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CLINICAL ARTICLE

Obstetrics

Sociodemographic and obstetric factors associated with health-related quality of life of high-risk pregnant women

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Abstract

Objective: To evaluate the association between sociodemographic and obstetric factors and the health-related quality of life of pregnant women in high-risk prenatal care.

Methods: A cross-sectional study of women in high-risk prenatal care in Ceara, Brazil. The investigated outcomes were health-related quality of life, using the Medical Outcomes Study 36-item short-form health survey; the investigated covariates were sociodemographic and obstetric data. Associative analyses were performed using the Jamovi® software version 0.9.

Results: Of the 276 women included in the study, women with the following characteristics presented a better quality of life in some domain of the scale: age equal to or greater than 35 years, higher income per dependent, religious, living with three or fewer persons, with their own home, in primigestation, nulliparous, with no history of previous abortion, and with up to two living children. The regression model showed an association between the total scale score, which means a higher quality of life in women with age equal to or greater than 35 years and a higher income per dependent.

Conclusion: The study identified sociodemographic and obstetric factors that may affect the quality of life of high-risk pregnant women, providing subsidies to health providers so that they can promote better prenatal care.

KEYWORDS

high-risk pregnancy, obstetric nursing, pregnant women, prenatal care, quality of life

1 | INTRODUCTION

Pregnancy is a natural, physiological, and dynamic phenomenon involving physical and emotional changes in women and usually occurs without intercurrences. However, some women have health problems during pregnancy,[1] increasing pregnancy risk. Among the high-risk markers are pre-eclampsia, gestational diabetes, prematurity, and hemorrhage.[2]

High-risk pregnant women may have psychological conditions that require special care.[3,4] In this scenario, good prenatal care involves, in addition to health promotion actions, diagnoses, and treatments, psychosocial aspects vital for delivering healthy newborns without negative impacts on maternal health.[5]

Quality of life (QoL) is associated with personal satisfaction and living conditions, encompassing the individual's physical, material, social, and emotional well-being. QoL assessment is an important tool for managing prenatal care,[6,7] as pregnancy tends to affect a woman's QoL significantly due to the psychological, physical, or hormonal changes that occur, often combined with social factors, such as lack of a partner, large number of children, and financial expenses.[7]

High-risk pregnancies have a higher probability of leading to problems for mothers or their infants, demanding greater attention from health professionals concerning QoL, a necessary step to reduce pregnancy-associated disorders.[8] Therefore, good-quality prenatal care that includes the assessment of QoL (apart from the sociodemographic and obstetric factors that affect it) is essential so that the healthcare team can plan and offer comprehensive care. The objective of the present study was to evaluate the association between sociodemographic and obstetric factors and the health-related QoL of pregnant women in high-risk prenatal care.

2 | MATERIALS AND METHODS

2.1 | Research design

An observational cross-sectional study was conducted from August to November 2018, in a reference hospital for high-risk prenatal care in Fortaleza, Ceará, Brazil, and reported following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)[9] statement. The hospital was selected because it is a reference for care throughout the state of Ceara, with an average of 4000 births per year, and because it is a teaching institution.

2.2 | Study population

A non-probabilistic convenience sample was used, consisting of 276 high-risk pregnant women. Pregnant women with a confirmed high-risk pregnancy diagnosis and undergoing prenatal care at the selected hospital were included. High-risk conditions were considered: gestational diabetes, chronic hypertension, morbid obesity, twins, history of prematurity, among others. Pregnant women who were experiencing a psychotic break were excluded, as this could jeopardize the development of the interview and the veracity of the information.

2.3 | Outcome measures

A structured instrument with sociodemographic, clinical, and obstetric data was used, in addition to the Medical Outcomes Study 36-item short-form health survey (SF-36), consisting of 36 items related to daily life and limitations associated with health problems, categorized into eight domains: physical function, role physical, bodily pain, vitality, social functioning, role emotional, mental health, and general health. The total score is rated on a scale of 0–100, where 100 represents the best health status and 0 represents the worst.[10] A Cronbach alpha of 0.839 was reached, confirming the internal consistency of this instrument.[11]

2.4 | Covariates

The covariates considered were: age range (cut-off point: 35 years), education (in years), income per dependent (cut-off point: average), marital status, race (white), religion, number of people in the household (cut-off point: three), home ownership, trimester, primiparous, nulliparous, history of abortion, number of living children (cut-off point: two).

