



Availability and accommodation of childbirth in health personnel towards mother's achievement to childbirth services

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Abstract

Introduction: Maternal mortality rate (MMR) is a serious problem in Indonesia due to low coverage of childbirth by health personnel. This study aimed to analyze the correlation between the availability and accommodation of childbirth in health personnel and mother's achievement in childbirth services.

Methods: This was an observational-analytic study involving 100 women who gave birth in 2017 at Bondowoso District. Data analysis was performed using the Spearman test.

Results: The results of correlation test showed that geographic location, hours of opening, appointments mechanisms, and accommodation had correlation with mother's achievement to childbirth services ($p=0.000$). It means that the easier the geographic location to reach, the higher tendency of the mother's achievement to childbirth services at Bondowoso District.

Conclusion: The formation of an internal health office team, optimizing the role of the head of community health center, birth waiting homes socialization, are solutions to increase mother's achievement to childbirth services.

Keywords: MMR, availability and accommodation, mother's achievement to childbirth services

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INTRODUCTION

Maternal mortality rate (MMR) is a serious problem in Indonesia. These last few years in developing countries the number of maternal mortality is still high (Sitorus, Sirojuzilam, Rochadi, & Siregar, 2017). MMR is one of the most sensitive indicators to describe the health of women, even the welfare of the people in a state (Indonesia Ministry of Health, 2014). MMR's trend data in Indonesia within 1990 - 2015 shows that Indonesia is the ASEAN country with the highest MMR list. Based on the Intercensal Population Survey in 2015, Indonesia MMR was about 305 per 100,000 live births with the Millennium Development Goals (MDG's) target of 102 per 100,000 live births (Indonesia Ministry of Health, 2016). The acceleration of the decline of maternal mortality rate (MMR) has to involve all aspects, such as medical aspects, health service management, and socio-cultural aspect of the society (Nasution & Erniyati, 2018).

Maternal death is a leading indicator of women's health status (Palimbo, Salmah, & Sari, 2019). Maternal mortality is an important problem because it causes the state to lose a number of productive forces, increasing

child morbidity and mortality (Fitriani et al., 2019). Several factors affecting the maternal mortality, especially referral factor, and districts maternal health services quality, need to be analyzed (Prasetyo et al., 2018). Another cause that needs attention is related to maternal health services in Indonesia (UNICEF Indonesia, 2012). Maternal mortality can actually be prevented by quality antenatal examination, identification of high-risk patients, and identification of complications that may arise, such as postpartum autotransfusion resulting in cardiac decompensation and results in death (Muninggar, Yusuf, & Prasetyo, 2019).

Bondowoso district was one of the districts with high MMR in East Java, which was 195.81 per 100,000 live births in 2016. There were 510 deliveries by non-health personnel or 5 percent from all of the deliveries in 2016, and 250 deliveries by non-health personnel (shaman) in 2017 (until September). This fact is very alarming because the analysis of maternal mortality data during

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giving birth found that 2 out of 510 deliveries assisted by shaman led to maternal mortality. Based on the calculation of the proportion of maternal mortality in shaman and the proportion of maternal mortality in health personnel, it can be seen that childbirth by shaman had the risk of 0.40% experiencing mortality, while childbirth by health personnel had a smaller risk of mortality of 0.04%.

Access is a service that is realized by considering user characteristics and services (Peters et al., 2008). Access to health services was influenced by two sides of health services, supply-side and demand-side. Supply-side is a factor derived from health and organizational systems, while demand-side is a factor derived from the society. The dimension of the supply-side is the availability and accommodation of childbirth by the health personnel. Availability and accommodation of childbirth by health personnel can be known through geographic location, hours of opening, appointment mechanisms, and accommodation (Levesque, Harris, & Russell, 2013). The medical treatment delay includes a delay in identified pregnancy risk and dangerous sign and a delay in accessibility to health facilities and taking good health services (Syarifuddin, Thaha, & Abdullah, 2019).

The availability and accommodation of childbirth by the health personnel must be known first to increase the mother's achievement to childbirth services. This study aimed to analyze the correlation between the availability and accommodation of childbirth in health personnel and mother's achievement to childbirth services.

