

## Clinical Efficacy of Modified Pregnancy Unique Quantification of Emesis (PUQE Score) in Management of Emesis of Pregnancy

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### How to cite this article:

Rupali Bharambe, Aniket Kakade/Clinical Efficacy of Modified Pregnancy Unique Quantification of Emesis (PUQE Score) in Management of Emesis of Pregnancy/Indian J Obstet Gynecol. 2022;10(3):156-159.

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**Received on:** 02.02.2022

**Accepted on:** 26.03.2022

### Abstract

Clinical Efficacy of modified Pregnancy Unique Quantification of Emesis (PUQE score) in management of emesis of pregnancy.

**Aims:** To study PUQE score in ANC patients till 12 weeks, attending OPD or emergency department. To triage the patient as mild, moderate and severe case and to treat them accordingly.

**Settings and Design:** Study was conducted in the Department of Obstetrics and Gynaecology in a tertiary care hospital.

An Observational analytical study.

The study included all the women with emesis in pregnancy from 1<sup>st</sup> September 2019 to 30<sup>th</sup> September 2021 matching the inclusion and exclusion criteria

Study included all the women having emesis in pregnancy attending antenatal OPD and Emergency Medical Department, till 12 weeks.

**Keywords:** Nausea, PUQE score.

### Introduction

Nausea and vomiting of pregnancy (NVP) is a clinical condition affecting up to 80% of all pregnancies with variable severity.<sup>1</sup> Commonly encountered between four and nine weeks of gestation, and tends to diminish by the 16th week of pregnancy. In its extreme form NVP may manifest itself as hyper emesis gravidarum (HG).<sup>1</sup> Hyper emesis gravidarum is extreme, persistent nausea and vomiting during pregnancy. In 2002

the Pregnancy Unique Quantification of Emesis (PUQE) scoring system was adapted to focus on the nausea and vomiting specific to pregnancy.<sup>2</sup> It is in the form of questionnaire. This survey asks three questions about the duration of nausea, vomiting, and retching with minimum score of 3 and maximum score of 15. Depending upon the score, patient can be categorized into mild, moderate and severe category which helps in deciding their mode of treatment. Mild (less than or equal to 6), moderate (7-12) and severe (>13). Mild and moderate are

treatment in OPD basis while patients with severe score are treated as IPD patients.<sup>2</sup>

### Methods and Material

A observational study was conducted in 400 women having nausea and/or vomiting after meeting the inclusion and exclusion criteria and after taking informed written consent, who were presented to the department of obstetrics and gynecology, Bharati Vidyapeeth deemed university, Pune between sept 2019 and sept 2021.

By applying PUQE score, patient were classified as mild, moderate and severe. Score till 6 or less than 6 -Mild,7-12-moderate and >13 -severe.

Patients with Mild and moderate score were managed on OPD basis while Severe Score Required admission.

### Statistical analysis used

1. The collected data was coded and entered in Microsoft excel sheet.
2. The data was analyzed using SPSS (statistical package for social sciences) software version 25.
3. The results were presented in a tabular and graphical format.
4. For qualitative data, frequency and percentage were calculated.
5. For quantitative data, Mean and SD were calculated.
6. For comparison of quantitative data, independent sample t-test, paired t-test were used.

### Results

**Table 1:** The most common age of presentation was 26-30 years (54.75%).

Sn. no.	Age group (in years)	No of patients	Percentage
1	19 to 25	172	43%
2	26 to 30	219	54.75%
3	31 to 35	8	2%
4	≥36	1	0.25%
Total		400	100%

The above Table depicts the most common age of presentation was 26-30 years (54.75%).

**Table 2:** gestational age of presentation was 7-8 weeks.(39.75%)

Sn No	Gestational age (In weeks)	No of patients	Percentage
1	4 to 6 weeks	72	18 %
2	7 to 8 weeks	159	39.75%
3	9 to 10 weeks	117	29.25 %
4	11 to 12 weeks	52	13 %
Total		400	100%

Most common gestational age of presentation was 7-8 weeks. (39.75%) shown in Table 2.

**Table 3:** Nulligravida were the most commonly affected.

Sn No.	Gravida Status	No of patients	Percentage
1	Gravida 1	281	70.25%
2	Gravida 2	99	24.75%
3	Gravida 3	20	5%
4	Gravida 4 and above	0	0%
Total		400	100%

Nulligravida were the most commonly affected as shown in Table 3.

**Table 4:** Reduction in mean PUQE score from Day 1 of admission to Day 5 of admission.

Sn No	Post admission day	Mean PUQE score
1.	Day 1 (admission day)	14.05
2.	Day 2	10.77
3.	Day 3	8.45
4.	Day 4	6.56
5.	Day 5	5.29

Reduction in mean PUQE score from Day 1 of admission to Day 5 of admission.

**Table 5:** PUQE score shows significant reduction in PUQE score in non admitted patients.

SN No	PUQE score	No of patients	Percentage
1	3 and 4	87	28.71%
2	5 and 6	203	66.99%
3	7 and 8	13	4.2%
Total		303	100%

Follow up PUQE score shows significant reduction in PUQE score in non admitted patients as shown in Table-5.

## Discussion

Nausea and vomiting of pregnancy (NVP) is a clinical condition affecting up to 80% of all pregnancies with variable severity.<sup>1</sup>

The PUQE aimed primarily at helping clinicians to evaluate the clinical status of nausea and vomiting of pregnancy (NVP). The Modified PUQE score is widely used to quantify the NVP and help the Obstetrician formulate a treatment plan.

Maximum number of patients was in the age group of 26-30 years (54.75 %) (Table 1) This was expected as this was the reproductive age for the population under study. The highest numbers of patients with emesis were in the gestational age 7 to 8 weeks (39.75%)(Table 2). These findings were comparable with the study by Birkeland et al.<sup>3</sup> Where in they reported a mean gestational age of 9.3 weeks. NVP is known to peak between the gestational ages of 7 to 9 weeks with the corresponding peak in serum HCG levels.

The considerable decrease in PUQE-scores from admission to discharge (Table 4) also supports the questionnaire's acceptance.

The findings were similar to those observed by Birkeland et al 2015.<sup>3</sup>

Results of our study are in line with studies by Koren et al<sup>4,5</sup>, Ebrahimi et al<sup>2</sup> & Lacasse et al.<sup>6</sup> All these studies have concluded that high scores correlate with severe NVP & HG. The PUQE score can help evaluate whether the NVP is mild, moderate, or severe, as well as track therapy progress.<sup>7</sup>

## Conclusion

The modified PUQE scoring system is useful in categorization of NVP as mild-moderate-severe with the help of a simple and effective questionnaire. Every patient who visits the clinician with symptoms of NVP should be assessed with the help of the modified PUQE score and categorized as mild/moderate/severe. Severe patients with HG should be admitted and daily PUQE score should be charted to assess the response to treatment. The score can be used as criteria to discharge the admitted patient.

Patients with mild/moderate symptoms can be offered home treatment and follow-up PUQE score can be used to assess the response to treatment.

The score has good responsiveness and adds to the clinical meaningfulness and thus represents good interpretability.

The simplicity of its use and its specificity to the symptoms related to NVP makes modified PUQE score a practical tool for the healthcare providers and clinicians.

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