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Improving the utilization of health services among high-risk pregnant women through community health nurse assistance

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High-risk pregnant women;
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Abstract
Objective: The objective of this study was to identify the impact of implementing community health nurse assistance for high-risk pregnant women on utilization of health services.
Method: The study was quasi experimental with a control group design. The sample included high-risk pregnant women in 10 community health centers in Indonesia who were selected by consecutive sampling. The total sample included 66 women in both the intervention and the control groups. The high-risk pregnant women in the intervention group received nurses' assistance during the third trimester and until giving birth. Before and after the intervention, the knowledge, attitudes, and behavior of the women were measured.
Results: The average scores for the knowledge, attitudes, and behavior of women in the intervention group increased. Differences were found in health care utilization between the two groups. All women in the intervention group received antenatal care during the third trimester more than once and were assisted by skilled health personnel during childbirth, while in the control group 10.6% of respondents were assisted by a paraji shaman (traditional birth attendant). All women in the intervention group accepted family planning, and the contraceptive choice varied.
Conclusions: The assistance of community health nurses improves the knowledge, attitudes, and behavior of high-risk pregnant women and positively impacts the rate of health care utilization.

Introduction

The maternal mortality rate (MMR), an indicator of the health of mothers, has remained high in Indonesia. The Demographic Health Survey of Indonesia (Survey Demokrasi dan Kesehatan Indonesia (SDKI) found that maternal deaths jumped sharply for the 2007 to 2012 period[1].

One strategy to reduce the rate of maternal deaths is the greater involvement of health providers, who have traditionally been mostly doctors or midwives. However, a num-

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ber of studies have concluded that the integration of nursing and midwifery can improve the quality of maternal health[2]. In this context, community health nurses can work with mothers and families to promote proper health practices. Under this strategy, nurses hold key roles during the care of pregnant women through the screening and the assessment of antenatal risk factors throughout pregnancy[3].

Data shows that 86.68% of mothers in 2014 received antenatal care and attended four medical visits, which is less than the target of 95%, as stated in the Health Ministry's Strategic Plan. About 88.68% of deliveries were assisted by professional care providers, which was slightly under the Health Ministry's target of 90%[4].

Furthermore, nurses represent the highest number of health providers in primary, secondary, and tertiary care. For this reason, the provision of nurse assistance during pregnancy can be one solution for optimizing maternal care and for enabling women with high-risk pregnancies to utilize health services at a higher rate[5].

The hypothesis of this study was that nurse assistance can significantly improve the utilization of health facilities by high risk pregnant women, while the minor hyphotesis was improving knowledge, attitude, and behavior high risk pregnant woman could be done through implementing of nurses assistance.

Method

This research utilized a quasi experimental design with a control group. This research adhered to ethical principles and was approved by the Ethical Committee of the Faculty of Nursing, University of Indonesia (Universitas Indonesia).

High-risk pregnant women who met the inclusion criteria were included in the study, following a consecutive sampling technique. The inclusion criteria were high risk pregnant women with one of the Four T criteria (Too old, Too young, Too often childbirth, Too near the distance between delivery) and in the third trimester pregnancy. The determination of the required number of subjects using different hypothesis tests indicated that a minimum of 30 subjects were required. To account for potential drop out, the required number of subjects plus 10% was used, resulting in a sample of 33 women for both the intervention group and the control group, or 66 high-risk pregnant women in total. The intervention group received assistance accompanied by home visit by community health nurse.

Independent variable in this research is knowledge, attitude and behaviours of high risk pregnant women. Dependent variable in this research is Indicators of health care utilization include the number of antenatal care visits during pregnancy, place of delivery and birth attendance. The measurement of the independent variables for the intervention group was performed twice: before the intervention and three months after intervention. These measurements were separated by three months since pregnant women were first interviewed in the third trimester of pregnancy and were expected to have given birth by the second interview three months later, thus allowing researchers to assess the effect of the intervention. The control group was only interviewed once during pregnancy. The measurement of the dependent variable for both the intervention and control groups was carried out postpartum[6].

Data were collected using instrument to measure the knowledge, attitudes, and behaviours of high risk pregnant woman, and postpartum observations were made to identify the use of the facilities for antenatal care (ANC) and examination, place of delivery, and acceptance of family planning measures. Type question for knowledge include understanding of risk pregnancies, signs and risks of risky pregnancy, physical and psychological complications, actions when complications occur and family planning. The instrument consists of 30 questions. Reliability test using covarian item procedure with Cronbach alpha formula with

Table 1 Demographic characteristics of high-risk pregnant women in the intervention and the control groups at 10 health centers in Cianjur, West Java, in 2015

Characteristics	Group		P-value
	Intervention (n = 33)	Control (n = 33)	
Age (year)			
a. Mean	31.5	30.2	0.253
b. Median	35.00	36.00	
Education			
a. Not graduating from elementary school	1 (3%)	2 (6.1%)	0.623
b. Elementary (grade 1-6)	23 (69.7%)	17 (51.5%)	
c. High school (grade 7-12)	9 (6.1%)	14 (42.4%)	
Number of pregnancies			
a. ≤ 4	18 (54.5%)	24 (72.8%)	0.253
b. > 4	15 (45.5%)	9 (27.2%)	
Spacing between pregnancies			
a. ≤ 2 year	21 (54.7%)	22 (66.6%)	0.982
b. > 2 year	12 (45.3%)	11 (33.4%)	