Human interaction model analysis of factors influencing nurse-patient interaction in pregnancies at risk for preeclampsia

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ABSTRACT

Introduction: Preeclampsia is one of the most typical perinatal illnesses and the main factor in maternal deaths globally, particularly in underdeveloped nations like Indonesia. Preeclampsia consequences can be avoided by obtaining an early diagnosis by being aware of the condition’s warning signs and symptoms. Based on the Surabaya human interaction model, this study sought to examine the variables influencing nurse-patient contact.

Methods: This cross-sectional study employed a quantitative methodology with observational research. With 108 responders, pregnant women made up the study’s sample. Age, gravidity, education, knowledge, disease history, access to medical services, and husband support were the independent factors considered in this study. The interaction between the nurse and the patient served as the dependent variable. Through the use of a questionnaire, the study’s findings were gathered. To determine the influences of the independent variables on the dependent variable in this study, a logistic regression test was performed. The analysis was done with SPSS version 25.

Results: The findings indicated that education (p-value=0.015, B=3.482), knowledge (p-value=0.001, B=4.255), and health facilities (p-value=0.049, B=2.802) were the factors influencing nurse-patient contact. Health facilities and the support of the husband are external determinants, but age, gravidity, education, knowledge, and medical history (anamnesis) are internal elements that originate from the pregnant woman herself.

Conclusion: The connection between nurses and patients is crucial to the delivery of nursing care to patients. Therefore, for nurse-patient interactions to be as effective as possible, pregnant women need to have access to education, knowledge, and good healthcare facilities.

Keywords: interaction, nurse, patient, human interaction.


INTRODUCTION

Preeclampsia is a major factor in both maternal and perinatal deaths globally.1,3 Preeclampsia is another issue that frequently affects expectant mothers and is the leading cause of maternal death worldwide, particularly in developing nations like Indonesia.2 Consequently, complications from preeclampsia can be avoided by early diagnosis through recognition of the condition’s signs and symptoms.1 In order to identify pregnancy danger symptoms, take preventative measures, and manage preeclampsia, pregnant women must be able to take care of themselves and keep themselves healthy. Unfortunately, some pregnant women lack the information and skills necessary to properly care for themselves and avoid developing preeclampsia.5 In order to boost pregnant women’s knowledge and abilities in preventing preeclampsia, a positive nurse-patient relationship is required. Information is transferred from one person to another, either directly or indirectly, during nurse-patient interactions.

According to the Maternal Mortality Report of Regency/City Section of Health Office in East Java for 2017, other causes accounted for 29.11% of all maternal deaths (154 people), preeclampsia/eclampsia accounted for 28.92% (153 people), bleeding accounted for 26.28% (139 people), and infection accounted for 3.59% (19 people). Other causes, which accounted for 32.57% of all maternal deaths in 2018, preeclampsia/eclampsia, which accounted for 31.32% of all maternal deaths in 2018, hemorrhage, which affected 22.8% of all pregnancies and killed 119 people, and infection, which claimed 19 lives. Preeclampsia/eclampsia accounts for 31.15% of maternal deaths in 2019 (or 162 deaths), followed by bleeding (24.23%) and other causes (23.1%) (or 120 deaths).6–7

The success of the program encouraging exclusive breastfeeding is greatly influenced by mothers. There has been a lot of assistance from outside sources, such as families, community/breastfeeding support organizations, and medical professionals. Numerous studies have established the importance of outside factors in exclusive breastfeeding.
However, as of right now, neither in the entire world nor in Indonesia has exclusive breastfeeding achieved the desired results. Therefore, in order to provide exclusive breastfeeding, a mother must have strong independence in inspiring and guiding herself (self-leadership). If the mother has a strong belief in the value of exclusive breastfeeding and its numerous advantages for her, her child, and the environment, any challenges will be simple to overcome. 

The maternal mortality rate in Indonesia is closely correlated with the ability of expectant mothers to complete prenatal and health checkups to guarantee the health of both the mother and the unborn child. The purpose of a pregnancy check-up is to look for anomalies and potential issues. Preeclampsia is anticipated to be avoidable by raising awareness and behavior in prenatal care through professional antenatal care (ANC) services. The prevalence of preeclampsia has not been able to be decreased despite extensive health education in illness preventative management. Pregnant women can be empowered to practice self-care during pregnancy to prevent preeclampsia by communication and engagement between nurse and patient, which can raise knowledge, affect behavior, and increase empowerment.

The researchers did this investigation in Surabaya in light of the fact that preeclampsia is becoming more common there. It is anticipated that the findings of this study will provide information on the issue of nurse-patient contact that may be used as a guide while providing nursing care for expectant women.

**METHODS**

**Study Design**

This study used a quantitative approach with an analytical observational type because the respondents to this study were not treated in any way. Cross-sectional research design was chosen for the study. All pregnant patients at the Ahmad Yani Islamic Hospital in Surabaya made up the study’s population. A sample size of 108 respondents was used for the simple random sampling.

**Data collection procedures**

Age, gravidity, education, knowledge, disease history, access to medical services, and husband support were the independent factors considered in this study. The interaction between the nurse and the patient served as the dependent variable. A questionnaire was used to gather the data.

**Data analysis**

Techniques for processing data included editing, coding, entry, and analysis. The investigation was examined using the multivariate logistic regression test method and the SPSS 25 statistical package. If the significance level is less than 0.05, the variable is considered to be influential.

