



## A Review on Assessment of Health Related Quality of Life among Pregnant Female Respondents.

*Manuni Thakkar<sup>a</sup>, Dr. I. S. Anand<sup>b</sup>, Mrs. Shefali Chaudhry<sup>c</sup>, Mrs. Priyanka Rathod<sup>d</sup>, Mrs. Poonam Patel<sup>e</sup>, Paridhi Vyas<sup>f</sup>, Palak Dabgar<sup>g</sup>*

<sup>a,f,g</sup> M. Pharm Scholar, Shri Sarvajani Pharmacy College, Nr. Arvind Baug, Mehsana (384001), India.

<sup>b</sup> Head of Department of Pharmacology and Pharmacy Practice, Shri Sarvajani Pharmacy College, Nr. Arvind Baug, Mehsana (384001), India

<sup>c,d</sup> Associate Professor Department of Pharmacology and Pharmacy Practice, Shri Sarvajani Pharmacy College, Nr. Arvind Baug, Mehsana (384001), India

<sup>e</sup> Assistant Professor Department of Pharmacology and Pharmacy Practice, Shri Sarvajani Pharmacy College, Nr. Arvind Baug, Mehsana (384001), India

### ABSTRACT

**Objectives:** The objectives were to assess the health related quality of life among pregnant women, to identify the areas that are mostly affected during pregnancy and to identify the instruments used to assess quality of life related to the health of pregnant women. **Methods:** For the review 12 articles published from 2010 to 2022 in the PubMed, Research Gate, Research Square were selected. **Result:** The most commonly used instruments were the SF-36v2 and SF-12v2. The presence of pain, nausea, vomiting, depression, low education, socioeconomic status, areas of residence, younger age, gestational age affect the quality of life of pregnant women. The most common affected domains were the physical domain, psychological domain and social domain. Practicing physical activity and being socially supported during pregnancy favors a better quality of life. **Conclusion:** Findings of review presented a clear picture of magnitude of the problems among pregnant women in both urban and rural areas. It is necessary to assess the quality of life and give priority on screening the quality of life of pregnant women and also to pay special attention and care particularly for those who had lower quality of life, this is important regarding early preventive measures during pregnancy. Till date insufficient studies have been conducted for quality of life of pregnant women, further studies must be conducted with new strategies with counselling to access the pregnant women's quality of life.

Keywords: Quality of life, Pregnancy, Preventive measures

### 1. INTRODUCTION:

#### 1.1 Health related quality of life:

**Definition:** WHO defines quality of life as an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. <sup>[1]</sup>

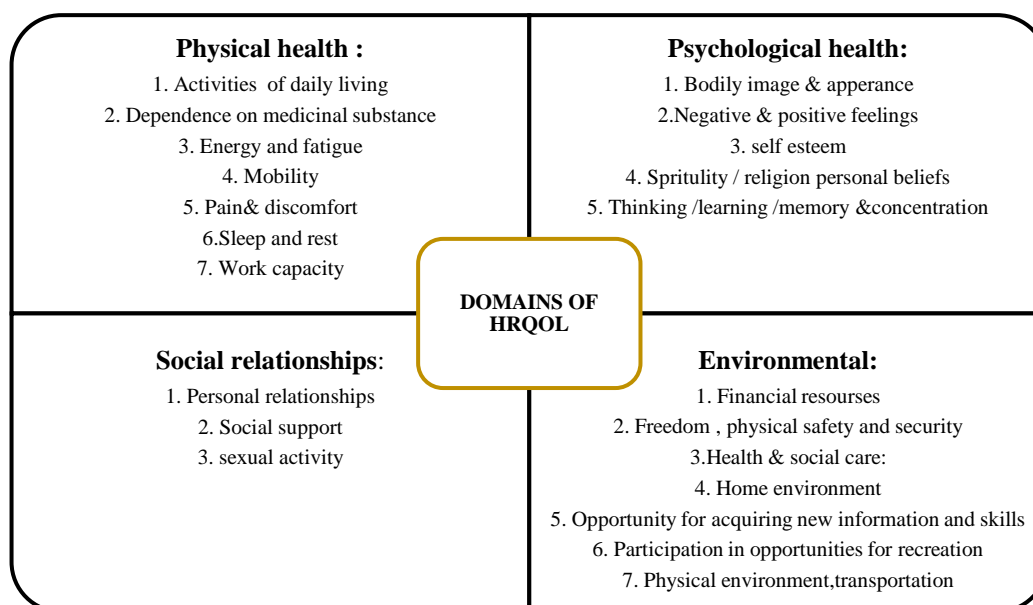
Quality of life (QOL) is a term that includes characteristics such as environment, income, living standards. The subjective wellbeing of a patient is influenced by many factors; some of them may be totally unrelated to the disease or treatment process like education, income and lifestyle. The aim of all measuring QOL is to provide the information about the wellbeing of the population at large.

