

RELATIONSHIP OF NUMBER OF CHILDREN WITH EARLY MENOPAUSE

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ABSTRACT

Background: Menopause was the time of life when menstrual cycles cease and are caused by reduced secretion of the ovarian hormones estrogen and progesterone. the proportion of women aged menopause increases with increasing age. This study aimed to find the relationship between employment status, age at first delivery, number of children and smoking status to the incidence of early menopause in women aged 30 to 40 years.

Subjects and Method: This was a cross sectional study conducted from secondary data Indonesian Health Data Survey (IDHS), 2017. The inclusion criteria were female respondents 30-40 years old with who are married and use contraceptives. The dependent variable was early menopause. The independent variables were employment status, age at first delivery, number of children and smoking status. The data were analyzed by chi-square and logistic regression.

Results: This study found that women aged 30-40 years who had menopause were 10.3%. From the multivariate results, it was found that women who had more than 2 children had a 1.4 times greater risk of early menopause (OR= 1.43, 95% CI= 1.43 to 1.26). Women who have jobs have a 0.5 times greater risk of premature menopause than women who do not work (OR= 0.55, 95% CI= 0.49 to 0.61). The most dominant variable related to the incidence of menopause is the number of children.

Conclusion: The family planning program needs to be increased in order to provide counseling on long-term family planning and how to plan to have children and prepare for menopause.

Keywords: early menopause, number of children, childbirth age, smoking

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BACKGROUND

According to the Data and Health Survey of Indonesia (SDKI) that women are called to have menopause if they are not pregnant, not in the period of a nephew or postpartum amenorrhea, and do not menstruate for 6 months or more before the survey, or who claim to have stopped menstruating, or have had a uterine lift surgery (hysterectomy), or never menstruate. From SDKI results in 2017, it was found that women aged 30-34 years who experienced early menopause were 9.7%. While at the age of 35-40 years who experienced early menopause by 11%. Menopause is a natural part of ageing that

usually occurs between 45 - 55 years, as women's estrogen levels decrease. This period is very complex for women because it is related to their physical and psychological state. According to SDKI, until now Indonesian women entering menopause as much as 16.1% in 2017. According to SDKI, until now Indonesian women entering menopause as much as 16.1% in 2017 (BPS, 2018).

Women who experienced early menopause in the city of Medan in 2018 were 4.9%. Has a history of age menarche 14-16 years, multipara, studying until elementary education, not working / as a

housewife, and has no history of chronic diseases. And it can also be concluded from this study that 1 in 20 women in the city of Medan experienced early menopause, namely menopause that occurs at the age of under 40 years (Natama, 2018).

Several factors influence the menopause age in women, namely the age of the first menstruation (menarche), the number of children, the age of giving birth to the last child, the use of hormonal contraceptives (oral), smoking, and history of disease, employment status, income, and alcohol consumption. According to Fitria, menopause has a relationship with menarche. Menarche relationship with the incidence of menopause, if the earlier menarche occurs then, the earlier the process of ovum production so that the supply of ovum in the body will quickly decrease and if the ovum in the body is no longer available it will cause the occurrence of menopause because it does not happen again ovulation process (Fitria, 2019). According to Astikari in his research, the main factors that can accelerate the arrival of climax include genetic factors (heredity), nulliparity, the influence of radiation, medical measures such as oophorectomy, as well as the consumption of cigarettes, and alcohol. While the main factors that slow down include multiparity, and long lactation (Astikasari and Tuszahroh, 2019).

In the study, Ade revealed the factors that influence early menopause are pregnancy and childbirth. This is because pregnancy and childbirth will slow down the working system of the female reproductive organs and can also slow down the ageing of the body because during pregnancy there is no ovulation process, so the eggs are still available and cause the duration of menopause (Ginting et al., 2017). Rosyada's research that greatly affects menopausal

women early is the number of children who have already been born. This is because pregnancy and childbirth will slow down the working system of the female reproductive organs and can also slow down the ageing of the body (Rosyada et al., 2016).