MATERIALS AND METHODS

This was an analytical observational study with cross-sectional approach conducted in Bondowoso District in April 2018. This study involved 100 women who gave birth in 2017 and resided in five sub-districts of Bondowoso District, Indonesia. Five sub-districts chosen as the study location were determined based on the difference of altitude. Each selected location represents the group of sub-districts with the same altitude, such as: above 1,500 MASL (meters above sea level); 1,000 – 1,500 MASL; 200 – 1,000 MASL; 100 - 200 MASL; and 0 - 100 MASL. Samples were taken randomly from each selected location. The number of samples at each selected location was determined proportionally based on the number of women who gave birth there.

The variables of this study consisted of four independent variables and a dependent variable. The independent variables of this study consisted of health literacy, beliefs, trust, and expectation from the health personnel. The dependent variable was perception of need and willingness of delivery services by health personnel. This study used primary data obtained by interviewing the respondents and distributing

Table 1. Characteristics of Respondents in Bondowoso District (N=100)

Characteristics of Respondents		N	%
Age			
1.	<20 years old	11	11
2.	20-30 years old	70	70
3.	>30 years old	19	19
Education			
1.	No education	13	13
2.	Primary School	29	29
3.	Junior High School	25	25
4.	Senior High School	18	18
5.	Higher formal education	15	15
Employment Status			
1.	Non-working	84	84
2.	Working	16	16

questionnaires. Data were analyzed by SPSS, through the Spearman correlation test to find the correlation between variables.

RESULTS

Characteristics of Respondents in Bondowoso District

This characteristic of respondents are described in **Table 1**. Characteristics of the respondents showed that most of the women (70%) gave birth at ideal age. There were 30% of them at higher risk because they gave birth outside the ideal age.

Most of the women were less educated because 29% of them had primary school level of education, even 13% of them did not even get any education. Most of the women (84%) did not have job or categorized as non-working. They did not participate in their family income collection. Most of the family in Bondowoso District was categorized as low-income family.

Cross-tabulation between the components of availability and accommodation of childbirth by health personnel towards mother's achievement to childbirth services in Bondowoso District can be seen on **Table 2**.

The results of the cross-tabulation between the component of availability and accommodation of childbirth by health personnel and mother's achievement to childbirth services showed that all mothers (100%) who rate availability and accommodation as well, able to achieve childbirth services. In contrast, the majority of mothers (55%) felt that availability and accommodation were unavailable but eventually did not achieve childbirth services. Based on this, the availability and accommodation of childbirth services tend to realize the achievement of mothers to childbirth services.

The Correlation between the Components of Availability and Accommodation of Childbirth by Health Personnel towards Mother's Achievement to Childbirth Services. The p-value of correlation between the components of availability and accommodation of childbirth by health personnel (independent variable) with mother's achievement to childbirth services (dependent variable) are described in **Table 3**.

Table 2. The Cross-Tabulation between the Components of Availability and Accommodation of Childbirth in Health Personnel towards Mother's Achievement to Childbirth Services

Availability and Accommodation	Mother's Achievement to Childbirth Services				Total	
	Not capable		Capable		n	%
	n	%	n	%		
Not available	11	55.0	9	45.0	20	100
Available	2	3.1	62	96.9	64	100
Well available	0	0.0	16	100.0	16	100
Total	13	13.0	87	87.0	100	100

Table 3. The p-Value of Correlation between Independent Variable and Dependent Variable (N= 100)

Independent Variables	Dependent Variable	r	p-Value
Geographic location	Mother's Achievement to Childbirth Services	0.339	0.001
Hours of opening		0.593	0.000
Appointments mechanisms		0.513	0.000
Accommodation		0.336	0.001

The results of the correlation between the components of availability and accommodation of childbirth by health personnel and mother's achievement to childbirth services [Table 3] showed that variable of geographic location had a correlation with mother's achievement to childbirth services (p-value = 0.001). It means that the easier the geographic location to reach, the higher tendency of the mother's achievement to childbirth services at Bondowoso District.

The p-value of correlation between hours of opening and mother's achievement to childbirth services was 0.000 [Table 3]. It proves that hours of opening had correlation with mother's achievement to childbirth services. It means that the easier the health personnel to be sought at any time if the mother needs childbirth services, the higher the tendency of the mother's achievement to childbirth services at Bondowoso District.

