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The Quality of Life among Women with Pre-eclampsia: A Pilot Descriptive Study

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Abstract

INTRODUCTION: Pre-eclampsia is a severe life event that has the potential to alter a woman's quality of life. This study sought to determine the quality of life among women with pre-eclampsia.

METHODS: This study uses a descriptive study. Using total sampling methods, participants diagnosed and hospitalized with pre-eclampsia were invited to complete a survey about their demographics and the Quality of Life Instrument for Chronic Disease-Hypertension (QLICD-HY) questionnaire.

RESULTS: Thirty-five eligible participants with mean age of 33.2 ± 5.83 were included in the present study. In Indonesia, most women with pre-eclampsia have a high quality of life. The subanalysis found that many women with pre-eclampsia have a high quality of life in all domains (physical, psychological, and social). Age, education, occupation, family income, pregnancy stage, gravida, and medication adherence had a significant relationship with quality of life ($p < 0.05$).

CONCLUSION: Women with pre-eclampsia generally describe a high quality of life. Nonetheless, there is still improvement to be made in preventing and treating pre-eclampsia patients to optimize quality of life.

Introduction

One sustainable development goal (SDG) is to enhance pregnant women's health by lowering maternal mortality. The maternal mortality rate in Indonesia remains high, according to the SDGs. In Indonesia, the maternal death rate remains high, at 359 per 100,000 live births. Maternal mortality is dominated by three major causes: Pregnant hypertension, bleeding, and infection. Pregnancy hypertension has grown, and pre-eclampsia is significant cause of maternal mortality globally [1].

Pre-eclampsia is responsible for the death of maternal and fetus death annually around the world [2]. Pre-eclampsia, which presently accounts for 60,000 maternal fatalities globally, primarily in low- and middle-income countries, is one of the major causes of maternal and perinatal morbidity and mortality and affects around 3−5% of all pregnancies [3], [4], [5]. Pre-eclampsia is a condition that occurs abruptly, develops quickly, and has an immediate high acuity impact on both the mother and the fetus, necessitating prompt and complex medical decision-making for both the mother and the child [6].

Few studies have looked into the physical, emotional, and psychological elements of pre-eclampsia in pregnant women and how they may impair these women's quality of life. The World Health Organization (WHO) defines an individual's quality of life (QoL) as "the person's general well-being, including mental state, stress level, sexual function, and self-perceived health status" [7].

Understanding QOL is critical for improving patient symptom relief, care, and rehabilitation. Problems highlighted by patients' self-reported QOL may lead to changes and improvements in therapy and care or demonstrate that some therapies are ineffective. QOL is also utilized to detect the many challenges that patients may face. This information can be shared with future patients to help them predict and comprehend the repercussions of their condition and treatment. Furthermore, healed patients and long-term survivors may experience ongoing issues even after their therapy has ended.

Several studies of QOL among pre-eclampsia women have been published. However, most of the papers had been conducted outside of a middle-income country, specifically in Indonesia.

Even though, according to estimates from the WHO, the incidence of pre-eclampsia in the developing countries is 7 times higher than the incidence in developed countries [1]. Hence, the aim of this pilot study is to describe QoL in women with pre-eclampsia in Indonesia.

Materials and Methods

Study design

This study is designed as a pilot descriptive with a cross-sectional design approach using a questionnaire. This study used a Quality of Life Instrument for Chronic Disease-Hypertension (QLICD-HY) with a validity value of 0.66–0.70 and a reliability value of 0.75–0.91 [8]. The variable in this study is the quality of life in pregnant women with pre-eclampsia while the sub-variable in this study is the dimension of physical function, psychological well-being, and social relationships.

