Conference Paper

Section Cesarean in Urban Areas Indonesia: How the Relation with Frequencies of Antenatal Care?

Terry Y.R. Pristya and Anni Fithriyatul Mas'udah

UPN "Veteran" Jakarta

Abstract

Increasing cesarean delivery in Indonesia from year to year has risks to the health of mother and baby. Antenatal care routinely that is suitable with pregnancy trimester is necessary to determine the condition and evaluation of infant health. This research aimed to know the relationship between the frequency of antenatal care with section cesarean. This research is quantitative research with a cross-sectional design. Data were from women aged 15-49 questionnaires of the 2012 Indonesia Demographic and Health Survey (IDHS 2012). The sample used the sample of 5143 women age 15-49 who gave birth to the last child with cesarean delivery or not in urban areas selected in the sample IDHS 2012. Multivariate logistic regression analysis was used to study the related frequency of antenatal care with section cesarean, adjusting for socioeconomic status and education. The rate section cesarean in this research was 23.0% among all women, 14.0% with 0-3 frequencies and 23.4% with >=4 frequencies of antenatal cares. After adjusting for socioeconomic status and mother's education variable, it showed a statistically significant association between frequencies of antenatal care and section cesarean (p-value 0.046). The result also showed that frequencies of antenatal care >=4 times has 1.7 times higher (95% CI 1.1-2.8) to section cesarean compared with women who 0-3 times of antenatal care.

Keywords: section cesarean, frequency, antenatal care

Corresponding Author:
Anni Fithriyatul Mas'udah
freezthya_nara@yahoo.com

Received: 21 December 2018
Accepted: 23 January 2019
Published: 28 February 2019

Publishing services provided by Knowledge E

© Terry Y.R. Pristya and Anni Fithriyatul Mas'udah. This article is distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the 3rd IMOPH & the 1st YSSOPH Conference Committee.

OPEN ACCESS

1. Introduction

Increasing cesarean delivery in Indonesia from year to year has risks to the health of mother and baby [1]. In 2010, the cesarean deliveries rate had also exceeded the standards of the World Health Organization [2]. High disparities in populating and health facilities causing cesarean delivery to occur in urban areas. The impact of increased demand cesarean delivery is mother and infant mortality-morbidity rate [3]. Besides, a problem with early breastfeeding initiation also becomes impact from cesarean delivery [4].

As a result, pregnant women with low knowledge causes some deaths either in the mother or in the baby who was born or baby and the mother. Pregnancy examination is one of the important stages that must be done by pregnant women to a healthy

pregnancy. Pregnancy checks may be performed through a gynecologist or midwife with at least four checks during pregnancy at the first trimester of pregnancy, second trimester and third trimester of pregnancy, with a normal pregnancy record. The better way to check the pregnancy is done once a month [5].

Antenatal care, by the standard of care, should be done at least 4 times the examination during pregnancy: once in the first and the second trimester and twice in the third trimester. Antenatal care services become an important thing to prevent a problem or complication in pregnancy at any time. That's why pregnant women need monitoring during pregnancy [6].

A routine antenatal care is necessary to determine the condition and evaluation of infant health. The aimed of study to determine relationship frequencies of antenatal care with cesarean delivery.

2. Methods

This research was a quantitative with cross-sectional design; conducted in 33 provinces in Indonesia. Data were collected from questionnaires of woman (aged 15-49) in Indonesian Demographic Health Survey (IDHS 2012). The population of this study was all of the women aged 15-49 who gave birth to the last child through cesarean delivery or not in urban areas Indonesia. The sample used the sample of 5.143 women aged 15-49 who gave birth to the last child with cesarean delivery or not in urban areas selected in the sample of IDHS 2012. Exclusion criteria were women of childbearing age who give birth to their twin children, two or more. Dependent variables were cesarean delivery, independent variable: frequency of antenatal care, while potential confounder variables were mother's age, mother's education, mother's occupation, socioeconomic, insurance, antenatal care facility, and place of delivery. Multivariate logistic regression analysis also used in this study.

3. Results

The rate section cesarean in this research was 23.0% among all women, 14.0% with 0-3 frequencies and 23.4% with >=4 frequencies of antenatal cares. Table 1 showed that the proportion of delivery in mothers was more likely to have non-cesarean deliveries. However, the percentage of labor in the urban areas of Indonesia was large at 23.0% (95% CI 21.9-24.2). The birth rate was higher when compared with the national cesarean delivery rate in Indonesia (12.0%) and cesarean delivery rates in urban areas Indonesia (16.8%), according to report of IDHS 2012 [1]. This difference occurred because the study was limited in urban areas and only in women of childbearing age who gave birth to the last child alone while research conducted by BKKBN used samples of all woman aged 15-49 in Indonesia. Also, in this study, there was the addition of several confounder variables to control the main independent variables. Missing data also excluded to reduce bias.