Similar to geographic location and hours of opening, variable of appointments mechanisms had correlation with mother's achievement to childbirth services (p-value = 0.000). It means that the easier the appointments mechanisms to reach, the higher the tendency of the mother's achievement to childbirth services at Bondowoso District.

Variable of accommodation had correlation with mother's achievement to childbirth services (p-value = 0.001). It means that the easier the accommodation to stay that can be used by mothers and also family members who accompany when giving birth by the health personnel, the higher the tendency of the mother's achievement to childbirth services at Bondowoso District [Table 3].

DISCUSSION

Geographic location is mother's view of the location and distance of health personnel mothers can reach to seek childbirth services. The results of the correlation test showed that geographic location had correlation with mother's achievement to childbirth services. The difficult geographical location of services to reach by the community will make people reluctant to achieve them

and switch to other alternatives. Maternal and family behavior, which are preventive and curative, are still minimal; community involvement in care, especially the perception of breastfeeding for new-born babies, is still a lot of negatives (Nasution, Erniyati, & Aizar, 2018). To lower maternal mortality, it needs the cooperation of many parties, a policy of births assisted by skilled health personnel should offset by the improved quality of childbirth services (Prasetyo et al., 2018).

Hours of opening is mother's view on the availability of health personnel who can be sought at any time if the mother needs delivery assistance. The results of correlation test showed that hours of opening had correlation with mother's achievement to childbirth services. The hours of opening will also determine whether the service is used or not (Levesque et al., 2013). Childbirth assistance must be professional in handling labor cases. Professional value for individual health personnel can help improve patient-centered decision making (Moyo, Goodyear-Smith, Weller, Robb, & Shulruf, 2016). According to Weis and Schank, professional values are the standard of action accepted by professional groups and individuals, which is then used to evaluate individual integrity, strengthen professional identity and individual performance (Poorchangizi, Farokhzadian, Abbaszadeh, Mirzaee, & Borhani, 2017).

Appointment mechanism is mother's views on the ease of procedures or mechanisms that must be followed to get childbirth services from health personnel. The results of correlation test show that appointments mechanisms had correlation with mother's achievement to childbirth services. Based on the results of research in Bondowoso District, it is known that the appointment mechanisms to get services is still considered as poor. Mothers consider the procedure or appointment mechanisms to get services is too complicated to understand. The appointment mechanisms that is considered as difficult for the users (community) will be one of the assessments that the availability and accommodation in health services are poor (Levesque et al., 2013). They acknowledge that the mechanism to obtain childbirth services from non-health personnel

(shaman) is easier than childbirth services from health personnel. Shamans swiftly accept calls when mothers need them. Shamans are willing to come to the mother's house and treat the mother and family with friendly service. It cannot be denied if the community consider that they have other alternatives that are more accessible, thus the possibility of health services achievement by health personnel will be even smaller (Adriana et al., 2014).

Accommodation is mother's views about the availability of a place to stay or temporary shelter that can be used by mothers and also family members who accompany them when giving birth by the health personnel (JAMAICA, 2018). The results of correlation test showed that accommodation had correlation with mother's achievement to childbirth services. Based on the results of research in Bondowoso District, it is known that the accommodation at the childbirth service is still considered as poor. Some mothers consider that accommodation in childbirth services is lacking. The limited accommodations needed when utilizing health services can cause people to be reluctant to achieve childbirth services (Levesque et al., 2013).

Apart from the above, mother's achievement to childbirth services at Bondowoso District is also influenced by the availability of motor vehicles and financial conditions. Some mothers consider that they are unable to reach health personnel on the grounds that the availability of motor vehicles could not be used. Besides that, they also reason that the family's financial condition cannot be relied upon at any time to pay for

childbirth services by health personnel. Poverty indeed limits the ability of people to pay for health services (Levesque et al., 2013).

CONCLUSION

All components of availability and accommodation of childbirth in health personnel that correlated with mother's achievement to childbirth services are geographic location, hours of opening, appointment mechanisms, and accommodation. Based on that, it can be suggested that to increase mother's achievement to childbirth services, we have to focus on four components of availability and accommodation of childbirth in health at Bondowoso District. The formation of an internal health office team, optimizing the role of the head of community health center in the rehabilitation activities of auxiliary health center buildings, Birth Waiting Homes (BWH) socialization, especially for areas that are far from the community health center, coordinating across sectors in optimizing BWH promotion, are the solutions to increase mother's achievement to childbirth services at Bondowoso District.

