
Booklet of “Si-JuRNalKu” (Preparation of Maternal-Neonatal Referrals in the Archipelago) to Increase Knowledge and Attitudes of Midwives

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ABSTRACT

The maternal mortality rate in Indonesia in 2019 was 205 per 100,000 live births and the infant mortality rate was 16 per 1,000 live births. Maternal mortality is still caused by delays (late detection of danger signs of pregnancy, delay in reaching health facilities and delay in getting adequate help). Delay in referral causes preventable maternal deaths. The purpose of this study was to analyze the effect of using the “Si-JuRNalKu” booklet (Preparation for Maternal Neonatal Referrals in the Archipelago Region) on the knowledge and attitudes of midwives in the Riau Archipelago Province in 2020. This study is a quasi-experimental study by applying pre-posttest with control. design groups. The research was conducted in August 2020 on midwives who work on islands spread over 5 districts in the Riau Archipelago Province. The sample was 30 midwives who were selected by purposive sampling technique, then divided into 2 groups. Data about knowledge and attitudes in the pre- and post-treatment phases were collected through filling out questionnaires, then analyzed using independent samples t-test and paired samples t-test. The results showed that after the treatment, there were differences in the level of knowledge and attitudes of the two groups, with a p value of 0.000. The average increase in knowledge and attitudes are 24.33 and 23.37, respectively. Furthermore, it was concluded that the “Si-JuRNalKu” booklet was effective in increasing the knowledge and attitudes of midwives in preparing referrals in the archipelago. It is hoped that midwives can use the “Si-JuRNalKu” booklet in preparing referrals.

Keywords: midwife; “Si-JuRNalKu” booklet, knowledge; attitude**INTRODUCTION****Background**

According to the World Health Organization (WHO), as many as 830 mothers and 7000 babies die every day in the world. These deaths should have been prevented with prompt and appropriate treatment. Complications that occur in both mother and baby are unpredictable, so it is necessary to be prepared for quality services at all times and access to health services in a fast time. Most of the complications that occur require emergency services within hours ^(1,2).

The maternal mortality rate (MMR) in Indonesia in 2019 was 205 per 100,000 live births. The causes of maternal death include bleeding, hypertension, and others. The infant mortality rate (IMR) in Indonesia in 2019 was 16 per 1,000 live births. The causes of infant mortality are meningitis, pneumonia, diarrhea, tetanus, neonatal problems, and unknown causes ⁽³⁾. Indonesia consists of several provinces, one of which is the Riau Archipelago Province. Based on data from the province, the MMR in 2019 was 98 per 100,000 live births, while the IMR was 13 per 1,000 live births. The causes of AKI in Riau Archipelago Province are still dominated by bleeding and hypertension, while the biggest causes of IMR are low birth weight and asphyxia ⁽⁴⁾.

Maternal deaths are caused by 4 too young (too young, too often pregnant, too short the interval between pregnancies, too old) and 3 too late (late detection of danger signs of pregnancy, late reaching health facilities and late getting adequate help) ⁽⁵⁾. Armini (2020) stated that referral barriers are still dominated by three late, thus causing indirect maternal deaths, which should have been prevented. Complications experienced by mothers during pregnancy and childbirth are unpredictable, but with early detection and alertness of health workers and patients, it is hoped that delays in decision making can be reduced. The provision of transportation facilities at the basic level is expected to help speed up emergency patients reaching the referral point ⁽⁶⁾.

