



Evaluation of the Relationship between Perceived Social Support and Self-care in women with Preeclampsia Referring to the Emergency Room of a Selected Hospital in Ilam

Masoumeh Zakerimoghadam¹, Fatemeh Karami^{2*}

¹Member of Medical-Surgical Nursing Department, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran

²Instructor, Department of Nursing, Ilam University of Medical Sciences, Ilam, Iran, MSc in Emergency Nursing, Tehran University of Medical Sciences, Tehran, Iran

Article info

Received: 06.10.2025

Accepted: 07.11.2025

Available Online: 07.11.2025

Checked for Plagiarism: Yes

Keywords:

cognitive social support, self-care, pregnancy, preeclampsia

ABSTRACT

Introduction: Pregnancy blood pressure disorders are related to adverse outcomes and even maternal death. In order to better manage this problem, it is important to evaluate the effective social factors in the self-care status of women with these disorders so this study was conducted with the aim of determining the relationship between cognitive social support and self-care of women with preeclampsia referred to a selected hospital in Ilam.

Materials and methods: In this "descriptive-correlation" study, 233 women with preeclampsia referred to the emergency department of Taleghani Hospital in Ilam in 2024 participated based on available sampling method. The data collection tools of this study include demographic and disease information questionnaire, Zimmet Perceptual Social Support Scale (MSPSS) and self-care questionnaire in patients with hypertension (HTN-SCP). These data were analyzed using SPSS version 23 software and based on descriptive tests and Pearson test.

Findings: The average score of perceived social support among the studied samples was equal to 71.05 ± 6.04 out of the total score of 84 which shows a high level of perceived social support. The average self-care score among the studied samples was 39.82 ± 4.07 out of a total score of 54 which shows the average level of self-care in the samples. Also there was a negative and significant correlation between perceived social support and self-care ($p < 0.001$, $r = -0.29$).

Conclusion: According to the results of this study, officials active in the field of pregnant women's health and nurses working in medical centers should consider the measures and interventions necessary to promote cognitive social support and increase the amount of self-care in women with preeclampsia.

Introduction

Hypertensive disorders of pregnancy (HDP) are a major complication during pregnancy and are among the top three causes of death for pregnant women, following bleeding and infection (1). These disorders include gestational hypertension, chronic hypertension, preeclampsia, preeclampsia with chronic hypertension and eclampsia (2). Preeclampsia is observed in 2-4 percent of pregnancy complications worldwide and causes the death of 46,000 mothers and about 500 fetuses and babies

annually (3). Preeclampsia is the second cause of maternal death in Iran (4).

Symptoms of preeclampsia include an increase in blood pressure above 140 mm Hg and 90 mm Hg after the 20th week of pregnancy along with proteinuria symptoms, neuro-visual complications, pulmonary edema, a decrease in the number of platelets to less than 150 microliters, hemolysis, renal impairment (increased levels Creatinine), liver effects (such as increased transaminases, alanine aminotransferase, aspartate aminotransferase (5) accompanied by right upper quadrant abdominal

*Corresponding Author: **Fatemeh Karami** (karami-f@medilam.ac.ir)-

¹ Email: zakerimo@tums.ac.ir

pain with epigastric pain (6). The exact cause of preeclampsia remains unclear, but it is known to originate from the placenta.

It is primarily linked to abnormalities in the uterine spiral arteries, leading to placental ischemia and oxidative stress (7,8). Most cases of preeclampsia occur near the time of parturition and are mild and temporary especially women who develop preeclampsia before term, face serious or even fatal complications (3).