Participants

Participants were eligible for this study because they were females diagnosed with pre-eclampsia by a specialist in obstetrics and gynecology and undergoing antenatal care. As defined by the American College of Obstetrics and Gynecology (ACOG), pre-eclampsia is defined as the presence of hypertension and proteinuria (140 mmHg/90 mmHg), or in the absence of proteinuria, new-onset hypertension with the onset of one or more symptoms such as those listed below: Hypertension, proteinuria, and/or headache. Thrombocytopenia, renal insufficiency, impaired liver function, pulmonary edema, and unexplained new-onset headache that are not responsive to medication or visual symptoms are all possible complications [3]. Pre-eclampsia is a syndrome that occurs in the second half of pregnancy [9]. As a result, to minimize measurement error in this study, only non-pre-eclamptic pregnancies with a gestational length of at least 20 weeks were considered excluded. On initial enrollment in the hospital, baseline participant characteristics, medical history, and pregnancy and delivery outcomes, including a year of delivery, were collected. As a result, 35 people with pre-eclampsia admitted care in the hospital took part in this study. This study was conducted in September–October 2018.

Data collecting

The study took place at the Rumah Sakit Khusus Ibu dan Anak (RSKIA) a.k.a Bandung Kiwari Public Hospital in Indonesia. The quality of life survey was designed to represent the fourth domain. The survey was structured chronologically to ask participants about their experience with the quality of life to systematically appraise the patient perspective (questionnaire in online supplemental material). Participants' baseline characteristics, including medical history, pregnancy and delivery outcomes, and the year of delivery, were collected at the time of their initial enrollment in the study.

Statistical analysis

The data were analyzed using univariate and bivariate data analysis. A single variable was used in the univariate analysis of the data, which was the frequency distribution of the quality of life variable as a whole and as a sub-domain, as well as the characteristics of the participants. The Chi-square test is used to determine the subanalysis of the relationship between the two variables of quality of life and demography in a given population. The statistical analyses were performed with the Statistical Package for the Social Sciences version 24 (SPSS 24); $p < 0.05$ was considered statistically significant.

Ethical approval

The study received ethical approval from the research ethics commission of Padjadjaran University (letter number: 1029/UN6.KEP/EC/2018) and was conducted following the Declaration of Helsinki. The hospital's director granted permission for data collection to take place, and the study took place there. Throughout the research process, it was clear that ethical principles would not be violated.

Results

Characteristic of respondents

Of a total of 35 patients with pre-eclampsia, there were 17 (48.6%) patients who were defined with high risk of pregnancy according age. Aged from 21 to 43 years old (mean 33.2 ± 5.83) were included in the present study. The basic characteristics of this study population are shown in Table 1.

Quality of life among women with pre-eclampsia

Tables 2 and 3 describes the quality of life in women with pre-eclampsia. Most of the participants had a good quality of life (28.6%) and a small proportion had a poor quality of life (28.6%).

Table 1: Characteristic of respondents (n = 35)

Characteristic of respondents	f (%)
Age, mean (SD)	33.2 (5.83)
Risk of age	
Risk	17 (48.6)
Not risk	18 (51.4)
Education	
Elementary school	15 (42.9)
Junior high school	18 (51.4)
Senior high school	2 (5.7)
Occupation	
Non-career	32 (91.4)
Career	3 (8.6)
Family income	
< Regional minimum wage	16 (45.7)
> Regional minimum wage	12 (34.3)
Not report	7 (20.0)
Pregnancy stage	
First (1–13 week)	1 (2.9)
Second (14–26 week)	2 (5.7)
Third (27–40 week)	32 (91.4)
Gravida	
Grand multigravida	1 (2.9)
Multigravida	32 (91.4)
Primigravida	2 (5.7)
Medication adherence	
Adherence	17 (48.6)
No adherence	18 (51.4)

SD: Standard deviation.

Bivariate analysis of the correlation of quality of life and participant's characteristic

Table 4 describes the relationship between quality of life and participant characteristics. All characteristics had a significant relationship on quality of life including age (p = 0.000), education (p = 0.006), occupation (p = 0.000), family income (p = 0.000), pregnancy stage (p = 0.000), gravida (p = 0.200), and medication adherence (0.000).