The number of children using hormonal birth control has a meaningful relationship with the incidence of menopause. The use of birth control containing hormones is thought to have a major influence on the menopause age of the mother, where mothers who use hormonal birth control tend to be slower menopause due to hormonal supply from birth control. From fitriyani (2013) stated that taking contraceptives (pills) has no association with the incidence of menopause this is likely due to the hormones estrogen and synthetic progesterone inhibiting ovulation (Fitriyani & Djuwita, 2013). Despite being in a small population, early menopause is one of the most serious problems and should be considered for its development. Menopause can cause short-term manifestations, such as symptoms of heat in the face and neck, premature sexual dysfunction, vaginal dryness, and can also result in some serious diseases, such as cardiovascular disease, osteoporosis, vaginal atrophy, and also the risk of Arthritis (W, Nancy, Hall, M.S., 2007).

SDKI data is one of the surveys that if reviewed from data attributes and data, peculiarities can be used for research related to reproductive health. SDKI 2017 is the result of a recently published survey. Therefore, researchers want to conduct further research by analyzing SDKI data in 2017 related to early menopause in women aged 30-40 years in Indonesia based on SDKI 2017 data.

SUBJECTS AND METHOD

1. Study Design

This study used a cross sectional approach. This study was conducted from secondary data Indonesian health data survey (IDHS), 2017.

2. Population and Sample

The SDKI 2017 sample framework uses the Census Block Sample Master from the 2010 Population Census (SP2010). The population in this study was all women in Indonesia with the age of 30-40 years with a total population of 14,908. The inclusion criteria in this study are women aged 30-40 years and who are married and wearing contraceptives. So that obtained a total sample of 14,144 respondents.

3. Study Variables

Dependent variables are early menopause. In this study v ariabelindependent used is employment status, first time birth age, number of children and smoking status.

4. Study Instruments

This study used SDKI 2017 questionnaire used to collect menopause data in Indonesia.

5. Data Analysis

The data were analyzed by chi-square and logistic regression.

RESULTS

From table 1 above, it is known that the frequency distribution of women aged 30-40 years who have gone through menopause is 10.3% from the age group, who had gone through menopause at the age of over 30 years as many as 8,202 people (58%) and respondents who experienced menopause under the age of 30 years as many as 5,942 people (42%). Employment status is known that most respondents worked as many as 5,961 people (42.1%) 8,183 people (57.9%).

According to the characteristics of having the number of children who have been born, shows that the majority of respondents who have given birth to children are less or equal to 2 children as many as 9,657 people (68.3%) children with more than two children were 4,487 people (31.7%).

Frequency distribution from the first age of birth most of the first-time birth respondents at the age of fewer than 20 years as many as 7,587 people (53.6%) while first-time birthers over the age of 20 years amounted to 6,557 people (46.4%). And the distribution of smoking frequency, respondents who did not smoke by 13,888 people (98.2%) and who smoked 256 people (1.8%).

Table 2 above can be seen that the employment status of respondents is mostly not working that has menopause that is 824 people (13.8%) and respondents had a menopause job of 627 people (7.7%). In variables have the number of children, respondents who have given birth less or equal to 2, namely 928 people (9.6%) and some have more than 2 children, namely 523 people (11.7%). At the first time of birth, at the age of more than 20 years for the first time gave birth by 733 (11.2%) already menopause and first-time respondents who gave birth at the age of less than or equal to 20 years had menopause of 718 people (9.5%). Variable smoking, menopause respondent in non-smoking respondents amounted to 1428 people (10.3%) and who smoked 23 people (9%). After the Chi-Square statistical test, the employment status variable obtained a value of $P = 0.0005$ ($P < 0.05$), the first-time birth age obtained $P = 0.001$ ($P < 0.05$), and the child's Total variable obtained a value of $P = 0.0005$, ($P > 0.05$).

Table 1. Distribution of Sample Frequency by Occupation, Number of Children and Age of First Time Giving Birth in Women Age 30 – 40.