Preeclampsia also threatens the life of the fetus and can cause fetal growth restriction and macrosomia so preeclampsia is associated with increased perinatal risks (9). According to the evidence, the quality of life in patients with blood pressure disorders is low (10,11) and these women need motivation, experience and skills to perform behaviors related to maintaining and improving health and quality of life. These cases are related to the concept of self-care (11). Self-care is shaped by the skills and knowledge individuals apply in their daily lives. It involves behaviors such as disease prevention, pain management, treatment, and controlling conditions that affect life, health, and overall well-being (12). Pregnancy-related blood pressure disorders are among the most common issues affecting pregnant women and can lead to complications for both the mother and fetus. Therefore, monitoring this condition and enhancing self-care practices for its prevention and management are crucial. Unfortunately, only 24% of women with hypertensive disorders during pregnancy can effectively control their blood pressure, while 64% are unaware of self-care strategies (13). Self-care behaviors in women with preeclampsia in reducing the incidence of outcomes Adverse factors such as premature parturition, low birth weight and intrauterine growth restriction are effective (14).

Although studies have reported the positive effects of self-care on the control of preeclampsia symptoms, there is still a lack of studies on the effective factors of self-care in women with preeclampsia (13). Family functioning can improve the physical and mental health of pregnant women (15). Social support can also play an important role in changing the lifestyle and improving physical and mental health outcomes in mothers (16). Perceptual social support refers to a person's perception of the type of support that should exist and is necessary according to this person (17). The potential role of perceived social support in improving health behaviors in pregnant women has been reported and for effective self-care in pregnant women with blood pressure disorders, in addition to regular blood pressure control, there is also a need for a healthy diet (18). According to reports, women with preeclampsia feel lonelier and have less understanding of their partner's support (19). Decreasing the amount of social support makes it

difficult for people to change their self-care behavior patterns (20). This issue makes them vulnerable to sensitive conditions such as during pregnancy and here, preeclampsia is also considered as a risk factor that increases maternal and neonatal complications (21). Whether there is a relationship between social support and health behaviors such as self-care in pregnant women with preeclampsia has not yet been adequately evaluated. Understanding this mediating effect is essential for designing interventions aimed at improving pregnancy care. The goal of nursing care for pregnant women is related to maintaining their quality of life (22) so nurses can play an important role in improving proper self-care behaviors among pregnant women. On the other hand, nurses, who play a vital role in the health care system, should also play an important role in the management of preeclampsia in pregnant women. They must protect the health of the mother and fetus (14). The increasing risk of preeclampsia in pregnant women and its related complications pose a significant concern for maternal quality of life in healthcare settings. However, research on self-care and social support among women with preeclampsia remains limited. This study highlights the importance of social factors, particularly perceived social support, and the role of self-care in managing preeclampsia. Drawing from the researcher's experience as a nurse in gynecology and obstetrics, the study aims to examine the relationship between perceived social support and self-care in women with preeclampsia.

Methods

This research is a cross-sectional descriptive-analytical study conducted between February and June 2024. The study population consisted of pregnant women with preeclampsia who visited the Taleghani emergency room in Ilam city, affiliated with Ilam University of Medical Sciences. Inclusion criteria required a confirmed diagnosis of preeclampsia by an internal medicine specialist, stable blood pressure without critical conditions, no history of severe stress during the current pregnancy, no infectious diseases, no involvement in a car accident, no rupture of the amniotic sac, and no psychological disorders. Exclusion criteria included hemodynamic instability, while participants who did not complete the questionnaires were removed from the study. To determine the sample size from Basharpour et al.'s study (23), the

$$n = \frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta} \right)^2}{\left[\frac{1}{2} \ln \left(\frac{1+r}{1-r} \right) \right]^2} + 3$$

formula was used considering the correlation coefficient of 0.19 (r), the first type error of 5 percent (α) and the second type error of 80 percent (β). In the end, the sample size was 212 which was 233 people considering 10 percent attrition. The sampling method in this research was available in the form and women with pre-eclampsia with a definite diagnosis by an internist in the presence of pre-eclampsia symptoms along with proteinuria symptoms for other maternal end-organ function disorders such as neurological complications (change in mental status, blindness, stroke, severe headache clonus or persistent visual scotoma), pulmonary edema, hematologic complications (platelet count less than 150 μ L), hemolysis, renal impairment (creatinine greater than or equal to 90 μ mol/L or 1 mg/dL), hepatic impairment (Such as increased transaminases, alanine aminotransferase, aspartate aminotransferase more than 40 milliunits (38), with or without right upper quadrant pain or epigastric pain (39), were selected for this study to collect information from a questionnaire related to demographic information and disease, multidimensional scale of perceived social support (MSPSS) and self-care questionnaire in patients with hypertension (HTN-SCP) were used.