Strengthening an effective and efficient referral system at health centers and hospitals can accelerate the decline in MMR and IMR. The Indonesian Ministry of Health in collaboration with the United States Agency for International Development (USAID) has launched the Expanding Maternal and Neonatal Survival (EMAS) program ⁽⁷⁾. Midwives can perform early detection of risk and complication cases during pregnancy, delivery, postpartum, postpartum, and post-miscarriage care and follow up with referrals. In providing child health services, midwives can provide emergency first aid to newborns followed by referrals ⁽⁴⁾. Handriani & Melaniani (2015)

prove that the referral process has an effect on maternal mortality, where the most influential factor in the poor referral process is the use of transportation and the completeness of a referral letter. Some of the causes of delays in reaching referral hospitals and ineffective referrals, among others due to geographical problems, availability of transportation means, stabilization of patients with complications (eg pre-shock) that does not occur or is ineffective due to lack of skills of health workers or incomplete drugs or equipment, or ineffective patient monitoring during referral^(8,9). Referral preparation is abbreviated as *BAKSOKUDA* which consists of a Midwife, Tools, Family, Letters, Medicines, Vehicles, Money and Blood.⁽¹⁰⁾

Riau Archipelago Province is one of the provinces with a geographical landscape in the form of islands and most of its territory is surrounded by the sea, and its land consists of a group of islands. Riau Archipelago Province consists of 1,796 islands. There are seven regencies and municipalities in this province, consisting of Karimun Regency, Bintan Regency, Natuna Regency, Lingga Regency, Anambas Islands Regency, Batam City, and Tanjungpinang City⁽¹¹⁾. Strengthening referrals in archipelagic areas is very necessary because of the geographical conditions consisting of a group of islands. The use of interesting media such as booklets can make a positive contribution to improving one's cognitive, affective and psychomotor aspects of something. Booklets containing preparation of referrals for geographically problematic areas can be used to prevent increased maternal and neonatal mortality and morbidity.

Purpose

The purpose of this study was to analyze the effect of using the "Si-JuRNalKu" booklet on the knowledge and attitudes of midwives in preparing referrals in the archipelago in the Riau Archipelago Province.

METHODS

This type of research was a quasi-experimental that applied pre-posttest with control group design. The population of this research were midwives who work in 5 districts in the Riau ArcProvince, namely Bintan Regency, Karimun Regency, Lingga Regency, Natuna Regency and Anambas Regency. The location chosen was an island that is separated from the mainland or the capital city of the Regency. The sample size was 30 people in each group, selected by purposive sampling technique. The inclusion criteria in this study were being willing to be a respondent, having a smartphone as a medium to communicate during the study, having a minimum educational background of D3 in midwifery, having experience as an implementing midwife for at least 5 years, and working as a midwife stationed in an island area.

The study was conducted in August 2020. The independent variable was the use of the "Si-JuRNalKu" booklet, while the dependent variable was the knowledge and attitude of the midwife. In this study, there were two groups, namely the treatment group and the control group who were given a questionnaire about knowledge and attitudes in the form of Google Forms in the pre-intervention and post-intervention phases. The treatment group was given an intervention in the form of using the "Si-JuRNalKu" booklet, a guideline on preparation for the maternal-neonatal referral process specifically for the archipelago, while the control group did not receive the intervention. To find out changes in knowledge and attitudes, measurements were made again after 2 weeks using the same questionnaire (post-test). Data were analyzed using paired samples t-test and independent samples t-test.

RESULTS

Table 1. Changes in the level of knowledge as a result of the use of "Si-JuRNalKu" booklet

Knowledge	Group		p
	Treatment (n = 30)	Control (n = 30)	
<i>Pretest</i>			0.189*
Mean (SD)	48.67 (10.25)	52.50 (12.02)	
Median	45.00	52.50	
Range	30-75	35-80	
<i>Posttest</i>			0.000*
Mean (SD)	73.00 (8.57)	52.67 (11.80)	
Median	75.00	52.50	
Range	60-90	35-80	
Difference of <i>pretest</i> and <i>posttest</i>	p=0.000**	p=0.326**	
Avarage increase	24.33	0.17	

Note: *: independent samples t-test, ** paired samples t-test

Table 1 shows that in the pretest phase there was no difference in the level of knowledge of the two groups (p = 0.189), indicating that the two groups were equal. In the posttest phase, the knowledge level of the treatment

group increased significantly ($p = 0.000$), while for the control group there was no significant increase ($p = 0.326$). Thus, in the post-test phase the knowledge level of the two groups was significantly different ($p = 0.000$).

