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## **DEPO MEDROKSI PROGESTERON ASETAT (DMPA) INCREASES BODY MASS INDEX OF ACCEPTORS BUT DECREASES THEIR LIBIDO**

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### **ABSTRACT**

**Background:** Depo Medroksi Progesterone Acetate (DMPA) is one method of contraception. Side effects of this method include weight gain and decreased libido. Meanwhile, one of the factors causing decreased libido is weight. Ideally, the couple of fertile age which is used the contaception is free of sexual making intercourse without fearing pragnant, but,unfortunatelly, the usage of contraception of DMPA indeed, makes the woman libido decreases.

**Aims:** This study aims to determine the correlation of weight weight with libido on KB injectors Depo Medroksi Progesterone Acetate (DMPA)

**Methods:** This research is usedin the cross sectional approach. The Population is the acceptor of contraceptive Planning Program on Depo Medroksi Progesteron Acetate (DMPA).Sampling technique used is purposive sampling. The sample size is 29 women people. Weight is measured by the Body Mass Index (BMI) indicator while libido is measured by a Female Sexual Function Index (FSFI) consisting of 22 questions. The statistical test used is Spearman Rank Correlation

**Results:**The result of the research obtained the most weight at the normal level that is 20 people (68,96%). Libido acceptor mostly decreased libido that is 21 people (72,41%) with libido level most at the level of desire phase disturbance that is 10 people (34,5%), from result of statistic test obtained result there is significant correlation between body weight With libido acceptor of Family Planning injecting DMPA with p value 0.002, and patterned positive, it means that the higher weight of acceptor of injecting DMPA hence higher also libido disorder level. A relationship of 0.573 shows the strength of the intermediate relationship.

**Conclusion:** There is a significant correlation between body weight with libido acceptor of injecting Depo Medroksi Progesteron Acetate (DMPA) with p value 0,002. And patterned positive, the working area of Public Health Center at Ujung Pring Bangkalan East Java meaning that the higher the weight of KB contraceptive injectors DMPA the higher the level of libido disturbances. The correlation coefficient of 0.460 shows the correlation strength of body weight with libido in the intermediate relationship.

**Keywords:** DMPA, weight gain, libido

## **INTRODUCTION**

Family as a least unit life expected north small family and prosperous families [1]. Family planning is an action that helps an individual or a spouse to obtain certain objectives, avoid unwanted births, interval between pregnancies, control the time of birth in relation to the age of husband and wife, and determine the number of children the family [1]. There are several methods in contraception, among others: simple methods and effective methods. Effective methods consist of hormonal contraceptives, mechanical methods (IUD), and emergency contraceptive methods [2]. Implementation of family planning program can be made through use of contraception which is an effort to prevent this pregnancy [3].

Hormonal contraception can be given by injection, including progestin (long acting progestin) and combination preparations. Progestin (long acting progestin) contraceptives are available in two types: Depo Medroksi Enantat (Depo Noristerat) and Depo Medroksi Progesterone Acetate (DMPA). Depo Medroksi Progesterone Acetate is available in microcrystalline form suspended in aqueous solution with an intramuscular dose of 150 mg intramuscular (gluteal or deltoid) DMPA administered every three months [4].

In most women, perceived weight gain represents true weight gain. Implant and depot medroxyprogesterone acetate users are more likely to perceive weight gain among contraception users by preventing ovulation, thicken cervical mucus, make thin mucous membrane and atrophy, and inhibit tubal gamete transportation [5]. In another hand, Depo Medroxy Progesterone Acetate are known to be very effective in preventing pregnancy in the long term, have no effect on breastfeeding, client need not store medicine, help prevent endometrial cancer and ectopic pregnancy, decrease incidence of benign breast tumor, prevent some causes of pelvic inflammation, and decrease the crisis of the crescent moon (cycle cell). However, it may lead to frequent menstrual disturbance, dependent on the means of service, the late return of fertility after discontinuation of use, and some emergence of complaints (i.q. headache, vaginal dryness, weight gain, emotional disturbances, nervositas, acne, and decreased libido) [3].

