Available online at: http://www.iajps.com   *Research Article*

THE EFFECTS OF COUNSELING ON QUALITY OF LIFE IN PRE-ECLAMPTIC WOMEN: A RANDOMIZED CLINICAL TRIAL

Fatemeh Shobeiri[1], Fatemeh Noori[2], Seyedeh Zahra Masoumi[1]*, Younes Mohammadi[3]

[1]Mother and Child Care Research Center, Hamadan University of Medical Sciences, Hamadan, Iran.
[2] M.Sc. Student in Midwifery Counseling, School of Nursing and Midwifery, Hamadan University of Medical Sciences, Hamadan, Iran.
[3] Modeling of Noncommunicable Diseases Research Center, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

Abstract:
Preeclampsia is not only the most frequent obstetrical complication of pregnancy, it is also one of the three leading causes of maternal morbidity and mortality worldwide. The aim of this study is to evaluate the group counseling on quality of life in pre-eclamptic women in Hamadan city, Iran. In a randomized controlled trial, 60 primigravida women with preeclampsia who were randomly allocated into two thirty-member groups of case and control. Written informed consent was obtained from all participants. Four Counseling sessions were performed in the case group. The control group received routine care. The Short-Form-12 Health Survey on general state of health was completed in both groups before and after intervention. Analyzing the data was performed by SPSS/20, using T test, chi-square test and Mann-Whitney test. P-value < 0.05 was regarded as significant. There was no significant difference between the two groups in the study variables at baseline (P>0.05). The global health status quality of life, based on SF-12, developed significantly in the case group (2.4±0.7 vs. 3.7±0.5) compared to controls (2.3±0.7 vs. 2.9±0.7) (P<0.001). The case group was associated with substantial development in total score of functions and symptoms of quality of life (P<0.001). The statistically and clinically crucial developments were indicated in functions and symptoms of quality of life in response to pre-eclamptic women. Self-care skills of preeclamptic women and fetal health could be improved by counseling system.
Keywords: *Councelling, pre-eclampsia; Quality of Life; Pregnant women*

*Corresponding Author:

Seyedeh Zahra Masoumi ,
Mother and Child Care Research Center,
Hamadan University of Medical Sciences,
Hamadan - Iran.
Email:zahramid2001@yahoo.com

QR code

INTRODUCTION:

Pregnant women experience numerous adjustments in their Physiological and psychological changes that help support the developing fetus. The fetal-placental unit secretes steroid hormones and proteins that alter the function of various maternal endocrine glands. Sometimes, the changes in certain hormone levels and their effects on their target organs can lead to gestational hypertension [1]. Hypertensive disorders during pregnancy occur in approximately 10% of pregnant women. One of the most common is preeclampsia, a hypertensive syndrome specific to pregnancy, generally defined as new hypertension (blood pressure > 140/90 mm Hg) and substantial proteinuria (≥300 mg in 24 h) at or after 20 weeks' gestation [2]. Preeclampsia is not only the most frequent obstetrical complication of pregnancy, it is also one of the three leading causes of maternal morbidity and mortality worldwide [3]. It affects the mother's and also the fetus' health seriously, and extensive perinatal care is needed to prevent acute complications such as severe maternal multi organ dysfunction and uteroplacental insufficiency followed by intrauterine growth restriction and fetal asphyxia. Maternal morbidities rarely persist after recovering from the disease, but the cardiovascular disease as a long-term complication is common [4]. In recent years, medical professions have been focusing on training and education programs for improve quality of life (QoL) in women. Pregnant women need care of health providers for education, awareness for improvement of their health [5]. Self care model was enhanced the knowledge, skills and attitudes were pre eclamptic patients. Pregnant women need extra care and seek emotional supports. The prevalence rate of pre-eclampsia and its high risk is high, therefore hospitalization and home care is very important. Lack of adequate training in hospitals was evident in solving the major problems of these patients [6]. Eclampcia has side effects that may have negative influence on the QoL [3]. Multiple parameters have effects on quality of life which include an individual's physical, functional, emotional and social well-being [7]. The evaluation of QoL in this population is claimed due to validated scales and questionnaires specifically designed for this cohort [8]. Counseling is rendered by professionals who counsel people especially on personal problems and difficulties [9]. The aim of the study was to evaluate Effects of counseling on QoL in pre-eclamptic primigravida women referred to health care centers in Hamadan city, Iran.