Demographic and disease information questionnaire

This questionnaire gathers information on the personal and social characteristics of the pregnant woman, including the age of both the wife and husband, their educational levels, occupations, place of residence, duration of marriage, number of children, income status, the woman's body mass index, as well as her medical and pregnancy history. It also includes details such as the current pregnancy's duration, number of pregnancies and deliveries, history of abortion, attempted abortion, stillbirth, unwanted pregnancies, any concurrent illnesses with hypertension, medications used during pregnancy, and any history of hospitalization during the pregnancy.

Multidimensional scale of perceived social support

The Multidimensional Scale of Perceived Social Support is a 12-item instrument designed by Zimet et al. in 1988 (24). This scale measures social support from three sources: family (4 questions), community (4 questions) and friends (4 questions) and scoring on a seven-point Likert scale (from 1 which means completely disagree to 7 which means completely agree) (19). The minimum score of the individual in the whole scale was equal to 12 and the maximum score was equal to 84. These scores were obtained in each of the subscales of family, social and friends support with a minimum of 4 and a maximum of 28. Here higher score indicated higher perceived social support (25). Zimet et al

calculated the reliability of this scale for the family dimension with Cronbach's alpha equal to 0.95, for the community dimension equal to 0.93 and for the friend's dimension equal to 0.93 (24). In Iran, Salimi et al translated and psychoanalyzed this scale and the results showed a Cronbach's alpha of 84 (26). Rostami et al. (2010) obtained Cronbach's alpha coefficient for social support dimensions between 0.76 and 0.89 (27). In the study of Saraeyan and Sajadiyan (2016), Cronbach's alpha coefficient was reported as 0.89 for the whole scale, 0.78 for friends, 0.89 for important people and 0.90 for family (28).

Self-care questionnaire in people with hypertension (HTN-SCP)

This questionnaire was designed in 2014 by Han et al. which evaluates all aspects of self-care in patients with high blood pressure. The answers are scored in the form of 4-choice Likert (point 4 means always, point 3 means often, point 2 means sometimes and point 1 means never). The lowest score is 19 and the highest score is 76. Higher scores indicated a higher level of self-care of the studied samples. The correlation of the items of this tool was 0.2 to 0.63 and the content validity index has been reported as optimal (29). In Iran, this questionnaire was reported by Ghanegi Gheshlagh et al. (2017) with Cronbach's alpha coefficient equal to 0.86 based on the open test method (30). After obtaining permission from the Joint Institutional Committee on Ethics in Research, School of Nursing and Midwifery, Tehran University of Medical Sciences, this research started with receiving an official letter of introduction for Taleghani Hospital in Ilam city (affiliated to Ilam University of Medical Sciences). At first, the objectives and necessary items for answering the study questions were explained to the female participants and it was emphasized that participation in the study is voluntary and the information of the women under study remains confidential and then informed consent was obtained from the participants. Then demographic and disease information questionnaires were answered by asking the participants and using the case of the studied women and the multidimensional scale of perceptual social support and the self-care questionnaire in the form of self-report. After completing the questionnaire, the resulting data were analyzed by SPSS software version 23. To evaluate the demographic characteristics of the samples, descriptive statistics (mean, standard deviation, frequency and frequency percentage) as well as the Pearson correlation test were used to evaluate the relationship between perceived social support and self-care. 0.01, significant observation difference was seen.

