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# Nutrition and Contraception: The Most Influence Factors in Extending the Age of menopause

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**Abstract**. Menopause occurs in the range age of 45-50 years, but in reality, it can occur faster or slower. some factors that cause menopause is are nutritional status and contraception. The age of menopause in Indonesia also declined from 47 years to 45 years. The aim of this study is to find out what are the causes of menopause in women. This study uses a cross-sectional approach with five analysis variables. The sampling technique used in this study was accidental sampling with the criteria for samples of mothers who experienced menopause naturally, the total sample was 88 mothers. Independent variables used, namely work, parity, menarch, contraception, age, and nutrition. Variables of parity, contraception, age, and nutrition that show results are related to the age of menopause. (p-value 0,000 <0,05). The contraception, age, and nutrition variables showed that there was an influence between contraception, age and nutrition on the age of menopause, (p-value 0,000 <0,05). The menopause phase in a woman is indeed influenced by several factors and cannot only be influenced by one or two factors. However, the age factor is a factor that cannot be used to measure the incidence of menopause because indeed a woman's age certainly affects the incidence of menopause. The food needed in menopause is actually not too much. A healthy diet and proper consumption of nutrients will support a good quality of life.

**Keywords**: *nutrition, age, menopause*

## 1. Introduction

Menopause occurs in the age range of 45-50 years, but in reality, it can occur faster or slower. The age of menopausal women in the world from year to year has changed, from 51.3 years to 46.9 years [1]. The age of menopause in Indonesia has also decreased from 47 years to 45 years due to various factors. One of the factors causing menopause is nutritional status. The pattern of the food must also not be the same as when it was 30-40 years old because the nutritional needs are clearly different. Healthy eating and appropriate foods are supported for quality living in menopausal women. Caloric and nutrient requirements in postmenopausal women are recommended as needed, taking into account factors such as weight, height, age, and activity.

"Menopause" means the cessation of menstruation in a woman. Menopause can be interpreted as a period when the physiological menstrual cycle stops, this is related to the level of aging in a woman [2]. Menopause and getting old are the realities faced by women. Maybe for some women, it will hurt and become a kind of suffering. However, based on existing experience, whether women pass

menopause whether full of sufferers or not, it all depends on the feelings of women towards themselves [3].

Menopause is also interpreted as a period of natural cessation of menstruation, which usually occurs at the age of 45-50 years [1]. Menopause is the last uterine bleeding that is still regulated by ovarian hormone function. The diagnosis of menopause is made after there is at least one year of amenorrhea. If the menopause is approaching, the menstrual cycle becomes erratic or irregular. It is not unusual if menstruation does not occur for several months. At the age of 39 years, hormonal changes associated with pre-menopause begin to occur [1].

The main cause of manapaouse is a disruption or deterioration of the vascularization system to both ovaries. Most quit at the age of 49-52 years. Some complaints experienced by women during menopause include psychovasomotor such as anxiety, insomnia, night sweats, irritability, and muscle or joint pain [4]. In the urinary tract: frequent urination, pain during intercourse, and decreased libido. In advanced conditions osteoporosis, senility, and breast or uterine cancer can arise [1].

The results research [2], showed that the factors that influence the age of menopause are age of menarche and nutritional status. This study showed that the factors that influence menopause were menarche age, the number of children, the age of giving birth to the last child, users of contraception, smoking habits, and workload. As age increases, many processes of development and growth occur in women [3]. According to [4] one day development and growth will stop at a stage, so that next there will be a lot of changes in women's bodily functions both physically and psychologically, namely the aging process, changes in women due to the menu process called menopause. Whereas when viewed from the age of menopause between a woman and another woman it is not the same, depending on the factors that influence it.

From this description, it can be concluded that menopause is a period when the joints of the egg are exhausted, the ovaries. Start stopping estrogen production which results in menstruation not appearing again. This can also be interpreted as the cessation of a woman's fertility period. This will greatly affect the body both psychologically and physically. Stopping menstruation causes the female hormone or estrogen hormone to be produced by the body, which further reduces the amount of estrogen in a woman's body.