MATERIALS AND METHODS:

In a randomized controlled trial, 60 primigravida women with preeclampsia who were randomly allocated into two thirty-member groups of case and control. Written informed consent was obtained from all participants. Four counseling sessions were conducted for the intervention group was followed up until the end of pregnancy. The control group received routine care. The Short-Form-12 (SF-12) Health Survey on general state of health was completed in both groups before and after intervention. Inclusion criteria consisted of women (a) Preeclampsia is diagnosed, (b) Gestational age greater than 20 week (c), Primigravida, and (d) had no history of physical, medical and mental disorders. Exclusion criteria consisted of (a) women who unwillingness to continue and (b) women who be disorder during intervention. Regarding the results of a similar study conducted by Shobeiri et al. [6], the standard deviation (SD) QoL score in pregnant women in control and intervention was 2.8 and 3.3, respectively. Based on these results, we arrived at a total sample size of 30 in every group of control and intervention at 95% significance level and power 80%. The primary outcome measure was overall QoL, as measured by the Short Form Health Survey (SF-12). The SF-12 is a multipurpose short form survey with 12 questions, all selected from the SF-36 Health Survey [10]. The questions were combined, scored, and weighted to create two scales that provide glimpses into mental and physical functioning and overall health-related-quality of life. The SF-12 is a generic measure and does not target a specific age or disease group. It has been developed to provide a shorter, yet valid alternative to the SF-36, which has been seen by many health researchers as too long to administer to studies with large samples. The SF-12 is weighted and summed to provide easily interpretable scales for physical and mental health [8]. These items pertain to the dimension Global Health Status (1 items), Physical Functioning (2 items), Bodily Health (1 item), Emotional problems (2 items), Bodily Health (1 item), Social Function (1 item), Vitality & Vital Energy (1 item), and Mental Health (2 item). Each item is graded on a scale from 0 (not at all) to 4 (Very much)[8]. This study was performed according to the Helsinki declaration protocol and Good clinical practice guidelines. Ethical clearance was gotten from ethical and research committee of Hamadan University of Medical Sciences, Hamadan, Iran (IR.UMSHA.REC.1396.25). Data were analyzed using t-test, chi-square test, Mann-Whitney tests in the SPSS/20.

RESULTS:

Sixty women expressed interest in the study. They were randomly assigned in the exercise group (n=30) and the control group (n=30)(Figure 1). Demonstrates demographic and medical characteristics of participants (Table 1). Totally, the two groups were similar at baseline. No significant differences were found between the groups in terms of age, BMI, education, occupation, and hospitalization history. Mean Mother's age was 26.9±5.5 and 27.6±5.1 and mean husband's age was 31.4±6.2 and 32.5±5.1 years in case and control groups, respectively. The outcomes of QoL measures are reported in Table 2. The baseline values for the global health status QoL measures were not different between the two groups. Kolmogorov-Smirnov test demonstrated that no significant differences were found between the groups (P>0.05). This table also summarizes the outcome variables evaluated at the before and after intervention for the participants in case and control groups separately. The global health status QOL, based on SF-12, improved significantly in the case group (2.4±0.7 vs. 3.7±0.5) compared to controls (2.3±0.7 vs. 2.9±0.7)(P<0.001) and increased 1.3 for the case group and 0.6 for the control group (P<0.001). Analysis of the pre- and post-intervention demonstrated a considerable development for Physical Functioning (P<0.001), Bodily Health (P<0.001), Emotional problems (P<0.001), Bodily Pain (P<0.001). Social Function (P<0.001), Vitality & Vital Energy (P<0.001), and Mental Health (P<0.001) in both of the case and control groups (Table 2).
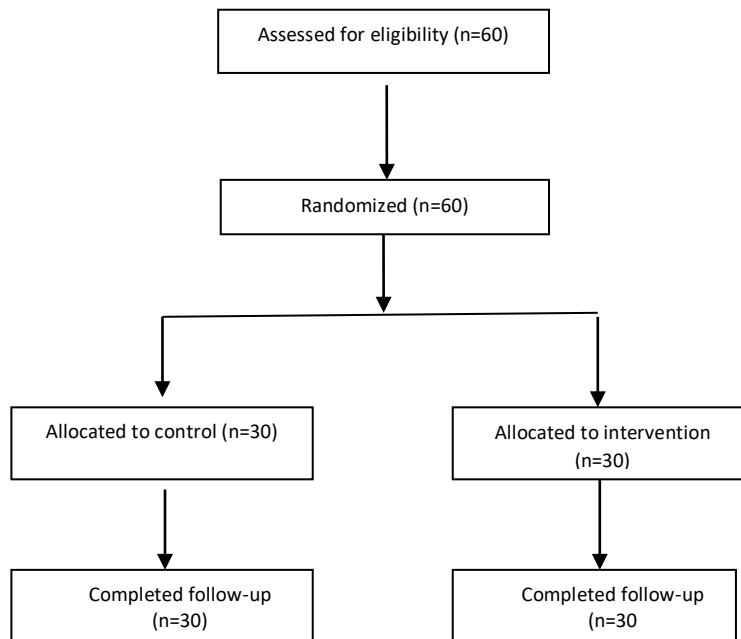
```
┌─────────────────────────────────┐
│  Assessed for eligibility (n=60) │
└─────────────────────────────────┘
                 │
                 ▼
┌─────────────────────────────────┐
│        Randomized (n=60)         │
└─────────────────────────────────┘
          │                │
          ▼                ▼
┌──────────────────┐  ┌──────────────────┐
│ Allocated to     │  │ Allocated to     │
│ control (n=30)   │  │ intervention     │
│                  │  │ (n=30)           │
└──────────────────┘  └──────────────────┘
          │                │
          ▼                ▼
┌──────────────────┐  ┌──────────────────┐
│ Completed        │  │ Completed        │
│ follow-up        │  │ follow-up        │
│ (n=30)           │  │ (n=30            │
└──────────────────┘  └──────────────────┘
```

