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FACTORS RELATED TO ABORTION INCIDENCE IN PREGNANT WOMEN AT BHAYANGKARA HOSPITAL, DEPOK, INDONESIA

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ABSTRACT

Introduction: WHO estimates that the incidence rate of abortion case worldwide is 15%. The incidence rate in developed countries such as USA is 10-20%, compared to developing nations such as Zimbabwe where it reaches 28%. In Southeast Asia, an estimate of 4.2 million abortions occur every year. In Indonesia, the national rate of abortion incidence reaches up to 18-19%, while West Java province reported that there are 400,000 cases each year. Bhayangkara Brimob Hospital Depok, situated in West Java, recorded 25.1% of abortion incidence rate in 2012.

Objectives: To determine the maternal factors associated with the abortion incidence among pregnant women in Bhayangkara Brimob Hospital Depok.

Method: This research used secondary data with descriptive research method and cross sectional by using random sampling technique. The total population is 340 people and the sample taken in this study amounted to 77 people with abortion cases. The analysis used is univariate and bivariate. Statistical test analysis through Chi Square test, with $\alpha = 0.05$ and odds ratio.

Results: The study revealed that there was a significant relationship between age (P value = 0.016, OR = 5,200), parity (P value = 0.044, OR = 4,167), occupation (P value = 0.009, OR = 5,750), anaemia (P value = 0.013, OR = 5,556), and no significant association with previous abortion history (P value = 0.942, OR = 0.781).

Conclusion: Based on the study, the result of this research will support the information about the factors related to abortion incidence in pregnant women and can further be used as a guidance in abortion prevention.

Keywords: Age, Parity, Occupation, Anaemia, Abortion History

INTRODUCTION

Maternal mortality and morbidity remains the biggest problems in developing countries including Indonesia. About 20 - 25% of women at childbearing age are facing problems related to pregnancy. WHO estimates, annually more than 585,000 mothers die during pregnancy or childbirth [1]. Every year about 20,000 women in Indonesia die from complications during childbirth [2]. Therefore, the fifth goal of the MDGs is focused on maternal health, especially to reduce maternal death, to reduce "maternal death". While all agree that maternal mortality is too high, there are often doubts about the right numbers. Maternal mortality "has dropped from 390 to about 307 per 100,000 births [3]. That is a woman who decides to have four children is likely to die from her pregnancy of 1.2%. That number could be much higher, especially in

the poorer and more remote areas. One survey in Ciamis, West Java, for example, shows that the ratio is 561 [4]. Most births are normal, but they may not, as a result of difficult bleeding and birth [5].

A number of complications during childbirth can be prevented, e.g complications resulting from unsafe abortion. Complications like this account for 6% of mortality rate in Indonesia, and is still high enough when compared with developed countries in the world, reaching 2.3 million abortus year [6]. The national estimate states that there are 2 million abortion cases every year in Indonesia, meaning that there are 43 cases of abortion per 100 live births of women aged 15-49 years [7]. A study conducted in 10 major cities and 6 districts in Indonesia found that the incidence of abortion was higher in urban than in rural areas. Abortion can be caused by several factors such as fetal factors in which abnormal zygote development, chromosomal abnormalities, infections, endocrine disorders, drug use, environmental factors, immunological factors, uterine abnormalities and incompetent cervix [8]. There are several reasons and individualist conditions that allow for abortion. Some common characteristics can be classified as economic status, education, marital status, residence, occupation, age and parity. More than 80% of abortions occur in the first 12 weeks and after that the rate is rapidly declining [9].

According to the West Java Provincial Health Office, in West Java Indonesia, there are 400,000 cases abortion every year. Medical record data obtained at Bekasi hospital showed an increased from 26.7% in 2011 to 28.5% in 2012, conforming an increased at 1.8% [10]. In Bhayangkara Brimob Depok Hospital, 23.5% abortion was recorded in 2011, increased to 25.1% in 2012. Survey results [11] note that, majority direct cause of maternal death complications are bleeding, hypertension in pregnancy (eclampsia), infection, complications of abortion (abortion) and old partus[12]. Abortion can be caused by several factors such as fetal factors in which abnormal zygote development, chromosomal abnormalities, infections, endocrine disorders, drug use, environmental factors, immunological factors, uterine abnormalities and incompetent cervix [13.].

METHODS

It was a descriptive quantitative using secondary data (hospital records) at Bhayangkara Brimob Depok Hospital in 2012. Population in this research was the total incidence of abortion in 2012, counted as 340 abortus women. Seventy seven mothers who underwent abortion was selected randomly. The frequency distribution the variables are presented in tabular form. Bivariate analysis is presented as cross-tabulation of 2 variables (dependent variable and independent variable) and Chi-squares test using 95% confidence degree with the degree of error $\alpha = 0.05$.

RESULTS

Of 77 respondents, 64 pregnant women had abortion inclusions (83.1%), whilst the rest considered as imminence. Most of abortion experienced by younger women aged less than 20 and oldest women aged more than 35 years old with higher parity (grandemulti). Nevertheless, it was also recorded that about one fourth of the women aged 20-30 were also had aborted. Nevertheless, among those, only one third had abortion history.