**The recognition and acceptance of many patient oriented and disease oriented parameters of wellbeing of life quality led to the introduction of a technical term in health care called health related quality of life (HRQOL).**

The term quality of life has been used in a variety of ways. It has been suggested that studies of health outcomes use the term health related quality of life (HRQOL) to identify effects on health of factors such as job satisfaction, environment and other similar ones on the overall quality of life.

Finding QOL as a very broad term, pharmacoeconomics studies started using another comparatively new but narrow term health related quality of life (HRQOL) to bring quality of life associated with health related parameters. It is used exclusively in health care to examine health status alone. <sup>[2]</sup>

HRQOL is the multi domain concept which represents pregnant women's general health perception of the effect of illness and treatment on physical, psychological, environmental & social aspects of life. Various domains of HRQOL is mentioned below (figure-1.1)



**Figure: 1.1 Domains of health related quality of life<sup>[3]</sup>**

### ***1.2 Health related quality of life in context of pregnancy***

Pregnancy is a critical period for women because it poses risk not only to her but also to fetus growth. The risk of any complication to mother and child can drastically be reduced by utilization of antenatal facilities available and other resources designed to educate women about the importance of their health at this critical time in their life.<sup>[4]</sup> The pregnant women's mental aspects on the protection and improvement of health and the lifestyle can make the great impact on course of pregnancy and fetal development.

Conducting research on quality of life related to the health in pregnant women becomes important to identify the affected domains and to plan nursing interventions, in order to ameliorate their quality of life, as well as stimulating the empowerment of women before some transformation, sometimes taken for granted, but that negatively affect the quality of life.<sup>[5]</sup>

Changes in various stages of pregnancy are associated with common complaints such as morning sickness, low back pain, movement restriction, pelvic girdle pain and sleep disorder. Despite of these transient problems can be tolerated by most pregnant women and do not seriously threaten their health, they decrease the quality of life of these women throughout pregnancy.<sup>[6]</sup>

### ***1.3 Importance of physical & mental health during pregnancy& related factors***

There are number of potential health benefits for women who exercise during pregnancy, including better weight control and maintained fitness level. Regular exercise during pregnancy after consulting with physician can also decrease the risk of pregnancy related complications such as pregnancy induced hypertension and preeclampsia and is also beneficial for both physical and mental health.

Some benefits of regular exercise throughout pregnancy include:

- Enjoyment and increased energy
- Improve fitness
- Reduce back pain and pelvic pain
- Decreased risk of pregnancy complications such as preeclampsia and pregnancy induced hypertension
- Preparation for the physical demand of labour
- Fewer complications in delivery
- Faster recuperation after labour
- Prevention and management of urinary incontinence
- Improved sleep and management of insomnia<sup>[7]</sup>

Most of the forms of exercise are safe such as walking swimming, cycling, yoga, stretching but there are some involved positions and movements that may be uncomfortable or harmful for pregnant women, so it is important to take the guidance of physician or physiotherapist. Headache dizziness, heart

palpitation, chest pain swelling, vaginal bleeding, deep back or pelvic pain, walking difficulties amniotic fluid leakage are the warning symptoms observed during pregnancy, in such cases women need to visit the doctor and take medical care.