Variabel	Frekuensi (n)	Presentase (%)
Menopause		
No Menopause	12693	89.7
Menopause	1451	10.3
Menopause Age		
< 30 years old	5942	42
>30 years old	8202	58
Job		
Not working	5961	42.1
Work	8183	57.9
Number of Children		
< 2 children	9657	68.3
> 2 children	4487	31.7
Age of Childbirth		
< 20 years old	7587	53.6
> 20 years old	6557	46.4
Smoking		
No Smoking	13888	98.2
Smoking	256	1.8

Table 2 Relationship between Work, Number of Children, and First Age of Childbirth with Early Menopause in Women Aged 30-40 years.

Variable	Incidence of Menopause				Total		OR	CI95%	Q
	No Menopause		Menopause						
	N	%	N	%	N	%			
Job									
Not Working	5137	86.2	824	13.8	5961	100	0.52	0.46-0.58	0.0005
Work	7556	92.3	627	7.7	8183	100			
Number of Children									
< 2 children	8729	90.4	928	9.6	12693	100	1.24	1.11-1.39	0.0005
> 2 children	3964	88.3	523	11.7	1451	100			
First Time Giving Birth									
> 20 years old	6869	90.5	718	9,5	7587	100	1.20	1.08-1.34	0.001
< 20 years old	5824	88,8	733	11,2	6557	100			
Smoking									
No Smoking	12460	89.7	1428	10.3	13888	100	0.86	0.56-1.33	0.596
Smoking	233	91	23	9	256	100			

It can be concluded that there is a meaningful relationship between employment status, first-time birth age, and the number of children with menopause at WUS in Indonesia in 2017. While in the smoking variable obtained $P = 0.596$, ($P > 0.05$) so it can be concluded that statistically there is no meaningful relationship between smoking and the incidence of menopause in women aged 30-40 years in Indonesia in 2017.

The results of a multivariate analysis using logistic regression found that variables related to menopause are variables of work status and several children. The result of analysis obtained Odds Ratio (OR) of the number of children is 1.426 (95% CI: 1.26-1.61), meaning women aged 30-40 years who have children less than 2 will be more at risk of menopause earlier than women aged 30-40 years who have children more than 2 after controlled variable employment status.

Table 3. Multivariate Analysis

Variable	OR	95%CI	p
Job	0.547	0.49 to 0.61	0.0005
Number of Children	1.426	1.26 to 1.61	0.0005

DISCUSSION

1. Menopause

From table 1 above, it is known that the frequency distribution of women aged 30-40 years who have gone through menopause is 10.3%. In connection with the occurrence of early menopause is usually followed by a variety of changes that include physical and psychological aspects that can affect various aspects of the woman's life. In the results of this study, it is known that the number of women aged 30-40 years who are married and using contraceptives experienced early menopause by 10.3% or as many respondents.

Menopause occurs if the nutrients needed are sufficient, this is because most of the estrogen is made in the ovaries, but a small part is made in the cells of the body. According to Lelly, one of the factors affecting menopausal age is the use of hormonal contraceptives containing the hormones estrogen and progesterone which works to suppress the function of the ovaries or ovaries so as not to produce eggs (Vidayati, 2018).

2. Work

Employment status is known that most respondents worked as many as 5,961 people (42.1%) 8,183 people (57.9%). Chi-Square test results, respondents who did not work a greater proportion compared to those who worked by 13.8 %. Relationship of employment status with early menopause level obtained p-value = 0.0005. Based on the test criteria, it was concluded that there is a significant relationship between employment status and early menopause. That the hard work done by the mother daily causes, the woman's fitness condition is better than that of women who do not have certain activities so that the menopause age becomes slower.

This is in line with Imarina's research which states that work is related to menopausal events. This socioeconomic condition will affect physical, health and educational factors in a person, if these factors are good enough, it will be able to reduce physiological and psychological burdens (Tarigan et al., 2019).

