



## The Relationship between the Use of Hormonal Contraceptive Devices on Body Weight of Family Planning Acceptors

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**Abstract.** Contraception is a way to prevent and space pregnancies as well as to plan the number of children to improve family welfare so that they can provide maximum attention and education to children. The level of contraceptive use or the Contraceptive Prevalance Rate (CPR) in Indonesia was 57% in 2015 to 61.4% in 2018. This study aims to determine the relationship between the use of hormonal contraceptives and the body weight of family planning acceptors. This type of research is a descriptive analytic study with a cross sectional research design. This research was conducted in the working area of the Landawe Health Center in August 2021. The analysis used the Fisher exact test. The results showed that most of the respondents' weight increased by 60%. The results of the analysis show that value is  $0.032 \leq 0.05$ , which means that there is a relationship between the use of hormonal contraception and body weight in family planning acceptors.

### Introduction

Contraception is a way to prevent and space pregnancies and to plan the number of children to improve family welfare so that they can provide maximum attention and education to children <sup>1</sup>. Contraception is an action that can help individuals or married couples to get certain objects, avoid unwanted births, regulate the interval between births, control the time of birth in a husband and wife relationship, and determine the number of children in the family <sup>2</sup>.

Uncontrolled population growth is not a new problem for developing countries. Indonesia is not spared from this. The results of the 2018 World Population Data Sheet survey, Indonesia is the 4th country in Asia to use contraception with a population of 271 million <sup>3</sup>. As a result, other problems also arise, such as limited food, limited work, health and others. Therefore, the Population and Family Planning Agency (BKKBN) seeks

to suppress the rate of population growth, by inviting all parties to work hard in making several efforts to control population growth using the Family Planning (KB) or Contraceptive method <sup>4</sup>. One of the modern family planning methods is hormonal contraception. Hormonal contraception is a contraceptive device or drug that aims to prevent pregnancy by using the raw materials of estrogen and progesterone preparations <sup>5</sup>.

The prevalence of contraceptive use in Indonesia from year to year has increased. The level of users of contraceptives or the Contraceptive Prevalance Rate (CPR) in Indonesia was 57% in 2015 to 61.4% in 2018. Based on the health profile of Southeast Sulawesi Province in 2020, hormonal contraception is still the main choice for active family planning (KB) participants.

The choice of contraceptive method depends on many influencing factors, such as the characteristics of the contraceptive method,

demographics and socioeconomic factors related to the acceptor population. Injectable hormonal contraceptives are preferred because they are relatively inexpensive, not bound to coitus, easy to use, non-invasive and reversible <sup>6</sup>.

One of the side effects of using hormonal contraceptives is weight gain. This is due to hormonal factors, as a result of the contraceptive response there is a reduction in water retention in the body, so that obesity occurs <sup>7</sup>. One of the side effects of the hormone progesterone is that it triggers the appetite to increase weight. Weight gain is often cited by women as a reason to stop using contraception because it can lead to obesity and the risk of developing Diabetes Mellitus <sup>8,9</sup>. However, various studies differ on whether this method of control causes weight gain. In addition, almost no studies have followed women after discontinuation of hormonal contraceptive use to determine whether the observed weight gain was reversible <sup>10</sup>. This study aims to determine the relationship between the use of hormonal contraceptives and the body weight of family planning acceptors.

## Method

This type of research is a quantitative research with a cross sectional study design. This research was conducted from August to September 2021 in the Landawe Health Center Work Area. The number of samples in this study were 50 respondents using the accidental sampling method. The data collection instrument in this study was an observation sheet. Analysis using fisher exact test.

