

FACTORS INFLUENCING QUALITY OF HEALTH OF A PREGNANT WOMAN

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Article Received on: 14/11/2024

Article Revised on: 04/12/2024

Article Accepted on: 24/12/2024



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ABSTRACT

A significant time of transformation, both physically and emotionally, is pregnancy. These modifications may impact pregnant women's quality of life (QOL), impacting the health of both the mother and the unborn child, even in cases of straightforward pregnancies. The term "health-related quality of life" describes how patients subjectively rate their physical, mental, and social well-being. Enhancing the standard of living for expectant mothers necessitates a more accurate recognition of their challenges and support systems that provide aid when needed. The factors influencing a pregnant woman's quality of life are the main topic of this review.

KEYWORDS: Pregnancy, Quality of life, Health, Maternity, Fetus.

INTRODUCTION

During pregnancy, most women worry to some degree about their own health as well as the health of their fetus. Pregnancy is a unique circumstance that is neither an illness nor a normal state of a woman's health.^[1] Women's bodies change significantly in terms of biochemistry, physiology, and anatomy during pregnancy. These are the first, uncontrollable changes that put them at risk on a mental and physical level. Hormonal fluctuations can also impact women's emotions, resulting in psychological problems including despair and anxiety. These changes can affect a woman's ability to perform her daily duties, even during a typical pregnancy.^[1] At different gestational ages, pregnant women experience changes in their quality of life (QoL), as well as in the physical, spiritual, and social domains.^[1]

In obstetrics, morbidity and death rates are still vital for outcome analysis. However, from the perspective of population health, improving the quality of life (QOL) for expectant mothers is also crucial. QOL research has drawn attention in the medical community in recent years. QOL evaluation is crucial for initiatives aimed at prevention and therapy.^[2] According to the World Health Organization, it is a person's understanding of their place in life in relation to their objectives, norms, expectations, and worries as well as the culture and value systems in which they live.^[3] The phrase "health-related quality of life" (HRQoL), which takes into account factors including illnesses, disorders, and the requirement for therapeutic interventions, is widely used in the field of health.^[4] Although thought to be significant, little is known about women's quality of life during pregnancy. Numerous research studies examining the quality of life (QOL) of expectant mothers ignore everyday socioeconomic aspects that impact the QOL of expectant mothers in general and concentrate primarily on certain

conditions, such as depression, hypertension, and gestational diabetes mellitus.^[5] Health-related quality of life (HRQOL) is the term used to describe health status as a crucial element of quality of life.^[9] According to a new review by Lagadec et al., a mother's quality of life tends to decline or stay constant during pregnancy.^[6] Given this and the fact that quality-of-life interventions take time to show outcomes, it is imperative that interventions begin as early as feasible, ideally prior to conception or during the first trimester of pregnancy.^[7,8]

Factors affecting quality of life

Pregnant women's quality of life is positively impacted by a number of factors, including the mother's average age, primiparity, early gestational age, absence of economic difficulties, high level of education, employment, marriage, and having family and friends.^[10] One significant factor negatively affecting pregnant women's quality of life is spinal pain. Research indicates that pregnant women are more likely than non-pregnant women to experience lumbar back pain.^[11,12] sporadically experience back pain before pregnancy, and significantly more often experience it during pregnancy.^[11,13,14] Lower back pain typically begins in the first or second trimester of pregnancy.^[11] Maternal health, nutritional status, and the existence of medical complications are biological factors that are an important component of this investigation.^[15] The physiological changes that coincide with pregnancy can affect a woman's physical and mental state, which can affect her overall quality of life.^[16] Furthermore, the interaction between hormonal changes and emotional health is a crucial aspect that requires close investigation.^[16] Pregnant women's experiences are also significantly shaped by psychosocial factors.^[17] The social networks, cultural norms, and societal setting that expectant mothers are immersed in have a substantial impact on their psychological

health.^[18] Comprehending the psychological dynamics that influence the quality of life throughout pregnancy is essential for customizing therapies that cater to the distinct requirements of various demographics.^[19-21] Pregnant women's general well-being is also influenced by environmental factors, such as location, socioeconomic position, and access to healthcare facilities.^[22,23] Variations in the experiences of pregnancy might be caused by differences in healthcare access and social determinants, highlighting the significance of a comprehensive strategy in addressing the issues impacting quality of life.^[24,25]

Recognizing the current gaps in this field's knowledge and research techniques is essential. Even though many research have looked into specific elements of pregnancy and quality of life, a thorough synthesis of these results is necessary to reveal the complex relationships and intersections between different contributing factors. This review attempts to provide a comprehensive picture of the current state of knowledge and recommend directions for future study. Investigating the variables influencing a pregnant woman's quality of life is a complex task that calls for a comprehensive viewpoint. By combining various research findings, this systematic review aims to add to the body of knowledge already in existence by illuminating the interconnectedness of biological, psychological, and environmental components.

