

Original Research Article

Failure contraception in Indonesia: IDHS 2012 data analysis

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Received: 15 March 2019

Accepted: 08 May 2019

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ABSTRACT

Background: Contraception prevalence rate (CPR) increased from the year 1991 is 50% to 62% in 2012 but Total fertility rate (TFR) was little changed at data IDHS 2002-2003, 2007, and 2012 that is 2.6. Of IDHS 2007, the failure of contraception reflects the result in the unwanted pregnancies that can result in high maternal mortality and morbidity of the baby in the year 2012. The research aims to assess the failure of the contraceptive couples of childbearing age in Indonesia.

Methods: Research was the observational study design with a cohort-retrospective. Researchers analyzed longitudinal data using calendar data IDHS 2012. The sample was 10,250 women of childbearing age ever married aged 15-49 years and the use of contraceptives. The analysis of contraceptive failure based on the predictor performed with the cox proportional hazard model by using curves Kaplan-Meier.

Results: The most effective contraceptives found that the Implant (0.56) and the IUD (0.75) this was a modern contraceptive. The failure rate of the most high was neither disconnected (8.93) and periodic abstinence (7.32) this is the traditional contraception. The injectable and the pill was the choice of the majority of the respondents. The failure rate of the most high according to modern methods of contraception was injectables (35.67%), while the traditional method is neither disconnected (15.34%).

Conclusions: The traditional method was the potential of failure compared to modern methods of contraception that may increase the unwanted pregnancy.

Keywords: Contraception, Failure, Method

INTRODUCTION

According to the WHO 2010 in developing countries and developed countries the users of contraception in outline is women who have a reason to use contraception, as an excuse biological, individual and social, avoid pregnancy outside of marriage or premarital as well as prevent pregnancy is not desired after reaching the number of children desired family.¹ According to Huang (2014), the success of family planning programs from year to year seen in the increased of CPR and the average decrease in the number of TFR.² According to Bowers, the failure of contraception led to around 20 million unwanted

pregnancies in developing countries each year. This has consequences for the women and children of their responsibility in terms of health and other.³ Women in Indonesia to obtain contraception after childbirth is usually obtained from a wide variety of health facilities and different types of provider as in the hospital with a doctor or at the maternity clinic with a midwife.⁴ IDHS 2012 mention that the failure rate of contraceptives that women who wear this type of contraception calendars (28.9%), coitus interruptus (24.6%) condoms (14.5 percent) and pills (10.9 percent). Failure rate of contraception can be seen from the figure the effectiveness of the use of contraceptives but

unfortunately in Indonesia there has been no research about the effectiveness of the use of contraception.⁵

Contraceptive failure is one obstacle to the success of family planning programs. Trussell reveal reveal that in the United States, users of proven experience contraceptive failure average do not use the method correctly and consistently, all this resulted in an unwanted pregnancy be quite high.⁶ The success of the KB is not only measured from the increase in the prevalence of CPR and TFR because of the influence of demographic use of contraception but also the effectiveness and duration of contraceptive use.⁷ Brunie revealed the failure of contraception is one reflection of that lack of quality family planning services, because some of the analysis of the longitudinal has shown that pregnancy is not desired rather than being influenced by people who do not want to use contraception but also the failure of the use of contraceptives.⁸

Huang revealed the selection of usage of contraception which will itself by prospective users of contraception after childbirth is one indication of where the user is using contraception is good, consistent, and correct so that the failure rate of contraceptives to be relatively low. Many alternative contraceptives that can be used in accordance with the requirements, but users must be selective because not all contraceptives are suitable for all people. Inconsistency in using contraception, the use of which is not good and actually produces unwanted pregnancy.⁹ On the research Septalia explained that the selection of contraceptives because in accordance with the conditions and needs at that time. Couples of childbearing age that the only condition adequate to the traditional contraceptives then the pair wearing only traditional contraception only and vice-versa.¹⁰

Birth control the uncontrollable impact on the numbers of TFR is also not controlled indirectly and directly are the numbers of pregnancy is not desirable to be uncontrolled.¹¹ According to Leticee, these events also have an impact on the problem on the health of mother and child. Women who have the condition can do with acts such as abortion which is not safe, does not maintain the health of the prospective baby as well as childbirth is not using the health officer. The number of impact caused by both of these factors so that the impact on the improvement of MMR and IMR as well as the amount of uncontrolled population.¹² The problem is counseling the KB is not good enough on pregnant women and childbirth in Indonesia so many considerations that occur on the selection of contraception. This study bertujuan to examine the failure of the contraceptive couples of childbearing age in Indonesia according to data from IDHS.

