

# The Effect of Telephone Support on the Severity of Nausea and Vomiting in the First Trimester of Pregnancy in the Primiparous Women

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## Abstract

**Objective:** to evaluate the effect of telephone support on the severity of nausea and vomiting in the first trimester of pregnancy in the primiparous women. **Study Design:** Randomized Control Trial. **Study Place and Duration:** Department of Obstetrics and Gynecology Bahawal Victoria hospital and primary health care facilities Bahawalpur, from January 2018 to June 2018. **Material and methods:** A total number of 72 patients referred to gynecology department of Nishtar hospital were included in this study. Patients were divided into two equal groups. Case group received telephone support while control group received standard care for the complaints of nausea and vomiting in pregnancy. There are 36 patients in each group. PUQE (pregnancy unique quantification of emesis\nausea) criterion was used to assess the severity of nausea and vomiting during pregnancy. Three outcome variables were assessed in order to evaluate the efficacy of the telephone support in case group, PUQE score, PUQE score severity and quality of life score. For continuous data independent t-test was applied, for nominal data chi-square test and for quality of life score Mann Whitney U-test was used. P value less than or equal to 0.05 was taken as statistically significant. **Results:** PUQE questionnaire was given to each patient and score was calculated. Mean PUQE score was  $7.42 \pm 3.25$  in the cases and  $9.94 \pm 3.40$  in the controls, the difference being statistically significant ( $p=0.002$ ). Mild NVP, moderate NVP and severe NVP were observed in 20 (55.5%), 10 (27.8%) and 6 (16.7%) of the cases; and 8 (22.2%), 18 (50%) and 10 (27.8%) of the controls, respectively. The difference in PUQE severity was statistically different between the two groups ( $p=0.015$ ). The quality of life score was also statistically much better ( $p=0.028$ ) in the cases (8 (6-9)) than in the controls (7 (4.25-8)). **Conclusion:** Telephone support was significantly associated with better PUQE score and better quality of life score as compared to the standard care. But severity of PUQE score was not statistically significant when case and control groups were compared.

**Keywords:** Nausea, Vomiting, Telephone, Primiparous, Pregnancy

## Introduction

Occurrence of nausea and vomiting in pregnant women is reported to be around 70 to 80 percent which usually controlled by psychological support and by bringing changes in lifestyle<sup>1</sup> Telephone support is now the most easily accessible option for majority of the people around the world with recent advances in technology<sup>2</sup>. The current study focuses on the use of telephone support in order to provide psychological assistance for the pregnant women complaining about the persistent nausea and vomiting during the first trimester of the pregnancy. Nausea and vomiting are one of the major health problems faced by the pregnant women during their pregnancy. Despite number of studies done to determine the etiology of these complaints yet no definite cause has been predicted, resulting in the fact that scientific treatments available to control these complaints have been unfruitful<sup>3</sup>. Usually recommended treatments are often reported to be unable to control nausea and vomiting by a major portion of the pregnant women<sup>4</sup>. Nausea and vomiting are usually termed as mild and self limited complaints in most textbooks and only 1 case in 100 or 200 patients which may require parenteral feeding<sup>5</sup>. Usual perception makes these symptoms as quite trivial and recently multiple interventions on part of the health care departments have managed to reduce the effect of these symptoms on the quality of life of pregnant women.

The fact that nausea and vomiting can become severe in intensity and impart great effect on the daily life of pregnant women and may also result in requirement of parenteral nutrition has made it difficult for the health care practitioners to properly advise them about their condition. In previous studies multiple interventions including, family, social and occupational alterations have been study to manage the nausea and vomiting in patients<sup>6</sup>. Telephone support has been studied in order to provide useful follow up counseling after treatment of multiple diseases and it has been successful in use for many years now<sup>7</sup>. One drawback of telephone support is that it lacks target orientation and is usually very time consuming in some settings.

