



Women's Operative Method of Contraception in Dr. Soetomo General Hospital Surabaya

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ABSTRACT

Background: Indonesia is expected to face a Demographic surge in 2025 so that the maternal mortality rate is at risk to follow. Steady contraception is needed to control the population growth rate. Women's Operative Method Contraception (MOW) is the most effective contraceptive tool in controlling the population growth rate. The use of MOW contraception in Dr. Soetomo General Hospital Surabaya still cannot be explained. **Purpose:** To know the spatial distribution of Women's Operative Method of Contraception in Dr. Soetomo General Hospital Surabaya 2016 - 2019. **Method:** Retrospective study using medical record data, in Dr. Soetomo General Hospital Surabaya 2016 – 2019. **Results:** Post-deliveries MOW contraception acceptor were 23.3% in 2016 (307 of 1320 deliveries), 29.9% in 2017 (405 of 1355 deliveries), 29.2% in 2018 (432 of 1479 deliveries) and 26, 7% in 2019 (413 of 1389 deliveries). The majority of patients aged over 35 years (72.2%), multiparous (98.6%). came from Surabaya (62.9%), non-booked case-patients (82.0%), and have an overweight BMI (45.2%). There are 55.7% of postpartum MOW acceptors with concomitant diseases. Hypertension and obesity are the highest ranks of comorbidities in the MOW contraception acceptor. **Conclusion:** Postpartum MOW contraception acceptor in RSUD dr. Soetomo has increased every year. But further evaluation and follow up regarding increasing the percentage of postpartum MOW contraception acceptor in Dr. Soetomo General Hospital Surabaya is still very much needed.

Introduction

In 2025 Indonesia is expected to face a demographic surge. Bappenas together with BPS and UNFPA has projected the total population of Indonesia in 2035 to reach 305,652 million people, whereas a developing country, Indonesia ranks the

fourth most populous country in the world after China, India, and the United States (BPS, 2013). According to the SKDI survey, Indonesia's population growth rate in 2017 was 1.34%, which has increase from 2016 by 1.27% (BKKBN, 2018). This is still far from the target planned by the BKKBN, which is 1.19% per year in the 2015-2020

period (BKKBN, 2018). Total Fertility Rate (TFR) in 2018 was 2.38 children has decreased compared to 2017, namely 2.4 children, but this is still below the target of 2.1 in 2025 to achieve a balanced population growth and quality families (BKKBN, 2018). Maternal mortality is also still a major problem in Indonesia. Maternal Mortality Rate (MMR) is an important indicator that describes the level of community welfare and the utilization of quality maternal and newborn health services. According to the 2012 data, MMR in Indonesia was 359 per 100,000 live births, still far from the Millennium Development Goals (MDGs) target of 102 per 100,000 live births (Kemenkes RI, 2015). The use of steady contraception in the form of IUDs, implants, and MOW after deliveries and after a miscarriage can provide solutions to reduce the risk of death in mothers during childbirth and after a miscarriage (Ekoriano, 2010) and one of the variables that affect birth rates.

As a referral center hospital for eastern Indonesia, it is hoped that postpartum women at Dr. Soetomo General Hospital Surabaya will receive postpartum contraception directly. Based on the description above, the authors are interested in researching the spatial distribution of steady contraception in form of Women's Operative Method of contraception (MOW) in postpartum women at Dr. Soetomo General Hospital Surabaya for a period of 4 years (2016 - 2019).

Method

This study used a retrospective descriptive research method using medical record data at Dr. Soetomo General Hospital Surabaya during 2016-

2019. The population of this study was all mothers who gave birth at Dr. Soetomo General Hospital Surabaya who used postpartum contraception. The sample of this study was all mothers who choose postpartum MOW contraception.

Result and Discussion

The World Health Organization (WHO) recommends postpartum long-term methods of contraception (such as MOW and IUD) as a safe and effective method, especially for mothers who have limited access to health services. (Grimes et al., 2010). As a referral center hospital for Eastern Indonesia, Dr. Soetomo General Hospital has implemented long-term use of postpartum contraception after vaginal or cesarean delivery (post-placental IUD, trans cesarean IUD, and MOW) according to WHO and BKKBN recommendations.

