



Importance of Measuring Women's Quality of Life and Patient Counselling in Pregnancy-Related Nausea and Vomiting: A Review

P. Aishwaryah*, Deepthi C Denny

Department of Pharmacy Practice, PSG College of Pharmacy, Coimbatore, Tamil Nadu, India.

*Corresponding author's E-mail: aishwaryahselvam1997@gmail.com

Received: 06-01-2022; Revised: 21-02-2022; Accepted: 26-02-2022; Published on: 15-03-2022.

ABSTRACT

Pregnancy is the period of gestation from the fertilization of the egg, through the development of the foetus and ending in birth. In 70 – 80% of pregnant women, the common disorder is Nausea and vomiting. Unfortunately, early in pregnancy, some women feel nausea and vomiting and some never experience it. Although NVP has a tendency to be dealt with as an ordinary part of pregnancy, it can decrease the quality of life of pregnant women. In contrary to the hardship that NVP for pregnant women, maximum research determined that NVP is related to unfavourable effects for the foetus along with low birth weight and small for gestational age. NVP considerably lessen the quality of life of pregnant women and has big economic effects on patients, caregivers, and society, but this disease could be very frequently and underrated the severity of symptoms for NVP range from mild to moderate nausea and vomiting to pathologic cases of women with a severe form of NVP called hyperemesis gravidarum. Many researchers and articles have been proven out how the quality of life is being negatively affected in pregnancy because of nausea and vomiting This article discusses the importance of measuring the quality of life through questionnaires and on varied diet counselling for nausea and vomiting.

Keywords: Quality of life, Nausea and vomiting, Pregnancy, Patient counselling, Diet counselling in pregnancy.

QUICK RESPONSE CODE →

DOI:

10.47583/ijpsrr.2022.v73i01.003



DOI link: <http://dx.doi.org/10.47583/ijpsrr.2022.v73i01.003>

NAUSEA AND VOMITING IN PREGNANCY

The association between early gestation and symptoms of nausea and vomiting is usually accepted. However, there has been little analysis directed at searching regarding more about the symptom complex and developing an understanding of it⁵. If pregnant women vomit only once daily it is manageable. If they vomit more than 3 to 4 times daily and feel near-constant nausea it should be thought about severe. Nausea and vomiting solely affect the physical health of pregnant women, however, hurts the foetus's health & additionally on daily functioning, desire to become pregnant again, and the ability to care for other children, social and working environment.⁶

A clinical distinction is created between NVP, which happens primarily within the first trimester ("morning sickness") and hyperemesis gravidarum (HG) that usually extends beyond the 16th week of gestation and interferes with maternal nutrition and fluid balance. HG happens in 1% to 2% of pregnancies. Although there is no standard definition of HG, one frequently used is "vomiting severe enough to produce weight loss, dehydration, acid-base disturbances, ketonuria, and electrolyte imbalances, particularly hypokalaemia."⁴ Though the symptoms sometimes resolve spontaneously by gestational week 16, from 5 to 10% of women meet prolonged symptoms, typically throughout the whole pregnancy.⁷

INTRODUCTION

According to Eva vachkova *et al*, Pregnancy is a specific condition that is neither a disease nor a normal state of health³. In a women's life, pregnancy is a very special, unique, exciting and joyous time. The pregnancy can be filled with many physical and psychological changes imposing the need for lifestyle changes throughout the nine months. Each change poses a challenge that can be made successful when she shares her feelings and experiences with her physician, midwife, nurse and childbirth educator. While the exact cause of nausea and vomiting during pregnancy isn't clear, pregnancy hormones likely play a role.¹⁻³

The onset is usually related to the Last Menstrual Period (LMP) the date of which is often unreliable². Pregnancy is related to not solely intense activity however typically a good deal of emotional upheaval the ability to perform usual roles is affected, and even in uneventful pregnancies, many women have delicate changes which will reduce their quality of life (QOL)⁴. The risk of problems during pregnancy can be reduced by knowing and dealing with it with the most care and counselling.



Pathophysiology of nausea and vomiting in pregnancy

Metabolic and Hormonal Factors:

High levels of hcg (human chorionic gonadotropin), levels of this maternity hormone rise quickly throughout the first stages of maternity and will trigger the part of the brain that controls nausea and emesis⁸.

