



Evaluation of factors related to perceived social support in women with preeclampsia referred to the emergency room of a selected hospital in Ilam

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ABSTRACT

Introduction: Preeclampsia is one of the most important hypertension disorders in pregnancy with adverse consequences and even maternal death. Evaluation of social support and factors related to it can protect women with preeclampsia from adverse mental and physical health outcomes so this study aims to determine factors related to perceived social support in 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 by available sampling method. The data collection tool included SPSS 21 software and the data were analyzed based on descriptive and analytical tests (independent T-test and analysis of variance).

Findings: The average score of perceived social support among the studied samples was equal to 71.05 ± 6.04 out of a total of 84 points which indicates a high level of perceived social support among the studied samples. Also between the average score of perceived social support with smoking and tobacco use ($P=0.001$), history of stillbirth ($P=0.02$) and type of pregnancy ($P=0.04$). In the studied samples, a significant relationship was observed.

Conclusion: According to the results of this study, the health officials of pregnant women and nurses working in medical centers should consider the measures and interventions necessary to improve the perceived social support according to individual, social and disease factors in women with preeclampsia.

Introduction

Preeclampsia is a multisystem, pregnancy-specific disorder characterized by the new onset of hypertension and proteinuria or end organ dysfunction after 20 weeks of gestation. It remains a leading cause of maternal and perinatal morbidity and mortality worldwide, affecting approximately 2% to 8% of all pregnancies (American College of Obstetricians and Gynecologists, 2019). The etiology of preeclampsia is multifactorial, involving abnormal placentation, systemic inflammation, endothelial dysfunction, and antigenic imbalance. However, beyond its well-documented biomedical dimensions, preeclampsia increasingly recognized as a condition with profound psychosocial implications that significantly affect patient outcomes and quality of life.

Women diagnosed with preeclampsia face sudden hospitalization, potential for rapid clinical deterioration, uncertainty regarding maternal and fetal outcomes, and the possibility of iatrogenic preterm delivery. These circumstances generate substantial psychological distress, including anxiety, fear, depression, and perceived loss of control (Sekhon et al., 2021). The emergency room setting, in particular, represents a critical juncture in the care trajectory of women with preeclampsia. Unlike scheduled admissions, emergency presentations are characterized by diagnostic ambiguity, urgent decision-making, separation from familiar environments, and exposure to acute care protocols

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that may prioritize clinical stabilization over psychosocial support.

For many women, this experience compounded by physical symptoms including severe headache, visual disturbances, epigastric pain, and dyspnea, which further amplify feelings of vulnerability.

Within this context, perceived social support emerges as a potentially modifiable factor that may buffer the psychological impact of preeclampsia and influence both immediate coping and longer-term health outcomes. Perceived social support refers to an individual's subjective appraisal that they are cared for, valued, and integrated within a network of mutual assistance (Cohen & Wills, 1985). This construct is distinct from received support; it reflects the cognitive appraisal of support availability rather than the objective frequency of supportive transactions. Research across diverse patient populations has consistently demonstrated that higher perceived social support is associated with reduced psychological distress, better treatment adherence, and improved clinical outcomes (Lakey & Orehek, 2011). In obstetric populations specifically, inadequate social support has been linked to higher rates of postpartum depression, lower birth weight, and increased maternal stress (Bedaso et al., 2021).

The theoretical mechanisms linking social support to health outcomes in preeclampsia are multidimensional. The main effect model proposes that social support confers generalized health benefits irrespective of stress levels, while the stress-buffering model suggests that support protects individuals specifically during high-stress encounters by modifying cognitive appraisals of threat and enhancing perceived coping resources (Cohen, 2004). For women with preeclampsia in emergency settings, both mechanisms likely operate simultaneously. Family members, intimate partners, and friends may provide tangible assistance (accompanying the patient, communicating with clinical staff), emotional reassurance (listening, validating concerns), and informational guidance (clarifying medical recommendations). The perception that such resources are available, even if not immediately mobilized, may reduce anxiety and foster a sense of security during an otherwise threatening experience.