Mental well-being during pregnancy is very important, as it cause the severe effect on the pregnant women and fetus. Prenatal depression or anxiety could lead to neglectful behaviors, causing future mental health issues in child. Risk factors for poor mental health during pregnancy includes past personal or family history of psychiatric illness or physical or mental abuse, current exposure to intimate partner violence, social adversity and coincidental adverse events this all factors can associated with inadequate antenatal care, low- birth weight and preterm delivery.<sup>[8]</sup>

Staying physically active, proper diet and healthy meals, to spend time with people who make feel relaxed can deal with stress and helps to improve the mental health.

#### 1.4 Nutritional recommendation during pregnancy<sup>[9]</sup>

Nutritional intake is essential in achieving not only the proper growth and development of the fetus and placenta, but also an uncomplicated delivery, desirable maternal health and well-being. During normal pregnancy, physical functioning and perception of well-being have been shown to decline as pregnancy progresses compared with pre-pregnancy.

Studies on the quality of life during pregnancy have revealed its association with various factors, such as conceptualization of optimism/pessimism, nausea and vomiting, unintended pregnancy, mental disorders, gestational diabetes, rheumatic diseases, depression, social support, and sleep. However, less evidence has shown the impact of nutrient intake on maternal well-being and quality of life profiles. The recommended nutritions during pregnancy according to World Health Organization's antenatal care for a positive pregnancy experience guidelines are mentioned in the table: 1

**Table 1 Nutritional interventions<sup>[10]</sup>**

Required Nutritions	Recommendations
Iron and folic acid supplements	Daily oral iron and folic acid supplementation with 30 mg to 60 mg of elemental iron and 400 g (0.4 mg) of folic acid is recommended for pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight, and preterm birth. Recommended Intermittent oral iron and folic acid supplementation with 120 mg of elemental iron and 2800 g (2.8 mg) of folic acid once weekly is recommended for pregnant women to improve maternal and neonatal outcomes if daily iron is not acceptable due to side-effects, and in populations with an anaemia prevalence among pregnant women of less than 20%.
Calcium supplements	In populations with low dietary calcium intake, daily calcium supplementation (1.5–2.0 g oral elemental calcium) is recommended for pregnant women to reduce the risk of preeclampsia.
Vitamin A supplements	Vitamin A supplementation is only recommended for pregnant women in areas where vitamin A deficiency is a severe public health problem to prevent night blindness
Dietary interventions	In undernourished populations, nutrition education on increasing daily energy and protein intake is recommended for pregnant women to reduce the risk of low-birth-weight neonates. In undernourished populations, balanced energy and protein dietary supplementation is recommended for pregnant women to reduce the risk of stillbirths and small-for-gestational-age neonates.
Restricting caffeine intake	For pregnant women with high daily caffeine intake (more than 300 mg /day),can cause the pregnancy loss or low birth weight.

## 2. METHOD

The literatures were retrieved from different databases such as PubMed, Research Gate and Research Square in April 2023, by limiting itself to articles published between the year 2010 to 2022. The reason to limit the time was because we intended to find the most current evidence of HRQOL among pregnant women.

## 3. RESULT AND DISCUSSION

Total 12 articles were selected for this review. There were six studies in which SF-12 and SF-36 short form for the health survey were used, which has focused on eight health domains such as (1) Physical functioning, (2) Role limitations because of physical problems, (3) Bodily pain, (4) General health, (5) Vitality, (6) Social functioning, (7) Role limitations because of emotional problems and (8) Mental health.

