant women in low-risk prenatal care, since complications may interfere with the QoL of pregnant women; and literate, because the adapted Ferrans & Powers Quality of Life Index instrument is self-administered.⁽⁷⁾

The sample size was calculated based on the number of monthly care services for pregnant wom-

en in the four research sites, totaling approximately 800 women. This number was found from the sum of 500 women attended monthly at the Clínica Feminimagem and 298 pregnant women attended in prenatal care in the other three public places, totaling 798 pregnant women. By using the formula for finite populations in which were considered N of 800, 95% confidence level, 5% of maximum allowed error, 50% of complementary percentage and 50% for the phenomenon, the sample totaled 261 pregnant women, of which 141 from the public health system and 120 from the private service.

A questionnaire composed of three parts was used for data collection: Part I - socio-demographic data: age, marital status, education, race, marital status, occupation, family income and religion; Part II - obstetric data: Body Mass Index (BMI), gestational trimester, beginning of prenatal care, parity and type of delivery. Part III - Behavioral factors: planned pregnancy, educational guidance received during pregnancy, physical activity, use of cigarettes, intake of alcohol and illicit drugs.

A questionnaire was also used to measure the QoL of pregnant women, the adapted Ferrans & Powers Quality of Life Index, which has four domains: "Health/functioning", "Psychological/spiritual", "Social and economic" and "Family", with scores for the total value of the scale and for domains ranging from 0 to 30, with no cutoff point and higher values indicating better QoL.

The data collection period was between September 2014 and January 2015. Participants were approached while waiting for care, either for the prenatal consultation in the public service or for the obstetric imaging examination in private health care. After acceptance, pregnant women were sent to a reserved room without a companion, thereby guaranteeing the confidentiality of information provided.

Sociodemographic, obstetric and behavioral data were compiled and analyzed using the Statistical Package for the Social Sciences (SPSS), version 20.0. Means and standard deviations of quantitative variables were calculated. Associations between variables were made using the chi-square

test, and considered statistically significant when $p < 0.05$.

The study was evaluated by the Research Ethics Committee of the MEAC/UFC and approved under opinion number 770.902.

Results

The results corresponding to the assessment of QoL of pregnant women are shown in table 1.

Table 1. Comparison of mean values of the total scale that assesses quality of life using the adapted Ferrans & Powers instrument

Domain	Mean \pm SD
Health/functioning	22.0 \pm 3.7*
Social and economic	22.8 \pm 4.8*
Psychological/spiritual	25.7 \pm 4.2*
Family	27.4 \pm 3.4*
Total	23.6 \pm 3.3*

*Friedman's p-value was < 0.0001 . According to the Conover test, all means differ ($p < 0.004$)

The total score of the scale showed a mean value of 23.6 with a standard deviation of 3.3, the highest score was in the "Family" domain (27.4) and the lowest score was in the "Health/functioning" domain (22.0). The results also showed that all mean values differed between themselves ($p < 0.004$). Table 2 addresses the association of sociodemographic variables with the adapted Ferrans & Powers QoL index.

All variables analyzed revealed a significant association with at least two domains of the scale and with the total domain of the scale, except for marital status. The religion variable stands out, which showed a statistical association with all domains of the scale. Table 3 shows the association of obstetric variables with the adapted Ferrans & Powers QoL index.

The obstetric variables showed a significant association with the type of delivery and the number of children, and the latter showed significance with the "Psychological/spiritual" domain, as nulliparous women had better QoL. Women who experienced previous pregnancies had higher QoL scores in all domains, those who underwent abdominal delivery compared to those who had vaginal delivery, with a statistically significant association in the "Social and

Table 2. Association of sociodemographic variables with the Ferrans & Powers quality of life index

