

## The Duration of Hormonal Contraceptive Use is Not Related to Weight Gain

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### ABSTRACT

*Hormonal contraceptives, especially injectable and oral contraceptives, are most widely used by the community, this is because they are easy and affordable to use. Data in Indonesia as many as 64% of women use one type of family planning tool/method, 57% use modern family planning and 6% use traditional family planning. The purpose of this study was to determine the difference between the duration of hormonal contraceptive use and weight gain in hormonal family planning (KB) acceptors. This study uses observational analytic with a cross-sectional approach. The population of this study were all hormonal family planning acceptors in Sidoarjo District, Sragen Regency who met the inclusion and exclusion criteria. The number of samples in this study were 32 respondents who were taken using a consecutive sampling technique. The statistical test used in this study is the Independent T test. The results showed that the average use of hormonal contraception was 86.1 (52.10) months. most of the respondents did not experience an increase in body weight 81.3%,. The results of the statistical test showed a p value of 0.908. The conclusion in this study is no difference in the duration of the use of hormonal contraception for family planning acceptors with weight gain.*

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### INTRODUCTION

The family planning program has been considered quite successful, with a TFR of 2.4 children per woman. As stated by the

Head of Bappenas, based on several studies, it is concluded that investment in family planning programs has a positive impact on two main things. First, it has an impact

on improving the quality of life for women, families and communities. Second, it has an impact on increasing economic productivity which is reflected in increased employment opportunities and increased income (Heri L, Cicih Mis, 2019).

Data in Indonesia, as many as 64% of married women use a method of family planning. The distribution of use includes injectable contraception (29%) which is the most widely used method of contraception by married women, followed by pills (12%), KB and IUD implants (5% each) and MOW (4%). The highest dropout rates were pills (46%), followed by family planning injections (28%) and condoms (27%). The dropout rate for MKJP is much lower, such as the IUD (9%) and implants for family planning (6%). Fourteen percent of women stopped using family planning methods/methods because they wanted to use other methods of family planning. Most of currently married women stop using family planning devices/methods due to side effects/health problems (33%) and reasons for wanting to get pregnant (30%) (Badan Kependudukan Dan Keluarga Berencana Nasional, Badan Pusat Statistik, Kementerian Kesehatan Indonesia, 2017).

The most common side effect for using hormonal contraception is weight gain, the

longer the acceptor uses contraception, the hormonal levels will increase and cause body fat levels to increase so that they gain weight (Yuhedi L, Kurniawati., 2014).

In Sriwahyuningsih's research (2012) which states that there is a long-standing relationship between hormonal contraceptive use and weight gain, respondents who use hormonal contraceptives for more than one year have a 4,250 times greater risk of experiencing weight gain compared to respondents who use hormonal contraceptives no more than one year. of one year. Meanwhile, another study, namely research from Ibrahim (2016) stated that there was no relationship between the duration of using hormonal contraceptives and weight gain in the working area of the Sungai Mengkuang Community Health Center, Bungo Regency.

The results of a systematic review showed that less than 49 trials met our inclusion criteria. In trials with placebo or without the intervention group, there was no evidence to support a causal relationship between combined hormonal contraceptives and changes in body weight. Most comparisons of combined contraceptives do not show substantial differences in body weight (Gallo et.al., 2014).

The results of the preliminary survey found that 10 respondents who used hormonal contraception felt that there was no difference in weight while using hormonal contraception.

The existence of differences between theory, research studies and this preliminary survey made researchers interested in conducting research with the theme Differences in Length of Use of hormonal contraceptives in family planning acceptors who experienced weight gain and did not experience weight gain. This study aims to determine the difference in the duration of use of hormonal contraception with weight gain in Hormonal Family Planning (KB) Acceptors.

## **METHODS AND MATERIALS**

The research method uses an analytical observational design with a cross-sectional approach. The population of this study were all hormonal family planning acceptors in sidoarjo district, sragej regency. The number of samples in this study were 32 respondents who were taken using a consecutive sampling technique. The tool used is a hormonal family planning control card to view weight data before and after use. Sources of data

using secondary data and primary data from respondents. Data collection techniques using observation sheets and questionnaires to ensure changes in the diet of the research subjects. The instrument used is a hormonal family planning control card to view weight data before and after use, a questionnaire to determine the characteristics of side effects experienced by contraceptive acceptors as well as, questionnaires for repeat visits to health workers. Before the t test was carried out, the data normality test was carried out using Kolmogorov Smirnov and got the p value  $> 0.05$  so that the data was normally distributed. The variable in this study is the duration of use of hormonal contraception with an increase in body weight. The statistical test used in this study is the independent t test.

## **RESULTS AND DISCUSSION**

Univariate analysis was carried out on each research variable. In this analysis will produce the frequency distribution of each variable. In this study, the analysis was carried out to determine the distribution and percentage of respondents in terms of duration of use, knowledge and weight gain on hormonal family planning acceptors.

**Table 1.** Long use of hormonal contraceptives on hormonal family planning acceptors

Long use	Mean (SD)	Median	Minimum	Maximum
	86,1(52,10)	77,5	7	200

Based on table 1, the average result of using hormonal contraception is 86.1 (52.10) months, with a median value of 77.5 months. The minimum use is 7 months and the maximum is 200 months. The subjects of this study used oral and injectable hormonal contraception.

Hormonal contraceptives are contraceptives that contain the hormones Progesterone and estrogen or Progesterone alone which can be in the form of injections, oral, implants and intrauterine devices (IUD). The use of hormonal contraception, especially injection and oral contraceptives, is the highest contraceptive used (King TI, et.al., 2019)

This study is not in line with the theory, where the average use of hormonal contraceptives is 86.1 months. The use of hormonal contraceptives should not exceed 36 months to reduce long-term effects such as the incidence of cardiovascular disorders, cancer risk and bone density (Barrier C, et.al., 2015).

