

SIBINAR on increasing midwife competence and independence of pregnant mothers in early detection of pregnancy risk and stunting prevention



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ABSTRACT

The competence of midwives and mother's independence in early detection of high-risk pregnancies and prevention of stunting are important factors to improve health status in Indonesia. The purpose of this study was to know the effect of SIBINAR on increasing the competence of midwives and the independence of pregnant women in early detection of pregnancy risk and stunting prevention. This type of research was a quasi-experimental with a pre-test post-test design. The subjects in this study were all midwives and pregnant women in Indonesia. The sampling technique used is accidental sampling. The calculation of the sample size using the formula for the difference in the mean of independent samples. The number of samples of midwives was 80, the number of samples of pregnant women was 30. There was effect of SIBINAR on the improvement of midwife competence in early detection of pregnancy risk (pre-test mean=65.86; post-test mean=80.95; SD=15.09 (11.03); p-value=0.000) and stunting prevention (pre-test mean=60.44; post-test mean=1.53; SD=31.09 (11.03); p-value=0.000). There was effect of SIBINAR on independence of pregnant women in early detection of pregnancy risk (pre-test mean=79.5; post-test mean=99.06; SD=19.48 (54.3); p-value=0.000) and stunting prevention (pre-test mean=67.86; post-test mean=3.82; SD=5.96 (15.5); p-value=0.000). There is an effect of SIBINAR on increasing the competence of midwives in early detection of pregnancy risk and stunting prevention and there is an effect of SIBINAR on pregnant women's independence in early detection of pregnancy risk and stunting prevention.

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INTRODUCTION

The competence of midwives and mother's independence in early detection of high-risk pregnancies and prevention of stunting are important factors to improve health status in Indonesia. According to WHO, competent midwives affect the health of mothers and



babies by 87%.¹ Research conducted by Susanti, 2017 shows that the competence of midwives contributes to the health status of pregnant women by 79%.² However, the results of Harmiyatur's research show that 69% of midwives are less competent and this has an effect on neonatal mortality by 62.8%.³ In addition to the competence of midwives, the mother's low independence in early detection of high-risk pregnancies and prevention of stunting also contributes to high maternal and infant mortality due to delays in handling. This is in line with the opinion of several experts abroad who stated that there are four late factors that influence maternal and perinatal mortality. The four factors are: being late in detecting danger signs, being late in making a decision to refer, being late in arriving at the referral place, and being late in getting help at the referral point. The delay in detecting problems is anticipated by educating pregnant women and their families, so they can recognize danger signs.⁴

Many efforts have been made to improve the midwife's competence and independence of the mother. However, these efforts have not yet yielded optimal results. One method that currently has great potential to improve the competence of midwives and the independence of mothers is an information system that is easy to accept and understand. Many information systems are currently being developed such as SIBINAR, SI-BIDAN, Bidan Kita, SICANTIK, and other online information. Based on the Force Fiedt Analysys study, compared to other information systems, SIBINAR has several advantages, including: it can improve the competence of midwives, increase maternal independence, in line with the National Family Health program, and support web-based classes for pregnant women accompanied by data processing applications. that do not exist on other websites such as the Puji Rochyati score calculator, the calculation of the estimated fetal weight (TBJ) and anthropometric calculations to detect stunting. The number of data views that can be managed is more than other information systems. The articles can be downloaded so that midwives and mothers can get information offline, which makes it possible not to have to be connected to the internet all the time. In addition, by using mobile phones, midwives do not need to bother bringing a laptop or computer to carry out activities.⁵

METHOD

This type of research is a quasi-experimental or quasi-experiment with a pre-test post-test design.⁶ The subjects in this study were all midwives and pregnant women throughout the archipelago with the criteria of being willing to be research subjects, having joined the WA group, not accessing information from other than SIBINAR during the study. The sampling technique used is accidental sampling.⁷ *The calculation of the sample size using the formula for the difference in the mean of independent samples. The number of samples of midwives was 80, the number of samples of pregnant women was 30.* The number of samples of midwives was 80, the number of samples of pregnant women was 30. The independent variable/treatment is the use of SIBINAR. The dependent variable/impact is the competence of midwives in early detection of pregnancy risk, competence of midwives in stunting prevention, maternal independence in early detection of pregnancy risk and maternal independence in stunting prevention. The instrument for assessing the competence of midwives and mother's independence in early detection of pregnancy risk and stunting prevention adopted the 2018 Basic Health Research questionnaire and the Maternal Neonatal Referral System Study questionnaire from the Health Research and Development Agency of the Indonesian Ministry of Health.^{8,9} From the results of the analysis of the One-Sample Kolmogorov-Smirnov Test on the pre-test and post-test data on the competence of midwives and the independence of pregnant women, it was found that Asymp. Sig. (2-tailed) with $p(0.00)$. From this analysis, it can be concluded that the data are not normally distributed. Therefore, a bivariate analysis to determine the effect of using SIBinar on increasing the competence of midwives and independence of pregnant women used the Wilcoxon Signed Ranks Tes.¹⁰