## 2. Methods

This study uses a cross-sectional approach with five analysis variables against women aged 45-55 years who are in Kelurahan Bangetayu. Data collection is done through interviews using a questionnaire at home. The sampling technique used in this research was accidental sampling with the samples criteria of mothers who experienced menopause naturally. The total sample was 88 menopausal women. Data analysis used was bivariate and multivariate.

## 3. Results

Table 1. The Results of The Job Relations Test with Menopause Age Showed that there is No Work Relationship with Significant Menopausal Events At 10% Alpha Or 0.1 And (P Value 0.426).

| WORK | Age of Menopause | | | | | | Number | |
|---|---|---|---|---|---|---|---|---|
| | <45 | % | 45-55 | % | >55 | % | Number | % |
| Work | 0 | 0.0% | 28 | 70.0% | 12 | 30.0% | 40 | 100.0% |
| Housewife | 2 | 4.2% | 32 | 66.7% | 14 | 29.2% | 48 | 100.0% |
| Number | 2 | 2.3% | 60 | 68.2% | 26 | 29.5% | 88 | 100.0% |

Table 1 shows that the relationship of work with menopause age is the most among women who do not work or as housewives as many as 32 respondents (66.7%) with menopause age of 45-55 years.

The results of this study are in line with Safitri's (2009) research stating that there is no relationship between occupational status and menopause [3]. In line with the results of Jeannette Barsky's research. et al (2016) that no significant correlation was found between the life cycle stages of menopause and the variables of fatigue, job involvement and hardiness [6].

Multiple regression analysis revealed that work status, year of birth and age of natural menopause can predict age at menopause [7]. So, it can be concluded that the workload greatly affects the speed at which a person experiences menopause because this is very related to psychological problems in dealing with work routines in the office and at home every day. There are so many factors that cause employees to stress in the company or in the organization, such as deadline time, other employee behavior, excessive workload and so on. However, each workload received by employees is of course different. This makes the effects of stress vary [8]. This is in line with the opinion of women who work will experience menopause faster than women who do not work. This affects the psychological development of a woman.

So, it can be concluded that the workload greatly affects the speed at which a person experiences menopause because this is very related to psychological problems in dealing with work routines in the office and at home every day. There are so many factors that cause employees to stress in the company or in the organization, such as deadline time, other employee behavior, excessive workload and so on. However, each workload received by employees is of course different. This makes the effects of stress vary. This is in line with the opinion of women who work will experience menopause faster than women who do not work. This affects the psychological development of a woman.

Table 2. Test Results of The Relationship between Parity and Menopause Age (P-Value 0.006). This Means That There Is No Relationship Between Parity And Age At Menopause.

| PARITY | AGE OF MENOPAUSE | | | | | | Number | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | <45 | % | 45-55 | % | >55 | % | Number | % |
| 1 | 1 | 25.0% | 3 | 75.0% | 0 | 0.0% | 4 | 100.0% |
| 2-3 | 1 | 1.4% | 46 | 63.9% | 25 | 34.7% | 72 | 100.0% |
| >=4 | 0 | 0.0% | 11 | 91.7% | 1 | 8.3% | 12 | 100.0% |
| Number | 2 | 2.3% | 60 | 68.2% | 26 | 29.5% | 88 | 100.0% |

Based on table 2, the relationship between parity with menopause age the majority of respondents have 2-3 parity as many as 46 respondents (63.9%) with menopause age 45-55 years

Previous research [10] stated that there was a significant relationship between the number of parity and age of menopause in Bandar Buat Village. Another research [12] resulted in that the majority of menopausal women studied were mostly in multiparas and the least in primiparas.

Table 3. The Test Results of the age of Menarche Relations with The Age of Menopause (P-Value 0.182). This Means That There Is No Relationship Between Menarche and The Age of Menopause.

| MENARCHIE | AGE OF MENOPAUSE | | | | | | Number | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | <45 | % | 45-55 | % | >55 | % | Number | % |
| 9-10 | 0 | 0.0% | 10 | 66.7% | 5 | 33.3% | 15 | 100.0% |
| 11-12 | 0 | 0.0% | 22 | 78.6% | 6 | 21.4% | 28 | 100.0% |
| 13-14 | 0 | 0.0% | 17 | 68.0% | 8 | 32.0% | 25 | 100.0% |
| 15-16 | 2 | 12.5% | 8 | 50.0% | 6 | 37.5% | 16 | 100.0% |
| >16 | 0 | 0.0% | 3 | 75.0% | 1 | 25.0% | 4 | 100.0% |
| Number | 2 | 2.3% | 60 | 68.2% | 26 | 29.5% | 88 | 100.0% |