Despite growing recognition of psychosocial factors in obstetric outcomes, substantial knowledge gaps persist regarding perceived social support specifically among women with preeclampsia presenting to emergency departments. Existing research has focused predominantly on support in chronic disease contexts or on general pregnancy populations, with limited attention to acute hypertensive disorders of pregnancy (Bussing et al., 2022). Furthermore, the emergency room environment introduces unique characteristics time

pressure, staff focus on triage and stabilization, fragmented communication, and physical environment stressors that may alter both the availability and perception of social support. Cultural and regional factors also warrant consideration. In Ilam province, located in western Iran with a population characterized by distinct cultural norms regarding family involvement in healthcare decisions, gender preferences for healthcare providers, and community-based support structures, the patterns and determinants of perceived social support may differ significantly from those documented in Western or urban settings. Therefore, this study aims to evaluate factors associated with perceived social support among women with preeclampsia referred to the emergency room of a selected hospital in Ilam. By identifying demographic, clinical, and psychosocial correlates of perceived support, this research will inform targeted interventions to enhance supportive resources for this vulnerable population. Understanding these factors is essential for developing integrated care models that address both the biomedical and psychosocial dimensions of preeclampsia, ultimately improving patient experience and clinical outcomes in emergency obstetric care.

Literature Review

Conceptual Framework of Perceived Social Support

The concept of perceived social support has extensively theorized within health psychology and medical sociology. Cobb (1976) originally defined social support as information leading individuals to believe that they are cared for, loved, esteemed, and valued within a network of mutual obligation. Subsequent refinements distinguished perceived support from received support, with meta-analytic evidence indicating that perceived support is more consistently associated with mental and physical health outcomes than objectively measured support transactions (Haber et al., 2007). This finding has important implications for clinical assessment: asking patients about their subjective sense of support availability may be more informative than documenting contact frequencies with family members.

House (1981) proposed a typology of social support functions that remains widely cited. Emotional support involves expressions of empathy, love, trust, and caring. Instrumental support refers to tangible assistance such as financial aid, transportation, or help with daily tasks. Informational support comprises advice, guidance, and factual information. Appraisal support involves feedback and affirmation useful for self-evaluation. In the context of preeclampsia emergency presentations, women may require all four support types simultaneously: emotional reassurance to manage

fear, instrumental help with childcare or hospital logistics, informational clarity regarding their condition and treatment plan, and appraisal support validating their interpretation of symptoms as legitimate rather than excessive.

Social Support in Pregnancy and Hypertensive Disorders

The pregnancy period represents a distinctive phase in the life course characterized by heightened psychological vulnerability and increased health system contact. Systematic reviews have consistently identified low social support as a risk factor for adverse pregnancy outcomes. Bedaso et al. (2021), in a meta-analysis of 42 studies comprising over 500,000 participants, found that inadequate social support was associated with significantly increased odds of antenatal depression (OR=2.46, 95% CI:1.98-3.05), low birth weight (OR=1.56, 95% CI:1.22-1.99), and preterm birth (OR=1.42, 95% CI:1.14-1.76). These associations persisted after adjustment for socioeconomic confounders, suggesting a direct biopsychosocial pathway.

Regarding hypertensive disorders specifically, limited but growing evidence suggests that social support may influence both disease onset and progression. Potential mechanisms include stress reduction (thereby lowering sympathetic activation and blood pressure), improved adherence to recommended monitoring and medication regimens, and enhanced health-seeking behavior (women with stronger support networks may present earlier when symptoms emerge) (Shakeri et al.,2020). A prospective cohort study by Tozour et al. (2019) involving 524 women with chronic or gestational hypertension found that lower perceived social support scores in the second trimester predicted higher third-trimester blood pressure readings, independent of antihypertensive medication use. The authors proposed that support deficits amplify stress-induced vasoconstriction and impair self-regulation of lifestyle factors.