METHODS

This study is an observational study using data from IDHS of the year 2012 which was conducted with cross

sectional design was analyzed in a retrospective cohort. Researchers using the calendar data that record the use of contraception during the past 5 years before the year of the survey. Research was conducted according to the research areas IDHS 2012, namely in the 33 provinces of Indonesia. Samples that woman never married ever wear that is recorded in the calendar during the period of observation (3-62 months before the survey) a number of 10. 250 woman.

The source of the data, namely the calendar data which includes a history of reproductive and contraceptive use women for 5 years, covering types of contraception and longer use of contraception. Event in this study is the incidence of pregnant (failure method of contraception) when the wear of contraception that is experiencing a pregnancy while using contraception. Analysis using the Cox Proportional Hazard model by using Kaplan Meier Curves.

RESULTS

Analyze the failure rate of each method based on the time. On the table is seen the level of effectiveness in the use of the first 12 months compared with the united states on research Trussell. The pregnancy rate per 100 women in users of implants in the United States is much higher compared to the level of the pregnancy the first 12 months on the results of this study. In the United States, of 100 women who use the contraceptive implant for 1 year first only experience the pregnancy of 0.05 while in Indonesia of 100 women who use the contraceptive implant and are experiencing pregnancy 0.56 than 12 months of first use. Different with implant contraceptive, contraceptive pills are also higher achievement numbers keefektifitasannya compared to the results of the research presented by Trussell so also with the contraceptive IUD. The results of this study show the 100 women on the pill in the first 12 months as well as experience the pregnancy as much as 4 and in the United States own 8 women who experience pregnancy of 100 women using the pill in the first year (Table 1).

On contraception the condom, periodic abstinence, injectables and coitus interruptus is inversely proportional to the contraceptive implant as well as the same with the contraceptive pill and the IUD. These contraceptives lower pregnancy rate per 100 women compared with the wear of contraception in the United States. Seen in Table 1 describes that in 100 women who use contraceptive condoms in Indonesia as well as the experience of pregnancy namely 7,26 in the first 12 months of usage while in the United States pregnancy rate the first year which is 15 of 100 women who use contraceptives male condoms. The analysis of the function of the sustainability of the use of contraception was first performed according to the method of contraception. It aims to determine the pattern of failure of contraceptive use. The pattern function of the sustainability of the use of every methods of contraceptive is clearly depicted in the curves of the kaplan-meier (Figure 1).

Table 1: The effectiveness of contraception the first 12 months of usage based on the failure of contraception.

The pregnancy rate per 100 women		
Methods of contraception	Pregnancy rates first year (Trussell) ^a	Pregnancy rate the first 12 months ^b
Implant	0.05*	0.56*
IUD	0.8*	0.75*
Male sterilization	0.15*	
Woman sterilization	0.2*	
Injection	3**	1.28**
Pills	8**	4**
Male condoms	15 [#]	7.26**
Woman condoms	21 [#]	
diaphragm	16 [#]	
Periodic abstinence	25 [#]	7.32 [#]
Coitus Interruptus	27 ^{\$}	8.93 [#]

a: Figure most of the United states⁶; b: Source: processing of data IDHS 2012, the data is not weighed.

*: 0-0.9=very effective; **: 1-9=effective; #: 10-25=middle effective; \$: 26-32=less effective.

In the seventh method different accounts for the failure rate of contraception. Look that in women who use contraceptive intercourse is disconnected from the first year to the fifth year higher level of contraceptive failure compared with implants. Concluded that women who use contraceptive intercourse is interrupted in the first year up to fifth year have the highest risk level of failure of contraceptives compared to other contraceptives. Such a conclusion is too rough to generalize the failure rate of contraception on all methods of contraception.

See more about this method of contraception with a failure of contraception there is a failure in any of the methods is different. About one-third of respondents who experience failure of contraceptive methods are pills and injection. Method of contraception is coitus interrupted has a percentage of 15.3% of all respondents, this is the failure of most after contraceptive methods are pills and injection. Contraceptive failure by contraceptive method (Table 2).