Table 2: Quality of life among women pre-eclampsia (n = 35)

QoL category	f (%)
Poor	10 (28.6)
Good	25 (71.4)

QoL: Quality of life.

Discussion

There has never been a descriptive study done on the quality of life in women with pre-eclampsia undergoing antenatal care in Indonesia, a developing country, and this study is the first of its kind. This pilot study found that: (1) Good quality of life is found in most women with pre-eclampsia in Indonesia. (2) In the subanalysis, many women with pre-eclampsia have a good quality of life in every domain (physical, psychological, and social). (3) The participant characteristics positively correlate with quality of life (age, education, occupation, family income, pregnancy stage, gravida, and medication adherence).

Table 3: Quality of life per domain among women with pre-eclampsia (n = 35)

QoL category	f (%)
Physic	
Poor	15 (42.9)
Good	20 (57.1)
Psychology	
Poor	6 (17.1)
Good	29 (82.9)
Social	
Poor	17 (48.6)
Good	18 (51.4)
Specific topic	
Poor	6 (17.1)
Good	29 (82.9)

This is the first study to analyze the quality of life of women with pre-eclampsia who undergoing antenatal care and it indicated that the group receiving antenatal care had a good quality of life. The previous research on the relationship between quality of life and severity of pre-eclampsia that required treatment indicated that quality of life was negatively correlated with severity [10], [11], [12], [13]. Based on this logic, we can deduce that only women with severe pre-eclampsia have a lower quality of life than mild pre-eclampsia.

Our study involved a cohort of 35 pregnant women whereby 48.5% of the respondents were in the risk of age. Large number of our participants (91.4%) was in the third semester of pregnancy, unlike the study conducted by Ishaq *et al*. [14]. Marital status of pregnant women included is also similar to the study conducted by Zarei *et al*. (2017) in Iran [11]. However, another study does not highlight the identical age group, that is, 26 ± 6.4 and 27.3 ± 4.0 years, respectively [12], [13]. The possible reasons underlying the difference in results may be related to cultural context, practices that vary in Indonesia, marriage age, and relationship with husband.

This study was conducted in a maternal and child specialist hospital and established a reference for the treatment of pre-eclampsia. The type of treatment may have been critical for women with pre-eclampsia to respond positively to the quality of life assessment because they received more attention from doctors and nurses and more attention because their pregnancy was considered high risk. Another study determined women with pre-eclampsia even severe pre-eclampsia who are specialist assists and well-trained interdisciplinary team can have usually excellent results in terms of the mother's and the neonate's quality of life due to the favorable reception [11].

Our study identifies various relationships between demographics and quality of life, including risk of age, education, occupation, family income, pregnancy stage, gravida, and medication adherence. As a study conducted by Balíková and BuŽgová (2014), where pregnant women who are older (over 29 years old) have a lower quality of life when compared to younger pregnant women [12]. This is also in line with our study which shows that women at risk of age have a greater likelihood of poor QoL when compared to pregnant women who are not at risk of age. This is also in line with a study by Yilmaz *et al*. (2018) which shows that pregnant women with age 18−35 years old are less likely to experience pregnancy problems because they can adapt well to pregnancy problems [13]. Furthermore, the quality of life of pregnant women also depends on education, occupation, and family income,

Table 4: The correlation of quality of life and participant's characteristic (n = 35)

Characteristic of participants	QoL			p
	Good	Poor	Total	
Risk of age				
Risk	4	13	17	0.000
Not risk	6	12	18	
Education				
Elementary school	4	11	15	0.006
Junior high school	6	12	18	
Senior high school	0	2	2	
Occupation				
Non-career	9	23	32	0.000
Career	1	2	3	
Family income				
< Regional minimum wage	6	10	16	0.000
> Regional minimum wage	2	10	12	
Not report	2	5	7	
Pregnancy stage				
First (1–13 weeks)	0	1	1	0.000
Second (14–26 weeks)	0	2	2	
Third (27–40 weeks)	10	22	32	
Gravida				
Grand multigravida	0	1	1	0.200
Multigravida	8	24	32	
Primigravida	2	0	2	
Medication adherence				
Adherence	5	12	17	0.000
No adherence	5	13	18	