The most concerning issue is human chorionic gonadotropin (hCG). Research suggests that nausea and vomiting in gestation may well be due to the effects of human chorionic gonadotropin (HCG). Pregnant ladies begin producing hcg shortly when a fertilized egg attaches to the uterine lining. The higher hcg levels cause more severe nausea in pregnant women than the other pregnant women do. Additionally, women pregnant with multiples, who are more possible to experience nausea, also have higher hcg levels.⁹ This link between gonadotropin and NVP (Nausea & Vomiting in Pregnancy) relies mostly on the temporal relationship between the peak of NVP and the peak of gonadotropin production, each of that occurs between 12 and 14 weeks gestation. Additionally, nausea and regurgitation are usually worse in pregnant women with conditions that elevate gonadotropin levels, like molar pregnancies, multiple gestations, and congenital defects. Higher urinary hCG and serum hCG levels have been found in women with NVP compared with asymptomatic people. A study by Goodwin and colleagues found that higher concentrations of gonadotropin related to the severity of nausea and regurgitation in women with HG (Hyperemesis gravidarum).

Psychosocial Factors:

Stress can often make you physically sick. The acute morning sickness may be triggered by anxiety in pregnancy⁸. HG has also been associated with psychological disturbances, namely neurotic tendencies, hysteria, rejection of femininity, rejection of pregnancy, as well as depression and psychological stress related to poverty and marital conflicts. Some investigators argue that socio-cultural factors have led to psychological disturbances such as depression resulting in HG rather than the scientific evidence of the cause. Thus, NVP and HG are well recognized to affect pregnant women and possibly exacerbate their physical symptoms.¹⁰

Obese women had less NVP. Perhaps obese women have a greater tendency to good appetite than women with normal weight, and this tendency may prevail even during early pregnancy when most women have disgust on intake.

Women with NVP have more physical activity less of times than before gestation. An increase in the incidence of constipation was more common in women with NVP.¹¹

Quality of life:

The World Health Organization (WHO) defines QOL as "an individual's perception of their position in life in the context of the culture and value systems in which they live

and concerning their goals, expectations, standards and concerns"¹².

Quality of life (QOL), according to Britannica, is the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events¹³.

In the past five decades, the thought of quality of life (QOL) has been mostly used by researchers, particularly in the health care field¹⁴. Some definitions specialize in health and well-being or the ability to function, whereas others emphasize either satisfaction or accomplishment. Quality of life is the broadest thought and one that can be influenced in an advanced way by the physical health of the subject, his /her mental state and level of independence, social relations and relationship with the essential components of his / her surroundings. Analysis of quality of life is presently turning into a relatively separate interdisciplinary area.¹⁵

In the field of gynaecology and obstetrics, much research suggests that the QOL in pregnant women depends upon socioeconomic, medical, and psychological factors¹⁶⁻¹⁷. Poor QOL during gestation is accompanied by an increased risk of pre-term labour and intrauterine growth restriction.¹⁸⁻¹⁹

Forger et al, shows that during maternity there are specific organ and hormonal changes that influence bodily functions and sometimes the overall well-being of pregnant women.²⁰ Physical symptoms related to pregnancy including nausea and vomiting can sure affect women's quality of life. Overall, the QOL was significantly reduced during trimesters.²¹

Nausea and vomiting affecting quality of life

According to Shannon Clark *et al*, Nausea will occur at any time of day or night and might have negative effects on consumption, sleeping and ability to handle domestic and activity responsibilities. Relationships with spouse, family & friends may be adversely affected. In recent years, researchers have tried to quantify the severity of NVP and its impact on QOL.

Nearly all pregnant women have experienced NVP, the extent of symptoms varies from one lady to another, as well as the impact on QOL. The influence will be on her domestic, social, and daily activities, additionally as physical and mental well-being. The result of NVP on QOL is worse in severe cases, and the women either need to take safe and effective medications or need to change everyday lifestyle & dietary modifications to ease the symptoms of NVP and facilitate restoring QOL²².

Nausea and vomiting have an impact on quality of life, especially physical QOL and physical function. QOL decreased with increasing nausea and vomiting severity, with the biggest impact on the mental/emotional domain.²³.



QUALITY OF LIFE QUESTIONNAIRES

The NVPQOL

The NVPQOL form measures QOL within the last week and contains thirty items covering four general domains: physical symptoms and intensifying factors, fatigue, emotions, and limitations. Every item of the NVPQOL is measured employing a Likert seven-point scale starting from one (none of the time) to 7 (all of the time). The overall NVPQOL score may be obtained by summing the thirty things (20th item reversed) and ranges between thirty and 0. Lower scores correspond to higher QOL.²⁴

SF 12 Questionnaire

The SF-12 form, used to assess the generic QOL, is a shortened version of the SF-36 tool. The form determinative negative impacts on the QOL have already been standardized for the Czech population. It contains twelve queries assessing general health, pain, social factors, and physical functions. The things are classified into eight domains. 0–100 evaluation algorithmic rule is employed, with fewer points suggesting a lower QOL.²⁵