Tool to measure quality of life

Who qol bref questionnaire

The World Health Organization Quality of Life (WHO QOL BREF) questionnaire is a well-known instrument for evaluating subjective well-being and QOL. It has been used by Copan et al.^[26] and Vachkova et al.^[27] The utilization of it in these investigations enabled a comprehensive assessment that encompassed environmental elements, social interactions, psychological well-being, and physical health. SF-12, or Standard Short Form 12 Health Survey: The SF-12 is a validated instrument used by Lau et al.^[28] Ngai et al.^[29] Emmanuel et al.^[30] and Tsai et al.^[31] to assess quality of life connected to health. Its application made it possible to conduct an extensive evaluation that included components of both physical and mental health, offering a comprehensive grasp of the influence impact the general wellbeing of expectant mothers.

Medical outcomes study short form 36 (SF-36)

The SF-36 is a commonly used tool for evaluating health-related quality of life across a variety of populations. It has been used by several studies,

including those by Ramirez Velez et al.^[32] Tendais et al.^[33] De Pascalis et al.^[34] Nakamura et al.^[35] Abbasi et al.^[36] Liu et al.^[37] Chang et al.^[38] Dall'Alba et al.^[39] Gharacheh et al.^[40] and Vinturache et al.^[41] Its multifaceted approach addresses both the physical and mental health domains, offering a thorough understanding of pregnant women's well-being.

The 36-item SF-36 measures eight different aspects of health: physical functioning, role restrictions brought on by physical and emotional health, mental health, physical discomfort, general health, vitality, and social functioning. These items are assessed to produce a component summary scale score (from 0 to 100) for both the physical (SF36-PCS) and mental (SF36-MCS) components of HRQOL.^[42] A reduced, verified version of the SF-36 is called the SF-12. A lower HRQOL is indicated by a lower score on the summary measures.

The 100 items of the WHOQOL are divided into six areas (physical, psychological, independent, social, environmental, and spiritual) and range in score from 0 to 100. The WHOQOL-BREF is a validated, condensed version of the WHOQOL that consists of 26 items. A lower HRQOL is indicated by a lower score on the summary measures.

Pregnant women typically have a lower quality of life than the general populace. In two investigations, the results were directly compared to those of women of the same age who were not pregnant. Physical activity and physical pain scores on the SF-36 scale were 56.7 and 61.7, respectively, according to Da Costa et al.^[43] For non-pregnant Canadian women of the same age, these values were 90.9 and 75.0. Similar comparisons were also done in Japan by Nakamura et al.^[44] With the exception of general health (p = 0.1), the Chan et al. study from 2010 also discovered that pregnant women had statistically lower QOL scores (p <0.001) on average than the general population.^[45,43] Comparing Elsenbruch et al.^[46] to German women of the same age, they discovered a lower physical quality of life (p < 0.001).

The improvement in life quality over the course of the pregnancy

The Haas et al. study from 2005 revealed a rise in the prevalence of pregnant women experiencing a low physical quality of life during their pregnancy: 9% in the second trimester and 13% in the third.^[42] In the postpartum phase, the percentage of pregnant women reporting generally poor health (score 0 to 50) dropped to 21% from 15.5 to 20.1 and 26.9%.^[6]

Studies shown factors associated with Quality of life during pregnancy

Table 1

Factor	Study	Result
Age, medically assisted reproduction, pre-pregnancy BMI	Vinturache et al. 2015 ^[41]	Women who conceived naturally and those who did so with medical assistance had significantly different quality of life (p < 0.05).

Age, number of pregnancies, ethnicity, stre	Emmanuel et al. 2014 ^[30]	The various SF12 components are found to be significantly correlated with maternal stress.
Back pain	Coban et al. 2011 ^[26]	There is no change in the several WHO-QOL-BREF domains: environment (p = 0.790), social relationships (p = 0.125), psychological health (p = 0.069), and physical health (p = 0.229).
Sleep patterns	Tsai et al. 2016 ^[31]	Pittsburgh Sleep Quality Index (p < 0.01).
Pregnancy stage, infertility, abortions, parity, medical condition, pregnancy wanted.	Chang et al. 2014 ^[39]	The following factors are linked to the physical component summary: the stage of pregnancy (p<0.001) and the experience of infertility (p = 0.03). The following variables were linked to the mental component summary: medical condition (p = 0.04), number of pregnancies (p = 0.01), and pregnancy stage (p < 0.001). Pregnancy stage (p = 0.01), wanted pregnancy (p = 0.04), and medical condition (p < 0.001) are factors linked to overall quality of life.
Epigastralgia, esophagogastric reflux	Dall'Alba et al. 2015 ^[39]	Epigastralgia (p = 0.009) and esophagogastric reflux (p = 0.002)