Weight is well known to be one of the causes of decreasing libido. When viewed from a physical point of view, fat deposits in the stomach, thighs, and even the pubis area often complicate the process of penetration [6]. According to survey conducted in 2008 in members of the Women's Institute (WI), the largest volunteer community in the UK, it revealed that 9 people (90%) of ten members view weight as a problem in relationships. Sexually, this is because members of the Women's Institute perceived a very important meaning to appearance [7]. Based on preliminary study conducted among 7 injecting contraceptive Depo Medroksi Progesteron Acetate who had weight gain, there were 5 acceptors (71.4%) who decreased libido and 2 acceptors (28.6%) have no effect to their libido.

Ideally couples of childbearing age who use contraception freely have sexual intercourse without fear of pregnancy, but unfortunately the use of contraception is actually making women libido reduced. If the matter lasts for a long time it is feared that will adversely affect the harmony of married couples, and it is no longer in line with the objectives of government programs that want to realize the Norms of a Happy and Prosperous Small Family (NKKBS).

Such circumstances should be prevented by communication, information and education (IEC), counseling, contraceptive services (PK), pre-marriage consultation and marriage consultation. However, the existing phenomenon shows that these efforts have not been fully implemented. So the acceptors know the side effects after using contraceptive methods, not when choosing contraceptive methods in accordance with the conditions. With the existence of the problem, this study try to find the effect of body weight to the libido in family planning Depo Medroksi Progeterone Acetate (DMPA) acceptor injection. The aim of the research is to know the effect of Depo Medroksi Progesteron Acetat (DMPA) to acceptors' body mass index and libido.

## METHODS

The research design used was "cross sectional". The population in this research was 29 acceptors of Family Planning injecting Depo Medroksi Progesterone Acetate in Working Area of Public Health Center. Sampling technique used was a purposive sampling method. The sampling technique used is the retrieval of all Family Planning injectors Depo Medroksi Progesterone Acetate. The data was collected using the questionnaires given to Family Planning injectors on Depo Medroksi Progesterone Acetate, at Public Health Center Ujung Piring Bangkalan District, Indonesia. The study included a measurement of Body Mass Index (BMI) of injectable contraceptive family planning Depo Medroksi Progesterone Acetate. The form of questionnaire used closed question types by Multiple Choice, where questions were provided with some alternative answers, and the respondents choosing only one answer according to their opinion [8]. The questionnaire was also developed to measure the Female Sexual Function Index (FSFI). The questionnaire used in this research has been tested for its validity and reliability developed [9]. To test the hypothesis, this study used tabulation between ordinal scale variable and ordinal scale variable with Kendal Tau Correlation test statistic [9].

## RESULTS

### *Respondents' characteristics*

Distribution of education level in the respondents was mostly at high school level (44.8%) and aged between 20-29 years (51.7%). Among the respondents, there are one participant with Diabetes Mellitus and one new Depo Medroksi Progesterone Acetate (DMPA) acceptor. Moreover, Table 1 shown the respondents' age, weight and height. Most respondents weighted between 50-59 kg and heighted from 150 to 159 cm.

Table 1. Characteristics of the acceptor injecting Depo Family MedroxProgesterone Acetate (DMPA)

<b>Variables</b>	<b>N</b>	<b>Percentage (%)</b>
<b>Age (years)</b>		
20-29	15	51.7
30-39	12	41.4
40-49	2	6.9
TOTAL	29	100
<b>Weight (kg)</b>		
30-39	1	3.4
40-49	11	37.9
50-59	13	44.8
60-69	4	13.8
TOTAL	29	100
<b>Height (cm)</b>		
140-149	3	10.3
150-159	25	86.2
160-169	1	3.4
TOTAL	29	100

### *Weight loss and libido acceptor*

Based on the result of Table 2 shows that most respondents (68.96%) had normal distribution of body mass index. The results showed that most respondents experienced a decrease in libido that is 21 people (72.41%). The ideal weight of each person cannot be determined with the standard value because it is still influenced by the height factor. So in this study used Body Mass Index (BMI) to determine the condition of a person's body weight in a normal condition, lean, or fat. By Kendal Tau correlation test, it showed that there was a significant correlation between body weight and libido of DMPA acceptor



(*p* value = 0.002, *r* = 0.460) where the higher weight of contraceptive acceptor, the higher the libido disturbance level.