## Results and Discussion

**Table. 1 Frequency Distribution of Respondents Characteristics**

Variable	f (%)
<b>Age (Year)</b>	
Mean ± SD	31.06±3.09
<b>Job</b>	
Housewife	39 (78.0)
Self-employed	7 (14.0)
civil servant	4 (8.0)
<b>Types of Contraception</b>	
PIL	17 (34.0)
Inject	20 (40.0)
Implants	7 (14.0)
AKDR	4 (8.0)
Tubectomy	2 (4.0)
<b>Use of Contraceptives</b>	
Using Hormonal	37 (74.0)
Not Using Hormonal	13 (26.0)
<b>KB Acceptor Weight</b>	
Increase	30 (60.0)
Not Increase	20 (40.0)
<b>Total</b>	50(100)

Based on table 1 above, it shows that the average age of the respondents is 31.06 years with a Standard Deviation (SD) of ±3.099, the majority of respondents work as housewives, namely 78.0% and using injection contraception, which is 40.0%. Meanwhile, most of the respondents used hormonal contraception, namely 88.0% and their weight increased after using family planning, namely 60.0%.

**Table 2 The relationship between the use of hormonal contraception and the weight of the family planning acceptor**

Use of Contraceptives	KB Acceptor Weight				Total		$\rho$ <i>value</i>
	Increase		Not Increase				
	f	%	f	%	f	%	
Using Hormonal	26	52.0	11	22.0	37	74.0	<b>0.012</b>
Not Using Hormonal	4	8.0	9	18.0	13	26.0	
<b>Total</b>	30	60.0	20	40.0	50	100	

Based on table 2 above, it shows that respondents who used contraceptives but their weight increased by 58.0%, meanwhile, respondents who used contraceptives but did not gain weight were 30.0%. Meanwhile, respondents who did not use contraception but their weight increased by 2.0%, meanwhile,

respondents who did not use contraception but did not gain weight were 10.0%. The results of the analysis using the Fisher exact test, the value of  $p = 0.032 \leq 0.05$ , then  $H_a$  is accepted, thus there is a relationship between the use of hormonal contraception and body weight in family planning acceptors.

The results showed that there was a relationship between the use of hormonal contraception and body weight in family planning acceptors. The results of this study are in line with the research conducted by Rosmalina (2016), which found that there was a relationship between the use of injectable contraceptives and weight gain in injection hormonal contraceptive acceptors<sup>11</sup>. Irwan and Andi (2014), it was found that weight gain occurred in hormonal family planning acceptors, greater weight gain was in implant hormonal family planning acceptors. The side effects of using hormonal contraceptive pills, injections and implants are that the average respondent experiences weight gain

The results of this study are in accordance with the theory put forward by Hartanto (2014) that the use of injectable contraceptives for a long period of time can cause weight gain due to the presence of the hormone progesterone which can cause appetite to increase when using high or excessive doses because it can stimulate the appetite control center in the hypothalamus which causes the acceptor to eat more<sup>12</sup>.

Research conducted by Sutriani, et al. (2014) concluded that there was a relationship between the use of hormonal contraception and weight gain at the Cendrawasih Health Center in Makassar, where of the 35 respondents who used 3-month injections, most of the weight increased by 24 respondents (54.3%)<sup>13</sup>. Rohani Agustina (2018) also shows the same thing, namely that there is an effect of using hormonal contraceptives on changes in body weight.

The same thing was also stated by Hasyim (2017) that hormonal family planning affects changes in body weight. The effect of hormonal family planning on changes in body weight is that the content of the hormone progesterone in the form of Synthetic hormone Depo Medroxy Progesterone Acetate (DMPA) facilitates the metabolism of carbohydrates and sugar into fat so that fat under the skin increases and decreases physical activity. In addition, hormonal birth control also

stimulates the appetite control center in the hypothalamus which causes appetite to increase so that the acceptor eats more than usual<sup>14</sup>.

In addition, weight gain can also be caused by diet. Many women have the habit of snacking, especially at home or while watching TV, this habit will result in a person experiencing obesity. As stated by BKKBN (2012) that obesity is only possible if there is an excess of food in the body, especially food sources of energy. Weight gain will be more risky when accompanied by a lack of physical activity, so that excess food or energy sources are not used through activity and eventually accumulates in the form of fat and results in weight gain<sup>15</sup>.