In Indonesia, in 2011 the number of fertile age couples (PUS) was 45,905,815 people. The contraceptive participants in 2011 was 34,872,054 people (75.96%) of which 3.49% were MOW contraception acceptors (1,216,355 people) and 11.28% were IUD acceptors (3,933,631 people) (Dinkes, 2011). At the Dr. Soetomo General Hospital Surabaya, it was found that the percentage of acceptors of both MOW and IUD postpartum was higher during the last four years (2016-2018). As many as 58.64% of mothers used postpartum contraception (MOW and IUD) in 2016, increasing to 64.5% in 2017 and to 67.61% in 2018 then in 2019 it increased to 68.3%. The cumulative average postpartum contraceptive acceptor rate was steady during the four years, namely 64.75% (3598 mothers out of a total of 5543 deliveries).

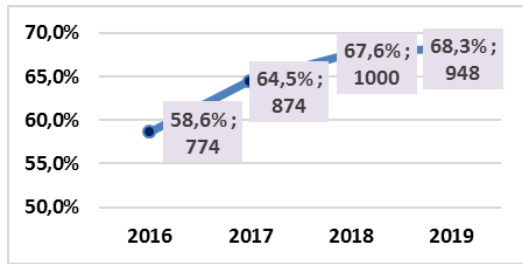


Figure 1. Postpartum steady contraceptive use in Dr. Soetomo General Hospital 2016 to 2019

Postpartum contraceptive use trends in Dr. Soetomo General Hospital Surabaya tends to increase every year. The results of this study support the program of the BKKBN in 2018 which states that every mother should start using long-term contraceptive methods such as IUDs, implants, or MOW after deliveries. This indicates that Dr. Soetomo General Hospital Surabaya is committed to increasing postpartum contraception rates as an effort to reduce MMR in Indonesia.

The total percentage of postpartum contraceptive use during 2016 to 2019 in the form of MOW contraception was 28.1% (1557 patients), IUD was 36.8% (2039 patients) and other contraceptive methods were 35.1% (1947 patients). In 2016, with a total of 1320 deliveries, 23.3% of postpartum patients underwent MOW contraception (307 patients). The use of contraceptive IUDs (both post-placental and trans cesarean IUDs) in 2016 was 35.4% (467 patients). In 2017, postpartum MOW contraceptive acceptors have increased from 2016 to 29.9% (405 patients), while postpartum IUD acceptors experienced a decrease compared to 2016 to 34.6% (469 patients). In 2018, with a total of 1479 births, the number of postpartum MOW contraception acceptors decreased slightly to 29.2% (432 patients), while

postpartum IUD acceptors in that year have a significant increase compared to the previous two years to 38.4% (568 patients). In 2019, postpartum MOW contraception acceptors increased slightly to 26.7% (413 patients).

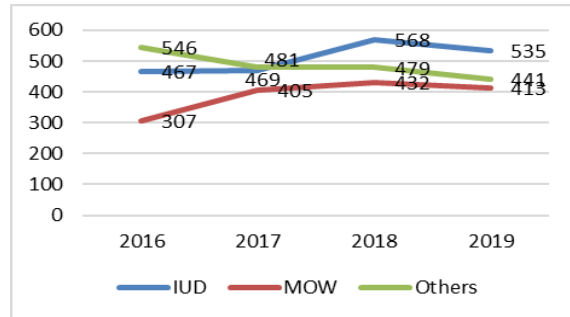


Figure 2. Postpartum Contraceptive Use in Dr. Soetomo General Hospital 2016 to 2019

During the four-year period (2016-2019), it was found that most of the acceptors of MOW contraception at Dr. Soetomo General Hospital Surabaya aged over 35 years old was 72.2% (1124 patients) and the remaining 27.8% (433 patients) aged 16- 34 years.

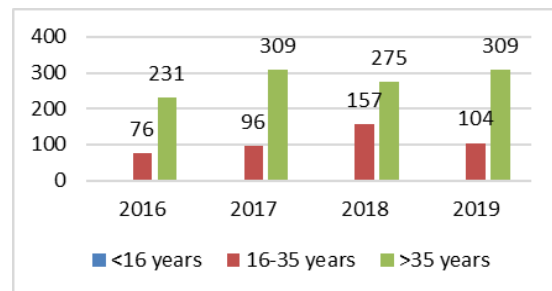


Figure 3. Age distribution

This age distribution was in accordance with the results of research by Grestanti and Fitriyah (2018) which states that 72% of MOW contraception acceptors at the PKBI East Java clinic are in the age category over 34 years with an average age of 37 years (Grestanti and Fitriyah, 2018).