PUQE questionnaire

The PUQE form was developed in 2002 by Koren *et al*, Briefly, the form consisted of three queries concerning NVP, together with the length of your time the patient felt sick, the number of times the patient vomited, and also the number of times the patient had retching while not reflex. Responses were then sorted into five completely different classes that were scored from one to five, in line with the severity of the symptom. The composite add of the PUQE class scores was used to classify the NVP as "mild" if the score was between 3–6 points, "moderate" if between 7–12 points, and "severe" if thirteen points or higher.²⁶

QOL GRAV

The form consisted of nine queries rated on the 5-point Likert scale, with the individual answers equivalent to marks given in school. The simplest rating was one and also the worst was five. The results of the QOL-GRAV form are understood in such the simplest way that the lower the score, the higher the standard of living and also the absence of issues related to specific changes in maternity. The form assessed four domains: physical health, experience, social relationships and also the surroundings supported the full score, the standard of life was assessed as excellent, very good, good, or not good.²⁷

Table 1: Details of the VARIOUS questionnaires including their domains, no. of questions, scoring scale.

Name of Questionnaire	Domains	No. of Questions	Scoring Scale
NVP QOL	4 Domains	30 items	LIKERT Scale 7 Points
SF – 12 FORM	8 Domains	12 queries	0–100 Evaluation Algorithmic Scale
PUQE Questionnaire	No Domains	3 queries	Mild – 3 – 6 POINTS Moderate - 7 – 12 Points Higher – 13 OR Higher
QOL GRAV	4 Domains	9 items	LIKERT Scale 5 Points
WHOQOL - BREF	4 Domains	26 items	LIKERT Scale 12 Points

PATIENT COUNSELLING

Some women are more probably to develop nausea and vomiting, including women who developed these symptoms as well as previous pregnancies. More common risk factors for experiencing nausea and vomiting is those who have migraines, motion sickness, have family members (especially sisters or mothers) who had these symptoms in gestation, have a history of gastrointestinal problems (i.e., reflux, ulcers).

Dietary Approaches

Treatment may not control your nausea and vomiting. The main aim is to create symptoms tolerable so pregnant women can eat and drink better for appropriate fetal growth and have an affordable quality of life. Fortunately, symptoms typically resolve by mid-pregnancy, whether or not you require any treatment.

Dietary Changes

Nausea and instinctive reflex going to be created worse from overeating or excessive hunger. Overeating, avoiding food altogether or not having enough food may very well worsen nausea. Eat snacks often and have multiple little meals (eg: six little meals a day) that are rich in protein or carbohydrates and low in fat. Avoid coffee. Avoid spicy foods. Drink cold, clear, and effervescent or bitter fluids (such as lemonade) and drink these in very little amounts between meals. Take wheat bread or milk bread. Smelling recent lemon, mint, or orange or using an oil diffuser with these scents might also be helpful. Having ginger or ginger tea could facilitate alleviating nausea and regurgitation in some women. The American College of Obstetrics and Gynaecology recommends ginger as a non-pharmacologic intervention to treat NVP.²



Avoid Triggers

One of the foremost vital treatments for pregnancy-related nausea and vomiting is to avoid odors, tastes and alternative activities that trigger nausea. Terminating from the food triggers, like spicy foods, helps for some pregnant women. Various samples of triggers include Stuffy rooms and odors (such as fragrance, chemicals, coffee, food, smoke), Heat and wetness, noise, visual or physical motion (such as unsteady lights, driving), excessive exercise and excessive salivation, foods and snacks high in sugar, brushing teeth once ingestion might facilitate prevent symptoms. Avoid lying down immediately once ingestion and avoid quickly changing positions.^{28, 29}

CONCLUSION

Most of the studies show that nausea and vomiting have a great impact on quality of life, particularly physical quality of life and work the study of Shishehgar *et al.* [30], it's been evidenced that social support (indirectly) and quality of life (directly) affect the course of maternity, which means the requirement for professionals to strengthen social support, to improve quality of life, and reduce stress and its consequences throughout maternity. Evaluating the quality of life is vital to implement early preventive measures to reduce the risk associated with NVP & HG throughout maternity. It ought to result in increased quality in pregnant women and their well-being, also on proper fetal development. Evaluating QOL is vital in terms of preventive measures throughout pregnancy and should lead to a gradual development in the quality of care for pregnant women and their well-being, with emphasis on the health of pregnant women²⁰.