This theory is also in line with the theory put forward by Wijayanti (2016) that weight gain can occur if daily food consumption contains energy that exceeds the needs in question. Narudin (2018) also added that psychological factors also affect eating habits, there are even people who suddenly want to eat a lot when they are emotional. In addition, a slow metabolism can also increase body weight because women have smaller body muscles than men, muscles burn more calories than other body tissues so that women's metabolism is much slower than men. This will cause women to be fatter easily when compared to men. Meanwhile, according to Nault (2013) states that the increase in body weight with the use of hormonal family planning is about 1-2 kg after the first year of use and 4-10 kg after 3-5 years of use.

Therefore, it can be concluded that the longer the accessor uses hormonal contraception, the greater the risk of weight gain. This weight gain is due to the progesterone hormone contained in hormonal birth control which facilitates the conversion of carbohydrates and sugar into fat, so that the fat under the skin increases.

## Conclusion

The conclusion of this study is that there is a relationship between the use of hormonal contraception and weight gain in family planning acceptors. It is recommended that health workers routinely conduct counseling about hormonal contraception to the fullest to provide information on side effects to family planning acceptors.

## References

1. Anggraini D, Hapsari W, Hutabarat J, Nardina E, Sinaga L, Sitorus S, et al. Pelayanan Kontrasepsi. Yayasan Kita Menulis; 2021.
2. Emilia O, Prabandari Y. Promosi kesehatan dalam lingkup kesehatan reproduksi. In UGM Press; 2019.
3. Hastuti R, Soetikno N, Heng P. Remaja Sejahtera Remaja Nasionalis. In CV Andi Offset Yogyakarta.; 2021.
4. Heriansyah R, Tanjung W, Pebrianthy L. Hubungan Pengetahuan Dengan Penggunaan Kontrasepsi Hormonal Suntik Depo Medroxy Progesterone Acetate Pada Wanita Usia Subur Di Desa Baruas Kota Padangsidimpuan. Shine Cahaya Dunia Ners. 2020;5(2).
5. Zuraidah Z. Pengaruh Pengetahuan terhadap Persepsi Istri dalam Penggunaan KB Non Hormonal. J Bidan. 2017;3(1).
6. Apolonia I. Gambaran Tingkat Pengetahuan Akseptor KB Hormonal Tentang Efek Samping Kontrasepsi Hormonal Di Puskesmas Gentungan Kabupaten Gowa Tahun 2018. J Farm Sandi Karsa. 2018;4(7):48–58.
7. Ibrahim Z. Kenaikan Berat Badan Dengan Lama Pemakaian Alat Kontrasepsi Hormonal Wilayah Kerja Puskesmas Pembantu Sungai Mengkuang Tahun 2015. J Endur Kaji Ilm Probl Kesehat. 2016;1(1).
8. Jasmin M, Yusuf S, Amrullah F, Arifuddin F. the Reliability of Vibration Based Mobile Phone in Detecting Peripheral Neuropathy in Patient With Diabetic Foot Ulcers. J Perawat Indones. 2021;5(1):548–57.
9. Zuhana N, Suparni S. (2016). Indeks Massa Tubuh Pada Wanita Akseptor Kb Implan Di Kabupaten Pekalongan. 2016;
10. Lubis N. Psikologi Kespro. Wanita dan Perkembangan Reproduksi: Ditinjau dari Aspek Fisik dan Psikologinya. In: 2nd ed. PT Fajar Interpratama mandiri; 2016.
11. Rosmalina ersa D. Hubungan penggunaan kontrasepsi suntik dengan perubahan berat badan di puskesmas labibia kota kendari. Karya Tulis Ilm Politek Kesehat Kendari. 2016;
12. Hartanto W. The 2010 Indonesia population census. 2010.
13. Sutriani. Hubungan Lama Pemakaian Kontrasepsi Suntik 3 bulan dengan Perubahan Berat Badan. Ejournal Keperawatan (e-Kp). 2014;
14. Hasyim AA. Hubungan Pemakaian Kontrasepsi Suntik DMPA Terhadap Perubahan Berat Badan. Fak Kedokt Univ Sumatra Utara. 2017;1–57.
15. BKKBN. Survei Demografi dan Kesehatan Indonesia 2012. BKKBN; 2012.