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**THE CORRELATION AMONG DURATION OF ORAL  
CONTRACEPTION WITH THE INCIDENCE OF MELASMA IN  
SUMBERWUDI, LAMONGAN, EAST JAVA, INDONESIA**

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**ABSTRACT**

**Background:** An increasing of estrogen in the body including consumption certain pills, excessive exposure to sunlight, or even by pregnancy, may cause various effects such as as melasma, brown pigmentation that can occur in women, appeared in certain organs

**Aims:** The objective was to analyse the relationship between duration of use of oral birth control pills combined with the occurrence of melasma.

**Methods:** This is an analytical research using cross-sectional approach involved 17 respondents who were selected by a purposive sampling technique. Inclusion criteria for this study was as acceptor oral pill combinations at least 30 days or have taken one blister. In this study, the research instrument used was an open questionnaire and observation. Data was then analysed by parametric statistic using fisher's exact.

**Results:** The results found the combined oral pill acceptors complained emergence of black spots on the face in a period of more than 2 years of use whereas previously unheard.

**Conclusion:** Based on the results, health workers in the provision of counselling to patients about the side effects of the combined oral pill black spots face (melasma). Thus, acceptors got enough for knowledge and able to cope with the occurrence of dark spots face (melasma).

**Keywords:** Combined oral pills; melisma, black spot, skin, oral birth control pills.

**INTRODUCTION**

The National Family Planning Program in Indonesia (Keluarga Berencana) has a significant contribution to the efforts to improve the quality of the population. One of the key messages in the National Strategic Plan for Making Pregnancy Safer (MPS) in Indonesia 2001-2010 is that every pregnancy should be a wanted pregnancy. The new paradigm of the National Family Planning program's vision is to realise a "Qualified Family 2015" [1,2]. Family planning became one of the success histories in the 20th century. Currently, almost 60% of couples of reproductive age use contraception throughout in the world and more than 200 million women worldwide have been taking birth control pills and the current amount of usage has reached 65-70 million people [3].

Based on data from Lamongan Public Health Office (2012), combined oral pills is the second option as many as 78837 people or 30.45% [4]. The content of esterogen and progesterone in the combination oral pills if during the use of excess hormone will cause melasma (dark spots on the face) [5].

In particular users of hormonal combined oral pills estrogen and progesterone contained therein if the excessive use will affect the anterior pituitary to produce MSH (*Melanin Stimulating Hormone*) in the amount of excessive and prolonged use will affect hyperpigmentation of the skin. If the skin disorder is allowed to continue could cause malignancy of the skin cells [6,7]. This abnormality can lead to complaints to change the appearance and aesthetics to psychosocial disorders [8].

The emergence of new chloasma will disappear gradually when the pill was informed and if not stopped may chloasma will never disappear altogether [9]. Prevention of the onset or increase the weight and recurrence of melasma are sun protection [10]. Patients are required to avoid direct exposure to ultraviolet rays, in particular between the hours of 9:00 to 15:00. We recommend that if you out of the house using a broad umbrella or hat [8]. In this research was to analyze the relationship between duration of use of oral birth control pills combined with the occurrence of melasma.

## METHODS

This type of research is an analytic method with the cross-sectional approach. The population in this study is acceptors combined oral pill that consist of 42 people. The sampling technique is purposive sampling, to obtain a sample of 17 people who meet the inclusion criteria.

Inclusion criteria for this study were: acceptor oral pill combinations that are willing to be investigated. Acceptors using combined oral pill for at least 30 days or have take one blister, they are taken continuously. Combined oral pill acceptors which exposed with sunlight > 6 hours a day (9:00 to 15:00). Exclusion criteria in this study were combined oral pill acceptors for beauty like Diane, Yas, Yasmin. Combined oral pill acceptors under treatment and beauty care doctor. Combined oral pills and acceptor combination there is a family descent or experiencing melasma. In this study, the research instrument used was an open questionnaire and observation. Statistical tests used were Fisher's Exact test. The collected data was then analysed by automated analysis with Statistical Program Product and Service Solutions (SPSS).

## RESULTS

The data includes the results of research duration of use combined oral pills, the incidence of melasma and relationship between duration of use of combined oral pills with the occurrence of melasma. Respondents in this study is use of combined oral pill acceptors that do not work or a housewife who had high school with a vulnerable age of 21 - 35 years old and have 1 - 2 children, for economic setatus respondents are middle income status.

### 1. Duration Of Combined Oral Pills

Table 1. Distribution Frequency long used of Respondents

No	Duration Of Combined Oral Pills	Frequency ( <i>f</i> )	Prosentase (%)
1.	< 1 year	10	59
2.	> 1 year	7	41
	Amount	17	100

Based on table 1, explained that 59% of respondents who use combined oral pills with long usage < 1 year and 41% of respondents using combined oral pills with long usage > 1 year.

## 2. Effects of melasma

Table 2. Distribution frequency occurrence of side effects of dark spots face (melasma).

No	Effects of melasma	Frequency ( <i>f</i> )	Prosentase (%)
1.	Yes	7	41
2.	No	10	59
	Amount	17	100

Based on the table 2, explained that 59% of respondents did not experience any side effects facial black spots (melasma) and 41% of respondents experienced side effects facial black spots (melasma).

