

## Relation Between Hormonal Contraception with Menopause

Santi Susanti, Hariyani Sulistyoningih  
STIKes Respati  
santiazhari@gmail.com, hariyani5677@gmail.com

### ABSTRACT

Menopause is a process of transition from a productive period heading slowly to the non-productive time due to reduced estrogen and progesterone. There are many factors associated with menopause. Factors contraceptives may affect the occurrence of menopause, which in women who use hormonal contraception to have compromised menopause compared to those using a non-hormonal contraception. The purpose of this study was to determine the relationship between hormonal contraception and menopause. The research method uses a *Systematic Literature Review*. The independent variable is hormonal contraception. The dependent variable is Menopause Age. The population is all research journals with the topic of the relationship between hormonal contraception and age menopause. The sample is a journal of research results of the relationship between hormonal contraception and age menopause. Sample inclusion criteria in this study include: 1). Subjects of the study were postmenopausal women, 2). The type of research is case control and cross sectional 4). National and international journals of the 10 years last. The results of the study found that hormonal contraception was associated with age at menopause. Suggestions for women postmenopausal to have a healthy lifestyle and have regular the health check to health care facilities.

**Keywords: contraception, hormonal, menopause**

### BACKGROUND

Menopause is a process of transition from a productive period heading slowly to the non-productive time due to reduced estrogen and progesterone. Menopause is the process of stopping the physiology of the menstrual cycle associated with the elderly. At the age of 40 years and over, about 80% of women begin to have irregular menstrual cycles. Only about 10% of women stop menstruating altogether without prolonged cycle irregularities. Before menopause, the main estrogen the body produces is estradiol. During perimenopause a woman begins to produce more estrogen of a different type called estrone which is produced in the ovaries as well as in body fat (1). Early menopause estrogen production does not stop suddenly. This is because there is no damage to the walls of the ovaries, only the production is gradually less. A drastic decrease in the levels of the hormone's estrogen and progesterone in some women will affect various physical changes and very individual psychological conditions including

wrinkled or skin sagging, incontinence or urinary disorders control, heart palpitations, increased body temperature, headaches and forgetfulness. While changes in psychological conditions often cause feelings of depression, depression and irritability (1).

There are many factors associated with menopause. Research by Rosyanda, et al (2016) found a relationship between parity and age of menarche with menopause. The more often a woman gives birth, the older or longer the woman enters menopause (2). This is because pregnancy and childbirth will slow down the work system of the female reproductive organs and can also slow down the aging of the body. Likewise, research by Rangki et al (2020) found history of contraceptive use, BMI, age, parity was related to age at menopause. Contraceptive factors can affect the occurrence of menopause, where mothers who use contraception hormonal will experience menopause delays compared to those who use non-hormonal contraception (3).

According to the BKKBN, active family planning among PUS in 2019 was 62.5%, a decrease from the previous year, which was 63.27%. While the RPJMN target to be achieved in 2019 is 66%. The results of the 2017 IDHS also show a higher number for active family planning, which is 63.6%. The highest active family planning was in Bengkulu at 71.4% and the lowest was in West Papua at 25.4%. There are 11 (eleven) provinces with active family planning coverage reaching the RPJMN target of 66%, namely Bengkulu, South Kalimantan, Lampung, Jambi, Bangka Belitung Islands, Bali, West Java, Central Kalimantan, South Sumatra, North Sulawesi and Gorontalo. Based on the pattern in choosing the type of contraception, most of the active family planning participants chose injections and pills as contraceptives and were even very dominant (more than 80%) compared to other methods; injections (63.7%) and pills (17.0%) (4).

Based on this, it is necessary to study the evidence to examine the relationship between the use of hormonal contraception and the age of menopause. Therefore, the author intends to examine several research results through the method *literature review* with the formulation of the problem whether there is a relationship between the use of hormonal contraception and the age of menopause?

## METHOD

This research method uses a *Systematic Literature Review*, researchers analyze the relationship between hormonal contraceptive use and menopause age. The independent variable is hormonal contraception. The dependent variable is Menopause Age. The population is all research journals with the topic of the relationship between hormonal contraception and age menopause. The sample is a journal of research results of the relationship between hormonal contraception and age menopause. Sample inclusion criteria in this study include: 1). Subjects of the study were postmenopausal women, 2). The type of research is case control and cross sectional 4). National and international journals of the 10 years last.