In the past certain telephone systems have been employed which helped patients to report in to healthcare professionals timely in case of any complaint or emergency and only when required<sup>8</sup>. Such systems have been employed for patients of diabetes and asthma. Millions of mobile phones are in use in all the countries all over the world and such system can prove useful if patients can discuss their test results or symptoms with the help of

their phones by contacting the healthcare workers using accessible programmes. In case of emergencies like RTAs and severe toxicities alerts can be generated which can go directly to the emergency department of the hospitals thus providing sufficient help available to patients when required by them. This particular study is aimed to provide telephone support to the patients complaining of nausea and vomiting during their first trimester of pregnancy in primiparous women and accessing its efficacy as compared to the standard care provided at hospitals. Only one study like this has been done previously, so there is need to study it further so that better recommendations can be made to manage nausea and vomiting of patients during pregnancy.

### Material and Method

This is randomized control trail which was performed in department of Gynecology and Obstetrics Nishtar Hospital Multan from January 2018 to June 2018. A total number of 72 patients referred to gynecology department of Nishtar hospital were included in this study. Inclusion was based upon the following criteria; primiparous women aged 18-40, presenting with the complaint of nausea and vomiting during the first trimester of pregnancy. Exclusion was made if patients were multiparous, multigravida and had a history of any chronic illness e.g. diabetes mellitus, hepatitis etc. Ethical approval for this study was obtained from the hospital ethics committee. Non probability consecutive sampling technique was used to collect the sample size. Reference for this study was obtained from an Iranian study performed by Z Abedain et al<sup>9</sup>. Patients were divided into two equal groups. Case group received telephone support while control group received standard care for the complaints of nausea and vomiting in pregnancy. There are 36 patients in each group. PUQE (pregnancy unique quantification of emesis\nausea) criterion was used to assess the severity of nausea and vomiting during pregnancy. Three outcome variables were assessed in order to evaluate the efficacy of the telephone support in case group, PUQE score, PUQE score severity and quality of life score. Telephone support was provided by the researcher by contacting the patients twice a week for four weeks for duration of 15-20mins. Demographic data was collected in the form of a questionnaire, checklists in order to record the phone calls and to train the patients. Data regarding nausea and vomiting was received in the form of pregnancy unique quantification of emesis questionnaire. Data thus collected was subjected to statistical analysis using computer software SPSS version 23. Frequency and percentages were calculated for qualitative variables while mean and standard deviation was calculated for quantitative variables. For continuous data independent t-test was applied, for nominal data chi-square test and for quality of life score Mann Whitney U-test was used. P value less than or equal to 0.05 was taken as statistically significant.

### Results

Both the cases and controls were comparable in terms of age, BMI, education level, economic status and antenatal care in first trimester of pregnancy and there was no statistically significant difference between the two groups ( $p > 0.05$ ). Table-I

PUQE questionnaire was given to each patient and score was calculated. Mean PUQE score was  $7.42 \pm 3.25$  in the cases and  $9.94 \pm 3.40$  in the controls, the difference being statistically significant ( $p = 0.002$ ). Mild NVP, moderate NVP and severe NVP were observed in 20 (55.5%), 10 (27.8%) and 6 (16.7%) of the cases; and 8 (22.2%), 18 (50%) and 10 (27.8%) of the controls, respectively. The difference in PUQE severity was statistically different between the two groups ( $p = 0.015$ ). The quality of life score was also statistically much better ( $p = 0.028$ ) in the cases (8 (6-9)) than in the controls (7 (4.25-8)). Table-II

**Table-I**  
**Demographic data**

Variable	Cases (n=36)	Controls (n=36)	p-value
Age, years	25.03±2.84	26.22±4.08	0.154
BMI, Kg/m <sup>2</sup>	23.56±1.73	23.17±1.80	0.353
Education, n (%)			0.862
Primary and below	10 (27.8)	8 (22.2)	
Intermediate	15 (41.7)	16 (44.4)	
College	11 (34.4)	12 (33.3)	
Economic Status, n (%)			0.090
Poor Class	9 (25)	7 (19.4)	
Middle Class	11 (34.4)	20 (55.5)	
Upper Middle Class	16 (44.4)	9 (25)	
Antenatal Care, n (%)	19 ( )	23 (63.9)	0.339

Data is mentioned as mean ± S.D unless mentioned otherwise. Poor class=monthly income<Rs.15000, middle class=monthly income Rs.15000-30000, Upper middle class= monthly income Rs. 30000-50000.