REFERENCES

- Bustos M, Venkataramanan R, Caritis S. Nausea and vomiting of pregnancy - What's new? *Auton Neurosci.* 2017 Jan;202:62-72. doi: 10.1016/j.autneu.2016.05.002. Epub 2016 May 13. PMID: 27209471; PMCID: PMC5107351.
- Gadsby, R, Ivanova, D, Trevelyan. The onset of nausea and vomiting of pregnancy: a prospective cohort study. *BMC Pregnancy Childbirth* 2021;21:10. <https://doi.org/10.1186/s12884-020-03478-7>
- Vachkova, E, Jezek, S, Mares, J. The evaluation of the psychometric properties of a specific quality of life questionnaire for physiological pregnancy. *Health Qual Life Outcomes* 2013;11:214. <https://doi.org/10.1186/1477-7525-11-214>
- Attard CL, Kohli MA, Coleman S, Bradley C, Hux M, Atanackovic G, Torrance GW. The burden of illness of severe nausea and vomiting of pregnancy in the United States. *Am J Obstet Gynecol.* 2002 May; 186(5 Suppl Understanding):S220-7. doi: 10.1067/mob.2002.122605. PMID: 12011890.
- Gadsby R, Barnie-Adshead AM, Jagger C. A prospective study of nausea and vomiting during pregnancy. *Br J Gen Pract.* 1993 Jun;43(371):245-8. Erratum in: *Br J Gen Pract* 1993 Aug;43(373):325. PMID: 8373648; PMCID: PMC1372422
- Heitmann, K., Nordeng, H., Havnen, G.C. *et al.* The burden of nausea and vomiting during pregnancy: severe impacts on quality of life, daily life functioning and willingness to become pregnant again – results from a cross-sectional study. *BMC Pregnancy Childbirth* 2017;17:75. <https://doi.org/10.1186/s12884-017-1249-0>
- Truong MB, Ngo E, Ariansen H, Tsuyuki RT, Nordeng H. The effect of a pharmacist consultation on pregnant women's quality of life with a special focus on nausea and vomiting: an intervention study. *BMC Pregnancy Childbirth.* 2020 Dec 9;20(1):766. doi: 10.1186/s12884-020-03472-z. PMID: 33298010; PMCID: PMC7727235.
- Animated Dissection of Anatomy for Medicine, Inc. Health Information. [Cited Jun 2011] Available from: <http://pennteam.adam.com/content.aspx?productid=14&pid=14&gid=000198>
- Mayoclinic. Is nausea during pregnancy a good sign? [Internet 2021] Available from: <https://www.mayoclinic.org/healthy-lifestyle/pregnancy-week-by-week/expert-answers/nausea-during-pregnancy/fac-20057917#:~:text=Research%20suggests%20that%20nausea%20and,attaches%20to%20the%20uterine%20lining.>
- Lee NM, Saha S. Nausea and vomiting of pregnancy. *Gastroenterol Clin North Am.* 2011 Jun;40(2):309-34, vii. DOI: 10.1016/j.gtc.2011.03.009. PMID: 21601782; PMCID: PMC3676933.
- Johanna Kristiina Reijonen, Kati Maaria Hannele Tihtonen, Jukka Tapio Uotila, Tarja Vihtamäki & Tiina Hannele Luukkaala (2021): Dietary fibre intake and lifestyle characteristics in relation to nausea or vomiting during pregnancy—a questionnaire-based cohort study, *Journal of Obstetrics and Gynaecology*, DOI: 10.1080/01443615.2021.1871886
- "WHOQOL: Measuring Quality of Life". World Health Organization. 22 May 2020
- Quality Of Life". Britannica. Quality of life, the degree to which an individual is healthy, comfortable, and able to participate in or enjoy life events. 10 May 2016. Retrieved 15 January 2021
- Bakas T, McLennon SM, Carpenter JS, Buelow JM, Otte JL, Hanna KM, Ellett ML, Hadler KA, Welch JL. Systematic review of health-related quality of life models. *Health Qual Life Outcomes.* 2012 Nov 16;10:134. doi: 10.1186/1477-7525-10-134. PMID: 23158687; PMCID: PMC3548743.
- Vachková E, Mareš J. Quality of life of women in pregnancy period: A study based on focus groups. *Kontakt.* 2012;14(3):286-297. doi: 10.32725/kont.2012.032
- Morin M, Vayssiere C, Claris O, et al. Evaluation of the quality of life of pregnant women from 2005 to 2015. *Eur J Obstet Gynecol Reprod Biol.* 2017; 214: 115- 130.
- Mogos MF, August EM, Salinas-Miranda AA, Sultan DH, Salihu HM. A systematic review of quality of life measures in pregnant and postpartum mothers. *Appl Res Qual Life.* 2013; 8(2): 219- 250.
- Rini CK, Dunkel-Schetter C, Wadhwa PD, Sandman CA. Psychological adaptation and birth outcomes: the role of personal resources, stress, and sociocultural context in pregnancy. *Health Psychol.* 1999; 18(4): 333- 345.