The strategy of searching for research articles is national and journals international that are relevant to the research topic and using the keywords: "contraceptives hormonal", "Menopause", to databases namely Pubmed, The Lancet, Google scholars, with a time limit of January 2010 to December 2020. Full-text articles were reviewed to select research journals that matched the sample inclusion criteria.

Based on the results of the assessment, 5 journals were obtained from 21 selected journals using the *Duffy's Research Appraisal Checklist Approach*, 5 research journals that were categorized as eligible to be used as samples in this study for further analysis, Critical Review of Systematic Review Articles and Meta-Analysis, including validity, results, and its relevance. Aspects that are criticized include: year of publication, design, sampling, variables, data analysis, instruments, research results, and conclusions.

## RESULT

The results of the review of the authors found 5 literatures related to hormonal contraception on age menopausal. The results of the analysis of the literature can be seen in table 1.1 below:

Table 1. Analysis of the Relationship between the Use of Hormonal Contraception to Menopause Age

Author, Year, research title	Purpose of	Method	Sample	Findings /	Conclusions
<b>Asasih Vila Sari, 2014, Relationship of Contraceptive Use Hormonal with Menopause Age in Alastuwo Hamlet, Pancol Subdistrict, Magetan . To</b>	determine the relationship between contraceptive use hormonal and menopause age.	This correlation analysis will use a retrospective approach.	menopausal women in Hamlet Alastuwo Pancol Magetan Subdistrict many as 91 people	Based on results of the obtained, most mothers menopausal never used hormonal contraceptives (52.75%), and a small portion ever used hormonal contraception (47.25%) of the total respondents as many as 91 people. Based on the calculation of the statistical test Chi Square annually with an error level of = 0.05 df = 2 and the price of X2 table is 5.591, the result of X2 count is 8.306. So X2 count > X2 table, which means H0 is	There is a relationship between the use of hormonal contraception and the age of menopause. $KK = 0.657$ indicates a close relationship in the level of

<b>Nabila Wahid, 2016, The Relationship between Contraceptive Use and Menopause Incidence in Mothers At Lau Maros Public Health Center</b>	Knowing the relationship between Contraceptive Use and Menopause Incidence In mother At the Lau Maros Public Health Center	analytical observation with cross sectional method.	The population in this study were all women aged 45-55 years at the Lau Maros Health Center as many as 110 people. The sample in this study were women aged 45-55 years at the Tabarin gan Health Center Makassar, totaling 35 people and were determined using purposive sampling	There is a relationship between the use of injectable contraception, there were 8 respondents (23%) while 27 respondents (77%). Respondents who used a pill contraceptive were found to be 17 respondents (48.6%) while those who did not use were found to be 18 respondents (51.4%). The test used was Fisher's test with a significance value (0.05), then	rejected and H1 is accepted, meaning that there is a relationship between the use of hormonal contraception and the age of menopause. $KK = 0.657$ indicates a close relationship in the level of
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				ng, which is a way of taking samples from the population by selecting the sample desired by the researcher so that the sample can represent the characteristics of the population that have been known. Previously	the p value = 0.046 (p < 0.05) which means that there is a relationship between the use of injectable contraceptives and the incidence of menopause in mothers at the Lau Maros Public Health Center. The test used was Fisher's test with a significance value (0.05), then the p value = 0.005 (p < 0.05) which means that there is a relationship between the use of contraceptive pills and the incidence of menopause in mothers at the Lau Maros Health Center.							
<b>Mayang Isa Hanasiwi, Herdini Widyani ng Pertiwi,</b>	Knowing the relationship between parity	This study is an analytical	The population in this study were all	Respondents who did not use hormonal contraception	There is a relationship between the use of							
<b>2015, Relation of Parity and Use of Hormonal KB with Menopausal Age</b>	and use of hormonal KB with Menopausal Age	survey using a cross sectional approach. Research	postmenopausal women in the Elderly Posyandu, Tingkir Village, Salatiga in April 2014 with a total of 58 respondents. The sample in this study were postmenopausal women at the Elderly Posyandu, Tingkir Village, Salatiga, in April 2014 a total of 58 respondents.	mostly experienced early menopause, namely 10 respondents (17.2%), respondents who used hormonal contraception were mostly respondents. The experienced normal menopause, namely 24 respondents (41.4%). The results of the Chi Square test of the relationship between age and menopause level obtained a value of $\chi^2$ of 15,119 with p-value = 0.001. Because the p-value is smaller than 0.05 or 0.001 < 0.05, it is concluded that H0 is rejected.	hormonal family planning and the age of menopause in mothers at the Elderly Posyandu, Tingkir Village, Salatiga, with a p value of 0.001.							
<b>Endang Buda Setyowati, 2017, The Effect of Hormonal</b>	Knowing the Effect of Hormonal Contraception	Cross sectional survey study	The population in this study were all elderly	mothers who used non-hormonal contraception the majority	Based on the results it can be concluded that							