This study was followed by 80 midwives and 30 pregnant women in the archipelago who came from urban, rural and border areas. The midwife respondents came from all districts and cities in DIY, several districts in Central Java Province, West Kalimantan Province, NTT Province, Gorontalo Province, West Sulawesi Province, and Bangka Belitung Province. Respondents for pregnant women also came from all districts and cities in DIY, several districts in Central Java Province, West Kalimantan Province and Gorontalo Province.

Based on the results of the study, it can be seen that the characteristics of the research subjects are as follows:

Table 1. Distribution of Midwives Frequency by Characteristics

Characteristics	n= 80	
	Frequency	Percentage (%)
Education		
• D1	0	0
• D3	60	75
• D4/S1	19	23,8
• S2	1	1,2
• S3	0	0
Total	80	100
Work place		
- Public health center	56	70
- Clinic	3	3,8
- PMB	7	8,8
- Private Hospital/Hospital	12	15
- Campus/Agency	1	1,3
- Public health office	1	1,3
Total	80	100
Length of service as a midwife (in years) (mean)	15,4 years old (SD=9,5)	
Age (mean)	38 years (SD=9,24)	

From table 1. it can be seen that the majority of midwives have a D3 Midwifery education, work in puskesmas, have an average working period of 15.4 years and an average age of 38 years.

Table 2. Distribution of Pregnant Women Frequency by Characteristics

Characteristics	n= 30	
	Frequency	Percentage (%)
Education		
• Senior high school	13	43,3
• D1	0	0
• D3	3	10
• D4/S1	14	46,7

• S2	0	0
Total	30	100
Age		
• 20-25 years	9	30
• 26-30 years	6	20
• 31-35 years	14	46,7
• 36-40 years	0	0
• 41-45 years	1	3,3
Total		
Access information resources through the website		
-Never	1	3,3
-Seldom	0	0
-Sometimes	10	33,3
-Often	19	63,4
Total	30	100
Web type		
• Google	2	6,7
• Alodokter	11	36,7
• Hellosehat	3	10
• Bidankita	11	36,7
• Youtube	1	3,3
• The Asian Parent	1	3,3
• Else		
Total	30	100
Previous Pregnancy History		
- Ever been pregnant	24	80
- Never been pregnant (first pregnancy)	6	20
Total	30	100
Gestation		
• 0-12 weeks	1	3,3
• 13-27 weeks	15	50
• 28-40 weeks	14	46,7
Total	30	100
Mother's age at first pregnancy		
• < 20 years	2	6,7
• 20-35 years	28	93,3
• > 35 years	0	0
Total	30	100
Number of pregnancies (number of times pregnant)		
• 1	12	40
• 2	10	33,3
• 3	8	26,7
Total	30	100
Number of children		
• 0	10	33,3

• 1	13	43,3
• 2	3	10
• 3	2	6,7
• 4	2	6,7
Total	30	100
Abortus history		
• Never	20	66,7
• 1	10	33,3
• 2	0	0
• 3	0	0
Total	30	100

Table 2. State that the education of the majority of pregnant women is SMA and D4/S1, aged 31-35 years, often accesses information sources through websites outside of SIBINAR, namely Alodokter and Bidankita, has been pregnant before and the majority of children are 1 (one).

Table 3. The Effect of SIBINAR on the Improvement of Midwife Competence and Independence of Pregnant Women

Variable	Pre test (mean)	Post test (mean)	SD	p-value
Competence of Midwives in early detection of pregnancy risk	65.86	80.95	15.09 (11.03)	0.00
Competence of stunting prevention midwives	60.44	91.53	31.09 (12.7)	0.00
The independence of pregnant women in early detection of pregnancy risks	79.5	99.06	19.48 (54,3)	0.00
Independence of pregnant women in stunting prevention	67.86	83.82	15,96 (15,5)	0.00

Wilcoxon Signed Ranks Test.

The results showed that the average value of the pre-test of midwives' competence in early detection of pregnancy risk and stunting prevention and the average value of the independence of pregnant women in stunting prevention was in the sufficient category. The average value of the independence of pregnant women in early detection of pregnancy risk is in the good category. There is an increase in the average post-test scores in all aspects. Judging from the p-value, it was found that there was an effect of SIBINAR on increasing the competence of midwives in early detection of pregnancy risk and stunting prevention and there was an effect of SIBINAR on pregnant women's independence in early detection of pregnancy risk and stunting prevention.