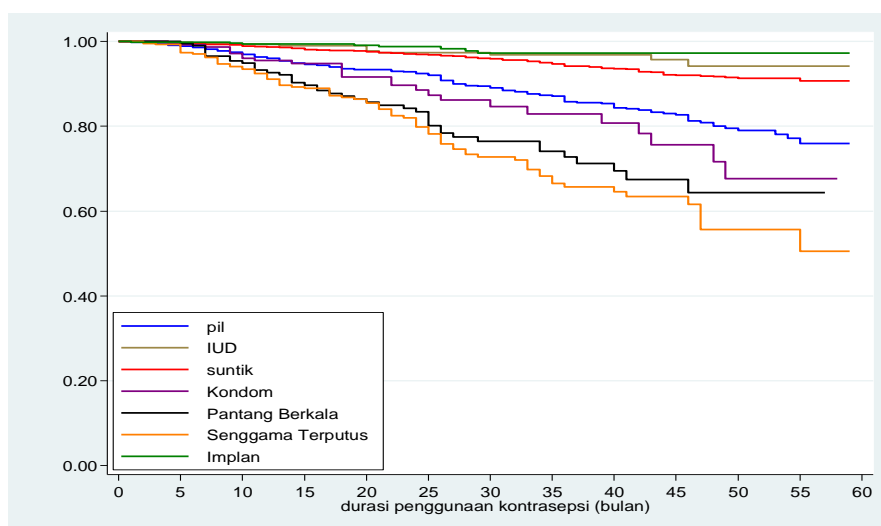


Figure 1: The curve of Kaplan-Meier function of the sustainability of contraceptive use according to method of contraception.

Table 2 : Distribution of contraceptive failure according to the method of contraception.

Methods of contraception	Failure contraception					
	No failure		Failure		Total	
	N	%	N	%	N	%
Pills	1.983	20,42	177	32,72	2.160	21,07
IUD	482	4,96	11	2,03	493	4,81
Injection	5.777	59,5	193	35,67	5.970	58,24
Condom	267	2,75	26	4,81	290	2,86
Periodic abstinence	193	1,99	43	7,95	236	2,3
Coitus interruptus	355	3,66	83	15,34	438	4,27
Implant	652	6,73	8	1,48	660	6,44
Total N (%)	9.709	100	541	100	10.250	100

Source : processing of data IDHS 2012, the data is not weighed.

There are significant differences between methods of contraception contribute to the failure of contraception as shown in Table 2 and Figure 1. The difference is caused by the natural behavior of each method of contraception donated by the failure of a contraceptive that is clearly different between the pill, IUD, injectable, condom, intercourse interrupted, periodic abstinence, and implants. Methods that do not required the help of most family planning services tend to be more high-failure contraceptives as a method of traditional contraception such as periodic abstinence and coitus interrupted as well as condoms and pills. While IUDS and implants which requires medical procedures in the use or release of contraception, so they tend to lower the failure rate of contraception.¹³ Therefore for the analysis is then performed with the stratification method of contraception at random.

DISCUSSION

The results of this study showed the failure rate of contraceptives in one of the methods of contraception method of contraception implants is high compared with the failure rate of contraception in the United States. Trussell 2009 suggested that the numbers this failure occurs because the women who wear contraception do not correctly and consistently.⁶ Naturally, all methods of contraception work in the body with different reactions and for the use of each method are also different.¹⁴ The results of this study indicate the use of contraception is highest in that using the method of the syringe and after it is the pills. The use of injectable methods in Indonesia the failure rate is low compared with the United States and the methods of contraceptive pill also is low. The dominance of the use how KB by the method of a pill and the injectable is not the only way to assess the success of family planning services.¹⁵ According to Winner et al 2012 argue that that the use of contraceptives has many obstacles, namely the availability of skilled labor and unequal facilities services required.⁷ In developing countries, according to Trussell, the most capable of doing of contraception is to use a method of contraception a small amount.¹⁶

The quality of family planning services is not maximized known with the officers of the family planning services that focused on one area and not evenly distributed. Contraceptive failure in implants is much higher above the standard obtained by the Trussell using data that exists in the United States.⁶ This happens due to the use of contraceptive implants in Indonesia is still in a quality that is inadequate. IDHS 2012 mention that the use of the implant more on the economic level of the poor and very poor on the methods of long-term contraception instead of use of contraceptive methods IUD.⁵ Be aware that the implant also has a price that is quite economical compared to the IUD as well as the number of program use implants free on every region in Indonesia. Concluded that implants wear at a rate to the poor economy and where the economic level of the poor

located in many places that many have not yet had the officers family planning services quality as one of the causes of occurrence of a failure rate that high on the implants. On distribution has not been evenly distributed as well as counseling pre and post actions as one of the assessment of the quality of services has not yet reached the standard maximum also be a reason where occurrence of the failure rate high on the implants. This condition is exacerbated with the minimum of health facilities so that the use of contraceptives is very little and is not maximized in the results of this study so that the failure rate of contraception is also high.