<b>Contraception Use With Menopause Age</b>	Use With Menopause Age	women at the Posyandu elderly BPS Kisworo Pratiwi in the period May-June 2017 contraceptive people. The sample in this study were some of the elderly women at BPS Kisworo by 45 people with probability sampling technique using the systematic random sampling techniques	experienced rapid menopause as many as 22 people (75.86%), while The majority of elderly mothers who use hormonal contraception experience late menopause as many as 11 people (68.75%). To find out whether there is a relationship between hormonal contraception and menopause age, the Chi Square test was carried out. After calculating the Chi-Square, it turned out that $\chi^2$ count > 2 table, namely $8.55 > 3.84$ . Hasil research below shows that $H_0$ is rejected, thus it can be said that there is a relationship between hormonal contraceptive use with menopause	There is a link between hormonal contraception with menopause. Suggestion	<b>Ayu Wahyuni, 2019, The Relations hip between Hormonal Contraception Use With Menopause Age in Lalonggasumeeto District, Konawe Regency in 2019</b>	Knowing the Relationship between Hormonal Contraception Use With Menopause Age in Lalonggasumeeto District, Konawe Regency in 2019	This study used a cross sectional approach.	The population in this study were all women aged 40-58 years old who have experienced menopause in Lalonggasumeeto District, Konawe Regency in 2018, totaling 168 people. The sample of this study is some women who have experienced menopause aged 40-58 years in Lalonggasumeeto District, Konawe Regency. The sampling technique in this research is accidental sampling technique. This means	there were as many as 10 people (19.2%) who used non-hormonal contraception (IUD and did not use contraception) with menopausal age who did not normal and as many as 7 people (13.5%) who used non-hormonal contraception with normal menopause age. In addition, there were 9 people (17.3%) who used hormonal contraception (pills and injections) with abnormal menopause age and as many as 26 people (50.0%) who used hormonal contraception with normal menopause age. The results of statistical test analysis using chi square show	there is a relationship between the use of hormonal contraception and menopause age in Lalonggasumeeto District, Konawe Regency in 2019 at a 95% confidence level ( $\alpha = 0.05$ ).
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Menopause is the last uterine bleeding that is still regulated by the function of ovarian hormones. Hormones are chemical compounds carried by the blood to various parts of the body to perform certain functions. There is one group of hormones called hormones sex steroid hormones. Included in this group are the hormones estrogen, progesterone and androgen (testosterone). Female sex hormones produced in the ovaries and adrenal glands carry female characteristics, affect the body's biology, and also play an important role in puberty until menopause. At the beginning of menopause estrogen production will not stop suddenly. This is because there is damage to the ovaries, only the production is gradually decreasing (1)

