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Decision-Making Predictors of Place of Delivery in the Work Area of Petungkriyono Health Center, Pekalongan Regency, Central Java Indonesia

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Abstract

Indonesian government requires mothers to give birth in health care facilities to ensure that labor takes place safely in accordance with the standards of childbirth assistance. The highest number of cases of delivering babies at home in Pekalongan regency Central Java happened in district Petungkriyono 56.05% in 2016. The objective of this study was to find out predictors and factors that closely related to decision making regarding the place of delivery. A descriptive correlative study with cross sectional design was conducted. The setting of the study was the work area of Petungkriyono Health Center in Pekalongan. A total 319 participants were chosen by the total sampling technique. Participant of this study were women who gave birth in the period of January to December of 2017. The data were statistically tested by using multiple logistic regression test to identify the most influential variable related to decision making regarding the place of delivery. The study found that 156 (48.9%) respondents delivered at home and 163 (51.1%) delivered at health facility.. The influencing variables were attitude and value with p value 0.016 and the most influential variable is the negative value about birth in a health facility with p value 0.017 (95% CI; 1.139,3.587). The most variable influencing decision making regarding the place of delivery is value. It is suggested for health care providers to considering the aspects of value to build the trust in the community while conducting an education program.

Keywords: childbirth, decision making, value.

1. Introduction

Indonesia is one of countries with high maternal mortality Rate (MMR). In 2015, the MMR of Indonesia was 305/100.000 live births [1]. This number is above the average goal target of the Sustainable Development Goals (SDGs), which is less than 70 per 100.000 live births in 2016 - 2030. Central Java is one of the provinces in Indonesia with the eminent number of MMR. In 2016, the MMR of Central Java was 109.65/100.000 live

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births [2]. Whereas in 2016, the MMR of Pekalongan Regency was 18/1000 live birth, and the Infant Mortality Rate (IMR) was 172 babies /1000 live birth Health Office of Central Java Province in 2017.

Health Office of Central Java Province (2017) identified the direct causes of maternal deaths in Central Java were bleeding (33.22%), hypertension (27.08%), and other causes (21.26%). Besides, one of the indirect causes of the deaths was limited access to adequate maternal health services, especially emergency services. This indirect cause of maternal deaths was generally a result of several conditions such as the tardiness in recognizing danger signs, making decisions, reaching health facilities, and getting services at health facilities [2].

The high MMR cannot be separated from the tardiness in making decisions, including taking the decision to deliver at a health facility. Based on result etnography study in Indonesia by Belton, Myers and Ngana [3], when family delay the decision to refer to health facilities will impact to late treatment when emergency occured.

The phenomenon of giving birth at home can be a problem that triggers maternal and infant mortality due to the insufficiency of equipment and skill during delivery process, especially if emergency actions are required. This phenomena contradict with the Millennium Development Goals (MDGs) which is requiring any delivering process to be carried out by trained health professionals and in health services [2].

Pomeroy, Koblinsky & Alva [3] stated that the utilization of health facilities for childbirth in developing countries was limited, approximately ranging from 5% to 67.5%. Previous study shows that one of three women used health facilities to delivery process in Bangladesh (Yaya, Bishwajit, & Ekholuenetale, 2017). Even though the government through the ministry of health has issued a policy regarding childbirth, Indonesia is still in the 4th rank (in Asia) of the low health care facilities utilization for childbirth purpose, with 39.7% [3]. Previous study revealed the common reason of choosing places of delivery in several developing countries were patient demographic factors including age, education, parity, employment and socio-economic status [4]. Qualitative Study in Zambia by Sialubanje, Massar, Hamer, and Ruiter (2015) showed factor socio-cultural norms regarding childbirth, negative attitude to wards the quality of services provided at the clinic, made most women deliver at home.

Research in Indonesia also found that the selection of delivery helpers and sites was influenced by ante natal care visit, the presence of village midwives, husband's support, parity, family economic status, and complications [5]. Others include transportation, counseling, and motivation [6]. In 2016, the number of deliveries in Pekalongan Regency was 15.884. For the more 14.794 births were carried out in health facilities, while 1.090

births (6.86%) were carried out at home. The highest number of cases of delivering babies at home happened in sub-district Petungkriyono (56.05%). From all (1.090) cases of delivering at home, 1.058 deliveries were assisted by health workers, and 32 deliveries were assisted by traditional birth attendants [1].

Sub-district Petungkriono is a mountainous area with an altitude between 600-2100 meters above sea level where some areas are highland areas. The area of Petungkriy-ono is 73.59 km^2 or 8.80% of the total area of Pekalongan Regency. Petungkriyono is divided into 9 villages and the distance beetween the villages is too far. The distance between the capital of Petungkriono and the capital city of Pekalongan Regency is about 34 km. In this study, the purpose to identification demografic factors, knowledge, attitude and value. The reason are mayority woment education is elementary, and based on interview by reseacher to several woment birth in home, the reason are stigma abnormalitas pregnancy and delivery.