From these six studies, two studies were found to be comparative studies on HRQOL in pregnant women from the urban and rural areas Elham Hassan Tawfik et al;(in 2013) conducted study in Egypt meanwhile Kamran Naseem et al;(2011) conducted study in Islamabad, Pakistan. Overall good 'mental

health' and poor 'general health' of pregnant women was found in the both studies. A considerable difference observed among both populations in the 'role limitations because of emotional problems' and 'role limitations because of physical problems' in the study conducted in Pakistan, study shows the highest score in 'social functioning' and lowest in 'general health' domain. The result from the study of Egypt shows the highest score in 'social functioning' and 'mental health' domain and lowest score in 'bodily pain' and 'general health' from the rural and urban populations. <sup>[4,11]</sup>

Another four studies were conducted by the Vartika Jain et al;(in 2022) in India, Fatemeh Abbaszadeh et al;(2010) in Iran, Fatemeh Estebsari et al;( in 2020) in Iran and Robinson R (in 2011) in Colombia. Studies from India and Iran shows the highest score in the 'mental health' and 'social functioning' domains, while the lowest score from 'vitality' and 'role limitations because of physical and emotional problems' respectively. Study from Iran by Fatemeh E. shows the highest score in 'role limitations because of physical problems' and lowest in 'mental health' domain, meanwhile, study from Colombia shows the highest score in 'vitality' 'mental health' and 'general health' domains and lowest in 'role limitations because of physical and emotional problems'. <sup>[12,13,14,15]</sup>

Three studies were carried out by Ashraf Kazemi et al;( in 2022) in Iran, Radha Paudel et al;(in 2021) in Nepal and Lucia M. et al;(in 2017) in Slovakia which focused on four main domains of QOL in pregnant women such as Physical, Psychological, Social and Environmental domains. Study from Nepal shows the highest score from psychological domain and lowest in physical domain, a significant impact of age is observed on physical domain. Study from Slovakia shows the same results for physical and psychological domain as study conducted in Nepal, but there were no reliably considerable differences observed in QOL in relation to age, parity and period of pregnancy. Study from Iran highlights the QOL in three different groups of pregnant women with planned pregnancy, unplanned/wanted, and unwanted pregnancy. It was reported that the environmental dimension of QOL in women with unwanted pregnancy is lower than other groups, however similar pattern of change in other dimensions observed in other groups of pregnant women. <sup>[16,16,17]</sup>

Maria Szubert et al;(in 2020) conducted a comparative study on HRQOL among pregnant women from the urban and rural areas. Study shows the change observed in health behaviours in pregnant women during five-year period gap. Alcohol consumption was lower in the rural areas women and after the years a trend of ever lower consumption observed. Good knowledge of nutritional value during pregnancy observed in urban areas women, but after the years this difference decreased, both population admitted nutrition during pregnancy. Physical activity was performed more by rural women, this difference also decreased after the years. During five-year gap of observational study, significant changes observed in the women of rural areas. <sup>[18]</sup>

Another study which was conducted by the Huailing Wu. Et al;(2021) in China shows the effect of gestational age (trimesters) on the quality of life of pregnant women. A good QOL was observed among the women from the women with early 2<sup>nd</sup> trimester, meanwhile lowest QOL score was observed in women with late 3<sup>rd</sup> trimester. Study shows the significant impact of gestational age on physical and psychological domains, it can be concluded that the increased gestational age would lead to decreased QOL of pregnant women. Therefore, more care should be taken by the doctors, nursing staff and other medical staff of the women who are in late 3<sup>rd</sup> trimester. <sup>[19]</sup>

Study from Brazil by the Cinthia Gondim Pereira Colou et al;(in 2018) shows the factors which affect positively and negatively on the QOL of pregnant women. Same as previous study by the Huailing Wu. Et al; in China, this also shows the impact of increased gestational age on decreased QOL of women, also point out that body image, type of housing, occupation, use of illicit drugs, non-receipt of partner support were factors which also negatively affect QOL, but happiness to become a mother, parity, partner support, marital status and social support shows positively effect on quality of life of pregnant women. <sup>[1]</sup>

---

#### 4. CONCLUSION

Most of the publications shows the highly affected domains were the physical and psychological domains. Among all studies there was significant impact of demographic factors such as age, gestational age, parity, education, occupation, partner support, and their socioeconomic condition has been observed. Social and environmental domains have been addressed in smaller number of studies. Still, less awareness of nutritional value and importance of health quality of life has been observed among pregnant women. Insufficient studies have been conducted on QOL of pregnant women, as it has a great impact on mother and child's life, awareness and importance of a good quality of life can be increased by educating pregnant women via seminars and other awareness programs, Doctors, nurses and other medical staff and medical students can play key role for this purpose.