The age variable shows a significant influence on the choice of MOW

contraception. Age has a relationship with the use of a contraceptive method and acts as an intrinsic factor. The increasing age of a person and the achievement of the ideal number of children will encourage couples to limit births. The older a person is, the choice of contraception is considering higher effectiveness, that's the long-term contraceptive method (BKKBN, 2018).

The period of maternal age, especially over 35 years, should end fertility after having 2 children. For this reason, mothers over 35 years of age have been advised not to become pregnant or have no more children for various medical reasons and other reasons. The main contraceptive option in this age period is steady contraception in form of MOW. Meanwhile, IUDs and implants are less recommended because the mother is relatively old and has a higher risk of side effects and complications (Manuaba, 2010).

Based on the parity of the patient, as many as 98.6% (1535 patients) of the postpartum MOW contraception acceptor o were multigravida patients, while the remaining 1.4% (22 patients) were primigravida patients.

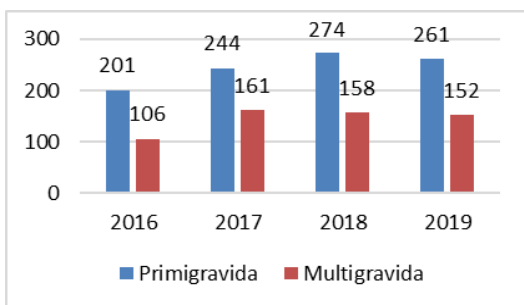


Figure 4. Parity distribution.

This parity distribution was in accordance with the research results of Iswati et al. (2011) which showed that there was a relationship between the

number of children and the choice of steady contraception. Multigravida mothers have a higher interest underwent MOW contraception acceptor because they have had a sufficient number of children in one family and the high level of effectiveness in MOW contraception to minimize the risk of pregnancy again (Iswati et al., 2011).

There were only 1.4% of the total postpartum MOW contraception acceptors at Dr. Soetomo hospital during the last 4 periods who was a primigravida mother. Further investigated, all primigravida patients who underwent postpartum MOW contraception were mothers with other comorbidities such as heart disease which would endanger their lives if the mother became pregnant again. MOW contraception is considered the best low-risk contraceptive option to minimize pregnancy in this group of mothers.

Based on antenatal history (ANC), as many as 1276 patients (82.0%) of the total postpartum MOW contraception acceptors were non-bookcase (NBC) and the remaining 18.0% were bookcase patients referred from Maternity Clinic at Dr. Soetomo General Hospital Surabaya. The prevalence of MOW contraception acceptors in non-bookcase patients shows that the performance of Dr. Soetomo Hospital as a tertiary referral place can provide consultation, information, and education.

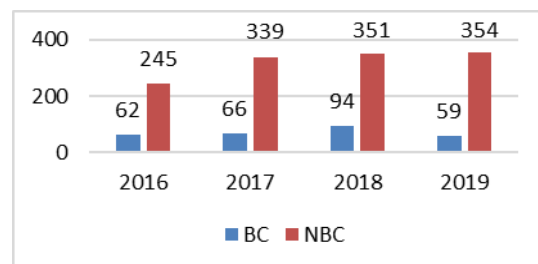


Figure 5. Antenatal care distribution

When viewed based on the patient's area of origin, as many as 980 patients (62.9%) were the resident of the city of Surabaya, while those from outside Surabaya were 57 patients (37.1%). This prevalence shows that Dr. Soetomo Regional Hospital has become a tertiary referral place that serves postpartum MOW patients both in the city and outside the city.

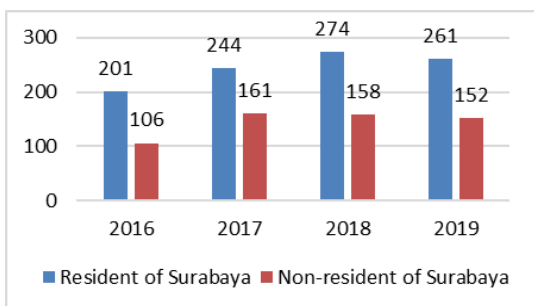


Figure 6. Patient's origin distribution

Pregnant women with certain medical diseases have a higher risk of complications in pregnancy and childbirth. Some of the basic diseases that are often encountered in daily cases in dr. Soetomo is obesity, chronic hypertension, diabetes in pregnancy, and heart disease.