Table 2

Risk factor	Study
Aged pregnant woman	Da Costa Det al (2010) ^[43] Lacasse et al (2008) ^[47] Li J et al (2012) ^[48] Emmanuel et al (2014) ^[30]
Economic instability	Haas et al (2005) ^[42] Nicholson et al (2006) ^[49] Shishehgar et al (2014) ^[50] Ramírez-Vélez et al (2011) ^[32]
Poor education	Da Costa Det al (2010) ^[43] Li J et al (2012) ^[48] Fatemeh A et al (2010) ^[51] Ramírez-Vélez et al (2011) ^[32] Wang p et al (2013) ^[52]
Jobless	Li J et al (2012) ^[48] Wang p et al (2013) ^[52]
Ethnic minority	Nicholson et al (2006) ^[49]
Living single	Da Costa Det al (2010) ^[43] Ramírez-Vélez et al (2011) ^[32] Emmanuel et al (2014) ^[30]
No support from spouse	Da Costa Det al (2010) ^[43]
No Social support	Da Costa Det al (2010) ^[43] Elsenbruch et al (2007) ^[53] Nicholson et al (2006) ^[49]
Bad medical history	Da Costa Det al (2010) ^[43]
Obesity/Overweight	Haas et al (2005) ^[42] Vinturache et al (2015) ^[41]
Bad physical status prior to conception	Ngai et al (2013) ^[54]

	Wang p et al (2013) ^[52]
Smoking	Haas et al (2005) ^[42]
Alcohol	Haas et al (2005) ^[42]
Practicing physical exercise	Haas et al (2005) ^[42] Lacasse et al (2008) ^[47] Tendais et al (2011) ^[55]
Experience of infertility	de Aquino et al (2009) ^[56]
Primiparity	Vinturache et al (2015) ^[41] Hama et al (2007) ^[57]
Obstetrics complications	Da Costa Det al (2010) ^[43] Gharacheh et al (2015) ^[58]
Hospitalisation during pregnancy	Li J et al (2012) [59]
Prenatal depressive symptoms	Da Costa Det al (2010) ^[43] Li J et al (2012) ^[48] Li J et al (2012) ^[59] Nicholson et al (2006) ^[49] Setse et al (2009) ^[60]
Stress, prenatal anxiety	Da Costa Det al (2010) ^[43] Li J et al (2012) ^[48] Lau et al (2011) ^[61]
History of sexual violence	de Aquino et al (2009) ^[56]

Maternal age, primiparity, early gestational age, lack of social and economic issues, having family and friends, exercising, feeling happy during pregnancy, and optimism are all positive variables influencing pregnant women's quality of life. Medically assisted reproduction, prenatal or postpartum complications, obesity, nausea and vomiting, back pain, epigastric pain, alcoholism, smoking in the months prior to conception, sleep issues, stress, anxiety, depression during pregnancy, and domestic or sexual violence are among the factors that contribute to a lower quality of life. Sexual activity serves as a means of communication between partners in addition to reproduction. Pregnant women who have sex are more likely to enjoy emotional intimacy and marital coherence, have higher self-esteem, and adapt to pregnancy more quickly.

The WHO advises in its 2020 guidelines that, provided there are no health contraindications, women who were physically active prior to becoming pregnant should continue to be so during and after giving birth.^[62] Although the relationship between alcohol use and pregnancy-related health problems is unclear, some authors contend that moderate alcohol use lowers stress.^[48,61] Despite its apparent health benefits, alcohol consumption has numerous detrimental impacts on pregnancy outcomes and can result in fetal alcohol spectrum disease.^[63,64] Consequently, we would highly advise avoiding drinking alcohol while pregnant. As long as there are no medical contraindications, continue doing this throughout your pregnancy and the postpartum phase. Because it lowers the risk of pre-eclampsia, gestational hypertension, gestational diabetes, excessive weight gain during pregnancy, postpartum complications, and postpartum depression, as well as the

risk of stillbirth and complications in the newborn, physical activity during pregnancy and the postpartum period is beneficial to the health of both mother and child.

The World Health Organization advises individuals to engage in 150–300 minutes of moderate-intensity aerobic exercise, 75–150 minutes of high-intensity exercise, or an equivalent mix of both each week.^[62,65]

It is recommended that pregnant women engage in physical activity to reduce the negative effects of a sedentary lifestyle, such as the prevalence of overweight and obesity and the associated health risks.^[62,65]

According to Zhang et al.^[66] exercising during pregnancy affects the course of labor and lowers the need for cesarean sections. Walking, running, yoga, stretching exercises, balancing exercises, swimming, cycling, and aerobics are some of the suggested physical activities for expectant mothers.^[67,68] Additionally, some researches discovered that women in the early and second trimesters of pregnancy performed more activities.^[69,70] On the other hand, other studies noticed a decrease in the amount of physical activity that women engaged in during the third trimester of pregnancy^[71] and a declining proportion of physically active women in the subsequent trimesters of pregnancy.^[72] Borodulin et al. discovered that there was no significant difference in the total amount of physical activity between weeks 17–22 and 27–30 of pregnancy.^[73]

Table 3: Studies assessing quality of life of a pregnant woman.