Figure 1: Flow of participants through the trial

Table 1: Baseline characteristics of the study population

Characteristics	Case group n=30	Control group n=30	P-value
Age(yr)	26.9±5.5	27.6±5.1	0.633
Husband,s Age(yr)	31.4±6.2	32.5±5.1	0.457
Education (%)			
Elementary	13(43.3)	8(26.7)	
High school & diploma	12(40.0)	11(36.7)	0.071
College	5(16.7)	11(36.7)	
Job (%)			
Housewife	2(6.7)	6(20.0)	0.132
Practitioner	28(93.3)	24(80.0)	
Husband's Job(%)			
Employed	4(13.3)	10(33.3)	-
Unemployed	26(86.7)	20(66.7)	
Husband's Education (%)			
Elementary	11(36.7)	9(30.0)	
High school & diploma	13(43.3)	9(30.0)	0.198
College	6(20.0)	12(40.0)	
BMI (%)			
<18.5	1(3.3)	1(3.3)	
18.5-24.9	16(53.3)	16(53.3)	0.750
25-29.9	7(23.3)	9(30.0)	
≥30	6(20.0)	4(13.4)	
Family income			
<1000000	11(36.7)	8(26.7)	
1000000-2000000	16(53.3)	15(50.0)	0.187
>2000000	3(10.0)	7(23.3)	
The satisfaction of the economic status			
Good	2(6.7)	7(23.3)	
Moderate	9(30.0)	14(46.7)	0.016
Poor	19(30.0)	9(30.0)	
Hospitalization history			
Yes	2(6.7)	5(16.7)	-
No	28(93.3)	25(83.3)	

Data for continuous variables is presented as mean (SD); Data for categorical variables is presented as frequency (percentage). P- value for the difference between groups.

Table 2: Comparative of measurement of quality of life (SF-12) between groups [a]

Variables	Before intervention (Mean±SD)	After intervention (Mean±SD)	P-value*
Global Health Status/QoL[b]			
Case	2.4±0.7	3.7±0.5	<0.001
Control	2.3±0.7	2.9±0.7	
Physical Functioning			
Case	2.8±0.9	4.6±1.0	<0.001
Control	2.9±0.6	2.9±0.6	
Bodily Health			
Case	2.0±0.4	2.9±0.6	<0.001
Control	2.2±0.6	2.3±0.6	
Emotional problems			
Case	2.0±0.2	3.9±0.2	<0.001
Control	2.2±0.6	2.3±0.6	
Bodily Pain			
Case	2.8±0.9	3.9±0.8	<0.001
Control	2.4±0.8	1.8±0.6	
Social Function			
Case	3.0±1.4	4.2±1.2	<0.001
Control	3.3±0.7	3.0±0.7	
Vitality & Vital Energy			
Case	3.0±0.9	4.2±1.0	<0.001
Control	2.5±0.6	2.6±0.4	
Mental Health			
Case	6.2±1.7	8.4±1.8	<0.001
Control	5.6±1.1	5.1±1.1	

[a] The values are presented as mean ± SD; a Mann-Whitney U between groups and P values relate to the differences between groups at the end of the intervention; [b] Quality of life; Statistical significance of $P < 0.05$.

DISCUSSION:

The results of this study showed that the Counseling program improved scores of QoL in pre eclamptic pregnant women in before and after the intervention. Furuta et al. [11] conducted A systematic review of the relationship between severe maternal morbidity and post-traumatic stress disorder in UK. This study showed that there is some evidence that severe pre-eclampsia is a risk factor for post-traumatic stress disorder and its symptoms, an association possibly mediated by other factors such as fetal/neonatal condition. Makvandi et al.[12] conducted a study about QoL in pregnant women in Iran and reported that The highest score of quality of life was related to social functioning dimension and lowest scores were related to Energy/ fatigue and Role limitations due to physical health dimensions. According to WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia , educational program improved QoL of preclamptic pregnant women [13].