19. Mautner E, Greimel E, Trutnovsky G, Daghofer F, Egger JW, Lang U. Quality of life outcomes in pregnancy and postpartum complicated by hypertensive disorders, gestational diabetes, and preterm birth. *J Psychosom Obstet Gynaecol*. 2009; 30(4): 231- 237
20. Förger F, Østensen M, Schumacher A, Villiger PM. Impact of pregnancy on health related quality of life evaluated prospectively in pregnant women with rheumatic diseases by the SF-36 health survey. *Ann Rheum Dis*. 2005 Oct;64(10):1494-9. doi: 10.1136/ard.2004.033019. Epub 2005 Mar 18. PMID: 15778241; PMCID: PMC1755222.
21. Lagadec N, Steinecker M, Kapassi A, Magnier AM, Chastang J, Robert S, Gaouaou N, Ibanez G. Factors influencing the quality of life of pregnant women: a systematic review. *BMC Pregnancy Childbirth*. 2018 Nov 23;18(1):455. doi: 10.1186/s12884-018-2087-4. PMID: 30470200; PMCID: PMC6251086
22. Verberg MF, Gillott DJ, Al-Fardan N, Grudzinskas JG. Hyperemesis gravidarum, a literature review. *Hum Reprod Update*. 2005 Sep-Oct;11(5):527-39. doi: 10.1093/humupd/dmi021. Epub 2005 Jul 8. Erratum in: *Hum Reprod Update*. 2007 Mar-Apr;13(2):207. PMID: 16006438.
23. Tan A, Lowe S, Henry A. Nausea and vomiting of pregnancy: Effects on quality of life and day-to-day function. *Aust N Z J Obstet Gynaecol*. 2018 Jun;58(3):278-290. doi: 10.1111/ajo.12714. Epub 2017 Sep 26. PMID: 28949009.
24. Lacasse, A., Bérard, A. Validation of the nausea and vomiting of pregnancy specific health related quality of life questionnaire. *Health Qual Life Outcomes* 2008;6:32. <https://doi.org/10.1186/1477-7525-6-32>.
25. Ware J Jr, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Med Care*. 1996 Mar;34(3):220-33. doi: 10.1097/00005650-199603000-00003. PMID: 8628042
26. Choi HJ, Bae YJ, Choi JS, Ahn HK, An HS, Hong DS, Yun JS, Han JY. Evaluation of nausea and vomiting in pregnancy using the Pregnancy-Unique Quantification of Emesis and Nausea scale in Korea. *Obstet Gynecol Sci*. 2018 Jan;61(1):30-37. doi: 10.5468/ogs.2018.61.1.30. Epub 2017 Dec 14. PMID: 29372147; PMCID: PMC5780318
27. Mazúchová L, Kelčíková S, Dubovická Z. Measuring women's quality of life during pregnancy. *Kontakt*. 2018; 20(1):e31-36. doi: 10.1016/j.kontakt.2017.11.004
28. Uptodate. Nausea and vomiting of pregnancy : Treatment and outcome. [updated 2021 Nov, Cited 2021 Dec] Available from: <https://www.uptodate.com/contents/nausea-and-vomiting-of-pregnancy-treatment>
29. Latva-Pukkila U, Isolauri E, Laitinen K. Dietary and clinical impacts of nausea and vomiting during pregnancy. *J Hum Nutr Diet*. 2010 Feb;23(1):69-77. doi: 10.1111/j.1365-277X.2009.01019.x. Epub 2009 Nov 23. PMID: 19943842.
30. Shishehgar S, Dolatian M, Majd HA, Bakhtiary M. Perceived pregnancy stress and quality of life amongst Iranian women. *Glob J Health Sci*. 2014 Apr 24;6(4):270-7. doi: 10.5539/gjhs.v6n4p270. PMID: 24999152; PMCID: PMC4825377
31. De la Ronde SK. Nausea and vomiting in pregnancy. *J Soc Obstet Gynaecol Canada* 1994;6:2035.

Source of Support: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Conflict of Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

For any question relates to this article, please reach us at: globalresearchonline@rediffmail.com
 New manuscripts for publication can be submitted at: submit@globalresearchonline.net and submit_ijpsrr@rediffmail.com