2. Methods

2.1. Design and Sample

This study is cross sectional design. A total of 327 participants were recruited from sub-district Petungkriyono in Pekalongan regency. Total sampling have been used in this study to recruit mothers who gave birth in the working area of Petungkriyono Public Health Center during the period of January to December 2017.

The independent variables were the paricipants characteristics, attitudes, knowledge and values, while the dependent variable was decision making of the place of delivery.

2.1.1. Measurement

The instrument that used was questionnaire by reseacher to analysis demographic characteristic participants, knowledge, attitudes, and value. Validity and reliability of the questionnaire knowledge, attitude and value were tested before the questionnaire was used. The validity test on the knowledge was 0.363-0.789, attitude was 0.361-0.759 and value was 0.370-0.775, while r table = 0.361. Based on these results the questionnaire ware declared valid. The results of the reliability test of the knowledge was 0.609, the attitude was 0.881 and the value was 0.836. The conclusion of the test is a reliable questionnaire.

2.2. Data Collection procedure.

The study was carried out by a house-to-house visit in the all village sub-district Petungkriyono. In the beginning, the purpose of the study was explained to the subjects in their local language. The interviews of all participants were undertaken after receiving written informed consent from them. After the questionnaire have been answered, checks and clarifications were carried out to ensure questionnaires were answered correctly.

2.2.1. Data analysis

Then, the gathered data were processed by using the SPSS. The data analysis included three stages, namely univariate test, bivariate test and multivariate test. Univariate test was used to calculate frequency distribution and to find relationships, and multivariate was used to find the most dominant factor.

2.2.2. Ethical considerations

This research has passed the ethical test from the University of Muhammadiyah Semarang with number 066/KEPK-FKM/UNIMUS/2018.

3. Results

The results showed that from 319 respondents, 69.3% of them were 20-35 years old, 51.7% participans were multiparous, and 74.6% participans extended family. Majority of respondents only finished elementary school (86, 5%) and did not work (60.4%).The complete results are presented in table 1.

The results of the data distribution of the place of delivery showed that 48.9% participants gave birth at home and 51.1% delivered at health facilities. Factors that had significant influence with CI 95% were attitudes and values by the participants. Factors that did not have significant influence were age, parity, family type, education, occupation, attitudes, and personal or other people preferences. The complete results can be seen in table 2.

From 156 paticipants who delivered at home, the results of data processing showed that 64.75% were 20-35 years old, 50.64% were primiparous, 76.28% were extended family of types, 87.82% finished elementary education, 62.82% did not work, 52.56%

TABLE 1: Demographic Characteristic of Mothers who gave birth in the working area of Petungkriyono Public Health Center, January – December 2017 (n=319).

Characteristic	n	%
Age (years old)		
< 20	93	29.1
20 – 35	221	69.3
> 35	5	1.6
Parity		
Primiparous	154	48.3
Multiparous	165	51.7
Family Type		
Nuclear	81	25.4
Extended	238	74.6
Education Level		
Elementary	276	86.5
High School	37	11.6
College	6	1.9
Occupation		
Working	193	60.4
Not working	126	39.6
Knowledge		
Less	152	47.65
Sufficient	167	52.35
Attitudes		
Less	185	57.99
Sufficient	134	42.01
Value		
Less	168	52.66
Sifficient	151	47.34

lacked knowledge, 71.79% had less supportive attitudes of delivering in health facilities, and 66.66% believed that delivering at health facilities was not good. According to the results, participant who deliver in health facility showing the similar characteristic expect for parity, attitude and value such as most of them were multiparous (53,09%), had higher proportion of sufficient attitudes (55.2%) and values (60.74%) to wards delivering in health care facilities.

Multivariate analysis showed only two variables could be included in the model, namely attitude and value. However, the most influential factor was the variable of value with Wald 5.787, p value 0.16, odds ratio 2.021 in 95% CI;1.139,3.587.

Table 2: Distribution and Correlation among Demographic Characteristic, Knowledge, Attitude and Value with place of delivery (N=319).

Variable	Place of Delivery				p value
	Home		Health Facilities		
	n=156	%	n=163	%	
Age (years old)					0.263
Age (years old)					0.263
< 20	53	33.97	40	24.53	
20-35	101	64.75	120	73.62	
>35	2	1.28	3	1.85	
Parity					0.408
Primiparous	79	50.64	75	46.01	
Multiparous	77	49.35	88	53.09	
Family Type					0.502
Nuclear	37	23.72	44	54.3	
Extended	119	76.28	119	55.7	
Education Level					0.279
Elementary	137	87.82	139	85.27	
High School	18	11.5	19	11.65	
College	1	0.68	5	3.08	
Occupation					0.463
Working	98	62.82	95	58.28	
Not Working	58	37.18	68	41.72	
Knowledge					0.086
Less	82	52.56	70	42.94	
Sufficient	74	47.44	93	57.06	
Attitudes					0.017
Less	112	71.79	73	44.78	
Sufficient	44	28.21	90	55.22	
Values					0.016
Less	104	66.66	64	39.26	
Sufficient	52	33.34	99	60.74	

Table 3: Predictors of Place of Delivery Selection.