Table 2. Repondents' Body Mass Index (BMI) and Libido

Variables	N	%
<b>Body Mass Index (BMI)</b>		
Thin weight (BMI <17.0)	2	6.9
Thin lightweight (17.0-18,5)	3	10.4
Normal (18.6-25.0)	20	68.9
Light level grease (25,1-27,0)	3	10.4
Fat weight level (> 27,0)	1	3.4
TOTAL	29	100
<b>Libido</b>		
Normal	8	27.59
Libido Disorder	21	72.41
TOTAL	29	100

**DISCUSSION**

After data collection, then cross tabulation of independent variable and dependent variable was done using Kendal Tau statistic test. The BMI of most respondents was at normal level (68.96%). Unbalanced BMI exceeds normal limits illustrates the risk of impaired body function including the risk of suffering from chronic diseases such as diabetes mellitus, hypertension, coronary heart disease, cancer, and shortening life expectancy. This cross-sectional study provides further insight into the potential negative sexual side effects that may be experienced by many women using hormonal contraception in comparison with women using non-hormonal methods [10]

The use of DMPA can increase weight 2-4 kg within 2 months [11]. The use of hormonal contraceptives either ethinylestradiol or progesterone groups leads to mild insulin resistance that exacerbates glucose tolerance and reduces clearance of insulin.[12]. As results of insulin resistance, body responds poorly to the produced hormone insulin because the body is accustomed to high sugar levels. Thus, the hormone insulin in charge of delivering sugar into the cell cannot work optimally and leads to obesity.[11]

Persons with BMI between 22 to 25 has less risk to the disease [13]. The implication of these findings is that body weight and body fat may override the potential detrimental effect on bone seen with the use of DMPA and, to a lesser extent, very low dose oral contraceptives [14].

*The majority*

The majority was at their reproductive age, between 20-29 years, and might will to become fertile. The results found that most respondents experienced libido disorders (72.4%). Women with a body mass index (BMI) exceeding normal may take longer to conceive than women with normal body mass index, particularly for obese android types characterized by a buildup of fatty tissue especially in the abdominal area so-called central obesity [15]. As result, the DPMA injection will affect to an increase of body weight [16].

Another research pointed out side effects such as breast tenderness and weight gain are well documented, sexual side effects are not as well studied, particularly with regard to impact on libido [17]. This is likely due to the fact that female libido is complex, and it is therefore difficult to reliably predict how it may be affected by Combined Oral Contraceptives (COC), or any other hormonal contraceptive. Based on current literature, the majority of which pertains to COC, it seems there are

mixed effects on libido, with a small percentage of women experiencing an increase or a decrease, with the majority being unaffected. Nevertheless, for the individual woman who is negatively affected, this can have substantial impact on her quality of life and relationship. Healthcare providers must be aware that hormonal contraceptives can have negative effects on female sexuality so they may counsel and care for their patients appropriately.

In this recent study, overweight and obese women were more likely to use LARCs (*longer-acting reversible contraceptives*) than normal-weight women. It will be important to further understand how weight influences women and providers' views on contraception in order to better assist women with individualized, patient-centered contraceptive decision making. Future research regarding the impact of DMPA-SC as a potential treatment for androgen excess disorders in all BMI classifications should consider using a more frequent dosing regimen. The present findings provide valuable information for future studies regarding hyperandrogenism and obesity in DMPASC users.

## **CONCLUSION**

*This is meant by the respondents increase their body weight after using DMPA contraception. The assessment of body weight and the libido among Depo Medroksi Progesteron Asetat (DMPA) acceptors at Public Health Center of Ujung Pring Kabupaten Bangkalan, it can be concluded that the majority have found with decreasing of libido, and lost their desire to have sex. Moreover, this study found a significant correlation between using DMPA and gaining body weight (p value = 0.002, r = 0.460) where the higher weight of contraceptive acceptor, the higher the libido disturbance level.*

## **CONFLICT OF INTEREST**

There is no conflict of interest

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