The results in Table 2 showed that women whose antenatal care 0-3 times were less than >4 times. In urban areas, facilities for antenatal care are easier than in rural

Table 1: Distribution frequency of delivery.

Delivery	n (5143)	%	95% CI
Non cesarean	3959	77.0	75.8 – 78.1
Cesarean	1184	23.0	21.9 – 24.2

areas. So, pregnant women can easily check their pregnancy at any time. This condition is against rural areas. Obstetricians are very limited, although they are more restrictive on the number of patients being examined and advise to do midwife examination. Limitations of time and energy in dealing with patients with various cases (example: complications and cesarean) are the causes.

Frequency and schedule of antenatal care were appropriated with to trimester of pregnancy. Trimesters I and II held once a month plus the collection of laboratory data. In the third trimester, it was done every two weeks - once a week until there were signs of birth approaches, as well as the evaluation of laboratory data. If it's adhered, the total antenatal care schedule would be 12-13 times during pregnancy. However, in developing countries, four times antenatal care is enough: Once in the first and second trimesters and twice in the trimester [6].

Table 2 showed that the frequency of antenatal care and cesarean delivery had a significant relationship (p-value 0.005). Women who had antenatal care 0-3 times were 2.1 times higher (95% CI 1.2-3.5) to cesarean delivery than antenatal care> = four times.

Table 2: Relation Frequency Antenatal Care with Cesarean Delivery.

Variable	Delivery				Total	OR	95% CI	P value (*<0.05)
	Non-Cesarean		Cesarean					
	n	%	n	%				
Frequency antenatal care								
0-3	197	86.0	32	14.0	229	Ref		
>=4	3762	76.6	1152	23.4	4914	2.1	1.2 – 3.5	0.005
Ref: reference								

This study was in line with research conducted in Turkey stating that the frequency of visits antenatal care had a strong relationship to the high rate of cesarean. Cesarean delivery occurred most often in women who had an antenatal care visit 7 or more times (33.3%), while the fewest percentage (4%) of cesarean delivery was in women who had never visited antenatal care [7].

In the first model of multivariable analysis, the selection of interaction variables that allegedly found as substantial interactions included socioeconomic while the potential confounder variables were mother's age, mother's education, mother's occupation, socioeconomic, insurance, antenatal care facility, and place of delivery. In the final model analysis multivariable, it did not show interaction between the frequency of antenatal care and cesarean delivery. Of the seven potential confounders, only two variables were indicated to be confounder: socio-economic and mother's education (table 3).

Table 3: Final Model The Relations Frequencies Antenatal Care with Cesarean Delivery.

Variable	OR	95% CI	P value (*<0.05)
Frequencies antenatal care			
0-3	Ref		
>=4	1.7	1.1-2.8	0.046
Socioeconomic			
Quintile lower	Ref		
Quintile middle	1.1	0.7-1.4	0.916
Quintile upper	1.5	1.1-1.9	0.006
Mother's education			
Primary	Ref		
Secondary	1.3	0.9-1.7	0.069
Higher	2.4	1.7-3.4	0.000

Table 3 showed that after adjusting for socioeconomic status and mother's education variable, it showed a statistically significant association between frequencies of antenatal care and section cesarean (p-value 0.046). The result also showed that frequencies of antenatal care >=4 times had 1.7 times higher (95% CI 1.1-2.8) to section cesarean compared with women who had 0-3 times of antenatal care.

Two confounder variables showed influence cesarean delivery in urban areas Indonesia. Women who had quintile middle on socio-economic were 1.1 times higher (95% CI 0.7-1.4) for cesarean delivery compare with women who had quintile lower on socio-economic, while women who had quintile upper on socio-economic were 1.5 times higher (95% CI 1.1-1.9) for cesarean delivery compared with women who had quintile lower on socio-economic after controlled by mother's education. Women who had secondary education were 1.3 times higher (95% CI 0.9-1.7) for cesarean delivery compared with women who had primary education, while women who had higher education were 2.4 times higher (95% CI 1.7-3.4) for cesarean delivery compared with women who had primary education after controlled by socio-economic.