Factors Influencing Perceived Social Support

Understanding the correlates of perceived social support is essential for identifying at-risk populations and designing targeted interventions. Evidence from general and obstetric populations suggests that multiple demographic, clinical, and psychosocial factors moderate support perceptions.

- ✓ **Demographic factors:** Marital status consistently emerges as a strong correlate, with married individuals reporting higher perceived support than unmarried counterparts. Among married women, marital quality appears more important than marital status per se; women in distressed relationships may perceive low support despite cohabitation. Educational attainment shows positive associations

with support perceptions in some but not all studies, potentially reflecting differential access to support-utilization skills rather than actual network differences. Age demonstrates inconsistent relationships, with some research indicating higher support among older adults and other studies finding no significant age effects.

- ✓ **Clinical factors:** Disease severity, symptom burden, and hospitalization history may influence perceived support through several pathways. Women with more severe preeclampsia require more intensive medical intervention, potentially mobilizing greater support from family members who perceive higher threat. Conversely, severe illness may deplete support resources over time as family caregivers experience burnout, or may impair the patient's capacity to recognize and acknowledge available support due to pain, fatigue, or psychological distress.
- ✓ **Psychosocial factors:** Depression and anxiety consistently demonstrate negative associations with perceived social support, although causal direction remains debated. The social support deterioration model posits that psychological distress erodes support networks by increasing interpersonal conflict and withdrawal. Alternatively, the support mobilization hypothesis suggests that distress signals need, eliciting support that distressed individuals may fail to perceive due to cognitive biases. Longitudinal research suggests bidirectional relationships, with support and psychological symptoms influencing each other over time.

Emergency Department Context and Regional Considerations in Ilam

The emergency department represents a distinctive care environment that may alter social support dynamics. Emergency care characterized by rapid assessment, diagnostic uncertainty, staff prioritization of medical stabilization, and physical environments often-lacking privacy or family accommodation. A qualitative study by Riviere et al. (2020) found that emergency nurses frequently viewed family members as obstacles rather than resources, limiting opportunities for family involvement in patient support. For women with preeclampsia, who may require immediate antihypertensive therapy and fetal monitoring, family presence may be restricted; potentially reducing perceived support precisely when it is most needed.

In Ilam province, located in western Iran bordering Iraq, additional cultural and structural factors warrant consideration. Ilam has a population

exceeding 580,000, with Kurdish ethnic majority and distinct cultural norms emphasizing family collectivism, gender segregation in healthcare preferences, and extended family involvement in medical decision-making (Moradi et al., 2019). Women in Ilam may have limited independent mobility compared to men, potentially affecting their ability to access emergency services without male accompaniment. Furthermore, the province has fewer tertiary care resources than Tehran or other major Iranian cities, meaning that women with severe preeclampsia may require emergency transfer to larger centers, disrupting support networks. No published studies have specifically examined perceived social support among obstetric emergency patients in Ilam, highlighting the novelty and necessity of the present investigation.

Work method

This research is a cross-sectional descriptive-analytical study that conducted between February and June 2024. The research population of this study were pregnant women with preeclampsia referred to Alleghany emergency room in Ilam city (affiliated to Ilam University of Medical Sciences). Inclusion criteria include definitive diagnosis of preeclampsia based on internal specialist diagnosis, absence of a critical condition in the patient's blood pressure, absence of sudden and serious stress during the current pregnancy or absence of infectious diseases, absence of car accident, absence of water sac rupture and absence of Psychological disorders. The index of not entering the study included the lack of hemodynamic stability and the index of exiting the study included not answering the questions of the questionnaires. 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). Finally, 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 without or without right upper quadrant pain or

epigastric pain selected for this study to collect information from a questionnaire related to demographic information, disease, multidimensional scale of perceived social support (MSPSS) and self-care questionnaire in patients with hypertension (HTN-SCP) used.