CONCLUSION

Failure rate of contraceptives is highest in contraceptive intercourse is interrupted and the most effective contraceptive is a contraceptive method implan. On a figure of this failure can be determine the approach the provider in menyelenggarakan family planning services quality by lowering the failure rate of contraception led to an unwanted pregnancy.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. WHO U, Mathers C. Global strategy for women's, children's and adolescents' health (2016-2030). Organization. 2017;2016(9).
2. Huang Y, Merkatz R, Zhu H, Roberts K, Sitruk-Ware R, Cheng L, et al. The free perinatal/postpartum contraceptive services project for migrant women in Shanghai: effects on the incidence of unintended pregnancy. *Contraception*. 2014;89(6):521-7.
3. Bowers RC, Hatfield Kresch M, Roy A, Lancaster D, Yoost JL. Failure of effective contraception in opioid addicted mothers: a disparity in planned and actual usage. *Marshall J Med*. 2019;5(1):7.
4. Saptarini I, Suparmi S. determinan kehamilan tidak diinginkan di Indonesia (analisis data sekunder riskesdas 2013). *Indonesian J Reprod Health*. 2016;7(1):15-24.
5. BKKBN. Survey demografi dan kesehatan Indonesia (SDKI) 2012. Jakarta: BKKBN. 2013.
6. Trussell J. Contraceptive failure in the United States. *Contraception*. 2004;70(2):89-96.
7. Winner B, Peipert JF, Zhao Q, Buckel C, Madden T, Allsworth JE, et al. Effectiveness of long-acting reversible contraception. *New England J Med*. 2012;366(21):1998-2007.
8. Brunie A, Tolley EE, Ngabo F, Wesson J, Chen M. Getting to 70%: barriers to modern contraceptive use for women in Rwanda. *Int J Gynecol Obstetr*. 2013;123:e11-e15.

9. Huang Y-M, Merkatz R, Kang J-Z. Postpartum unintended pregnancy and contraception practice among rural-to-urban migrant women in Shanghai. *Contraception*. 2012;86(6):731-8.
10. Septalia R, Puspitasari N. Faktor yang memengaruhi pemilihan metode kontrasepsi. *J Biometrika dan Kependudukan*. 2017;5(2):91-8.
11. Sagheer N, Ullah S, Latif N, Zaman T. Improving Design and Delivery Of Family Planning Services To Meet The Unmet Need For Contraception In Quetta Balochistan. *Pakistan J Public Health*. 2018;8(4):213-8.
12. Leticée N, Viard J-P, Yamgnane A, Karmochkine M, Benachi A. Contraceptive failure of etonogestrel implant in patients treated with antiretrovirals including efavirenz. *Contraception*. 2012;85(4):425-7.
13. Koser K. The ART of couple satisfaction. *JMU Scholarly Commons*. 2018.
14. Ningrum N, Mahdiyah D, Sari D. Effectiveness of Relaxation Techniques to Decrease Handheld Finger Pain Intensity Post Cesarean Section at Dr. H. Moch. Ansari Saleh Hospital in Banjarmasin. *Adv Health Sci Res*. 2017;6:188-95.
15. Simavli S, Kaygusuz I, Gumus I, Usluogulları B, Yildirim M, Kafali H. Effect of music therapy during vaginal delivery on postpartum pain relief and mental health. *J Affective Disorders*. 2014;156:194-9.
16. Trussell J. Understanding contraceptive failure. *Best Pract Res Clin Obstetr Gynaecol*. 2009;23(2):199-209.

Cite this article as: Rahmatika C, Wilopo SA, Prawitasari S. Failure contraception in Indonesia: IDHS 2012 data analysis. *Int J Community Med Public Health* 2019;6:2295-9.