2.5 | Statistical analysis

The collected data were arranged in an Excel spreadsheet. The Kolmogorov–Smirnov and Shapiro–Wilk tests verified that the data were normally distributed concerning the total score and the social functioning, and not normally distributed concerning the other domains. The Student t-test and Mann–Whitney test were used to analyze the association between parametric and non-parametric variables, respectively. For the outcome of the total scale score, multiple linear regression with log function adjusted by sociodemographic and obstetric variables was performed ($R^2 = 9\%$). As nulliparity and primigravidae were correlated, it was decided to remove nulliparity from the model. The measures of dispersion included the mean, median, standard deviation, and interquartile range. The significance level adopted was 5%. The analyses were performed using Jamovi® version 0.9.

2.6 | Ethical issues

The study was approved by the Research Ethics Committee of the Assis Chateaubriand Maternity School (MEAC) under Resolution No. 466/12 of the Brazilian Health Council, which deals with research involving humans.[12] Informed consent was obtained from all participants.

3 | RESULTS

Most pregnant women were in the age range of 15–35 years ($n = 216$, 78.3%), of mixed race ($n = 223$, 80.8%), reported being catholic ($n = 131$, 47.5%), had more than 9 years of education ($n = 217$, 78.6%), were married or in a stable relationship ($n = 232$, 84.1%), lived in an owned house ($n = 154$, 55.8%), and lived in a household with up to

three residents ($n=177$, 64.1%). The average income per dependent was R$542.00.

Most of the pregnant women were in the third trimester of pregnancy ($n=152$, 55.1%), had had more than one pregnancy ($n=217$, 78.6%), were multiparous ($n=200$, 72.5%), had no history of abortion ($n=179$, 64.8%), and had up to two children ($n=253$, 91.7%) (see Table 1).

Table 2 presents the association of sociodemographic and obstetric variables according to the means and medians of the SF-36 domains. As shown in Table 2, women older than 35 years old had better averages representing a better health status in the domains of bodily pain ($P=0.006$), vitality ($P=0.006$), social functioning ($P=0.007$), and mental health ($P=0.002$), apart from the total score ($P=0.031$). Pregnant women with an income per dependent greater than the average had a better health status in the social functioning domain ($P<0.01$) and in the total score ($P=0.018$). Those with religion had a better health status in the general health ($P=0.011$) and vitality ($P=0.040$) domains. Those living in owned homes had a better health status in the vitality domain ($P=0.045$). Finally, women living with up to three people in the same household had a better health status in the mental health domain ($P=0.002$).

Women in the first gestational trimester had a worse health status in the general health domain ($P=0.037$). Being a primigravidae was associated with a better health status in the physical function domain ($P=0.021$). Nulliparity was related to a better health status in the domains of physical function ($P=0.008$) and vitality ($P=0.020$). A history of abortion was associated with a worse health status in the role emotional ($P=0.011$) domain. Furthermore, having up to two living children was associated with a better health status in the domains of vitality ($P=0.013$) and social functioning ($P=0.016$).

As shown in Table 3, the total score on the scale remained associated with maternal age and income per dependent, confirming the results given in Table 2. Women older than 35 years had 5.63 points more on the scale when compared with younger women, higher scores on the QoL scale. Furthermore, women with a lower income per dependent had 4.8 points less on the scale than the others, a lower score on the QoL scale.

TABLE 1 Distribution of sociodemographic and obstetric variables from the sample.