The hospital records also noted that more than half of the pregnant women on Bhayangkara Brimob were anemic.

Tabel. 1 Distribution of Frequency of Abortion at Bhayangkara Brimob Hospital Depok

Caracteristic Of Responden	Frequency	Percent (%)
Abortion		
Inclusions	64	83.1
Imminence	13	16.9
Age		
<20 - >35 year	42	54.5
20-30 year	35	45.5
Parity		
Multi/grendemulti	56	72.7
Primipara	21	27.3
Work		
Work	50	64.9
Not Works	27	35.1
Anemia		
Anemia < 11 gr%	43	55.8
Not anemia > 11 gr%	34	44.2
History of abortion		
There is a history of abortion	26	33.8
Not abortion history	51	66.2

Tabel. 2 Bivariate Statistics Test Results of Related Factors With Abortion Event in Bhayangkara Brimob Hospital Depok

Variabel	N	<i>P-Vallue</i>	<i>Odds Ratio</i>
Age	42	0.006	5.200
Parity	56	0.044	4.167
Work	50	0.009	5.750
Anemia	43	0.013	5.556
History of abortion	51	0.943	0.781

Table 1 also shows that abortion incidence increased 1.6% from the previous year, because Bhayangkara Brimob Hospital Depok received referrals from surrounding hospitals, including maternity hospitals and midwife practices in Depok. Table 2 confirmed the relationship between mother's ages with abortion incidence. With a *p-value* of 0.016 defined a significant relation two variables.

The abortion occurred to 72.7% of women with higher parity. The significant relation between parity with abortion also increases with increasing parity. Working mothers was found to have higher risk on abortion. The result is relevant with research of Dwi Hapsari which found that abortion often occurs among working mothers, because of the busy life. Furthermore, the nutritional status also proven as one of the risk factors of abortion. Fadli found, mothers with anemia are at greater risk of abortion.

In terms of previous abortion history, this study indicated that there was no significant relationship between previous abortion history and abortion occurrence. The analysis of relationship of 2 variables obtained OR = 0.781 (95%): CI = 0.228 - 2.682 which means that a mother with a previous abortion history has a probability of abortion 0.781 times greater than a mother with no previous abortion history with an abortion incidence.

DISCUSSION

The results of the study showed that 83.1% of mothers had incomplete bortion and 16.9% of mothers had iminens abortion. This incident increased 1.6% from a year earlier, because Bhayangkara Brimob Hospital Depok receiving referrals from smaller hospitals or maternity hospitals and midwife practice in Depok and surrounding areas. Incidence of abortion mostly happened at younger age (less than 20) and oldest age (>35). There is a relationship of maternal age with the occurrence of abortion, this is in accordance with the results of research Kodim, 1998 which reported that the number of abortion incidence among teenagers is relatively low but shows a trend that increases rapidly compared with other age groups. The highest number was found among women over 35 years of age. The older the wife's age, the greater the risk of abortion. This increase is due to decreased egg quality and increased risk of chromosomal abnormalities. This is also in accordance with Johan research conducted in hospital Moewardi in 2008 with case of pregnancy with abortion as the result of age's quality that mostly experienced by women above 20 years old.

The occurrence of abortion according to parity, 72.7% happened to pregnant mother on higher parity (multi/grandemulti) and 27.3% happened to primipara mother. According to Cuningham theory, the risk of abortion increases with increasing parity. Winkjosastro 2006 suggested, the risk of parity one can be dealt with obstetric care, while the risk of high parity can be reduced or prevented, with planning, some pregnancies at high parity is not desirable.

Occurrence of abortion according to employment statuses, it was found, 64.9% of abortion occurred among working mother. With a *p-Value* of 0.009, it means there is significant relation between mother's employment with abortus event, relevant with Dwi Hapsari results which revealed that abortion was because of women's busy life.

There is significant relation between anemia and abortion. Syahrudin in 2007 and Fadli in 2005 mentioned that women with anemia (Hb <11 gr%) at a greater risk of abortion. Vitamin B12 therefore is necessary because it has an important role for the system and the development of new and important tissues for ovulation. Women who are deficient in vitamin B12 may not be able to be fertilized, and eggs do not develop that result in abortion. Therefore, to reduce the risk of abortion due to anemia, it is suggested to pregnant women to routinely check the ANC, especially in the first trimester by examination of hemoglobin as early detection.

The study indicated that there was no significant relationship between previous abortion history and incidence of abortion. Prawirohardjo in 2009 found that abortion history was a predisposition of recurrent abortion. About 3 - 5% women after experiencing the first spontaneous abortion, couples have a 15% risk of having another miscarriage, whereas if ever 2 times, the risks will increase by 25%. Several studies have predicted that the risk of abortion after 3 successive abortions is 30-45%.

CONCLUSION

From the results of the variables can be concluded that there is a significant relationship between age, parity, occupation, anemia, and no significant relationship with previous history of abortion.

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