3. Number of Children

According to the characteristics of having the number of children who have been born, shows that the majority of respondents who have given birth to children are less or equal to 2 children as many as 9,657 people (68.3%) children with more than two children were 4,487 people (31.7%). Variables have the number of children more than two have a large number of 11.7%. Chi-Square test results of the number of children with early menopause levels obtained $p\text{-value} = 0.0005$. Based on the test criteria, it was concluded that there is a significant relationship between the number of children with early menopause. In the results of this study concluded that the more often a woman gives birth, then 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 ageing of the body. This is in line with Satriana and Ninyng in their research that the number of children has a significant relationship with menopause (Nurdianti et al., 2018).

Marlina's research results the average number of children born to a woman is shown to affect menopausal symptoms. High parity is said to delay menopausal symptoms. On the other hand, a small amount of parity or nulliparity has been associated with a faster onset of menopause (Marlina & Rahayu, 2019). According to Tamba's research, which explains that the amount of ovarian reserve or anti-mullerian hormone levels in adulthood is high. Women with high parity, have a lower cumulative number of menstrual cycles compared to women who do not have children.

Thus, it can affect the amount of more oocyte reserves and longer exposure to

estrogen hormones so that women who have a lot of parity are likely to go through menopause at a slower age (Tamba, 2019).

4. Birthing Age

Frequency distribution from the first age of birth most of the first-time birth respondents at the age of fewer than 20 years as many as 7,587 people (53.6%) while first-time birthers over the age of 20 years amounted to 6,557 people (46.4%). First-time participants who gave birth to 11.2% who had gone through menopause under the age of 20. Chi-Square test results of the first-time age partnership giving birth with $p\text{-value} = 0.001$ obtained early menopause rate. It was concluded, based on the test criteria, that there is an important association between first birth age and menopause. The age of childbirth and the history of reproduction is thought to be related to the menopause age. The older a child gives birth, the older it begins to enter the menopause age.

In line with Endang's research (2017) that the age of women experiencing pregnancy and birth is best, that is, the lowest risk for mother and child is between 20-35 years. Therefore, for women who marry before the age of 20, it is best to delay pregnancy until it is sufficient and completely ready to become a mother psychologically. This happens because pregnancy and childbirth will slow down the working system of the reproductive organs will even slow down the ageing process of the body (Setyowati, 2017).

5. Smoking

The distribution of smoking frequency, respondents who did not smoke by 13,888 people (98.2%) and who smoked 256 people (1.8%). Chi-Square test results of variable smoking with menopause rate obtained $p\text{-value} = 0.596$. Based on the test criteria, it was concluded that there is no significant

relationship between smoking and menopause. Lifestyle factors such as smoking have been observed to be related to menopause time. Smoking can have an impact on ovarian ageing and follicle reserves by affecting gonadotropin and sex hormones and may also have toxic effects on ovarian cells.

This is also in line with Aprilia's research which states that smoking does not have a significant relationship to the incidence of menopause. It is most likely that the number of samples taken is limited. And also smoking in the number of cigarettes spent each day, and the duration of smoking (Sari & Istighosah, 2019). However, this is not in line with rizki's research that a person's lifestyle can affect hormone levels in the body. One of them is smoking, and he thinks smoking influences early menopause (Ananda, 2016).

Based on the results and discussion, conclusions can be drawn. Respondents aged 30-40 who had menopause were 10.3% and most experienced menopause in the 30-40-year age range (58%) compared to the age range under 30 years. Respondents who worked as many as 13.8% who had early menopause and variable jobs had a meaningful relationship with the incidence of early menopause. Respondents who had more than 2 children as many as 11.7% who had early menopause and variable the number of children had a meaningful relationship with the incidence of early menopause.

Respondents who gave birth for the first time in less than 20 years were 11.2% who had early menopause. The variable age of first calving has a meaningful relationship with early menopause. Respondents who did not smoke as much as 10.3% who had early menopause and smoked had no relationship to the incidence of early

menopause. The most dominant factor in the incidence of early menopause in women aged 30-40 years is the number of children. The presence of therapy and education by health workers on the use of contraception needs to be strengthened and tailored to women's circumstances and needs.

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