Findings

In this study, 233 pregnant women with pre-eclampsia referred to the emergency department of Taleghani Hospital in Ilam city were evaluated. The average age of these women was 34.29 ± 6.86 years. Other information of the studied patients is reported in Table 1. Based on the results of Table 2, the mean and deviation of the total perceptual social support index was equal to 71.01 ± 6.04 for the period from 12 to 84 which indicates a high level of social support among the studied women. Based on the results of this table, the mean and deviation of the total self-care index was equal to 39.82 ± 4.07 for the period from 19 to 76 which indicates the average level of self-care among the studied women. According to the results of Table 4, among total perceived social support ($p < 0.05$, $r = -0.22$), social support in the dimension of family support ($p < 0.05$, $r = -0.219$) and social support in the dimension of friends $p < 0.01$, $r = -0.151$ with the self-care score of all the studied samples had a significant and inverse relationship in such a way that with the increase in the perceptual social support score in the mentioned dimensions, the self-care level also decreased significantly. Also there was a significant and inverse relationship between perceived social support and self-care for diet and activity dimensions ($r = -0.151$), drug regimen ($r = -0.133$) and disease management ($r = -0.185$) ($p < 0.05$) that with the increase in the perceived social support score, the amount of self-care in the mentioned dimensions was also significantly reduced. There is a significant and inverse relationship between family perception social support and self-care in terms of diet and activity ($r = -0.184$) and disease management ($r = -0.210$) in a way ($p < 0.05$) that with increasing social support score Family perception, the amount of self-care in the mentioned dimensions was also significantly reduced. Finally, there is a significant and inverse relationship between friends' perceived social support and self-care medication regimen dimension ($r = -0.210$) ($p < 0.01$) that with the increase in friends' perceived social support score, medication self-care also increases had decreased significantly.

Discussion

This study was conducted with the aim of determining the relationship between perceived social support and self-care in women with preeclampsia referred to the emergency room of a selected hospital in Ilam. The results of this study showed that the amount of social support in the majority of the studied women was at a high level. Among the dimensions of social support, the level of perceived social support from family, community and friends has been reported at a medium to high level. The results of the study by Sarmasti et al. (2019) (4), the study by Masjodi et al. (2022) (31), are not consistent with the results of this study and

this issue indicates the average level of overall perceived social support and the dimensions of support from family, friends and community in women with PMS. It was eclampsia. One of the reasons for the non-alignment of the results can be related to the cultural difference between the two studied communities and the level of family and social interaction of the women studied, that is, pregnant women with preeclampsia consider themselves responsible for the occurrence of this disorder in pregnancy so this level of support Social decline. Also the pregnant women studied in the aforementioned research can have a low level of social and family interaction compared to the women studied in this research.

The results of the study by Spread et al. (2019) and Robert et al. (2017) were also not consistent with the results of this study and this indicated a low level of social support among women with preeclampsia (32, 34). One of the reasons for the inconsistency of the results of the studies is related to the difference in the attitude and performance of the husbands of women with preeclampsia in dealing with their husbands and the husbands of these women can have such an attitude that the personnel working in the treatment centers treat their wives to the desired extent. They provide physical and mental support and these women do not need the support of other family members and as a result, they are neglected by their husbands. These results show the average level of self-care in terms of diet and activity, drug regimen, food label and disease management among the studied women. According to the results of this study, it seems that the main cause of the average level of self-care in the studied women is the lack of understanding of the disease and poor self-efficacy regarding self-care during pregnancy with preeclampsia because the knowledge and understanding of the disease, includes the patient's knowledge about the disease and the patient's beliefs about the disease and treatment (35). Self-efficacy is one of the main components of self-care (36). The results of the study by Ahmad Mohammad et al. (2022) (14) and the study by Singh et al. (2016) (37) and the results of the study by Kalani et al. (2022) (38) were not consistent with the results of this study and this indicates a low level of self-care. It was in women with preeclampsia. This issue shows the importance of educating pregnant women with preeclampsia about self-care behaviors in the fields of diet and activity, drug regimen, food labels and disease management. The results of the study by Ahmadi Nezhad et al. (2020) were also consistent with the results of this study. This problem showed the average level of self-care among women with preeclampsia (18). The alignment of the results in these studies shows that pregnant women with preeclampsia have some necessary knowledge about the dimensions of diet and physical activity, drug treatment and self-management.