Pregnancy with obesity is one of the high-risk pregnancies with the threat of complications of pregnancy and childbirth. In this study, 76.9% (1197 patients) of postpartum MOW acceptors had BMI in the normal or overweight category. However, 21.7% (338 patients) were in the obese BMI category, both obese class I, class II and class III.

Research conducted by Sriwahyuni and Wahyuni (2012) concluded that the length of time using hormonal contraceptives in the form of pills, injections or implants has a significant effect on weight gain. The risk of respondents using hormonal

contraceptives for more than one year is 4.25 times greater than those who use contraceptives for less than one year (Sriwahyuni and Wahyuni, 2012). Other studies have shown that about two-thirds of women who use depoprovera contraception will gain weight, 20% experience weight loss, and 10% have no change in body weight (Kellow, 2008). Obesity is one of the most common nutritional problems and requires serious handling. Monitoring of body weight is needed to determine changes in nutritional status and health problems that occur (Waspadji et al, 2003).

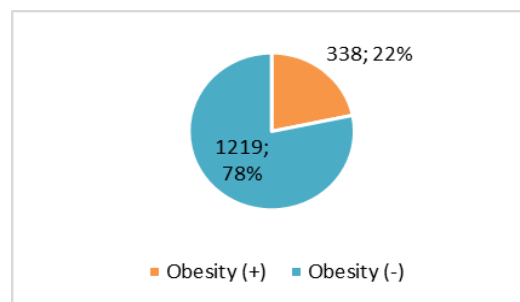


Figure 7. Obesity prevalence

A study stated that obesity has the effect of inhibiting the performance of hormonal contraceptives. Several steroid contraceptive methods, including the oral contraceptive pill, progestin-only pill, transdermal contraceptive patch, and vaginal ring, have been shown to be less effective in obese women (Skouby, 2010). Variations in steroid distribution and metabolism may explain why hormonal contraceptives are less effective in steroid contraceptives in obese people. Increased storage of steroid hormones in adipose tissue lowers blood levels of steroid contraceptives, thereby reducing their ability to prevent pregnancy (Skouby, 2010). So patients who have previously had obesity are not advised to use hormonal contraceptives in addition to the risk of aggravating obesity and

triggering other metabolic diseases. Patients with obesity are advised to use long-term non-hormonal contraceptives such as the IUD or MOW.

Hypertension in pregnancy and its complications is one of the causes of maternal death. From this study, 23.9% (372 patients) had chronic hypertension as the underlying disease. This is different from research from Grestanti and Fitriyah (2018) which found that the prevalence of hypertension was higher, reaching 30.4% of KB MOW acceptors at PKBI East Java clinics (Grestanti and Fitriyah, 2018).

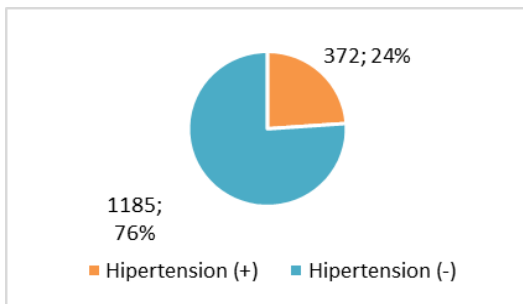


Figure 8. Hipertension prevalence

Blood pressure status or the presence or absence of hypertension is one of the health factors that need to be considered in contraceptive acceptors. Research by Sujono et al. (2013) stated that the use of hormonal contraceptives can affect the increase in blood pressure. Injectable hormonal contraceptive acceptors have a risk of increasing blood pressure 2.93 times higher with an average increase of 14.1 mmHg (Sujono et al., 2013).

Health workers need attention so that mothers who experience an increase in blood pressure due to the use of hormonal contraceptives are advised to use non-hormonal contraceptives or become MOW acceptors. On the other hand, pregnant women with hypertension will increase the risk of death and morbidity for both mother and

baby. Pregnancy with hypertension can cause stunted fetal growth, premature labor, placental abruption, and fetal death. Meanwhile, complications for mothers can result in postpartum hemorrhage, seizures, and even death (Kemenkes RI, 2013). Therefore, mothers with hypertension are advised to use long-term non-hormonal contraceptives such as the IUD or MOW so as not to trigger an increase in blood pressure and other complications.

This study also found that there were 5.0% cases of diabetes in mothers undergoing postpartum MOW contraception or as many as 78 cases. Mothers with diabetes have a higher risk of pregnancy complications and the baby who is born also has a risk of congenital abnormalities. Therefore, preconception care and pregnancy planning are of the utmost importance (Skouby, 2010).