Sociodemographic variables	D1- Health Mean ± SD	D2- Social and economic Mean ± SD	D3- Psychological Mean ± SD	D4- Family Mean ± SD	D- Total Mean ± SD
Age (years)					
< 20	21.5 ± 4.0	19.5 ± 5.3	25.8 ± 4.0	26.8 ± 4.7	22.5 ± 3.8
Between 21 and 30	22.19 ± 3.6	22.96 ± 4.7	25.5 ± 4.5	27.5 ± 3.1	23.6 ± 3.4
> 31	22.05 ± 3.7	24.38 ± 3.8	25.9 ± 3.9	27.7 ± 2.7	24.0 ± 3.0
<i>p-value</i>	0.639	0.000	0.763	0.317	0.045
Marital status					
No partner	21.8 ± 3.7	20.3 ± 5.9	25.5 ± 5.6	25.8 ± 5.2	22.9 ± 3.8
With partner	22.0 ± 3.7	23.1 ± 4.6	25.7 ± 4.0	27.6 ± 3.0	23.6 ± 3.3
<i>p-value</i>	0.827	0.003	0.777	0.008	0.297
Schooling					
8 years or less	21.5 ± 4.8	19.4 ± 5.9	24.2 ± 6.8	26.5 ± 4.3	22.3 ± 4.6
9 to 11 years	21.9 ± 4.0	21.7 ± 5.3	25.7 ± 4.6	27.4 ± 4.6	23.2 ± 3.8
12 completed years	21.6 ± 3.5	21.9 ± 4.8	25.6 ± 4.0	27.3 ± 3.0	23.1 ± 3.1
More than 13 years	22.4 ± 3.3	24.7 ± 3.3	26.3 ± 2.8	27.8 ± 2.6	24.3 ± 2.6
<i>p-value</i>	0.408	0.000	0.072	0.284	0.007
Paid work					
Yes	22.4 ± 3.3	24.5 ± 3.5	25.9 ± 3.7	27.6 ± 3.1	24.2 ± 2.07
No	21.4 ± 4.2	20.3 ± 5.4	25.5 ± 4.7	27.2 ± 3.7	22.7 ± 3.9
<i>p-value</i>	0.046	0.000	0.435	0.409	0.000
Income					
From 1 to ≤ 2	21.6 ± 4.2	20.2 ± 5.3	24.7 ± 5.5	26.6 ± 4.3	22.6 ± 4.4
> 2 to ≤ 4	21.7 ± 3.8	23.0 ± 5.1	26.0 ± 4.1	27.9 ± 3.0	23.6 ± 3.3
>4 to ≤ 6	22.3 ± 3.3	23.7 ± 3.9	27.6 ± 1.8	28.3 ± 2.0	24.4 ± 2.6
More than 6	22.4 ± 3.4	24.9 ± 3.2	26.1 ± 2.8	27.7 ± 2.7	24.3 ± 2.6
<i>p-value</i>	0.490	0.000	0.011	0.034	0.004
Religion					
Catholic	22.6 ± 3.2	23.8 ± 4.1	26.2 ± 3.5	27.9 ± 2.7	24.2 ± 2.8
Evangelical	21.3 ± 3.9	21.6 ± 5.4	25.8 ± 4.2	27.4 ± 4.0	23.0 ± 3.5
None	21.4 ± 5.9	20.8 ± 6.5	24.5 ± 7.1	25.8 ± 4.0	22.4 ± 5.6
<i>p-value</i>	0.024	0.002	0.001	0.003	0.003

Table 3. Association of obstetric variables with the Ferrans & Powers quality of life index

Obstetric variables	D1- Health*	D2- Social and economic*	D3- Psychological*	D4- Family*	D- Total*
Gestational age					
1 st trimester	21.4 ± 4.2	22.5 ± 5.3	25.5 ± 4.3	27.5 ± 3.0	23.2 ± 3.7
2 nd trimester	22.2 ± 3.4	22.9 ± 4.7	25.4 ± 4.5	27.2 ± 3.4	23.7 ± 3.1
3 rd trimester	22.0 ± 3.9	22.9 ± 4.8	26.2 ± 3.6	27.7 ± 3.5	23.6 ± 3.4
<i>p-value</i>	0.469	0.887	0.433	0.497	0.691
Gestational BMI					
Low weight	21.9 ± 3.5	22.3 ± 4.3	25.7 ± 3.7	27.4 ± 3.1	23.4 ± 2.9
Appropriate	22.1 ± 3.6	22.8 ± 4.7	25.8 ± 4.0	27.4 ± 3.3	23.7 ± 3.2
Overweight	21.9 ± 4.0	22.6 ± 5.2	25.3 ± 4.8	27.4 ± 3.1	23.4 ± 3.7
Obesity	21.3 ± 3.9	23.4 ± 5.3	25.6 ± 4.2	27.5 ± 4.4	23.4 ± 3.6
<i>p-value</i>	0.758	0.839	0.899	0.998	0.916
Type of delivery (n=113)					
Vaginal	21.1 ± 5.2	21.5 ± 5.4	23.1 ± 6.6	26.3 ± 3.4	22.3 ± 4.6
Abdominal	21.7 ± 3.5	23.8 ± 4.3	25.7 ± 3.6	27.8 ± 3.2	23.7 ± 3.0
<i>p-value</i>	0.513	0.017	0.008	0.026	0.072
Nr of children alive					
0	22.2 ± 3.4	22.6 ± 4.8	26.2 ± 3.6	27.5 ± 3.4	23.7 ± 3.1
1-7	21.6 ± 4.1	23.1 ± 4.9	25.0 ± 4.9	27.4 ± 3.4	23.3 ± 3.6
<i>p-value</i>	0.181	0.367	0.032	0.799	0.408