The socioeconomic status of the household had a significant influence on cesarean delivery. From the other studies, 37% of women who underwent cesarean deliverywere derived from quintile 5 (highest). Odds mother of quintile 5 was 6.7 times (95% CI 3.0-15.2) more likely to perform labor cesarean delivery compared to the mother of quintile 1 (lowest) [8].

In the *Riskesdas* 2013, on the proportion of cesarean delivery by maternal characteristics showed that the highest proportion occurred in mothers with the highest index of ownership (18.9%). The average who performed cesarean delivery was middle to an upper economic community [2].

In another study, maternal education had influences on the selection method of delivery. Mothers with secondary or higher education had an odds of 1.8 times (OR = 2. 95% CI 0.6-6.0) to choose cesarean delivery compared to mothers who did not go to primary school after being controlled by maternal age, parity, mother's education, history of

pregnancy complications, as well as a history of bleeding plus interaction obstetricians as antenatal officer and socioeconomic status [8].

A qualitative study conducted in a hospital in urban areas of Indonesia showed that there were findings that do not fit the standards on the quality of maternal health care. The findings included antenatal care and delivery care services. Improvement efforts should be made to improve the quality of home care [9]. This improvement was related to each other: if the service of antenatal care were good, it would give a good impact on delivery care service.

An antenatal care check is said to be good if the health facility is close to the hospital. This condition is to anticipate if there is a sudden occurrence of an unwanted thing with pregnancy, it can easily be referred to the nearest hospital so that the mother's and baby's life helped. In addition to safe health facilities, antenatal care is said to be good if health workers have good skills. Even though pregnancy checks are performed more than four times during pregnancy, some problems still occurred during childbirth, for example, cesarean section, because of less detection when doing antenatal care. So, the skill of pregnant examiner to detect the problem of pregnant woman needs to be improved to reduce the occurrence of cesarean.

4. Conclusion

Cesarean delivery occurring on women with >=4 frequencies of antenatal care was higher compared with women with 0-3 frequencies of antenatal care after controlled by socio-economic and mother's education. There was no relationship between the frequency of antenatal care and socioeconomic status.

Acknowledgment

The author would like to express appreciation to Mrs. Anni Fithriyatul Mas'udah for her guidance, support, advice, and encouragement during preparation and writing this study. Her contributions are beneficial in this research.

Competing Interest

The author would like to declare that they have no competing interest with the other.

References

[1] Kementrian Kesehatan, BKKBN B. Survey demografi dan kesehatan Indonesia (SDKI). 2012.
[2] Litbangkes. Riset kesehatan dasar. 2013.
[3] Oxorn, H., & Forte W. Ilmu kebidanan: patologi & fisiologi persalinan (human labor and birth). Hakimi M, editor. Yogyakarta: Yayasan Essentia Medica (YEM) dan Penerbit ANDI; 2010.
[4] Virarisca S, Dasuki D, Sofoewan S. Metode persalinan dan hubungannya dengan inisiasi menyusu dini di RSUP Dr. Sardjito Yogyakarta. J Gizi Klin Indones. 2010;7(2):92–8.
[5] Erlina R, Larasati T, Kurniawan B. Faktor-Faktor Yang Mempengaruhi Ibu Hamil Terhadap Kunjungan Pemeriksaan Kehamilan Di Puskesmas Rawat Inap Panjang Bandar Lampung. J Major [Internet]. 2013

Feb 4 [cited 2017 Aug 25];2(4). Available from: http://juke.kedokteran.unila.ac.id/index.php/majority/article/view/59

[6] Manuaba IA. et al. Buku ajar patologi obstetri untuk mahasiswa kebidanan. Jakarta: Penerbit Buku Kedokteran; 2009.

[7] Koc I. Increased cesarean section rates in Turkey. Eur J Contracept Reprod Heal Care. 2003;8(no.1):1–10.

[8] Meiyetriani E, Utomo B, Budi B, Santoso I, Salmah S, Studi P, et al. Peran dokter ahli kebidanan dan kandungan the role of obstetrician. Kesmas. 2012;7(1):37–43.

[9] Ocviyanti D. Telaah kualitas pelayanan kesehatan ibu menggunakan instrumen umpan balik pengumpulan data kualitas pelayanan kesehatan ibu dan bayi baru lahir di rumah sakit Dr. Cipto Mangunkusumo Jakarta [Internet]. Yogyakarta: Universitas Gadjah Mada. 2017 [cited 2017 Aug 21]. Available from: http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=107047&is_local=1