Based on table 3, the relationship between age menarch and age of menopause is mostly menarch at the age of 11-12 years as many as 22 respondents (78.6%) with menopause age 45-55 years. It is in line with previous report [13] showing that results that there is no relationship between menarch and age of menopause.

Table 4. The Test Results of Relationship between Contraception and Age of Menopause (P-Value 0.041). This Means That There Is A Relationship Between Contraception and The Age of Menopause.

| CONTRA CEPTION | AGE OF MENOPAUSE | | | | | | Number | |
|---|---|---|---|---|---|---|---|---|
| | <45 | % | 45-55 | % | >55 | % | Num ber | % |
| Do not use | 1 | 7.7% | 10 | 76.9% | 2 | 15.4% | 13 | 100.0% |
| 1-month injection | 0 | 0.0% | 14 | 93.3% | 1 | 6.7% | 15 | 100.0% |
| 3-month injection | 0 | 0.0% | 22 | 59.5% | 15 | 40.5% | 37 | 100.0% |
| PILL | 0 | 0.0% | 6 | 66.7% | 3 | 33.3% | 9 | 100.0% |
| Implants | 1 | 12.5% | 2 | 25.0% | 5 | 62.5% | 8 | 100.0% |
| IUD | 0 | 0.0% | 4 | 100.0% | 0 | 0.0% | 4 | 100.0% |
| STERILE | 0 | 0.0% | 2 | 100.0% | 0 | 0.0% | 2 | 100.0% |
| Number | 2 | 2.3% | 60 | 68.2% | 26 | 29.5% | 88 | 100.0% |

Table 4 shows that the contraceptive relationship with the age of menopause most uses hormonal contraception (three-month injection KB), that is as many as 22 respondents with menopause age 45-55 years (29.5%).

In line with the results of [15] stated that there was no relationship between the duration of contraceptive pill use for the age of menopause. [17] who stated that there was a relationship between the history of progestin contraceptive use and the age of menopause in the second floor of the village of Kebonsari in the district of Sidoarjo temple. Research [18] stated that there was a relationship between the type of hormonal contraception and the age of menopause.

Table 5. The Test Results of The Relationship between Age and Menopause Age were Significant at 5% Alpha Or 0.05 And (P-Value 0.000), Meaning That There Was A Relationship Between Age And Menopause Age.

| Age of woman | AGE OF MENOPAUSE | | | | | | Number | |
|---|---|---|---|---|---|---|---|---|
| | <45 | % | 45-55 | % | >55 | % | Number | % |
| < 45 | 2 | 2.3% | 0 | 0.0% | 0 | 0.0% | 2 | 2.3% |
| 45-55 | 0 | 0.0% | 60 | 68.2% | 0 | 0.0% | 60 | 68.2% |
| < 55 | 0 | 0.0% | 0 | 0.0% | 26 | 29.5% | 26 | 29.5% |
| Number | 2 | 2.3% | 60 | 68.2 | 26 | 29.5% | 88 | 100.0% |

Table 5 demonstrated that the relationship between the age of mothers with menopause is the most in women aged 45-55 years experiencing menopause at ages 45-55 years as many as 60 women (68.2%).

This research is in line with several studies namely mujahidah amrinarosyada, et al., Showed that there was a significant relationship between the number of children with menopause. In line with the

results of Pradana's research stating that the results of the two-way analysis of Pearson Correlation, it was concluded that there was a relationship between the number of parity and the age of menopause. Agree also with the opinion of [26] which says that the more often a woman gives birth, the older or longer the woman enters menopause.

This is because pregnancy and childbirth will slow down the working system of the female reproductive organs and can also slow down the body's aging. In contrast to the research conducted by [27] which states that there is no relationship between parity and the incidence of menopause in the elderly posyandu at the Ambon City Rijali health center. The results of the research of [28] resulted in the majority of postmenopausal women being studied at the age of 45-55 years and the least at age 61-65 years.