Demographic and disease information questionnaire

This questionnaire includes the personal and social characteristics of the pregnant mother, the age of the husband and wife, the level of education of the husband and wife, occupation of the husband and wife, place of residence, duration of marriage, number of children, income status, and body mass index of the pregnant woman, medical records and pregnancy records. Current pregnancy age, number of pregnancies, number of parturitions, history of abortion, history of attempted abortion, history of stillbirth, history of unwanted or unwanted pregnancy, suffering from other diseases at the same time as hypertension, medications used during pregnancy and history of hospitalization during She was pregnant.

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 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 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 reported as optimal (29). In Iran, this questionnaire 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 Organizational Committee on Ethics in Research, Faculty of Nursing and Midwifery, Tehran University of Medical Sciences, this research began by receiving an official letter of introduction for Ayatollah Taleghani Hospital in Ilam (affiliated to Ilam University of Medical Sciences). At first, the objectives and necessary items for answering the study questions explained to the female participants and it emphasized that participation in the study is voluntary and the information of the women under study remains confidential and then informed consent 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 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 used to evaluate the relationship between perceived social support and self-care. 0.01, significant observation difference seen.

Findings

In this study, 233 pregnant women with pre-eclampsia referred to the emergency department of Taleghani Hospital in Ilam city evaluated. The average age of these women was 34.29 ± 6.86 years. Other information of the studied patients 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, 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. In addition, 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

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 nonalignment 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 studied women, that is, pregnant women with preeclampsia consider themselves responsible for the occurrence of this disorder in pregnancy so this level of support Social decline. In addition, 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 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. Also the results of this study showed that in pregnant women who perceive a higher level of social support in terms of family, friends and community, the level of self-care is lower in them. Based on these results, pregnant women who consider themselves under social support through family, friends and community do not consider self-care behaviors as their need to continue pregnancy. This group of women considers social support sufficient to continue pregnancy and do not consider it necessary to perform self-care behaviors. According to the results of this study, in women with a level of social support, adherence to drug treatment also decreases which, considering the conditions caused by preeclampsia, adherence to treatment among women plays a vital role in the continuation of pregnancy and the consequences of parturition for the mother and baby. Due to the high level of social support, the women studied in this research feel close to their family and friends and have been able to talk to them about their problems and ask them for guidance. 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 selfcare behaviors was more than others (39). One of the reasons for the non-alignment of the results of the studies 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 Humane 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 noncoms studies due to the difference in women's pregnancy disorders. According to these nonaligned 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 seems that in the women participating in this research, social support from family, friends and society was not sufficient and effective in increasing self-efficacy, self-confidence and empowering them to participate more in self-care behaviors. One of the advantages of this study is that, for the first time in Iran, it evaluated the relationship between cognitive social support and self-care of women with preeclampsia so this study used as a research-based study in similar studies in the future.

Limitations

Based on the limitations of this study, data obtained through a self-report questionnaire so there was a possibility of bias in answering the questions. Therefore, the collected information does not represent all the facts related to the studied phenomena. In addition, the mental state of the participants at the time of answering the questions of the questionnaires can affect their answers. Although in this connection, an attempt made to encourage the participants to complete the questionnaires accurately in order to collect valid information by presenting the questionnaire at the right time and place but another limitation of this study is the difference between the different interpretations of the level of social support among women. A study can be effective in the results of this study, which is beyond the researcher's control.

Conclusion

The results of this study showed a high level of perceived social support in the studied samples. In addition, the level of self-care among the studied women was average and with the increase in perceived social support, the level of self-care decreased among the studied samples. According to the results of this study, pregnant women with preeclampsia need to improve the level of social support from family, friends and society and improve the level of self-care. The realization of this issue also requires increasing the level of knowledge

and self-efficacy of women with preeclampsia in the field of health-related behaviors. Considering the significant relationship between perceived social support and self-care in the studied women, the health officials of pregnant women and nurses working in health service centers and hospitals should take necessary measures and interventions to improve social support and increase self-care in women. Consider pregnant women with preeclampsia.