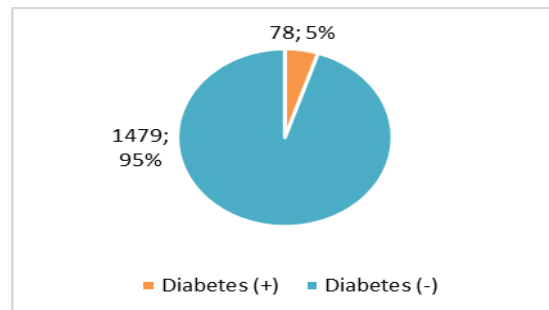


Figure 9. Diabetes prevalence

Mothers with diabetes have the same contraceptive options as the general population, but the potential metabolic effects of hormonal contraceptive methods need to be considered in relation to maternal diabetes. Studies in young women with diabetes without any vascular complications using low-dose combined oral contraceptives have shown convincing results, but larger long-term studies are needed. Another study has shown that low-dose oral contraceptives

can cause changes in lipid profiles. Other studies have shown that the use of progestins increases the risk of venous thrombosis and cerebral thrombosis by 2.9 and 2.2 times (Lidegaard et al., 2002). Mothers with diabetes who have macrovascular and microvascular complications are recommended to use nonhormonal contraceptive methods (Skouby, 2010).

Heart disease in pregnancy is also an important cause of maternal death. In the UK, heart disease in pregnancy is the leading cause of maternal death (Lewis, 2004). Approximately 0.2-4% of pregnancies in developed countries are accompanied by complications of heart disease (Simahendra, 2013). In this study, 5.1% (80 patients) acceptors of postpartum MOW contraceptive acceptor were mothers with heart disease.

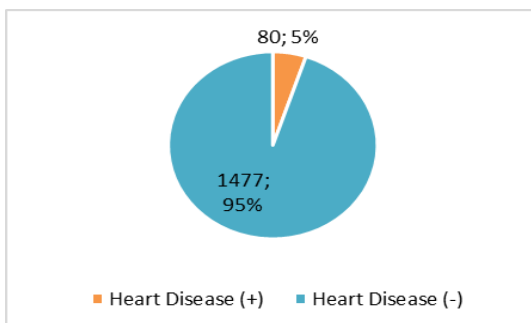


Figure 10. Heart Disease prevalence

The risk of pregnancy in mothers with heart defects depends specifically on the severity of the disease in each patient. For example, the risk of maternal death increases by up to 50% in mothers with heart defects with pulmonary arterial hypertension, but no increased risk should be anticipated for mothers with mild pulmonary stenosis compared with mothers without heart disease (Guillebaud, 2019). In addition to increasing maternal mortality, heart

disease in pregnant women also increases the risk of mothers giving birth to premature babies, and fetal death (Paramitha, 2016). In patients with cyanotic heart disease with pre-pregnancy resting arterial oxygen saturation <85% associated with only a 12% chance of pregnancy with live births, this fetal risk should also be considered when assessing maternal risk (Thorne et al., 2017). In this case, the use of contraception is essential.

In women with heart disease, nonhormonal contraceptive methods are recommended (Skouby, 2010). Sterilization is considered to be the obvious choice for many women who should not be pregnant (WHO grade 2 and above), and is considered the best option because of its low risk, low failure rate, availability, and a safe alternative for patients (Thorne et al., 2017). The role of sterilization has been reduced by several reversible contraceptive techniques such as the IUD (Mirena®) and subdermal implants (Implanon®), both of which are as effective as sterilization. In some women who cannot accept the decision because they have never been able to have children, alternatives to sterilization are allowed (Thorne et al., 2017). Combined oral contraceptive pill (COC) use is a safe, effective, and popular method of contraception but the estrogen component has been associated with an increased risk of arterial and venous thromboembolism. It is this association that limits the use of COCs in some women with cardiovascular disease. In addition, both estrogen and progestogen can interfere with warfarin metabolism, so the INR ratio should be monitored more frequently when starting COC (Thorne et al., 2017).

Conclusion

During a four-year period (2016-2019) in Dr. Soetomo General Hospital Surabaya, the percentage of postpartum postpartum contraceptive acceptors in the form of MOW and IUD has increased every year. Further evaluation and follow up regarding increasing the percentage of postpartum MOW contraception acceptor in Dr. Soetomo General Hospital Surabaya is still very much needed.

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