Variables	*n*	%
Age range		
15–35 years	216	78.3
>35 years	60	21.7
Education		
≤9 years	59	21.4
>9 years	217	78.6
Income per dependent		
<Average	182	65.9
≥Average	94	34.1
Marital status		
Married or in a stable union	232	84.1
Single, widowed, or divorced	44	15.9
Race		
Mixed race	223	80.8
White	27	9.8
Black	17	6.2
Asian	9	3.2
Religion		
Catholic	131	47.5
Others	115	41.6
Without religion	30	10.9
Number of people in the household		
≤3	177	64.1
≥4	99	35.9
Home ownership		
Own home	154	55.8
Do not own home	122	44.2
Trimester		
First	15	5.4
Second	109	39.5
Third	152	55.1
Primigestation		
Yes	59	51.4
No	217	78.6
Nulliparous		
Yes	76	27.5
No	200	72.5
History of abortion		
Yes	97	35.2
No	179	64.8
Number of living children		
≤2	253	91.7
≥3	23	8.3

4 | DISCUSSION

In the present study, women older than 35 years presented better QoL averages. Older age in pregnant women can positively affect health-related QoL; given their various experiences, these women are able to develop more effective methods of coping with adversity.[13] A study carried out with 261 pregnant women from public and private services in the state of Ceara, Brazil, showed a better QoL in older pregnant women.[14] However, a systematic review of 37 articles showed that advanced maternal age could relate to a reduced QoL of pregnant women.[15] The studies did not specify if they were high-risk pregnancies.

Regarding income, it has been shown that this factor directly influences the QoL of high-risk pregnant women,[16] reaffirming our findings that women with incomes per household greater than or equal to the average had better QoL in the social functioning domain and the total score. This association was confirmed in the multivariate analysis and in a systematic review.[15]

TABLE 2 Distribution of sociodemographic and obstetric variables according to the mean total score and the medians of the SF-36 domains.

	Domains								
	I: Physical function	II: Role physical	III: Bodily pain	IV: General health	V: Vitality	VI: Social functioning	VII: Role emotional	VIII: Mental health	Total score
Variables	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Mean ± SD
Age range									
15–35 years	45.0 (25.0–65.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (32.0–57.0)	45.0 (30.0–60.0)	62.50 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–76.0)	46.1 ± 16.0
>35 years	45.0 (23.8–60.0)	25.0 (0.0–50.0)	61.0 (31.0–74.0)	47.0 (37.0–57.0)	55.0 (40.0–65.0)	75.0 (50.0–90.6)	33.3 (0.0–100.0)	72.0 (60.0–84.0)	51.4 ± 18.4
P-value	0.520	0.432	0.006[a]	0.202	0.006[a]	0.007[b]	0.209	0.002[a]	0.031[b]
Education									
≤9 years	45.0 (30.0–60.0)	25.0 (0.0–50.0)	51.0 (31.0–62.0)	42.0 (32.00–55.0)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	60.0 (44.0–76.0)	46.6 ± 18.7
>9 years	45.0 (25.0–65.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (33.5–57.0)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (52.0–76.0)	47.4 ± 16.2
P-value	0.774	0.808	0.485	0.263	0.707	0.493	0.642	0.187	0.736
Income per dependent									
<Average	45.0 (25.0–63.8)	25.0 (0.0–50.0)	42.0 (31.0–62.0)	47.0 (32.0–56.5)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–76.0)	43.5 ± 17.3
≥Average	50.0 (30.0–65.0)	25.0 (0.0–50.0)	46.50 (31.0–62.0)	47.0 (37.0–57.0)	50.0 (35.0–65.0)	75.0 (53.1–87.5)	33.3 (0.0–66.7)	68.0 (56.0–76.0)	50.5 ± 14.9
P-value	0.246	0.261	0.797	0.116	0.206	<0.01[b]	0.081	0.078	0.018[b]
Marital status									
Married or in a stable union	50.0 (25.0–65.0)	25.0 (0.0–50.0)	51.0 (31.0–62.0)	42.0 (30.0–57.0)	50.0 (25.0–60.0)	62.5 (37.5–87.5)	0.0 (0.0–66.7)	64.0 (48.0–76.0)	46.1 ± 20.4
Single, widowed, or divorced	45.0 (25.0–65.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (33.5–57.0)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–76.0)	47.5 ± 15.9
P-value	0.531	0.313	0.846	0.383	0.751	0.836	0.076	0.527	0.610
Race									
White	40.0 (20.0–65.0)	0.0 (0.0–50.0)	41.0 (21.0–57.0)	42.0 (25.0–53.5)	40.0 (25.0–55.0)	62.5 (31.3–87.5)	33.3 (0.0–66.7)	60.0 (50.0–72.0)	41.7 ± 18.1
Non-white	45.0 (25.0–65.0)	25.0 (0.0–50.0)	50.5 (31.0–62.0)	47.0 (37.0–57.0)	50.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–80.0)	47.8 ± 16.5
P-value	0.321	0.219	0.068	0.129	0.102	0.786	0.570	0.219	0.072
Religion									
Yes	45.0 (25.0–65.0)	25.0 (0.0–50.0)	51.0 (31.0–62.0)	47.0 (30.0–57.0)	50.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (52.0–79.0)	47.7 ± 16.4
No	45.0 (21.3–57.5)	25.0 (0.0–50.0)	41.0 (31.0–51.0)	42.0 (20.5–47.0)	42.5 (26.3–50.0)	62.5 (28.1–87.5)	33.3 (0.0–66.7)	62.0 (41.0–72.0)	43.4 ± 18.2
P-value	0.442	0.727	0.052	0.011[a]	0.040[a]	0.402	0.949	0.165	0.179