Table 6. Test Results of The Relationship Between Nutrition And Age Of Menopause (P-Value 0.000). Means That There Is A Relationship Between Nutrition And The Age Of Menopause.

| NUTRITI ON (IMT) | AGE OF MENOPAUSE | | | | | | Number | |
|---|---|---|---|---|---|---|---|---|
| | <45 | % | 45-55 | % | >55 | % | Number | % |
| Normal | 1 | 2.7% | 23 | 62.2% | 13 | 35.1% | 37 | 100.0% |
| Obesity | 1 | 2.0% | 37 | 72.5% | 13 | 25.5% | 51 | 100.0% |
| Number | 2 | 2.3% | 60 | 68.2% | 26 | 29.5% | 88 | 100.0% |

According to Table 6, the relationship between nutrition and age of menopause is mostly found in women with IMT in the fat category as many as 37 respondents (72.5%) experienced menopause at the age of 45-55 years.

The results of this study are in line with [29] showing the results that there is a relationship between nutritional status and physical changes during menopause. Researchers at the University of Leeds in the UK in the Journal of Epidemiology and Community Health in the article on health care [30] concluded that consumption of certain food groups can affect the age of menopause. The researchers surveyed more than 14,150 British women aged between 35 and 69 years. Of the group, around 900 women showed that high healthy food intake - especially oily fish and fresh peas, such as peas and green beans, had a delay of almost three years.

[30], a postdoctoral researcher also at the School of Food Science and Nutrition said that some women who consume food (oily fish, fresh legumes, fine pasta, and rice) and certain nutrients individually predict age at natural menopause.

Table 7 Multivariate Regression Analysis Results

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .867[a] | 753 | .734 | .25602 | .753 | 41.052 | 6 | 81 | .000 | 1.770 |

a. Predictors: (Constant), Age, Contraception, Parity, Menarchie, Jobb, Nutrition.
b. Dependent Variable: Age Menopause

Simultaneous Test (F Test) was conducted to determine the accuracy of the multiple regression model. The results (Table 7) showed that p-value 0,000 <0,5 is significant. Together, work, parity, menarchie, contraception, maternal age, and nutrition affect the age of menopause. Adjusting R-Squared Value 0.734 = Employment, parity, menarchie, contraception, maternal age, nutrition and age

of menopause affect 73.4% of menopausal age, the remaining 26.6% is influenced by other variables not tested.

Table 8. Influence Analysis Results

**Coefficients<sup>a</sup>**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | -3.592 | .494 | | -7.266 | .000 | | | | | |
| | WORK | -.003 | .057 | -.003 | -.059 | .953 | -.050 | -.007 | -.003 | .913 | 1.096 |
| | PARITY | .046 | .047 | .057 | .982 | .329 | -.038 | .109 | .054 | .922 | 1.084 |
| | AGE OF MENARCHIE | -.006 | .016 | -.022 | -.393 | .695 | -.058 | -.044 | -.022 | .976 | 1.024 |
| | CONTRACEPTION | .044 | .019 | .125 | 2.257 | .027 | .112 | .243 | .125 | .990 | 1.010 |
| | AGE | .106 | .007 | .840 | 14.745 | .000 | .850 | .854 | .815 | .940 | 1.063 |
| | NUTRITION | .180 | .108 | .099 | 1.675 | .098 | .247 | .183 | .093 | .879 | 1.138 |

a. Dependent Variable: Age_Menopause

Results of Analysis of the influence (Table 8) showed that contraception, age, and nutrition affected the age value of menopause p = 0,000 <0,05.

In line with the results of research by [5] showed that multivariate results obtained only six independent variables that were significantly related, namely the variables of smoking habits, income, exercise, number of children, marital status, and menarche, related to the age of menopause. Variables that are not related to the age of menopause are education, the age of giving birth to the last child, contraception, and workload.

## 4. Conclusion

Menopause in a woman is indeed influenced by not only one or two factors, but several ones. Nutritional factors are very reasonable why a woman who has good nutrition will be able to help improve menopause.

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