The majority of the respondents in this study were midwives with a final Diploma in Midwifery education. According to the Midwifery Law of 2019, midwives with diploma three education can only practice midwifery in health care facilities. Health Service Facility (fasyankes) is a tool and/or place used to organize health service efforts both promotive, preventive, curative, and rehabilitative whose services are carried out by the government

and/or the community. These health facilities are like the Midwife Independent Practice (PMB) organized by midwives graduated from the midwife profession, primary clinics, health centers, hospitals and so on.¹¹ However, the current conditions in the archipelago, especially in rural and remote/border areas, are still many midwives with a DIII midwifery education who organize PMB due to the limited number of midwives who have graduated from the Midwifery Profession. Therefore, SibinaR is one of the right educational media to help improve the competence of midwives with DIII graduates, as well as for STR graduates and professions.

The majority of midwives in this study worked in puskesmas. Puskesmas is a health facility that organizes public health efforts and first-level individual health efforts, by prioritizing promotive and preventive efforts, to achieve the highest degree of public health in its working area.¹² In accordance with this understanding, health workers at health centers, one of which is a midwife, must have good competence in promotive and preventive efforts, one of which is early detection of pregnancy risks and stunting prevention. SIBINAR can help improve these competencies.

The average length of work as a midwife is 15.4 years. According to the theory, the tenure includes a long working period (> 10 years).¹³ The average age of midwives is also classified as a mature age (38 years), but the results of the pretest have not shown satisfactory results and are classified in the fairly good category. It can be seen here that experience or years of service and age do not necessarily affect the competence of midwives. This is in accordance with Nirwana's research which shows that there is no significant relationship between age and tenure and the competence of midwives.¹⁴ Years of service can affect performance both positively and negatively. Positive influence on performance if the longer the period of work the more experienced the personal in carrying out their duties. On the other hand, it will have a negative effect if the longer the working period will arise habits in the workforce.¹⁵ Therefore, this SIBINAR is still needed to improve the competence of both junior and senior midwives.

The majority of pregnant women respondents have secondary (SMA) and high (D4/S1) education. Education is one of the factors that influence knowledge. The higher a person's education, the more able to receive and understand information so that the knowledge possessed is also higher.¹⁵ The average age of pregnant women is between 31-35 years. This age is classified as a healthy reproductive age and also a mature age. As people get older, their grasping power and mindset will also develop so that the knowledge gained will also improve and increase. The majority of pregnant women also often access information sources through websites. Information affects a person's knowledge if they often get information about a lesson it will increase their knowledge and insight, while someone who does not often receive information will not increase their knowledge and insight. The majority of pregnant women have been pregnant before so they already have experience. How to solve problems from previous experiences that have been experienced or obtained can be used as knowledge if they get the same problem.¹⁶ All of the majority of the characteristics possessed by pregnant women are not in accordance with the results of the study, in which the average value of the pre-test for the independence of pregnant women in preventing stunting is not good. Therefore, information is still needed through Sibinar to increase independence in early detection of the risk of pregnancy and stunting.

From the results of the analysis, there is an effect of using Sibinar on increasing the competence of midwives and the independence of pregnant women in early detection of pregnancy risk and prevention of stunting. This is in accordance with the research of Wiryanti, et al, which states that web-based learning media can effectively improve practical skills in the second stage of labor.¹⁷ SIBINAR is a web-based information media that can be accessed online by both midwives and the public throughout the archipelago. This is in accordance with what was conveyed by the Minister of Health of the Republic of Indonesia that the competence of Health Human Resources still needs to be improved periodically

through education and training. It is time for efforts to increase competence to move forward based on the development of information and communication technology. This internet-based program can bridge the gap in access to quality improvement for health workers, especially those in Disadvantaged Regions, Borders and Islands (DTPK) and Health Problem Areas (DBK) such as NTT, Papua, West Papua and East Kalimantan.¹⁸

Health information is very influential for individuals to decide certain health behaviors. People tend to get health information to meet a need, whether it's information about disease, information about where to get services and concern for health issues to get the health information they need, so they can improve their level of health.¹ Good maternal knowledge about danger signs during pregnancy and the birth of a baby is the right strategy to increase mother's participation in maintaining health, especially to know the danger signs of pregnancy as a risk prevention in pregnancy so that it will reduce and prevent delays in mothers seeking help if they have problems.¹⁹

CONCLUSION

There is an effect of using Sibinar on increasing the competence of midwives in early detection of pregnancy risk. There is an effect of using Sibinar on increasing the competence of midwives in stunting prevention. There is an effect of using Sibinar on increasing the independence of pregnant women in early detection of pregnancy risk. There is an effect of using Sibinar on increasing the independence of pregnant women in preventing stunting.

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