TABLE 2 (Continued)

Variables	Domains								
	I: Physical function	II: Role physical	III: Bodily pain	IV: General health	V: Vitality	VI: Social functioning	VII: Role emotional	VIII: Mental health	Total score
	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Mean ± SD
Number of people in the household									
≤3	45.0 (25.0–65.0)	25.0 (0.0–50.0)	51.0 (31.0–64.0)	47.0 (32.0–57.0)	50.0 (30.0–60.0)	62.5 (50.0–87.5)	33.3 (0.0–66.7)	68.0 (52.0–80.0)	48.4 ± 15.6
≥4	50.0 (25.0–70.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (33.5–52.0)	45.0 (25.0–60.0)	62.5 (37.5–81.3)	33.3 (0.0–66.7)	60.0 (44.0–72.0)	45.2 ± 18.4
P-value	0.482	0.721	0.142	0.215	0.606	0.052	0.381	0.002[a]	0.122
Home ownership									
Own home	45.0 (26.3–65.0)	25.0 (0.0–50.0)	41.5 (31.0–62.0)	47.0 (32.0–55.0)	50.0 (31.3–60.0)	75.0 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (52.0–80.0)	47.9 ± 16.7
Do not own home	45.0 (25.0–65.0)	25.0 (0.0–50.0)	51.0 (31.0–62.0)	47.0 (37.0–57.0)	45.0 (25.0–60.0)	62.5 (37.5–84.4)	33.3 (0.0–66.7)	64.0 (48.0–76.0)	46.3 ± 16.7
P-value	0.781	0.860	0.890	0.284	0.045[a]	0.132	0.750	0.391	0.416
Trimester									
First	55.0 (35.0–60.0)	0.0 (0.0–75.0)	62.0 (41.0–73.0)	37.0 (29.5–47.0)	50.0 (32.5–60.0)	50.0 (25.0–75.0)	66.67 (0.0–100.0)	72.0 (46.0–82.0)	48.9 ± 19.2
Second	45.0 (30.0–65.0)	25.0 (0.0–50.0)	51.0 (51.0–62.0)	47.0 (37.0–55.0)	50.0 (30.0–60.0)	75.0 (50.0–87.5)	33.33 (0.0–66.67)	64.0 (48.0–80.0)	48.5 ± 15.3
Third	42.5 (25.0–65.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (32.0–57.0)	45.0 (25.0–60.0)	62.5 (37.5–87.5)	33.33 (0.0–66.67)	64.0 (48.0–80.0)	46.1 ± 17.3
P-value[c]	0.267[c]	0.965[c]	0.178[c]	0.113[c]	0.395[c]	0.216[c]	0.238[c]	0.874[c]	0.456[d]
Primigestation									
Yes	50.0 (38.8–65.0)	25.0 (0.0–50.0)	51.0 (41.0–62.0)	47.0 (32.0–57.0)	50.0 (35.0–65.0)	68.8 (50.0–87.5)	33.3 (0.0–66.7)	64.0 (55.0–76.0)	50.2 ± 14.3
No	45.0 (25.0–61.3)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (34.3–57.0)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–77.0)	46.3 ± 17.2
P-value	0.021[a]	0.920	0.412	0.929	0.165	0.158	0.298	0.682	0.190
Nulliparous									
Yes	55.0 (35.0–65.0)	25.0 (0.0–50.0)	51.0 (41.0–62.0)	47.0 (35.8–57.0)	50.0 (38.8–65.0)	75.0 (50.0–87.5)	33.3 (0.0–66.7)	68.0 (56.0–80.0)	50.4 ± 14.1
No	42.5 (25.0–60.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (32.0–57.0)	45.0 (25.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (48.0–76.0)	46.1 ± 17.5
n-Value	0.008[a]	0.427	0.213	0.661	0.020[a]	0.052	0.639	0.174	0.056
History of abortion									
Yes	40.0 (20.0–60.0)	25.0 (0.0–50.0)	41.0 (31.0–62.0)	47.0 (30.0–55.0)	45.0 (30.0–60.0)	62.5 (37.5–87.5)	0.0 (0.0–66.7)	64.0 (48.0–76.0)	44.8 ± 18.2
No	50.0 (30.0–65.0)	25.0 (0.0–50.0)	51.0 (41.0–62.0)	47.0 (37.0–57.0)	45.0 (30.0–60.0)	62.5 (43.8–87.5)	33.3 (0.0–66.7)	64.0 (52.0–76.0)	48.5 ± 15.7
P-value	0.154	0.767	0.057	0.221	0.923	0.574	0.011[a]	0.599	0.081