Sari's research (2014) on 91 respondents, shows that most of the respondents have never used hormonal contraception as much as 52.75% and a small proportion of respondents have never used hormonal contraception. use hormonal contraception as much as 47.25%. While most of the respondents' menopause age is 51-55 years as much as 40.66% and a small proportion of respondents' menopause age is 46-50 years as much as 29.67%. These results were then tested with Chi Square statistical test with a level significance of 5% and degrees of freedom 2 obtained  $\chi^2$  count 8.306 and  $\chi^2$  table 5.591.  $\chi^2$  count >  $\chi^2$  table so that  $H_0$  is rejected and  $H_1$  is accepted. The conclusion of this study is that there is a relationship between the use of hormonal contraception and the

age of menopause. Women who use hormonal contraceptives will take longer or older to enter menopause, this is due to the way contraception works that suppress the work of the ovaries or ovaries (5). Any sex hormone can suppress the production of gonadotropins in the pituitary gland (especially those intended for contraception, namely follicle-stimulating hormone / FSH and luteinizing hormone / LH. This suppression of hormone production occurs when sex hormones produce negative feedback on the hypothalamus, which then inhibits the secretion of releasing factors. hypothalamus, which in turn suppresses FSH and LH (5).

Wahid in his research in 2016 also found that there was a relationship between the use of injectable contraception and the incidence of menopause in mothers at the Lau Maros Health Center. The test used was Fisher's exact test with a significance value (0.05), then the p value = 0.005 ( $p < 0.05$ ) which means that there is a relationship between the use of oral contraceptives and the incidence of menopause in mothers at the Lau Maros Public Health Center. The results showed that of the 35 respondents who were assessed on the use of injectable contraceptives, 8 were found. Mothers (23%) who use injectable contraception and all mothers who use contrast injection 5 or more than 5 years late to menopause. This condition can be influenced by hormones contained in injectable contraceptives that prevent the release of eggs released by women,

without the release of eggs a woman is not likely to get pregnant. In addition, with the use of depo provera, the endometrium becomes thinner with reduced glandular activity, with the hormone progestin slightly stimulating the onset of menstruation every month, so it can be seen that most respondents who use injectable contraceptives aged over 45 years are still menstruating, while from 27 mothers (77 %) who did not use injectable contraception found 10 mothers who went through menopause quickly with several complaints such as insomnia and fatigue. In addition to not using hormonal contraception as previously described, the incidence of rapid menopause is usually also influenced by workload and the number of children or the number of times a woman gives birth. From the results of the study, it was also found that complaints of mothers who use injectable contraception about erratic bleeding and irregular menstruation, where the intervals can be lengthened or shortened and this is one of the symptoms of menopause (6). The same thing was also found in the research of Mayang Isa et al. They found that respondents who did not use hormonal contraception mostly experienced early menopause, namely 10 respondents (17.2%), respondents who used hormonal contraception, most respondents experienced normal menopause, namely 24 respondents (41.4%). (7).

The age of menopause in women will cause a decrease in the number of primordial follicles that occurs continuously, until at the age of about 50 years, ovarian function becomes very decreased. Follicles that reach a critical number will cause disruption of the hormone regulation system which results in corpus luteum insufficiency, anovulatory menstrual cycles and ultimately oligomenorrhea and amenorrhea. At the age of menopause women will enter a climacteric period which causes decreased levels of the

hormones estrogen and progesterone, so that at that age women will feel climacteric symptoms. Most women begin to experience climacteric symptoms at the age of 40 years in the period premenopause and the peak is reached at the age of 50 years, namely menopause. This condition is in line with Wahyuni's research (2019) which also found a relationship between the use of hormonal contraception and menopause age in Lalonggasumeeto District, Konawe Regency. His research showed that most of the respondents had normal menopause age (age 40-58 years) as many as 33 people (63.5%). The age of menopause in women can occur at the age of 40-58 years but in certain circumstances it can occur earlier or later. Menopause is a normal life event which is marked by the physiological cessation of the last menstrual period which is associated with a woman's advanced age. Menopause is a natural process that must be accepted as a path of human life, carrying out activities such as exercise regular, consuming foods that contain lots of vitamins and calcium, reducing consumption of tea, fat, soda and alcohol, avoiding smoking, using foods that contain isoflavones such as soybeans, tofu, tempeh and soy sauce. Perform routine gynecological, laboratory (blood sugar and cholesterol) examinations, Pap smears and breast palpation (9).

## CONCLUSION

Hormonal contraceptives are associated with age at menopause. Suggestions for women premenopausal to have a healthy lifestyle and have regular the health checks posyandu or to health care facilities.

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