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New Approach for Referral Preparation to the Health Care Center in Denpasar City and Bogor Regency

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ABSTRACT

Knowledge, attitudes and skills of pregnant women to recognize danger signs during pregnancy to postpartum period and newborn baby is a strategic effort to prevent maternal and infant mortality. The aim of the study was to find out the results of guidance interventions for pregnant women and husbands using video media, pictorial fans with five finger signs, pocket books and maternal and child health books between before and after guidance at three Health Centers in Denpasar City and Bogor Regency. The study design was quasi-experimental with nonrandomized pretest-posttest with control group design. The research subjects were 204 pregnant women in the three intervention groups who had fulfill inclusion and exclusion criteria. The intervention group on the subject was divided into interventions 1 (video media, fans with five finger signs and and maternal and child health books). Group intervention 2 (pocket books, fans with five finger signs and maternal and child health books) and control groups (maternal and child health books). The instrument used was a questionnaire containing the socio demographic characteristics of the subject, knowledge, attitude and observation of skills. The results showed that there were differences in the scores of knowledge, attitudes and skills in the intervention among groups 1 and 2 ($p < 0.05$). The multivariate test results showed that there were four variables that consistently affected the skills score of pregnant women significantly including guidance intervention, maternal occupation, income and residence ($p < 0.005$). It is necessary to consider the awareness of midwives at the health center to innovate in order to increase alertness and early detection through family-based empowerment.

Keywords: *danger signs guidance, pregnancy, health center, empowerment*

INTRODUCTION

According to estimates from world health organizations or the World Health Organization (WHO), as many as 358,000 maternal deaths occur every year (WHO,¹ and as many as 88-89% of these deaths can be avoided. The attitudes of health workers (especially midwives and doctors), besides motivation, knowledge and practice are other factors that influence the dynamics of the need for services that forming an important basis for improving maternal and infant health^{2,3}. The maternal mortality rate (MMR) in Indonesia according to data from the Indonesian Demographic and Health Survey (IDHS) in 2012 was 359 per 100,000 live births. The MMR is much higher compared to the 2007 IDHS results of 228 per 100,000 live births.

Maternal and newborn health conditions still need serious attention from various parties, not only in Java, but also in Bali. Thus, basic efforts are carried out by midwives in order to prevent death and illness in mothers and children through efforts to increase the knowledge and awareness of pregnant women and families regarding danger signs to mothers and infants. This effort has a large impact to prevent late referrals, especially the delay in recognizing problems that generally cause delays in making decisions and referring to health facilities⁴.

Maternal mortality rate in Denpasar City fluctuating quite significantly, up to 2014 MMR had been reduced to 16.1 per 100,000 live birth but increased back in 2015 and 2016. Maternal mortality rates in the Denpasar City in 2016 (54 per 100,000 live birth) still lower than the

target of the Denpasar City Health Office Strategic Plan in 2016 (100 per 100,000 KH). During 2016 in Denpasar City there were 7 maternal deaths consisting of 5 deaths of pregnant women and 2 during delivery. All mothers die in health facilities (hospitals). Four maternal deaths in Denpasar City are caused by Non Obstetric Disease, namely 2 people due to heart disorders, 2 people with dengue syock syndrome.

The main objective of this research is to compare the skills of pregnant women and their husbands / families regarding danger signs to pregnant women and infants to prevent delays in obtaining appropriate care between before and after guidance. In this study, personal guidance methods were used in the two intervention groups and one control group. Guidance media is using videos, fans with five fingers on the left and right hand regarding danger signs picture, pocket books and maternal and child health books.

We need to know the most appropriate approach to increase knowledge, attitudes and skills of pregnant women and families to prevent delays in recognizing problems and seeking help.

MATERIALS AND METHOD

The study design was quasi-experimental, pretest-posttest control group design. Respondents were divided into two groups, namely the control group and the treatment group (1 and 2). The control group (pregnant women in South Denpasar II and Ciomas) were given guidance according to the MCH books at the health center or Puskesmas. Intervention group 1 (Puskesmas I Denpasar Timur and Ciri Mekar) were given guidance using video media, fans with five fingers on the left and right hand regarding danger signs picture and maternal and child health/MCH books. Intervention group 2 (Puskesmas II Denpasar Barat and Sukaraja). given guidance using pocket books and fans and MCH books. The sample size in the control and treatment groups will be calculated according to the population of second trimester to third trimester of pregnant women in selected health centers in Denpasar City and Bogor

Regency, which amounted to 34 pregnant women in each selected health center or 204 pregnant women in health center. Conducted pretest and posttest for pregnant women regarding danger signs for pregnant women and newborns. Data collection is carried out for three months (July to September 2017).

Pregnant women and husbands who were involved in intervention groups 1 and 2 were given a pretest before guidance. In the control group, pregnant women were given a pretest and were then asked to read maternal and child health books regarding danger signs and preparation for referrals. The time taken from the pretest to posttest is one month. Guidance in the intervention group and the control group was carried out after the pretest 3 meetings for one hour at each meeting. Guidance is carried out by the MCH management midwives who have been trained in the selected health care.

Data analysis was univariate, bivariate and multivariate analysis. Univariate analysis by calculating the mean. Bivariate analysis to analyze the relationship between independent variables and dependent variables, the intermediate variable with the dependent variable using paired t test and chi square analysis. Multivariate analysis to analyze the relationship between all research variables using multiple regression tests and modeling.

RESULTS

The homogeneity test shows if the respondent characteristics are generally homogeneous ($p > 0.05$). There were differences in the pretest and posttest scores in the intervention group on the score of knowledge, attitudes and skills ($p < 0.05$) except in the control group did not show differences in the skill score ($p > 0.05$). The results showed that if intervention 2 had a significant difference in knowledge, attitudes, and skills scores when compared with intervention group 1 and control group. In the table 1 below, the results of differences in pretest and posttest scores were displayed on the knowledge, attitudes and skills of pregnant women.