(Continues)

TABLE 2 (Continued)

Variables	Domains								
	I: Physical function	II: Role physical	III: Bodily pain	IV: General health	V: Vitality	VI: Social functioning	VII: Role emotional	VIII: Mental health	Total score
	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Median (p25–p75)	Mean ± SD
Number of living children									
≤2	45.0 (25.0–65.0)	25.0 (0.0–50.0)	50.0 (31.0–62.0)	47.0 (35.0–57.0)	50.0 (30.0–60.0)	62.5 (37.5–87.5)	33.3 (0.0–66.7)	64.0 (52.0–76.0)	47.7 ± 15.9
≥3	40.0 (17.5–67.5)	25.0 (0.0–75.0)	41.0 (31.0–61.5)	47.0 (21.0–53.5)	25.0 (10.0–52.5)	37.5 (25.0–68.8)	33.3 (0.0–66.7)	52.0 (34.0–84.0)	42.1 ± 23.4
P-value	0.815	0.624	0.472	0.357	0.013[a]	0.016[b]	0.553	0.197	0.120

Abbreviation: SD, standard deviation.

[a]Mann–Whitney test.

[b]Student *t*-test.

[c]Kruskal–Wallis test.

[d]ANOVA.

Our study did not show a significant association between marital status and QoL. However, the partner's support is essential for the experience of a meaningful maternity process, whether by improving the QoL during pregnancy or even during delivery.[17]

Concerning the religious dimension, it was verified that women who reported having a religion had higher averages in the general health and vitality domains. Religiosity and spirituality have previously been found to have significant effects on mental and physical health. QoL needs to be approached holistically and it has been proven that religious activities have a positive impact on health and well-being, especially on QoL.[18] Another Brazilian study showed an association between religion and all domains of the adapted Ferrans & Powers Quality of Life Index, as in the present study.[14]

Our study found a significant association between the number of people living in the same household and mental health. Pregnant women in households with up to three residents had better QoL scores. Family stress caused by conflicts can independently predict depression in early pregnancy.[19]