Author and Country	Aim of the study	Result
De Pascalis et al (2012) ^[74] Italy	To compare the levels of and modifications in quality of life (QoL) between couples who successfully underwent assisted reproductive technology (ART) therapy and couples who conceived naturally during pregnancy.	QoL generally declines as pregnancy progresses. QoL scores decline between weeks 22 and 32 of pregnancy
Emmanuel et al (2014) ^[30] Australia	To explore demographic and social support predictors of HRQoL for childbearing women in the perinatal period	The average HRQoL ratings for the mental and physical domains were below the population average. Higher HRQoL ratings, especially in the mental domain during the postpartum period, were significantly and consistently predicted by social support.
Lau et al (2011) ^[61] China	Using a two-stage approach, determine the frequency and justifications for traditional Chinese pregnancy restrictions and look at the connection between them, HRQoL, and perceived stress level.	Poor physical HRQoL was more likely to be associated with pregnant women who followed behavioral limitations.
Elden et al (2013) ^[75] Sweden	to find out how well craniosacral therapy works for PGP throughout pregnancy as an addition to conventional care versus standard care alone	The intervention group's quality of life did not differ significantly from that of the control group
Vachukoa et al (2013) ^[27] Czechia	to assess the psychometric properties of a recently created, targeted QoL	The third trimester's lowest QOL is linked to the lowest physical and mental health scores. There is no variation in the evaluation of QOL and satisfaction with health status between trimesters.
Chang et al (2014) ^[38] Taiwan	To assess how HRQoL develops over the course of pregnancy and between three consecutive period pairs, as well as to find related obstetric factors throughout the entire pregnancy	Physical functioning and PCS declined from the first to the third trimester. From the second to the third trimester, role-physical and physical discomfort decreased. From the first to the second trimester, general health improved. From the first to the second trimester, MCS and mental health improved. Between the first and second trimesters, the vitality scores rose, but between the second and third trimesters, they fell. Between the first and second trimesters, the social functioning and role emotional ratings rose, but between the second and third trimesters, they fell.
Petrov Fieril et al (2015) ^[76] Sweden	to evaluate moderate-to-intense resistance training's impact and safety during pregnancy.	The intervention group (supervised resistance exercise twice a week) and the control group (generalized exercise recommendation) did not have different HRQoLs.
Dodd et al (2016) ^[77] Australia	to assess how maternal QoL, anxiety, depression risk, and satisfaction with treatment are affected by food and lifestyle recommendations made to pregnant women who were overweight or obese.	None of the domains measuring HRQoL showed statistically significant differences between treatment groups. Between the start of the experiment and 36 weeks of pregnancy, the physical functioning, physical role, bodily pain, and total physical component of the women in both groups declined. In terms

		of mental health, the Lifestyle Advice group experienced an improvement in mean scores between trial entry and 28 weeks earlier than the Standard Care group did between 28 and 36 weeks; however, once this improvement was attained, it was sustained in both groups
Mazuchova et al (2018) ^[63] Slovak Republic	identifying the riskiest aspects of a woman's quality of life (QoL) throughout pregnancy, as well as the effects of age, parity, and pregnancy duration on pregnant women's QoL.	Pregnancy-related QoL has been shown to be good and outstanding. Areas of QoL at risk: partner satisfaction, constraints brought on by physical changes, restrictions on physical activity, and anxiety over handling labor
Zarei et al (2018) ^[78]	identifying the factors that predict Iranian pregnant women's quality of life.	Significant relationship between QoL and depressed symptoms The quality of life of pregnant women is impacted by depressive symptoms, gestational age, and the location of prenatal treatment
Moghaddam Hosseini et al (2021) Hungary	Using PROMIS-43 to measure HRQoL and identify its determinants in Hungarian pregnant women.	Women who were nulliparous had a considerably higher mean score on the subscale "anxiety" than women who were multiparous. Depression, anxiety, and parity were the most prevalent predictors of low HRQoL. Better HRQoL in the categories of despair, exhaustion, and pain intensity was significantly predicted by social support.

CONCLUSION

When it comes to their patients' preconception and pregnancy experiences, health professionals in the field of prenatal, maternal, and child health work to ensure their satisfaction. Morbidity and death rates, two commonly used metrics for evaluating pregnancy outcomes, are still crucial. They are not, however, adequate on their own since population health should be evaluated in terms of both enhancing quality of life and saving lives.

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