Variable	B	Wald	Error Standard	p value	OR	95% CI
Value	0.704	5.787	0.293	0.016	2.021	1.139,3.587
Constants	-1.992	24.910	0.399			

4. Discussion

This study showed, the majority of mothers' age were in the range of 20 – 35, elementary level of education similar with the report from national health indicator survey

by Ministry of Health of Republic Indonesia 2016. The report showed mother's age pregnancy 77.9%, in the range 20-35, elementary education level 55.6% and not working 67.8% [7]. Despite the majority participants low in education, but they had a job (working). The job was farm labor or to become farmers working on other people's farms. For variable parity, study by Devasenapathy et al. [8] in Delhi identified majority participants was multyparous, similar with this study.

This study showed that the numbers of mothers who chose to give birth at home and at health facilities were almost similar, But, this fact indicates that the government's target has not been achieved in accordance to the Regulation of the Minister of Health of the Republic of Indonesia number 97 of 2014 concerning health services before pregnancy, during pregnancy, childbirth, and postpartum period, the provision of contraceptive services as well as sexual health services. In the third part of article 14 of the regulation, it is stated that labor must be carried out in a health service facilities [1].

This study also revealed that the attitude and value of respondents significantly influenced their decisions to deliver at home. The variable of value were found to be the most influential factor. These findings are in line with the theory about the development of reasoned action and planned behavior. This theory states that individuals are guided by rational considerations in considering the implications of their actions. Individuals will consider carefully based on any available information before deciding to or not to do an action. In addition, they will take into account the implications of the actions to be taken [9].

According to Peterson and Bredow [9], an action is done because there is an intention to do so. This intention is influenced by attitude, subjective norms and one's perception of an action, whether it is felt easy or difficult to do. Attitude is influenced by beliefs and expectations. Belief is influenced by previous experience or perception of something. Good beliefs will bring good attitude, and bad beliefs will lead to bad attitude.

Based on the theory of reasoned action and planned behavior, mothers decided to give birth at home because they believed that delivering at home was more beneficial for them. Likewise, mothers who gave birth in health services believed that giving birth in health services was more beneficial. This value determined the attitude as well as the action of the mothers.

Identification of the reasons for selecting the place of delivery should also be explored further. The United States Agency for International Development (USAID) and the Department of Maternal and Child Health Gillings School of North Carolina (2011) investigated the factors relating to the choice of place of delivery in Indonesia. This study showed that the dominant characteristics of the 300 respondents were 25-39 years old

(47%) and finishing elementary school only (39%). Based on the reasons of choosing a place of delivery, the USAID and the Department of Maternal and Child Health Gillings School of North Carolina (2011) found that 73% because of the quality of services, 44% due to access to doctors, and 42% due to knowledge. Meanwhile, the reason for not choosing to deliver at a health facility was because the cost of delivery at home was cheaper than in a health facility [10].

Several studies in Indonesia found almost similar facts. Factors of ante natal care visit, maternal education level, presence of village midwives, husband's support, parity, family economic status, complication, transportation, counseling, motivation, maternal knowledge, access to health care facilities, and socio-cultural factors influenced the choice of delivery place [6].

The study of Devasenapathy et al.(2014) on the reasons of women in choosing to deliver at home with 6092 respondents who lived in Delhi identified demographic factors associated with giving birth at home. Those factors were multiparity, lack of knowledge, and migrant status. Qualitatively, Devasenapathy et al. (2014) identified the reasons for choosing home to give birth. The reasons were feeling afraid to hospitals, bad experience with hospital services, feeling more comfortable to give birth at home, having no social support to help them taking care of their children at home, and high price of giving birth in hospitals.

The high number of deliveries at home can be reduced by increasing affordable health facilities in terms of distance and price, increasing the number of health personnels, and improving the supporting infrastuctures, especially in rural areas. According to Hermawan, Prabandari, and Wilopo [11], the improved placement of health workers to increase the coverage of deliveries by health workers should be followed by improvements in other sectors. It was because statistically, socio-economic status and educational level of women in childbearing age, accessibility to health care facilities, and gross regional domestic product (GRDP) associated significantly with the utilization of health workers as birth attendants.

5. Conclusion

The factors related to the choice of place of delivery were value and attitude, and the unrelated factors were age, parity, family type, education, occupation, knowledge, and preferences of others. The most related factor was value. Therefore, it is suggested that health workers who handle pregnant and maternity women to educate and motivate

the women before the labor about the importance of giving birth in health services by involving the family.

Acknowledgement

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