**Table-II**  
**Outcome Variables**

Variable	Cases (n=36)	Controls (n=36)	p-value
PUQE score	7.42±3.25	9.94±3.40	0.002
PUQE score severity, n (%)			0.015
Mild NVP (<7)	20 (55.5)	8 (22.2)	
Moderate NVP (7-12)	10 (27.8)	18 (50)	
Severe NVP (13-15)	6 (16.7)	10 (27.8)	
Quality of life score*, median (IQR)	8 (6-9)	7 (4.25-8)	0.028

Data is put as mean ±S.D unless mentioned otherwise. PUQE=Pregnancy-Unique Quantification of Emesis and nausea; \*0=worst, 10=best; NVP=nausea and vomiting in pregnancy

## Discussion

Results of study show that telephone support provides better control of nausea and vomiting during pregnancy as compared to conventional care. There was significant difference from statistical point of view between the two groups in regard to PUQE score and quality of life scores with p value less than 0.05. This shows that telephone support significantly reduced the frequency of nausea and vomiting and women in this group had better quality of life. These results are consistent with the results of a similar study conducted by Z Abedain et al <sup>9</sup>.

Another Baby-Beep pilot study was performed previously which assessed the efficacy of telephone support in low income pregnant women and the results of that pilot program suggested that telephone support is not only highly acceptable but is also very feasible for low income women. Only drawback noticed in that study was the development of a rapport between the women and the healthcare givers because of the elimination of non verbal cues <sup>10</sup>.

Another trail used the proactive telephone support during early pregnancy and results were in favor of its use as incidence of smoking was decreased as a result of the telephone support and it also helped in preventing the low birth weight. Breast feeding was improved and postpartum depression was also decreased by the provision of telephone support. Although smoking rates were decreased but telephone support did not result in complete cessation of smoking by any of the subject. Similarly preterm birth rates were also not influenced by this intervention <sup>11</sup>.

Similarly another study was performed to evaluate the effect of telephone support in early pregnancy and conclusion of the study states that there is no strong evidence to establish the use of telephone support as proper recommendation which is in contrast to the results of our study. Reported benefits of telephone support in that previous study are decrease in depression scores and overall satisfaction of the subjects involved in the study <sup>12</sup>. As it is obvious that theme of providing telephone support is to make the access of the pregnant women to professional support more feasible and accessible. In a study where efficacy of professional support was evaluated among the pregnant women by assessing its effect on nausea and vomiting and overall quality of life, the results showed that professional support is very effective <sup>13</sup>. Another study compared the mailed educational it and telephone support among the women recently diagnosed with breast cancer and the results were comparable in both groups <sup>14</sup>.

Telephone support has been implemented in different diseases and it has been found to be effective in terms of patient satisfaction and also in treating severe and emergency complications at homes in certain conditions <sup>15, 16, 17 and 18</sup>.

## Conclusion

Telephone support was significantly associated with better PUQE score and better quality of life score as compared to the standard care. But severity of PUQE score was not statistically significant when case and control groups were compared. Further studies are required to establish the feasibility and cost effectiveness of this intervention to justify its use for psychological support and in the management of nausea and vomiting during pregnancy.

## Conflict of interest

There was no conflict of interest.