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REFERENCES

- Adriana, N., Wulandari, L. P. L., Duarsa, D. P., Adriana, N., Wulandari, L. P. L., & Duarsa, D. P. (2014). Akses pelayanan kesehatan berhubungan dengan pemanfaatan fasilitas persalinan yang memadai di Puskesmas Kawangu. *Public Health and Preventive Medicine Archive*, 2(2), 175–180.
- Fitriani, Masni, Bustan, M. N., Salmah, U., Stang, & Syafar, M. (2019). Analysis of risk factors maternal mortality in Sinjai District. *Indian Journal of Public Health Research and Development*, 10(10), 1503–1507. <https://doi.org/10.5958/0976-5506.2019.03050.X>
- Indonesia Ministry of Health. (2014). *Mother's Day: Situasi Kesehatan Ibu*. Jakarta.
- Indonesia Ministry of Health. (2016). *Buku Saku Data dan Informasi*. Jakarta.
- Jamaika, A. B. (2018). *Upaya Peningkatan Persalinan Di Tenaga Kesehatan Berdasarkan Conceptual Framework of health care access (Studi di Kabupaten Bondowoso)*. Universitas Airlangga.
- Levesque, J.-F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health*, 12(1), 18.
- Moyo, M., Goodyear-Smith, F. A., Weller, J., Robb, G., & Shulruf, B. (2016). Healthcare practitioners' personal and professional values. *Advances in Health Sciences Education*, 21(2), 257–286.
- Muninggar, L., Yusuf, M., & Prasetyo, B. (2019). Maternal mortality risk factor in pregnancy with heart disease at Dr. Soetomo General Hospital, Surabaya, Indonesia. *Majalah Obstetri & Ginekologi*, 27(1), 17–23.
- Nasution, S. S., & Erniyati, E. (2018). The intervention of community role for improving health status of pregnant women suffering HIV-AIDS in Medan. *Open Access Macedonian Journal of Medical Sciences*, 6(9), 1768–1772. <https://doi.org/10.3889/oamjms.2018.324>

- Nasution, S. S., Erniyati, E., & Aizar, E. (2018). The effectiveness of DC motor vibrilatory stimulus (DMV) among postpartum women on giving breast milk. *Open Access Macedonian Journal of Medical Sciences*, 6(12), 2306–2309. <https://doi.org/10.3889/oamjms.2018.436>
- Palimbo, A., Salmah, A. U., & Sari, A. (2019). Determinant factors of maternal mortality from 2016 to 2017 a case-control study in Banjar regency. *Indian Journal of Public Health Research and Development*, 10(1), 1188–1192. <https://doi.org/10.5958/0976-5506.2019.00216.X>
- Peters, D. H., Garg, A., Bloom, G., Walker, D. G., Brieger, W. R., & Hafizur Rahman, M. (2008). Poverty and access to health care in developing countries. *Annals of the New York Academy of Sciences*, 1136(1), 161–171.
- Poorchangizi, B., Farokhzadian, J., Abbaszadeh, A., Mirzaee, M., & Borhani, F. (2017). The importance of professional values from clinical nurses' perspective in hospitals of a medical university in Iran. *BMC Medical Ethics*, 18(1), 20.
- Prasetyo, B., Damayanti, H., Pranadyan, R., Habibie, P. H., Romdhoni, A. C., & Islami, D. (2018). Maternal mortality audit based on district maternal health performance in East Java Province, Indonesia. *Bali Medical Journal*, 7(1), 61–67.
- Sitorus, S., Sirojuzilam, Rochadi, R. K., & Siregar, M. F. G. (2017). The influence of empowerment by training and mentoring of pregnant women against acts of choosing childbirth in the Maternity Clinic Medan city, Indonesia. *Asian Journal of Microbiology, Biotechnology and Environmental Sciences*, 19(1), 80–88.
- Syarifuddin, Thaha, R., & Abdullah, A. Z. (2019). Intermediate determinants in maternal mortality: Case study Tojo Una, Una District. *Indian Journal of Public Health Research and Development*, 10(4), 908–913. <https://doi.org/10.5958/0976-5506.2019.00822.2>
- UNICEF Indonesia, I. (2012). *Ringkasan Kajian: Kesehatan Ibu dan Anak*. Jakarta.