* Mean ± Standard Deviation (SD)

economic”, “Psychological” and “Family” domains. Table 4 shows the influence of behavioral aspects on the QoL of pregnant women.

The data showed a significant association of all variables assessed with the total domain of the scale.

Table 4. Association of behavioral factors with the Ferrans & Powers quality of life index

Factors related to HRQoL	D1- Health Mean ± SD	D2- Social and economic Mean ± SD	D3- Psychological Mean ± SD	D4- Family Mean ± SD	D- Total Mean ± SD
Planned pregnancy					
Yes	22.3 ± 3.1	24.0 ± 3.7	26.4 ± 2.9	27.8 ± 2.9	24.1 ± 2.5
No	21.6 ± 4.3	21.4 ± 5.6	24.9 ± 5.2	27.0 ± 3.8	22.9 ± 4.0
<i>p-value</i>	0.110	0.000	0.005	0.054	0.003
Partner's support					
Yes	22.1 ± 3.6	23.0 ± 4.7	25.8 ± 3.9	27.6 ± 3.3	23.7 ± 3.2
No	19.8 ± 4.7	18.2 ± 5.7	22.8 ± 7.6	24.6 ± 4.1	21.0 ± 4.3
<i>p-value</i>	0.038	0.001	0.016	0.003	0.010
Health education					
Yes	22.8 ± 3.3	23.5 ± 4.4	26.4 ± 3.6	27.6 ± 3.1	24.3 ± 2.9
No	21.4 ± 3.9	22.4 ± 5.1	25.2 ± 4.5	27.3 ± 3.5	23.1 ± 3.5
<i>p-value</i>	0.002	0.070	0.19	0.430	0.005
Physical activity					
Yes	23.5 ± 3.0	24.2 ± 4.0	25.8 ± 2.9	28.0 ± 2.3	24.6 ± 2.6
No	21.7 ± 3.8	22.6 ± 4.9	25.7 ± 4.3	27.3 ± 3.5	23.4 ± 3.4
<i>p-value</i>	0.008	0.079	0.854	0.275	0.041
Type of service					
Public	21.6 ± 4.0	21.1 ± 5.3	25.1 ± 5.0	27.0 ± 3.9	22.8 ± 3.7
Private	22.5 ± 3.3	24.9 ± 3.3	26.4 ± 2.7	27.9 ± 2.5	24.4 ± 2.6
<i>p-value</i>	0.051	0.000	0.013	0.028	0.000

Thus, the planning of pregnancy, receiving educational guidance during prenatal care, the practice of physical activity and pregnant women attended in the private service have better HRQoL.

Discussion

The study presented the cross-sectional methodological design as a limitation, as this reduces the power of cause and effect among the associated variables.

However, knowing the sociodemographic, obstetric and behavioral factors that can compromise the QoL of pregnant women is essential to recognize their vulnerabilities and direct the care with the aim to minimize negative impacts and improve the QoL during this period of intense transformations in their lives.

The mean score of the total scale was 23.6, which is considered satisfactory, with a higher score in the “Family” (27.4) and “Psychological/spiritual” (25.7) domains. In line with this finding, the aim of a study of 250 women was to measure the HRQoL of pregnant women; the mean total score was 23.8 and the domain with the highest score was also “Family” (27.22).⁽⁷⁾

The association between sociodemographic variables and the HRQoL index of pregnant wom-

en pointed to important findings, revealing that age and education were significant in the “Social and economic” domain and in the total scale, with greater differences between the extremes of categories.