#### References

1. Calou CGP, de Oliveira MF, Carvalho FHC, Soares PRAL, Bezerra RA, de Lima SKM, Antezana FJ, de Souza Aquino P, Castro RCMB, Pinheiro AK, "Maternal predictors related to quality of life in pregnant women in the Northeast of Brazil." *Health Quality Life Outcomes*. **2018**; 16:109-19
2. K.G. Revikumar, B.D Miglani, "A textbook of pharmacy practice." Career publications; 1<sup>st</sup> edition,2009, Career Publications, Maharashtra, India.
3. World Health Organization. Division of Mental Health. (1996) . WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, December 1996. World Health Organization. <https://apps.who.int/iris/handle/10665/63529>
4. Naseem K, Khurshid S, Khan SF, Moeen A, Farooq MU, Sheikh S, Bajwa S, Tariq N, Yawar A, "Health related quality of life in pregnant women: A comparison between urban and rural populations". *J Pak Med Assoc*. **2011**, 61:308-12.

5. Calou C, Pinheiro A, Regia C, Oliveira M, Aquino P, Antezana F. "Health related quality of life of pregnant women and associated factors: An integrative review." *Health*. **2014**, 6.2375-2387.
6. Kazemi A, Dadkhah A, Torabi F. "Changes of health related quality of life during pregnancy based on pregnancy context: A prospective study". *Arch Public Health*. **2022**; 80(1):37.
7. Cooper DB, Yang L. "Pregnancy and Exercise." *Stat Pearls Publishing*; **2022**.
8. Chauhan A, Potdar J. "Maternal mental health during pregnancy: A critical review." *Cureus*. **2022**; 14(10): e30656.
9. Mirsanjari M. "Quality of life and nutrition during pregnancy". *Journal of social science research*. **2014** 4. 428-441. 10.24297.
10. WHO recommendations on antenatal care for a positive pregnancy experience.2016, guidelines
11. Tawfik E. "Knowledge, practice and quality of life (QOL) of pregnant women: A comparison between urban and rural populations." *SSRN Electronic journal*,**2013**.10.2139
12. Abbaszadeh F, Azam B, Mehran N., "Quality of life in pregnant women: results of A study from Kashan, Iran." *J Med Sci Pak J Med Sci*, **2010**. 26. 692-697.
13. Estebarsari F, Kandi ZRK, Bahabadi FJ, Filabadi ZR, Estebarsari K, Mostafaei D., "Health-related quality of life and related factors among pregnant women." *J Educ Health Promot*. **2020**; 9:299.
14. Ramirez V, Robinson R. "Pregnancy and health-related quality of life: A cross sectional study". *Colombia Medica*. **2010**. 42. 476-481
15. Jain V, Singh AK. "Assessment of patient's health-related quality of life during complications of pregnancy in a tertiary care teaching hospital: A prospective study." *Research Square*; **2022**.
16. Mazuchova L, Kelcikova S, Dubovicka Z. "Measuring women's quality of life during pregnancy." *Kontakt*. **2017** 20. 10.1016
17. Paudel R, Deuja A. "Health related quality of life of pregnant women attending antenatal clinic of a tertiary level hospital." *Europasian Journal of Medical Sciences*, **2021**. 3(1), 47-52
18. Szubert M, Ilowiecka M, Wilczynski J, Bilinski P, Wojtyla C., "Health-related behaviours of pregnant women residing in urban and rural areas in Poland". *Int J Environ Res Public Health*. **2020**; 17(12):4395
19. Wu H, Sun W, Chen H, Wu Y, Ding W, Liang S, Huang X, Chen H, Zeng Q, Li Z, Xiong P, Huang J, Akinwunmi B, Zhang CJP, Ming WK. "Health-related quality of life in different trimesters during pregnancy." *Health Quality Life Outcomes*. **2021**; 19(1):182.