EVALUATING THE IMPACT OF NURSING INTERVENTIONS IN WOMEN WITH PREECLAMPSIA: A SCOPING REVIEW

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ABSTRACT

Background: Preeclampsia is one of the serious complications in pregnancy. And it is causes of morbidity and mortality for mothers and babies. The incidence of preeclampsia in Indonesia is still quite high. Nursing interventions play an important role in preventing complications and improving quality of life. However, so far there are still variations in the form, duration, and effectiveness of the interventions provided by nurses. Therefore, this study aims to systematically map and evaluate the nursing interventions that have been implemented to determine their impact on pregnant women with preeclampsia. **Methods:** This scoping review adhered to the PRISMAScr guidelines to evaluate studies that are in accordance with the research objectives. an extensive search was performed across various electronic databases such as PubMed, Science Direct and Google Scholar from the last ten years. Eligible studies criteria were those targeting pregnant women with preeclampsia who received nursing interventions. **Results:** There are a total of six articles in this study. Nursing interventions have been proven to improve knowledge, awareness, healthy lifestyle practices, locus of control, self efficacy and patients satisfaction. **Conclusions:** Interventions with multifaceted components (educations, monitoring, counselling, stress management) have proven to be the most effective in producing broad clinical and behavioral impacts. Longer and sustained intervention durations during pregnancy tend to yield more significant result compared to single session interventions. Group approaches facilitate discussion and social support, while individual interventions are more suitable for specific psychological needs.

Keywords: Nursing education, nursing intervention, preeklampsia

Introduction

Preeclampsia is one of the serous complications in pregnancy that is a major cause of morbidity and mortality in mothers and babies, especially in low and middle income countries (Say et al., 2014) The emergence of hypertension and severe proiteinuria after 20 weeks of pregnancy has been previously described as preeclampsia (Poon et al., 2019). According to the World Health Organization (WHO) preeclampsia and eclampsia account for about 10-15% of all maternal deaths worldwide, with the highest incidence occurring in developing countries such as Indonesia, Nigeria, and India (Say et al., 2014).

The incidence of preeclampsia in developing countries reaches 2.8% of live births, which is seven times higher than in developed countries where it is only about 0.4% (Osungbade & Ige, 2011). Data from the 2022 Indonesian Health Profile shows

that hypertension during pregnancy, including preeclampsia, is the leading cause of maternal mortality (Badan Pusat Statistik, 2022).

Nursing intervention play a crucial role in preventing complications and improving the quality of life for mothers with preeclampsia. Various interventions have been developed, ranging from health education, blood pressure monitoring, psychosocial support, to continuous care.

However, so far there are still variations in the form, duration, and effectiveness of the interventions that have been implemented in order to understand their impact on pregnant women with preeclampsia. The scoping study approach becomes relevant because it can identify the types of interventions, the context of their implementation, and the health outcomes achieved. Scoping studies are also useful for identifying knowledge gaps and serve as a basis for designing more effective evidence-based nursing interventions in the future.

Therefore, this study aims to evaluate various forms of nursing interventions for women with preeclampsia through a scoping study approach, in order to provide a comprehensive mapping of the literature and serve as a basis for the development of more optimal nursing practices.

Methods

This scoping review adhered to the PRISMAScr guidelines to evaluate studies that are in accordance with the research objectives. The methodology was based on Arkey and O'Malley five step framework: 1) developing research questions, 2) finding accordance studies, 3) choosing article, 4) analyzing data, 5) presenting data and forming conclusion.

Identifying the research question

The question guiding this review include: (1) what nursing interventions have been implemented for women with preeclampsia? (2) what is the impact of the nursing intervention?

Identifying relevant studies

Literature search from the last seven years and was conducted using multiple database such as PubMed, Sciendirect and Google scholar from the last ten years . To retrieve relevant studies, a combination of Boolean logic operators. The following keywords: ("nursing intervention" OR "nursing education" OR "nursing programme") AND ("preeclampsia" OR "PIH") in each database, these keywords were deliberately combined to enhance the identification of studies.

Inclusion and exclusion

The criteria for selection include: 1) studies written in English or Indonesian; 2) participants of any age; 3) Women with preeclampsia; 4) the intervention given must be a nursing intervention; 5) limitation to the last 10 years; 6) study methods using a experimental study: RCT and quasi experimental.

The exclusion criteria: 1) studies that only focus on medical (pharmacological) interventions without the active role of nurses; 2) review other articles (scoping review, systematic review, narrative review).

Data extraction

Researchers screened the titles, abstracts, and full texts of identified articles. The extracted data from the chosen articles included: 1) the researcher's name and

year of article was published; 2) responden; 3) intervention; 4) duration of intervention; 5) Result. This information was organized in a table 1. Critically assesment used JBI for Randomized Controled Trial and JBI for quasi experimental.

Results

In the study conducted Abazarnejad et al. (2019) the first session of the intervention involved education about preeclampsia, its symptoms, diagnosis, treatment, and fetal evaluation. The second session focused on anxiety management techniques (relaxation, problem solving, and positive emotions). For the control group, only routine care was provided without additional counselling. Meanwhile, the study ElShabory et al. (2025) found that the intervention group received nursing intervention sessions on preeclampsia, covering topics such as understanding pregnancy hypertension, risk signs, self blood pressure monitoring, the concept of locus of control and self efficacy, as well as skill training like blood pressure measurement. The control group received routine prenatal care without additional educational sessions. The research conducted Manjula & Latha Sarathi. (2024) found that the intervention group received education on lifestyle modification (diet, exercise, stress management), monitoring blood pressure and fetal activity, administration antihypertensive medication, filling out antenatal care and kick count charts, and monitoring patients knowledge and compliance. In the control group, no educational intervention was provided. The study Alnuaimi et al. (2020) found that the intervention group received education about preeclampsia (definition, symptoms, risks, complications, prevention, management), education on self monitoring of blood pressure and proteinuria, and used media such as booklets , urine dipstick, and log sheets, along with routine pregnancy care at the clinic. Meanwhile, the control group received education about urinary tract infections (UTI), routine pregnancy care at the clinic, and did not receive education about preeclampsia or self monitoring.