A similar study that was conducted by Shobeiri et al. (2016) showed that after one month of self-care education, Mean scores of the self awareness, attitude, and skills were increased significantly in the case group after intervention (P< 0.05). Self-care skills of preeclamptic women and fetal health could be improved by supportive- educative system [6]. The study three month after training sessions in the intervention group, scores of vasomotor, psychological, mental, physiological and sexual domains of quality of life in menopause women were improved (P<0.001)[5]. Concerning health related quality of life after the intervention period, the main finding of the present study showed that many functions had increased based on SF-12. These results are in accordance with the results of another research [14-18]. The limitation in this study was small sample size which may not be generalizable to other groups and communities. Therefore, we suggested that this study is conducted at wider range.

CONCLUSION:

The results of this study showed that the Counseling program in 4 sessions improved scores of QOL in preeclamptic women in after the intervention. Self-care skills of preeclamptic women and fetal health could be improved by counseling system.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

REFERENCES:

1.Robson SC, Hunter S, Boys RJ, Dunlop W. Serial study of factors influencing changes in cardiac output during human pregnancy. American Journal of Physiology-Heart and Circulatory Physiology. 1989.

2.Beltran AJ, Wu J, Laurent O. Associations of meteorology with adverse pregnancy outcomes: a systematic review of preeclampsia, preterm birth and birth weight. International journal of environmental research and public health. 2013;11(1):91-172.

3.Stern C, Trapp E-M, Mautner E, Deutsch M, Lang U, Cervar-Zivkovic M. The impact of severe preeclampsia on maternal quality of life. Quality of Life Research. 2014;23(3):1019-26.

4.Sibai BM, Committee P, Medicine SfM-F. Evaluation and management of severe preeclampsia before 34 weeks' gestation. American journal of obstetrics and gynecology. 2011;205(3):191-8.

5.Shobeiri F, Jenabi E, Khatiban M, Hazavehei SMM, Roshanaei G. The Effect of Educational Program on Quality of Life in Menopausal Women: A Clinical Trial. Journal of menopausal medicine. 2017;23(2):91-5.

6.Shobeiri F, Doosti F, Oshvandi K, Soltanian A. The Effect of Orem's Self Care Model on Control of Preeclampsia in Pregnant Women: A Randomized Clinical Trial. RESEARCH JOURNAL OF PHARMACEUTICAL BIOLOGICAL AND CHEMICAL SCIENCES. 2016;7(4):1383-9.

7.Shobeiri F, Masoumi SZ, Nikravesh A, Heidari Moghadam R, Karami M. The Impact of Aerobic Exercise on Quality of Life in Women with Breast Cancer: A Randomized Controlled Trial. Journal of research in health sciences. 2016;16(3):127-32.

8.Ware JE. The SF-12v2TM how to score version 2 of the SF-12® health survey:(with a supplement documenting version 1): Quality Metric; 2002.

9.Shobeiri F, Manoucheri B, Parsa P, Roshanaei G. Effects of Counselling and Sole Reflexology on Fatigue in Pregnant Women: A Randomized Clinical Trial. Journal of clinical and diagnostic research: JCDR. 2017;11(6):QC01.

10.Ware Jr JE, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. Medical care. 1996;34(3):220-33.

11.Furuta M, Sandall J, Bick D. A systematic review of the relationship between severe maternal morbidity and post-traumatic stress disorder. BMC pregnancy and childbirth. 2012;12:125.

12.Makvandi S, Kermani AE. Quality of life of pregnant women referred to health centers in Izeh (2010). Journal of Kermanshah University of Medical Sciences (J Kermanshah Univ Med Sci). 2012;16(1):37-42.

13.Organization WH. WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia: evidence base. 2011.

14. Soltani F, Shobeiri F. Mensatrual patterns and its disorders in high school girls. The Iraian J of Obstetrica , Gynecology & Infertility (IJOGI). 2011; 14(1):28-36.

15. Akbarzadeh M. et al. Investigating the Factors Influencing the Duration of Beginning Delivery to Hospital Discharge using Cox Regression Model . The Iraian J of Obstetrica , Gynecology & Infertility (IJOGI). 2014; 17(105):1-9.

16.Ahmadi S, Kazemi F, Masoumi SZ, Parsa P, Roshanaei G. Intervention based on BASNEF model increases exclusive breastfeeding in preterm infants in Iran: A randomized controlled trial. International Breastfeeding Journal. 2016;11(1):30

17.Kashanian M, Fekrat M, Masoomi Z, Sheikh Ansari N. Comparison of active and expectant management on the duration of the third stage of labour and the amount of blood loss during the third and fourth stages of labour: a randomised controlled trial. Midwifery. 2010;26(2):241-5

18.Masoumi SZ, Garousian M, Khani S, Oliaei SR, Shayan A. Comparison of quality of life, sexual satisfaction and marital satisfaction between fertile and infertile couples. International Journal of Fertility and Sterility. 2016;10(3):290-6