QoL: Quality of life.

which is confirmed by studies in Iran, Spain, and China [14], [15], [16]. This is not in line with what our study reported, most likely due to antenatal care that has received by pregnant women. Although economic status has a close relationship with quality of life, happiness is the most critical factor that affects women's mental health and quality of life [17]. As mentioned in a study by Ahmadinezehad and Akbarzadeh (2019), spiritual factor is associated with good mental health and correlated with better quality of life [18].

We also found that the trimester of pregnancy is related to the quality of life of pregnant women with pre-eclampsia. In contrast, in our study, the data were not evenly distributed which may also be due to pre-eclampsia which is mostly recognized in the second to third trimester of pregnancy. Vachkova *et al*. (2013) also found a correlation between gravidity and quality of life in pregnant women [19], in line with our study. Our study shows that medication adherence in pre-eclampsia women is not correlated with quality of life.

Given the complexity of caring for the mother and the fetus, the management of patients with pre-eclampsia provides substantial challenges and obstacles. As a result, the best outcomes are achieved with a strong team of physicians, nurses, and health-care assistants, all working to provide the best possible treatment, maintain patient safety, and enhance mother and fetal outcomes. This includes making sure patients feel supported and well-informed about their present pregnancy situation [20].

As a nursing implication, primary prevention also should be taken. Prior pre-eclampsia should be treated with counseling and testing before a subsequent pregnancy for women who have had pre-eclampsia previously [21]. Ideally, this should be done at a preconception visit before the next planned pregnancy, but it can be done at the postpartum visit if necessary. In the course of the preconception visit, the previous pregnancy history and the prognosis for the upcoming pregnancy should be reviewed, and any concerns should be addressed [22]. Weight loss and increased physical activity are two potentially modifiable lifestyle activities that should be encouraged. Education about the signs and symptoms of pre-eclampsia, as well as when and how to contact her health-care provider, should be provided to the expectant mother [22]. Furthermore, women at high risk of pre-eclampsia should be evaluated before conception and advised to take 75 mg of aspirin daily from 12 weeks' gestation until delivery. Traditional folic acid supplementation should be encouraged [23].

Maternal mortality from pre-eclampsia is much higher in low socioeconomic and educated populations. It is the responsibility of the health-care provider to understand the community in which they serve, to establish a strong rapport with patients who are most at risk for having pre-eclampsia, and to identify a few strategies to deliver complex health education and serious comorbidities from non-adherence that is appropriate for each patient's level of understanding.

There are some limitations to our study. First and foremost, the sample size in this pilot study was too small, which impacted the outcome [24]. There is concern about selection bias and lack of representation, especially given that almost all of the women in our study had a low level of education. The quality of life of women with pre-eclampsia may be impacted by other patient characteristics, such as living in a rural area, being under financial stress, or having experienced intimate partner violence. Considering these factors in future studies, evaluating the social context of experiencing pregnancy complications will be essential. In addition, it remains to be seen whether having a family history of pre-eclampsia impacts the patient's quality of life.

Conclusion

This pilot descriptive study of quality of life in women with pre-eclampsia shows that the majority of them have a good quality of life, which contrasts with the previous studies that found a decrease in quality of life with the severity of pre-eclampsia. The demographic characteristics of patients or people suffering from pre-eclampsia related to their quality of life. This study was conducted on a limited sample; further studies with a larger sample carried out in multicenters are needed to describe the quality of life of women with pre-eclampsia. Further investigation (linear regression) to determine the factors associated with the patient's quality of life should be considered. Other characteristics such as a history of pre-eclampsia, exposure, and clinical factors should also be taken into further study.

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