**RESULTS**

**Baseline characteristics**

The following table, which contains the frequency distribution of respondents’ responses to the study variables, will be used to offer a descriptive analysis based on the completed data collection.

According to Table 1, of the 108 respondents, the majority (75%) belonged to the 20–35 age group, which is considered to be at no risk; the majority (57.4%) were multiparous; nearly half (46.3%) had only received a primary education; nearly half (44.4%) had good knowledge; the majority (50.9%) had a history of illness; the majority (57.4%) had good health facilities; and nearly all (76.9%) had adequate family support. In addition, the majority (66.7%) of the characteristics for the nurse-patient relationship were negative.

Based on Table 2 below, the results of the logistic regression analysis show that level of education, level of knowledge, and facility of health care—all three of which are significant with a $p$-value of 0.05—are the factors most strongly impacting the nurse-patient relationship. The ability of expectant mothers to comprehend is what has the most impact on nurse-patient relations.

**DISCUSSION**

A person’s behaviors or activities are mostly formed by their knowledge or cognition. Because knowledge enables one to recognize and attempt or perform an action, including in this case interacting, knowledge is a predisposing factor in positive behavior. Poor nurse-patient relations may be a result of a variety of variables, including knowledge and education. These problems include the patient’s lack of education and understanding, which will negatively impair their capacity to engage or communicate.

In addition to providing nursing care and representing clients’ interests, nurses also serve as educators, coordinators, collaborators, communicators, and reformers. In carrying out their duties, nurses are impacted by a number of elements, including knowledge, education, cultural background, and environment. Additionally, one of the key components of providing nursing care and a key indicator of the efficiency or inefficiency of the nursing process is the interaction between nurses and patients. Nurses must be able to develop and maintain positive relationships with patients, family members, and other healthcare professionals. Therefore, the ability to interact or communicate is a requirement for anyone who wants to become a nurse.

Health facilities are also a supportive component that influence relationships between nurses and patients. Studies have shown that inadequate family support and subpar healthcare facilities have an impact on how nurses and patients interact. Poor health facilities will make people uncomfortable, disrupting or not allowing for good contact between nurses and patients.

An interpersonal process for establishing and attaining goals, nurse-patient contact consists of acts, emotions, and interactions that are processes of perception, communication, and transactions. Positive impressions will rise as a result of effective nurse-patient interactions, which will then affect the pregnant women’s capacity to take better care of their health.
**Table 1.** Responses to the research variables from respondents, in terms of frequency distribution

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20-35 years old</td>
<td>81</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>&gt;35 years old</td>
<td>27</td>
<td>25%</td>
</tr>
<tr>
<td>Gravidity</td>
<td>Primipara</td>
<td>46</td>
<td>42.6%</td>
</tr>
<tr>
<td></td>
<td>Multipara</td>
<td>62</td>
<td>57.4%</td>
</tr>
<tr>
<td>Education</td>
<td>Primary</td>
<td>50</td>
<td>46.3%</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>45</td>
<td>41.7%</td>
</tr>
<tr>
<td></td>
<td>Tertiary</td>
<td>13</td>
<td>12%</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Poor</td>
<td>13</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Fairly Good</td>
<td>47</td>
<td>43.5%</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>48</td>
<td>44.4%</td>
</tr>
<tr>
<td>Illness History (Medical History/ Anamnesis)</td>
<td>Yes</td>
<td>55</td>
<td>50.9%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>53</td>
<td>49.1%</td>
</tr>
<tr>
<td>Medical Facility</td>
<td>Poor</td>
<td>46</td>
<td>42.6%</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>62</td>
<td>57.4%</td>
</tr>
<tr>
<td>Family support</td>
<td>Inadequate</td>
<td>9</td>
<td>8.3%</td>
</tr>
<tr>
<td></td>
<td>Adequate</td>
<td>83</td>
<td>76.9%</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>16</td>
<td>14.8%</td>
</tr>
<tr>
<td>Nurse-Client Interaction</td>
<td>Poor</td>
<td>72</td>
<td>66.7%</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>36</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

**Table 2.** Analyzing factors using logistic regression that have an impact on nurse-patient interactions

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>p-value</th>
<th>Hosmer and Lemeshow test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Education</td>
<td>4.255</td>
<td>0.786</td>
<td>0.015*</td>
<td>0.881</td>
</tr>
<tr>
<td>Level of Knowledge</td>
<td>3.482</td>
<td>1.426</td>
<td>0.000*</td>
<td></td>
</tr>
<tr>
<td>Facility of Health Care</td>
<td>2.802</td>
<td>1.443</td>
<td>0.049*</td>
<td></td>
</tr>
</tbody>
</table>

* Testing utilizing logistic regression was used for the analysis. B: Slope of a line; SE: Standard Error; Results were deemed significant if p value 0.05.

**CONCLUSION**

The connection between nurses and patients is crucial to the delivery of nursing care to patients. Therefore, for nurse-patient interactions to be as effective as possible, pregnant women need to have access to education, knowledge, and good healthcare facilities. Additional research is required to verify these findings.

**FUNDING**

The authors declare no funding in this study.

**CONFLICT OF INTEREST**

The authors declare no conflict of interest in this study.

**ETHICAL STATEMENT**

This study has received approval for being ethical from the nursing and midwifery faculty at Universitas Nahdlatul Ulama in Indonesia with number of approval 401/EC/KEPK/UNUSA/2021.

**REFERENCES**