The results of this study also revealed that pregnant women who perceive higher levels of social support from family, friends, and the community tend to have lower levels of self-care. These women do not view self-care behaviors as necessary for a healthy pregnancy, believing that social support is sufficient to continue their pregnancy. Additionally, the study found that in women with high social support, adherence to medication also decreases. Considering the challenges posed by preeclampsia, adherence to treatment is crucial for both the continuation of the pregnancy and the health outcomes for the mother and baby. Despite this, the women in this study felt closely connected to their family and friends, and they were able to discuss their problems and seek guidance from them. The results of the study by Golmani et al. (2020) did not match the results of this study and showed that women with preeclampsia have a high level of social support. Follow-up of these women to receive pregnancy care services and perform self-care behaviors was more than others (39). One of the reasons for the non-alignment of the results of the studies can be related to the difference in the importance of the self-care issue for people and the follow-up of pregnancy care from the perspective of the women studied in two related studies. The results of the study by Phummanee et al. (2024), the results of the study by Tang et al. (2023) and the results of the study by Moghadam et al. (2020) were not consistent with this study and showed that in women with gestational diabetes with a high level of social support, self-care is at a higher level compared to other women (43). One of the possible reasons for the inconsistency of the results in the two studies is related to the difference in the physical and mental needs of the women studied in this research with the aforementioned non-hosmo studies due to the difference in women's pregnancy disorders. According to these non-aligned studies, social support in pregnant women by increasing mental tolerance to actively deal with stress, led to an increase in self-management in diabetes, the main consequence of which is the improvement of self-care among women. Although the women studied in this research reported positive social support, it seems that this support did not change their emotional tolerance and active coping with stress and as a result, the women in this research were not aware of self-care behaviors have weakness. The results of the study by Long et al. (2021) were not consistent with this study and showed that the support of family and friends are among the effective factors in increasing self-efficacy, self-confidence and empowerment of pregnant women with diabetes regarding self-care of pregnant women with diabetes. (43). It appears that, for the women in this study, social support from family, friends, and society was not adequate or effective in boosting their self-efficacy, self-confidence, or empowering

them to engage more in self-care behaviors. One of the strengths of this study is that it is the first of its kind in Iran to examine the relationship between cognitive social support and self-care in women with preeclampsia, making it a valuable resource for future research on similar topics.

Limitations

One limitation of this study is that the data were collected through a self-report questionnaire, which may have introduced bias in participants' responses. As a result, the gathered information may not fully reflect all aspects of the studied phenomena. Additionally, the participants' mental state at the time of completing the questionnaire could have influenced their answers. Although efforts were made to enhance the accuracy of responses by administering the questionnaire at an appropriate time and place and encouraging participants to answer carefully, another limitation is the variation in how women perceive and interpret social support. This factor, which is beyond the researcher's control, could have impacted the study results.

Conclusion

The findings of this study indicated that the participants had a high level of perceived social support, while their self-care levels were moderate. Interestingly, as perceived social support increased, self-care levels decreased among the studied women. Based on these results, pregnant women with preeclampsia need to enhance their social support from family, friends, and society, as well as improve their self-care practices. Achieving this requires increasing their knowledge and self-efficacy in health-related behaviors. Given the significant relationship between perceived social support and self-care, healthcare providers, including nurses and health officials, should implement necessary interventions to strengthen social support and promote self-care among pregnant women with preeclampsia.

Ethical considerations

This article is based on a master's thesis in nursing approved by the ethics committee of Tehran University of Medical Sciences, with ethics code (IR.TUMS.FNM.REC.1402.209). Ethical guidelines were followed throughout all stages of the study. Participants were thoroughly informed about the study's objectives, and written informed consent was obtained from them. They were assured that their information would be kept confidential and that they could withdraw from the study at any time.

Gratitude

The authors of this article thank all the patients who participated in the research as well as the vice president of research and technology of Tehran

University of Medical Sciences and the management of Taleghani Hospital in Ilam.

Conflict of interest

According to the authors, this article has no conflict of interest.