Table 2. Changes in the level of attitude as a result of the use of “Si-JuRNalKu” booklet

Attitude	Group		p
	Treatment (n = 30)	Control (n = 30)	
<i>Pretest</i>			0.161*
Mean (SD)	48.20 (5.08)	49.93 (4.35)	
Median	47.50	49.50	
Range	40-60	42-57	
<i>Posttest</i>			0.000*
Mean (SD)	71.57 (4.73)	50.07 (4.23)	
Median	71.00	49.50	
Range	64-80	42-57	
Difference of <i>pretest</i> and <i>posttest</i>	$p=0.000^{**}$	$p=0.161^{**}$	
Average increase	23.37	0.13	

Table 2 shows that in the pretest phase there was no difference in the attitude of the two groups ($p = 0.161$), indicating that the two groups were equal. In the posttest phase, the attitude of the treatment group increased significantly ($p = 0.000$), while for the control group there was no significant increase ($p = 0.161$). Thus, in the post-test phase the attitude of the two groups were significantly different ($p = 0.000$).

DISCUSSION

After the intervention, namely the use of the “Si-JuRNalKu” booklet, there has been an increase in the knowledge and attitude of the midwife. This shows that the booklet “Si-JuRNalKu” is effectively used to increase the knowledge and attitudes of midwives in preparing referrals in the archipelago. In relation to the results of this study, Okeyo & Dowse (2018) reported that the use of booklets about tuberculosis for health workers was effective for increasing knowledge⁽¹²⁾. In addition, this booklet also helps health workers in providing diabetes counseling to clients. Ribeiro, et al. (2020) also developed and validated a diabetes booklet that could be used by health workers in providing counseling to clients⁽¹³⁾. Although the two studies above were applied to different subjects from this study, basically the use of media in the form of booklets like this has been proven to increase the knowledge and attitudes of respondents. This is the same as the results of research by Damayanti (2018) and Erawati (2020), that the use of interesting media will give confidence to respondents so that cognitive, affective and psychomotor changes can be achieved optimally.^(14,15)

The more often a person receives information, his knowledge and insight will increase, and vice versa if he does not get information, his knowledge and insight will not increase⁽¹⁶⁾. Knowledge is a very important domain in the formation of one's attitude. Knowledge is needed as support in growing self-confidence as well as attitudes and behavior every day, so that knowledge is a fact that supports one's actions. Knowledge is one of the factors that influence health behavior⁽¹⁷⁾. Attitude is a form of readiness, willingness to act or predisposing behavior (actions) of a person⁽¹⁸⁾.

Based on the results of research conducted by Calvello (2015), the existence of "3 late" can have an impact on handling emergencies, namely being late in making decisions, being late for treatment, and being late to the referral place due to transportation constraints. Delays due to geography and transportation conditions when referring are difficult to overcome⁽¹⁹⁾. The results of this study are also similar to the qualitative research conducted by Give C (2019) to 22 health workers, who reported that long distances in making referrals and large transportation costs were obstacles to getting to the referral place. The high cost is due to the long distance and difficulty in obtaining referral transportation media⁽²⁰⁾.

The “Si-JuRNalKu” booklet can be used to overcome the problems of the referral system due to the geographical conditions of the region. This booklet can be used as a guide in improving the knowledge and attitudes of health workers, especially midwives in the archipelago in early detection of complications, preparing for referrals, recognizing resources or the potential of the local community, and others.

CONCLUSION

Based on the results of the study, it can be concluded that the “Si-JuRNalKu” booklet is an effective medium to increase the knowledge and attitudes of midwives in preparing referrals in the Riau Islands. For this reason, it is hoped that midwives can take advantage of this booklet in preparing referrals in archipelagic areas.

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