According to Syaifuddin (2017) which states that the use of injectable contraceptives

should not exceed 2 years and can be done by giving 1 year of rest before repeating hormonal contraception again to protect against the risk of side effects of hormonal contraception.

In line with the research of Cibula et al. (2016) long-term use of hormonal contraceptives can increase the risk of cancer. Types of cancer that can attack from the use of hormonal contraception are breast cancer and cervical cancer.

According to studies from several studies, long-term use in patients can increase thromboembolism, bone density and cardiovascular risk, decreased sexual desire (Nappi C, et.al, 2012; K.Smith N, et.al., 2014; Dinger J, et. al., 2016).

In the opinion of the researcher, there is a gap between the theory of conditions in this research place due to the lack of knowledge of the mother to take a break from hormonal contraception. Regular health education is needed about the use of hormonal contraception to reduce the long-term effects of hormonal contraception.

**Table 2.** Weight gain in hormonal family planning acceptors

Weight gain	N	%
No increase	26	81,3
There is an increase	6	18,8
Total	32	100

Based on table 2, it was found that most of the respondents did not experience an increase in body weight of 81.3%, while the rest experienced an increase in body weight of 18.8%.

According to the Indonesian Ministry of Manpower (2014) it was found that one of the side effects of using hormonal contraceptives, both progestin only and in combination, can increase body weight. This is because the hormone estrogen plays a role in body fat resistance and the hormone progesterone makes the digestive system easier to absorb food.

The results of this study are not in line with Erawati (2015) in Kajoran District, Yogyakarta which states that most 60% of family planning acceptors who use hormonal

family planning have increased body weight, namely 133 people.

In the opinion of the researcher, the increase in body weight in this study could be due to other factors such as changes in diet, disease and lifestyle factors.

The low increase in body weight in hormonal family planning acceptors in Sidoarjo District, Sragen Regency is due to socio-geographical conditions. People in the village generally as housewives continue to help their husbands to work as farmers. This shows the high activity in the community so that body weight only increases slightly.

Bivariate analysis in this study was conducted to determine the relationship between the length of use of hormonal contraception and weight gain in hormonal family planning acceptors. Researchers used an independent T test with an alpha value of 0.05 CI 95%. This research is presented in tables and text.

**Table 3.** Differences in duration of use of hormonal contraception in family planning acceptors who experienced weight gain and did not experience weight gain

Long use* Weight gain	Mean (SD)	Mean Different	SE Mean Different	T	P value	95% CI
No increase	86,62(63,68)	2.782	23,983	0,116	0,908	-46,198 s.d 51,736
There is an increase	83,83(49,14)					



Based on table 3, it was found that the average length of use of hormonal family planning in the group that did not increase was 86.62 (63.68) months, while the average length of use of hormonal family planning in the group that had an increase was 83.83 (49.14). month. There was a difference between the two groups of 2.782 months, however the statistical test results showed a p value of 0.908, which means that there was no difference in the duration of using hormonal contraception for family planning acceptors who experienced weight gain and did not experience weight gain.

According to the theory, estrogen levels can cause weight gain due to fluid retention, while the Progesterone component causes relaxation of digestive muscles and increases appetite.

In line with the theory from King et al (2019) which explains that there is no evidence that hormonal contraceptive methods cause consistent weight gain in general. Except for acceptors who from the start were overweight.

This study is in line with Beksinska et al (2010) who showed that there was no difference between the duration of using DMPA or NET-EN contraception and weight gain. According to Erawati's research (2015)

conducted in Magelang, a p-value of 0.099 was obtained, meaning that the duration of use of injectable hormonal contraceptives was not related to changes in body weight of injectable family planning acceptors.

This research is supported by the WHO systematic study (2015) which states that people with low risk will not increase their weight significantly for the duration of contraceptive use (Barrier C, et.al., 2015).

This study is not in line with Sriwahyuningsih (2012) which states that the use of hormonal contraception for more than 1 year can increase body weight compared to hormonal contraception for <1 year. Rahmawati's research (2013) explains that the duration of using DMPA injectable hormonal contraceptives can contribute to an increase in body weight of 49%. This is because the hormone progesterone facilitates the conversion of carbohydrates and sugar into fat, so that the fat under the skin increases. In addition, the hormone progesterone also increases appetite and decreases physical activity. As a result, the use of DMPA injection contraception can cause weight gain (Rahmawati E, 2012; Moloku M, Hutagaol E, Masi G, 2016)

There is a difference between the theory and the results of this study because there are

several factors that influence weight gain in hormonal family planning acceptors. These factors include age, diet, physical activity and husband's support. These factors also affect food intake and body metabolism which have an impact on body weight for family planning access (Sembiring Jb, Suroyo Rb, Asnita L., 2019; Liando H, Kundre R, Bataha Y. 2015; Marlina, S I., 2016)

In the opinion of researchers, weight gain in hormonal family planning acceptors is not only influenced by hormonal changes as a result of contraceptive use. There are other factors that can affect weight gain in a person. These factors, for example, are the habit of eating a lot on the acceptor, or because they eat a lot but lack of exercise or lack of physical activity, heredity of obesity, physiological factors of the body, increasing age, hormonal disorders.

## CONCLUSIONS AND SUGGESTIONS

The researcher concluded that there was no difference, there was no difference in the duration of use of hormonal contraception in family planning acceptors who experienced weight gain and did not experience weight gain. The suggestion in this study is increase knowledge of hormonal family planning acceptors to maintain a healthy diet and lifestyle.

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