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)	-	24,99 $\pm$ 3,03
Systolic blood pressure (mmhg)	-	148,38 $\pm$ 9,94
Diastolic blood pressure (mmhg)	-	13,68 $\pm$ 8,14
Gestational age (weeks)	-	37,0 $\pm$ 3,18
Individual-social characteristics		frequency (percentage)
Female education level	Elementary	12(3,7)
	Guidance	22(6,8)
	High school	73(22,7)
	University	126(39,1)
Spouse's education level	Elementary	11(3,4)
	Guidance	20(6,2)
	High school	49(15,2)
	University	153(47,3)
Woman's job	Housekeeper	169(52,5)
	Employee	45(14,0)

	Worker	14(4,3)
	Freelancer	5(1,5)
Wife's job	Employee	108(33,5)
	Worker	23(7,1)
	Freelancer	102(31,3)
Place of life	City	210(64,9)
	The village	23(7,1)
Number of children	Without children	74(22,7)
	One child	92(28,5)

	Two children	50(21,5)
	Three children and more	17(7,3)
Income status	Down	74(31,8)
	Average	92(39,5)
Smoking and tobacco use before pregnancy	Yes	6(2,6)
Number of pregnancies	Yes	111(47,6)
	First pregnancy	58(24,9)
	Second pregnancy	64(27,5)
Number of parturition	Third pregnancy or more	112(48,1)
	No history of parturition	58(24,9)
	One parturition	34(14,6)
	Two parturition	29(12,4)
History of abortion	Three parturitions	87(37,3)
History of stillbirth	Yes	6(2,6)
History of wanted abortion	Yes	17(7,3)
Type of pregnancy	Yes	186(79,8)
	Wanted	47(20,2)
Suffering from other diseases at the same time as high blood pressure	Unwanted	6(2,6)
	Endocrine diseases	40(17,2)
	Diabetes	6(2,6)
	Cardiovascular diseases	181(77,7)
Drug use during pregnancy	No medical history	98(42,1)
History of hospitalization during pregnancy	Yes	40(17,2)

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 indices of perceptual social support and its dimensions by demographic variables for women with preeclampsia

		Perceptual social support		Social (important people)		Family		Friends	
		Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
Age groups	17-23	70/67 ± 6/51		24/87±2/56		24/93±2/66		20/87±4/09	
	23-30	71/03±6/30		25/23±2/12		24/02±2/50		21/79±4/25	
	30-36	71/27±6/12		24/94±2/18		24/56±2/02		21/77±3/79	
	36-42	70/59±5/79		25/21±2/16		24/15±2/70		21/24±3/65	
	42-47	71/96±5/92		25/31±1/91		24/58±1/72		22/08±4/07	
	Test results	F=0/281 p=0/890		F=0/278 p=0/892		F=0/830 p=0/507		F=0/441 p= 0/779	
-	Elementary	Education		Elementary		23/58		2/75	21/92 2/87
-	Guidance	-		Guidance		23/95		2/34	21/45 4/94

	High school	-	High school	24/55	2/48	21/08	4/07
	University	-	University	24/33	2/29	21/89	3/70
	Test results	F=0/429 p=0/733	F=0/678 p=0/566	F=0/779 p= 0/507		F=0/691 p= 0/566	
	Elementary	71/82±6/63	24/18±2/14	24/91±2/12		22/73±3/44	
Wife's Education	Guidance	72±5/19	25/05±2/48	24/75±1/94		22/20±2/86	
	High school	69/43±7/39	24/71±2/47	23/90±2/85		20/82±4/74	
	University	71/39±5/57	25/34±1/96	24/36±2/28		21/69±3/75	
	Test results	F=1/571 p=0/197	F=1/850 p=0/139	F=0/972 p=0/407		F=1/147 p= 0/331	
	Housekeeper	70/95±6/22	25/06±2/22	24/30±2/42		21/60±4/05	
Job							