Our study also found a significant association between home ownership and domain vitality—women living in an owned home had better scores. Housing status can be linked to vulnerability to situations that threaten health. Home ownership is an important component of wealth and may affect health through a range of mechanisms. At the individual level, one study found that home ownership increased the General Health Questionnaire score by 1.46 points and self-assessed health by 0.19 points and reduced the number of health conditions reported. The possible explanations are better labor market outcomes and healthier lifestyles.[20]

Concerning the gestational trimester, it was observed that no association occurred, but according to a cross-sectional study carried out in São Paulo, Brazil, the first period is marked, among other things, by a greater risk of miscarriage, in addition to symptoms such as constipation and nausea, which may affect QoL.[21]

We also found a significant correlation between primigravidae and high physical function and QoL scores. Accordingly, nulliparous women had significantly better averages in the physical function and vitality domains. A prior study with 218 pregnant women in Jordan showed that high-parity women had lower QoL scores than low-parity women.[22] Moreover, women with up to two children had higher vitality and social functioning scores.

Women who had not had an abortion achieved higher scores in the role emotional domain, resulting in higher QoL scores. Studies have shown that women who undergo an abortion are more likely to experience psychological disorders.[23,24]

As a study strength, the study highlights high-risk pregnant women and the wide range of sociodemographic and obstetric factors that influence the QoL of high-risk pregnant women, offering health professionals the opportunity to plan and provide comprehensive care and the knowledge for policy makers. However, the cross-sectional design of the study is a limitation, as it does not allow the establishment of cause-and-effect relationships.

TABLE 3 Multivariate analysis adjusting for sociodemographic and obstetric variables.

Variables	Estimate	Standard error	*t*	*P*
Age range				
>35 years	5.63	2.53	2.23	0.027
15–35 years	Reference	—	—	—
Education				
>9 years	−2.87	2.67	−1.08	0.283
≤9 years	Reference	—	—	—
Income per dependent				
<Average	−4.80	2.34	−2.05	0.041
≥Average	Reference	—	—	—
Marital status				
Single, widowed, or divorced	−0.37	2.68	−0.14	0.890
Married or in a stable union	Reference	—	—	—
Race				
White	−6.52	3.40	−1.92	0.057
Non-white	Reference	—	—	—
Religion				
No	−5.21	3.24	−1.61	0.109
Yes	Reference	—	—	—
Number of people in the household				
≥4	−1.13	2.28	−0.50	0.621
≤3	Reference	—	—	—
Home ownership				
Own home	1.05	2.05	0.51	0.610
Do not own home	Reference	—	—	—
Trimester				
First	−0.26	4.54	−0.06	0.954
Second	2.84	2.11	1.35	0.179
Third	Reference	—	—	—
Primigestation				
Yes	1.68	2.78	0.60	0.547
No	Reference	—	—	—
History of abortion				
Yes	−4.48	2.33	−1.92	0.056
No	Reference	—	—	—
Number of living children				
≥3	−4.31	3.78	−1.14	0.255
≤2	Reference	—	—	—

5 | CONCLUSION

This study was conducted with a particular group of women—women with high-risk pregnancies. This population differs from normal-risk pregnant women and must have a close follow-up. Factors such as age, income, religion, number of people living in the household, number of dependents, housing ownership, gestational age, parity, and number of children were related to the QoL. It is expected that the study will support health professionals to promote a better QoL in this population, although we consider that future studies are needed to investigate the aspects that affect the QoL of high-risk pregnant women more deeply.

AUTHOR CONTRIBUTIONS

Ivyna P. Gadelha, Maria A. R. Barros, Bruna B. de Freitas, Annita de Lima Mesquita, Nirvana M. Sales, Camila E. C. Alexandre, Camila A. N. de Oliveira, and Priscila de S. Aquino contributed to the study design, analysis, and interpretation. Camila Biazus Dalcin and Alexandrina M. R. Cardoso contributed to the analysis and interpretation

of the data. All authors participated in the writing and final approval of the article.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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