Table 1. frequency distribution of social-individual characteristics and pregnancy and parturition of the studied samples (322 people)

Individual-social characteristics		Average $\pm$ Standard deviation
Age (years)		34/29 $\pm$ 6/86
Duration of marriage (years)		4/06 $\pm$ 7/03
Body mass index (kg/m2)		5/99 $\pm$ 38/03
Systolic blood pressure (mmhg)		148/38 $\pm$ 9/94
Diastolic blood pressure (mmhg)		13/68 $\pm$ 83/14
Gestational age (weeks)		37.0 $\pm$ 34/18
Individual-social characteristics		frequency (percentage)
Female education level	Elementary	12(5/2)
	Guidance	22(9/4)
	High school	733(1/3)
	University	126(54/1)
Spouse's education level	Elementary	11(4/7)
	Guidance	20 (86)
	High school	49(21)
	University	153(65/7)
Woman's job	Housekeeper	169 (72/5)
	Employee	45 (19/3)
	Worker	14(6)
	Freelancer	5(2/1)
Wife's job	Employee	108 (46/4)
	Worker	23(9/9)
	Freelancer	102(43/8)
Place of life	City	210 (90/1)
	The village	239/9)
Number of children	Without children	74(31/8)
	One child	92(39/5)
	Two children	50(21/5)
	Three children and more	177(3)
Income status	Down	74(318)
	Average	92(395)

Smoking and tobacco use before pregnancy	Yes	٦(٢,٦)
Number of pregnancies	Yes	١١١(٤٧,٦)
	First pregnancy	٥٨(٢٤,٩)
	Second pregnancy	٦٤٢٧,٥)
Number of parturition	Third pregnancy or more	١١٢(٤٨,١)
	No history of parturition	٥٨٢٤,٩)
	One parturition	٣٤(١٤,٦)
	Two parturition	٢٩(١٢,٤)
History of abortion	Three parturitions	٨٧٣٧,٣)
History of stillbirth	Yes	٦(١٢,٦)
History of wanted abortion	Yes	١٧(٧,٣)
Type of pregnancy	Yes	١٨٦(٧٩,٨)
	Wanted	٤٧(٢٠,٢)
Suffering from other diseases at the same time as high blood pressure	Unwanted	٦(٢,٦)
	Endocrine diseases	٤٠ (١٧٢)
	Diabetes	٦(٢,٦)
	Cardiovascular diseases	١٨١(٧٧,٧)
Drug use during pregnancy	No medical history	٩٨ (٤٢,١)
History of hospitalization during pregnancy	Yes	٤٠ (١٧,٢)

Table 2. descriptive indicators of social support and its dimensions in the studied samples

Variables	Minimum	Maximum	Average ± Standard deviation
Social (important people)	19	28	25.13±2.14
Family	12	28	24.32±3.38
Friends	4	28	21.6±3.91
Perceived social support (total)	46	84	71.05±6.04
Variables	19	28	25.13±2.14

Table 3. descriptive indicators of self-care and its dimensions in the studied samples

Variables	Minimum	Maximum	Average ± Standard deviation
Diet and activity	9	26	18.8±2.28
Drug regimen	4	13	7.37±1.63
Food label	2	8	4.85±1.51
Disease management	5	15	8.79±1.7
Total self-care	22	54	39.82±4.07

Table 4. correlation matrix of perceived social support and its components with self-care and its components in the studied samples

Variables	1	2	3	4	5	6	7	8	9
1- Cognitive social support	1								
2- Social (important people)	.603*	1							
3- Family	.615*	.176*	1						
4- Friends	.841*	.275*	.245*	1					
5- Self-care	-.220*	-.102	.219*	.151*	1				
6. Diet and activity	-.150*	-.044	.184*	-.095	.710*	1			
7- Drug regimen	-.133*	-.029	-.065	-.150*	.478*	.039	1		
8- food label	-.016	-.041	-.006	.001	.500*	.197*	.036	1	
9- Disease management	-.185*	-.122	-.210*	-.091	.542*	.144*	.103	.010	1
P<0/01 & *.P<0/05.**									

Disclosure Statement

No potential conflict of interest reported by the authors.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' Contributions

All authors contributed to data analysis, drafting, and revising of the paper and agreed to be responsible for all the aspects of this work.

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