	Employee	70/80±5/46	25/33±2/02	24/20±2/17	21/27±3/45
	Worker	71/29±5/59	24/93±1/77	24/29±2/52	22/07±3/79
	Freelancer	75/80±5/31	26/20±1/48	26/40±1/82	23/20±3/70
	Test results	F=1/080 p=0/358	F=0/650 p=0/584	F=1/327 p=0/266	F=0/454 p=0/715
	Employee	71/63±5/57	25/15±2/06	24/57±2/20	21/91±3/81
	Worker	72/43±7/69	25/83±1/90	24/65±2/14	21/96±4/89
	Freelancer	70/12±6/02	24/95±2/27	23/98±2/58	21/19±3/76
	Test results	F=2/345 p=0/098	F=1/580 p=0/208	F=1/897 p=0/152	F=1/002 p=0/369
Place of life	City	71/18±5/83	25/19±2/13	24/32±2/43	21/67±3/77
	The village	69/87±7/71	24/57±2/27	24/35±1/90	20/96±5/05
	Test results	T=0/985 p=0/326	T=1/330 p=0/185	T=-0/055 p=0/956	T=0/827 p=0/409
	Without	71/65±6/29	25/36±2/10	24/45±2/71	21/84±3/87
Number of children	children	-	-	-	-
	One child	71/25±5/78	25/12±2/27	24/58±2/05	21/55±3/79
	Two children	70/46±6/38	24/86±2/07	24±2/29	21/60±4/31
	Three children and more	69/06±5/15	24/94±1/89	23/35±2/60	20/76±3/61
	Test results	F=1/052 p=0/370	F=0/602 p=0/614	F=1/680 p=0/172	F=0/352 p=0/778
Income status	Down	70/24±8/99	25±2/69	24/24±2/08	21±5/63
	Medium	71/11±5/77	25/14±2/10	24/33±2/40	21/64±3/75
	Test results	T=-0/575 p=0/566	T=-0/257 p=0/798	T=-0/156 p=0/876	T=-0/653 p=0/514
T test statistic: Independent T test: Analysis test statistic for variance f:			-	-	-

Table 4. descriptive indices of perceptual social support and its dimensions according to variables of pregnancy characteristics and underlying diseases in women with preeclampsia

		Perceptual social support	Social (important people)	Family	Friends
		Average $\pm$ Standard deviation	Average $\pm$ Standard deviation	Average $\pm$ Standard deviation	Average $\pm$ Standard deviation
Smoking and tobacco use before pregnancy	Yes	8/52 $\pm$ 63/33	$\pm$ 2/16 23/33	22/50 $\pm$ 1/87	17/50 $\pm$ 7/12
	No	71/25 $\pm$ 5/85	25/18 $\pm$ 2/13	24/37 $\pm$ 2/37	21/70 $\pm$ 3/75
	Test results	T=-3/324 P=0/001	T=-2/094 P= 0/037	T=-1/913 P=0/057	T=-2/636 P=0/009
Number of pregnancies	First pregnancy	71/67 $\pm$ 5/77	25/25 $\pm$ 2/06	24/61 $\pm$ 2/42	21/80 $\pm$ 3/85
	Second pregnancy	70/62 $\pm$ 5/84	24/83 $\pm$ 2/23	24/28 $\pm$ 2/17	21/52 $\pm$ 3/75
	Third pregnancy or more	70/36 $\pm$ 6/63	25/19 $\pm$ 2/20	23/86 $\pm$ 2/43	21/31 $\pm$ 4/17