## 3. The relationship between duration of contraceptive use combined oral pill with the incidence of melasma.

Table 3. Cross-tabulation between duration of oral contraceptive use pill combination with the incidence of melasma

No	Duration of contraceptive use combined oral pill	Effects of melisma		Not occur of melasma		Amount	
		$\Sigma$	(%)	$\Sigma$	(%)	$\Sigma$	(%)
1.	< 1 year	0	0	10	59	10	59
2.	> 1 year	7	41	0	0	7	41
	Amount	7	41%	10	59%	17	100 %

From the table without fisher test it shows that more than 1 year use they experienced melasma.

From the analysis by researchers using SPSS 16.0 with *fisher's exact* test. *Fisher exact* test results obtained  $p = 0.000$  where the value of  $\alpha = 0.005$ ,  $p < \alpha$  then  $H_0$  rejected it means there is a relationship between duration of use combined oral pill with the occurrence of melasma.

## DISCUSSION

The occurrence of melasma on the face of the combined oral pill acceptors due to the accumulation of the hormone esterogen in the body can lead to some form of melasma that was tailor to the scene. According to Soepardiman (2007) on clinical forms of melasma is divided in the form of Centro-facial covering the forehead, nose, cheeks middle or middle section, under the nose and chin, malar shape covering nose and cheeks and forms part lateral mandibular covering the mandible area [8]. According to Gilly Andrews (2009) which states that the appearance of the spots on the face to use combined oral pill started during the first period of 3 months of usage [11]. Meanwhile, according to Lily Soepardiman (2007), that the utilization of the contraceptive pill, melasma appears within one month to 2 years after starting the Pill [8].

And given oral pills can lead to stimulation more or less to these organs than androgen hormones produced before administration of oral pills. The occurrence of melasma on users of oral pill combinations requires a long time and depending on the levels of the hormone esterogen in the body and the oral pills combinations. In the buildup of esterogen hormones which exist in the body can cause a variety of influences that appear in certain organs in the body of one of melasma, but these sightings do not appear suddenly in a short period; it takes quite a long time. This is consistent with the statement of Hartanto (2004) on the use of long-term, the effects of estrogenic, androgenic of progesterone and oral pills have any effect on the organs and tissues of the certain body (skin, uterus, ovary, brain, breast, arteries, veins and so on others) [12].

The dark spots on the face (melasma) are freckles uneven light brown to dark brown that occur on the cheeks, forehead, the upper area of the lips, nose and chin. At respondents surveyed in this study was selected respondents who kind of suffered facial black spots (melasma) for the use of combination oral birth control pills which respondents wasn't exposed to sunlight >6 hours a day (9:00 to 3:00 p.m.). No offspring or family history suffered facial black spots (melasma), do not use cosmetics and certain drugs that can trigger melasma. Melasma usually arises from two primary cells of the epidermis (after creationist) is melanocytes, are found in the basal layer.

According to Anderson (2006), in melanocytes synthesised pigment granules called melanosomes. Melanosomes are containing cocoa bio-chroma called melanin. Through bumps Dendrik long, the melanosomes transferred to a creationist. Melanosomes hydrolyzed by the enzyme at different speeds. Creationist was determining the amount of melanin in the skin colour [6]. Melanin protects from the sun's effects are adverse. Instead, sunlight, drugs, hormones, especially esterogen and progesterone if the excessive use will affect the anterior pituitary to produce MSH (Melanin Stimulating Hormone) of the excess and affect hyperpigmentation of the skin. Melasma often occurs or is found in women.

Side effects facial black spots (melasma) due to the accumulation of the hormone esterogen in the body that can trigger the occurrence of black spots on the face (melasma). Many factors affect the incidence of melasma, but the respondents who experienced these circumstances claimed never sunbathe playing under the sun with a long time during the day, in their families experience no black spots on the face.

Limitations of this study is the number of samples in this study were 17 acceptors of combined oral pill because respondents who researched the respondents were included in the study inclusion criteria to avoid biased results. This is inversely proportional to the theory put forward by Sugiyono (2010) that the minimum sample study is 30 samples [13]. Therefore, when this sample who met the inclusion criteria more then the results will be better. Hopefully, by the development of knowledge of mothers about oral combined pills of the side effects so that research results can use as supporting existing.

## **CONCLUSIONS**

Respondents who use combination oral birth control pills began to complain to get changes in the skin of their faces when in a period of > 2 years of use in which they complained of black spots on their face that had never happened to them. Side effects facial black spots (melasma) due to the accumulation of the hormone estrogen in the body that can trigger the occurrence of black spots on the face (melasma). Many factors affect the incidence of melasma, but the respondents who experienced these circumstances claimed never sunbathe panasan with a long time during the day, in their families mengalmi no black spots on the face.

The professional midwifery can provide information or counselling on contraceptive combination pill consisting of benefits, advantages and side effects of the combination pill in acceptors oral combination pill so as to increase knowledge and improve the quality of midwifery services through professionalism obstetrics. As well, side effects such as melasma that does not only occur in the combined oral pills alone but who did not use oral pill combinations may also occur or arise melasma.

Hopefully, by the development of knowledge of mothers about combined oral pills of the side effects so that research results can use as supporting existing theories. Expected results of this study can provide information, images and input on future researchers concerning family planning methods

combined oral pills. If yoant to examine the black spots on the face (melasma) should use methods of data collection by further tests such as that of the theory to determine the occurrence of melasma due to hormonal so that more accurate data was obtained.

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