The research conducted Uğurlu et al., (2021) on the intervention group received education about the definition, risk factors, effects on the mother and fetus, prevention, symptom, monitoring, the use of antihypertensive drugs, and warning signs, as well as being provided with a preeclampsia education book that was simply and illustratively arranged. In the control group, only care was provided.

Meanwhile, the study conducted by Mahmoud et al. (2023) found that the intervention group in the Hospitalized Group received routine hospital care and a nursing intervention program that included materials on the definiton of PIH, symptoms, complications, magnesium sulfate, HEELP syndrome, diet, relaxation with aids such as booklets, videos, demonstrations, blood pressure measurement tools, and proteinuria. In the control group, they received routine outpatient care and similar nursing interventions as the Hospitalized group, but conducted at home and through clinic visits and remote communication. Materials, methods, and sessions were similar but without the intensive direct supervision as in the Hospitalized group.

Discussion

Educational and psychoeducational nursing interventions are comprehensive

and consistent education based approach such as in the study (Manjula & Latha Sarathi, 2024; Uğurlu et al., 2021) which has been shown to provide broader results, including the prevention and reduction of the incidence of preeclampsia, compared to single session education as in the study Alnuaimi et al., (2020). That statement is in line with study Gholami et al. (2022) that show educational interventions improves understanding and early detection of preeclampsia.

Group or community based interventions such as in the study ElShabory et al. (2025) which shows the potential in addressing preeclampsia from various aspects, including knowledge, skill, behavior, and clinical effects. This is in accordance with the statement Jikamo et al. (2023) that identification at the community level, timely management, and referral are necessary to successfully reduce maternal and perinatal issues caused by preeclampsia and eclampsia. Mahmoud et al. (2023) shows benefits in enhancing self efficacy and locus of control, which are important factors for long term adherence.

Meanwhile, individual and intensive interventions such as the study Abazarnejad et al. (2019) are more effective for specific psychological conditions like acute anxiety. This result is consistent with the statement Asghari et al. (2016) that individual and intensive interventions, especially through CBT (Cognitive Behavioral Therapy) or psychoeducational methods are effective in reducing anxiety, stress, and depression in pregnant women with preeclampsia.

However, there are still challenges in standardizing the duration, delivery media, and measuring the long term effects of these interventions. Most studies have not comprehensively evaluated the effects up to the postpartum period or on neonatal outcomes.

Conclusion

Nursing education interventions effectively improve knowledge, awareness, healthy lifestyle practices, locus of control, self efficacy and patients satisfaction self efficacy. Interventions with multifaceted components (educations, monitoring, counselling, stress management) have proven to be the most effective in producing broad clinical and behavioral impacts. Longer and sustained intervention durations during pregnancy tend to yield more significant result compared to single session interventions. Group approaches facilitate discussion and social support, while individual interventions are more suitable for specific psychological needs.

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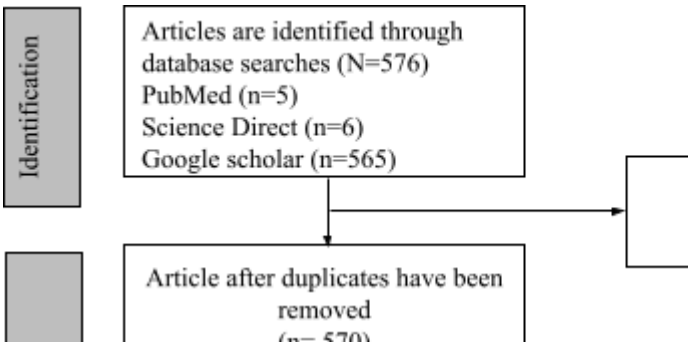

Figure 1. PRISMA-ScR, flow diagram of article identification, screening, eligibility, and Inclusion.

Table 1. Data extraction and synthesis of results

Author (year)	Responden	Intervention	Duration/session	Result
Elshabory et al (2025)	Total 150 pregnant women with preeclampsia	Group education (HLOC&self-efficacy)	5 weeks, once a week, 4 hours/session	↑ IHLC, EPHLC,self efficacy
Alnuami et al (2020)	Total 113 pregnant women at high risk of preeclampsia	Single education (2 hours) and self monitoring	1 session (2 week evaluation)	↑awareness ↓ DBP
Abazarnejad et al (2019)	Total 44 pregnant women with preeclampsia	Individual psychoeducational counselling	2 session x 45 minutes	↓ level of anxiety (STAI)
Ugurlu et al (2021)	Total 132 mothers at high risk of preeclampsia	Education + counselling (booklet, 4 session)	4 session during pregnancy + 1 postpartum	↑ healthy lifestyle practices

				↓PE
Manjulu et al (2024)	total 40 pregnant women with hypertension	Hypertension package (education + clinical monitoring + stress managemen	4 weeks	↓PIH ↑healthy lifestyle practices
Mahmoud et al (2023)	total 120 pregnant women with PIH	Educational program (4 sessions)	4 session, 45-60 minutes, 3 stage evaluation	↑ knowledge and practice, ↑ patient satisfaction