Test results		F=1/146 P=0/320	F=0/779 P=0/460	F=2/072 P=0/128	F=0/332 P=0/717
number of births	No history of parturition	71/33 $\pm$ 6/28	25/06 $\pm$ 2/35	24/49 $\pm$ 2/41	21/78 $\pm$ 3/77
	One parturition	70/88 $\pm$ 5/39	25/29 $\pm$ 1/97	24/14 $\pm$ 2/54	21/45 $\pm$ 3/54
	Two parturitions	70/79 $\pm$ 6/87	25/03 $\pm$ 1/87	23/88 $\pm$ 2/33	21/88 $\pm$ 4/81
	Three parturitions	70/59 $\pm$ 5/53	25/17 $\pm$ 2	24/55 $\pm$ 1/92	20/86 $\pm$ 4/04
	Test results	F=0/171 P=0/916	F= 0/176 P=0/913	F=0/781 P=0/506	F= 0/507 P=0/678
History of abortion	Yes	70/31 $\pm$ 6/08	24/93 $\pm$ 2/33	24/11 $\pm$ 2/64	21/26 $\pm$ 4/25
	No	71/49 $\pm$ 5/99	25/25 $\pm$ 2/03	24/45 $\pm$ 2/21	21/79 $\pm$ 3/69
	Test results	T= -1/441 P=0/151	T=-1/087 P=0/278	T=-1/026 P=0/306	T=-1/002 P=0/317
History of stillbirth	Yes	67/83 $\pm$ 5/88	25/17 $\pm$ 1/60	24/67 $\pm$ 1/97	18 $\pm$ 4/10
	No	71/13 $\pm$ 6/03	25/13 $\pm$ 2/16	24/31 $\pm$ 2/39	21/69 $\pm$ 3/87
	Test results	T=-1/323 P=0/187	T=0/044 P=0/965	T=0/359 P=0/720	T=-2/306 P=0/022
History of wanted abortion	Yes	70/35 $\pm$ 5/53	24/24 $\pm$ 2/22	24/71 $\pm$ 1/93	21/41 $\pm$ 3/84
	No	71/10 $\pm$ 6/08	25/20 $\pm$ 2/13	24/29 $\pm$ 2/41	21/61 $\pm$ 3/92
	Test results	T=-0/492 P=0/623	T=-1/793 P=0/074	T=0/691 P=0/490	T=-0/202 P= 0/840
Type of pregnancy	Wanted	71/45 $\pm$ 5/68	25/24 $\pm$ 2/12	24/28 $\pm$ 2/39	21/92 $\pm$ 3/59
	Unwanted	69/47 $\pm$ 7/13	24/70 $\pm$ 2/23	24/47 $\pm$ 2/34	20/30 $\pm$ 4/79
	Test results	T=2/020 P=0/045	T=1/531 P=0/127	T=-0/471 P=0/638	T=2/179 P=0/033
Suffering from other diseases at the same time as hypertension	Endocrine diseases	69/17 $\pm$ 6/24	24/17 $\pm$ 3/19	24/17 $\pm$ 1/94	20/83 $\pm$ 3/06
	Diabetes	69/07 $\pm$ 6/40	24/50 $\pm$ 2/05	23/78 $\pm$ 2/88	20/80 $\pm$ 4/19
	Cardiovascular diseases	71/67 $\pm$ 6/71	26/33 $\pm$ 1/51	24 $\pm$ 2/53	21/33 $\pm$ 4/32

	No medical history	71/52 ±5/88	25/26±2/12	24/46 ±2/26	21/81 ±3/86
	Test results	F= 2/042 P=0/109	F=2/452 P= 0/064	F= 0/950 P= 0/417	F=0/812 P= 0/488
	Yes	70/92 ±6/56	25/03 ±2/07	24/31 ±2/37	21/58 ±4/08
	No	71/14 ±5/66	25/20 ±2/20	24/33 ±2/39	21/61 ±3/79
Medicines used during pregnancy	Test results	T=- 0/277 P=0/782	T=-0/595 P= 0/553	T=- 0/086 P=0/931	T= -/050 P= 0/960
History of hospitalization during pregnancy	Yes	70/95 ±5/73	25/07 ±2/19	24/68 ±1/80	21/20 ±3/80
	No	71/07 ±6/11	25/14 ±2/14	24/25 ±2/48	21/68 ±3/93
	Test results	T=-0/112 P=0/911	T=-0/174 P=0/86	T=1/032 P=0/303	T=-0/705 P=0/482
T test statistic Independent T test Analysis test statistic for variance		f:	-	-	-

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Authors' Contributions

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