The older age in pregnant women can positively interfere in the HRQoL; given their various experiences, these women are able to develop more effective methods of coping with adversity.⁽⁸⁾

The marital situation influenced on the “Social and economic” and “Family” domains. The presence of the partner is a source of support and security for pregnant women, can raise their self-esteem during pregnancy and improve their perception of HRQoL. Moreover, partners and their emotional support are important in the construction of the maternity identity.⁽⁶⁾

In a study, was assessed the quality of life of 552 mothers in South Korea and similar data were found, as single mothers presented lower QoL than married ones, in addition to being more likely to have higher levels of stress and symptoms of depression.⁽⁹⁾

In the present study, women who had a paid occupation and a higher family income, had higher HRQoL in almost all domains and in the total scale, perhaps demonstrating that the security of having a job and consequently a greater financial contribution, may be predominant for their satis-

faction and maintenance of their health than the exhaustion caused by work.

Women with a religion presented better HRQoL scores in all researched nuances: health, social and economic, psychological and family. Religion has a strong influence on QoL at different stages of life and becomes relevant for the health promotion and disease prevention of the population.⁽¹⁰⁾

Regarding obstetric variables, data showed that women who had an abdominal birth had higher scores of HRQoL in all domains compared to women who had a vaginal delivery, with significance in the “Social and economic”, “Psychological” and “Family” domains.

Studies diverge regarding the influence of the type of delivery on women’s HRQoL. Brazil is a country marked by the high number of cesarean surgeries.⁽¹¹⁾ However, there are countless benefits of vaginal delivery for both mother and baby that minimize the risks to the health of both,⁽¹²⁾ which consequently improves women’s QoL in the postpartum period, especially if performed without episiotomy.

When investigating women who gave birth in different ways, significant differences were found between their QoL, with increasing scores among those who had vaginal delivery without episiotomy, followed by those who had vaginal delivery with episiotomy and a worse index for those who had a cesarean section. Therefore, the adoption of good practices in childbirth care can influence women’s QoL.⁽¹³⁾

Regarding the number of children, women who had no children had better QoL scores than women who already had children, with statistical significance in the “Psychological/spiritual” domain.

The arrival of another child in the family context requires adaptations from all members and can contribute to increase the mothers’ stress and their sleep deprivation. In addition, this new reality can lead to a distance between the couple and from their personal activities,⁽¹⁴⁾ contributing to this decrease in QoL in the “Psychological/spiritual” domain found in the present study.

As for behavioral factors related to HRQoL, pregnancy planning and partner support showed

an association in almost all domains, indicating the importance of organizing the time of motherhood and fatherhood to reach greater satisfaction and better HRQoL.

In a study conducted in northeastern Brazil with 652 puerperal women, was suggested that a planned pregnancy contributes to the greater satisfaction and better QoL of women, as, after discovering the pregnancy, these women motivate themselves to perform prenatal care with the best indicators, for example, the early start of follow-up.⁽¹⁵⁾

The association of the HRQoL domains with some factors also revealed that women who verbalized having received educational guidance during prenatal care, who practiced physical activity and were attended in the private service had better scores and better HRQoL, with a significant association.

Receiving educational guidance may have helped pregnant women to cope with physical symptoms experienced during pregnancy, thereby contributing to the better HRQoL of those assisted in the health education aspect, as demonstrated in the numbers of this study.

Finally, women attended in the public service had worse HRQoL scores in all domains compared to pregnant women seen in the private service, except for the “Health” domain, perhaps demonstrating the relevance of the socioeconomic aspect in women’s HRQoL. However, further investigation is needed to assess if other variables such as income, schooling and support network behave as confounding variables.

Conclusion

Pregnant women of older age, higher education, with a steady partner, who work outside the home, with high family income, a religion, history of abdominal birth, nulliparous, planned pregnancy, partner’s support, who received educational guidance, practice physical activity and were served in the private service presented better quality of life indexes. Therefore, some sociodemographic, obstetric and behavioral factors exert direct influence in the QoL of pregnant women.

Collaborations

Soares PRAL, Calou CGP, Martins ES, Beserra GL, Silva IC, Ribeiro SG, Aquino PS and Pinheiro AKB declare that they contributed to the study design, analysis and interpretation of data, writing of the article, relevant critical review of intellectual content and approval of the final version to be published.

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