Table 1. Differences in Pretest and Posttest Scores between Intervention and Control Groups (n=204 pregnant women)

		adjusted variance	z	p-value
Knowledge	Intervention group			
	1	24650.75	2.357	0.18
	2	24528.00	4.431	0.000
	Control	25068.00	2.239	0.025
Attitude	Intervention group			
	1	26258.38	1.858	0.063
	2	26451.13	3.034	0.002
	Control	25909.38	1.948	0.051
Skill	Intervention group			
	1	26757.13	7.070	0.000
	2	26746.63	7.145	0.000
	Control	26755.13	1.284	0.199

Source : Primary data analysis (2017)

The multivariate test results using general linear model (GLM) analysis showed that there was no significant relationship in the intervention group and maternal age with a knowledge score ($p > 0.05$). There was no significant relationship between intervention and maternal occupational factors with attitude scores ($p > 0.05$). Consistently intervention, maternal occupation,

income and place of residence were significantly associated with maternal skills scores regarding danger signs for mothers and newborns baby and neonates ($p < 0.05$). The table 2 below shows the results of the analysis between the intervention, the work of the mother, income and place of residence with the skill score.

Table 2. Results of General Linear Model Analysis between Independent Variable, Intermediate and Skill (n=204 pregnant women) in 2017

	Skills				
	<i>coeff</i>	z	p	95% CI	AIC
Intervention group					7.275
1	7.198	3.52	0.000	10.875 -17.291	
2	14.083	8.61	0.000		
Mother occupation	4.356	2.98	0.003	1.494 -7.219	
Family income	-7.746	-4.20	0.000	-11.365 -4.127	
Residence	-8.217	-3.19	0.001	-13.263 -3.171	
Husband education:					
Middle	1.783	1.27	0.204	-0.967 – 4.532	
High	1.719	0.76	0.446	-2.704 – 6.142	
Health assurance	-1.166	-0.88	0.380	-3.769 – 1.436	
Age	1.200	0.79	0.430	-1.778 – 4.179	
Husband occupation	-1.376	-0.36	0.721	-8.919 – 6.166	
Constanta	13.773	3.65	0.000	6.371 -21.175	

Source : Primary data analysis (2017)Discussions

In general the characteristics between the intervention groups were not different ($p > 0.05$). Differences were found from the characteristics of income or socio-economic level, residence, and means of transportation used by subjects to health facilities ($p < 0.05$). The sociodemographic characteristics of the subject can affect service quality as measured by knowledge, attitudes and skills the subject knows and manages the problems faced.

According to the World Health Organization¹, there are several determinants that influence client visits to health facilities, especially to obtain reproductive health services, including: financing factors or ability to pay, distance factors to health facilities, client knowledge, education level and social status economy. Agreeing with the results of a study in Ethiopia by Tesfahun, Worku, Mazengiyya, Kifle⁵, that maternal health care utilization is influenced by accessibility factors, socio-cultural beliefs, individual attitudes and health seeking behavior.

There were differences in the pretest scores of knowledge, attitudes and skills between the intervention group 1 and 2 and the control group significantly ($p < 0.05$), although the results showed that the most significant difference was in the intervention group 2. The skill score showed that only the control group who

did not show a significant difference ($p > 0.05$) when compared with intervention group 1 and 2. This was caused by factors of resistance or design invalidity, including: the interaction of the given test, the interaction of the results of the selection with the results and the existence selection with the results and the existence selection bias⁶.

The selection bias in terms of the invalidity of interaction factors from the intended test is that there is a weakness of the video media in the intervention group 1 due to the availability of a video watching device at home that is not shared by all subjects in the group, in addition to the obstacles that explain content or content of the video. Another problem with invalidity is that the characteristics of the subject from the beginning have been different, especially in the intervention group two which shows if the initial results of the pretest are much higher than the other groups⁶.

There was no significant difference between the pretest and posttest scores according to the characteristics of the transportation facilities and the distance to the health facilities with scores of knowledge, attitudes and skills ($p > 0.05$). Knowledge, attitudes and skills of individuals or subjects are influenced by socio-economic factors, values that are believed, and intention to behave. Different results were obtained by Tesfahun,

Worku, Mazengiya, Kifle⁵, that the factors that influence the utilization of postpartum care are: time constraints, transportation costs, shelter, distance from home to health facilities, previous ANC history and ability health workers provide solutions to problems faced.

The results of multivariate tests using GLM were obtained if there was only a very significant relationship between intervention, maternal work, family income, and place of residence with a skill score ($p < 0.05$). The results of the study by Amenu, Mulaw, Seyoum & Bayu⁷ and Salam, Lassi, Das and Bhutta⁸ that positive health behaviors are influenced by various factors, including: complex phenomena related to availability, quality, service financing, structure social, health beliefs and characteristics of clients or service users⁹. The success of communication between midwives and clients or pregnant women greatly influences patient / client satisfaction, increases understanding, increases mutual trust and increases the ability of pregnant women and families in decision making¹⁰. Mother's knowledge is not directly affected by the number of ANC visits due to differences or gaps between the ability of officers / midwives and the limited information provided by midwives regarding danger signs to mothers during pregnancy to postpartum, newborn baby and neonates¹¹⁻¹⁵. The husband's education contributes to the participation of husbands in delivering mothers to health facilities and helping to make decisions more precisely and quickly¹⁶.

CONCLUSION

The use of media and interesting information delivery techniques are determinants of the success of training. It is necessary to consider the characteristics of the research subjects, such as the availability of VCD devices, other communication media in the form of mobile phones for intervention groups that receive training using video media.

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