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## References

1- Aliasl F, Toliyat T, Aliasl J, Minaee MB. Nausea and vomiting remedies in Iranian Traditional Medicine

- (ITM). *Iran j public health*. 2015;44(8):1164-5.
- 2- Whitehead L, Seaton P. The effectiveness of self-management mobile phone and tablet apps in long-term condition management: a systematic review. *J med Internet res*. 2016;18(5).
  - 3- Herrell HE. Nausea and vomiting of pregnancy. *American family physician*. 2014;89(12).
  - 4- Matthews A, Haas DM, O'Mathúna DP, Dowswell T, Doyle M. Interventions for nausea and vomiting in early pregnancy. *Cochrane Database Syst Rev*. 2014;3.
  - 5- Kramer J, Bowen A, Stewart N, Muhajarine N. Nausea and vomiting of pregnancy: prevalence, severity and relation to psychosocial health. *MCN: Am J Matern/Child Nurs*. 2013;38(1):21-7.
  - 6- Raymond SH. A survey of prescribing for the management of nausea and vomiting in pregnancy in Australasia. *Aust NZ J Obstet Gynaecol*. 2013;53(4):358-62.
  - 7- Chi NC, Demiris G. A systematic review of telehealth tools and interventions to support family caregivers. *J telemed telecare*. 2015;21(1):37-44.
  - 8- Beratarrechea A, Lee AG, Willner JM, Jahangir E, Ciapponi A, Rubinstein A. The impact of mobile health interventions on chronic disease outcomes in developing countries: a systematic review. *Telemed e-Health*. 2014;20(1):75-82.
  - 9- Abedian Z, Abbaszadeh N, Latifnejad Roudsari R, Shakeri MT. The effect of telephone support on the severity of nausea and vomiting in the first trimester of pregnancy in the primiparous women. *Iran J Obstet Gynecol Infert*. 2014;17(118):18-29.
  - 10- Bullock LF, Browning C, Geden E. Telephone social support for low-income pregnant women. *J Obstet Gynecol Neonatal Nurs*. 2002;31(6):658-64.
  - 11- Dennis CL, Kingston D. A systematic review of telephone support for women during pregnancy and the early postpartum period. *J Obstet Gynecol Neonatal Nurs* 2008;37(3):301-14.
  - 12- Lavender T, Richens Y, Milan SJ, Smyth RM, Dowswell T. Telephone support for women during pregnancy and the first six weeks postpartum. *Cochrane Database Syst Rev* 2013;7:CD009338.
  - 13- Liu MC, Kuo SH, Lin CP, Yang YM, Chou FH, Yang YH. Effects of professional support on nausea vomiting, and quality of life during early pregnancy. *Biol Res Nurs* 2014;16(4):378-86.
  - 14- Coleman EA, Tulman L, Samarel N, Wilmoth MC, Rickel L, Rickel M, et al. The effect of telephone social support and education on adaptation to breast cancer during the year following diagnosis. *Oncol Nurs Forum* 2005;32(4):822-9.
  - 15- Andrews JK, Armstrong L, Fraser JA. Professional telephone advice to parents with sick children: time for quality control. *J Paediatr Child Health* 2002;38(1):23-6.
  - 16- Hoyer BB, Toft GV, Debess J, Ramlau-Hansen CH. A nurse-led telephone session and quality of life after radiotherapy among women with breast cancer: a randomized trial. *Open Nurs J* 2011;5:31-7.
  - 17- Calvo GS, Gómez-Suárez C, Soriano JB, Zamora E, González-Gamarra A, González-Béjar M, Jordán A, Tadeo E, Sebastián A, Fernández G, Ancochea J. A home telehealth program for patients with severe COPD: the PROMETE study. *Respir med*. 2014;108(3):453-62.
  - 18- Jakobsen AS, Laursen LC, Rydahl-Hansen S, Østergaard B, Gerds TA, Emme C, Schou L, Phanareth K. Home-based telehealth hospitalization for exacerbation of chronic obstructive pulmonary disease: findings from "the virtual hospital" trial. *TELEMED e-HEALTH*. 2015;21(5):364-73.