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## Menopausal Symptoms in Women Aged 40-65 Years in Indonesia

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**Abstract**---This study aims to determine the prevalence of menopausal symptoms and the factors that influence it in women aged 40-65 years in Denpasar, Indonesia. The research design used is a cross-sectional study conducted on 318 women aged 40-65 years who live in the area of community health centre in Denpasar City, Indonesia. The Stages of Reproductive Aging Workshop (STRAW+10) was used to classify pre, peri and post menopause. The instrument used is a self-designed instrument to determine the respondent's characteristics such as age, number of children, age at menarche, occupation, marital status, education, exercise habits, coffee drinking habits and history of hypertension and diabetes mellitus. know menopausal symptoms. Logistic regression was used to determine risk factors for severe menopausal symptoms. The most common symptoms felt by the respondents in this study were joint and muscle discomfort (52.8%) and sleep problems (51.8%). Only 32.1% of women experienced hot flushes and night sweats symptoms of moderate and severe severity. Age at menarche, history of chronic diseases such as hypertension and diabetes mellitus are risk factors for severe menopausal symptoms. Most women when entering menopause complain of more than one menopause symptom, both somatic, psychological and urogenital symptoms. The severity of each menopausal symptom varies and severe menopausal symptoms are influenced by several factors. It is very important for health workers to provide care for women who are entering the menopausal transition period in order to improve women's quality of life.

**Keywords**---both somatic, menopausal symptoms, menopause, MRS, psychological, urogenital symptoms

### Introduction

Menopause is a transitional phase in a woman's life marked by decreased secretion of reproductive hormones and the cessation of reproductive ability. The menopausal transition is a challenging part of the aging process in women, various physiological and emotional changes occur during the menopausal transition and also after menopause. In this process, hormonal changes felt by women induce symptoms that have an impact on decreasing the quality of life for most women (Pimenta et al., 2012). The decrease in the hormone estrogen during menopause causes health problems such as an increased incidence of coronary heart disease, bone fractures (osteoporosis), dementia, stroke and the emergence of vasomotor symptoms and genitourinary tract (Freeman, 2007; Moreau et al., 2012).

The average age of women entering menopause varies. Age entering menopause is influenced by sociodemography, race, ethnicity and culture (Gharaibeh et al., 2010). In Indonesia alone, the average age of women entering menopause is 50 years with a life expectancy of 70 years, it is estimated that 50 million women in Indonesia will be in menopause and side by side with health problems that accompany it (Yohanis, 2013). Various studies have been conducted regarding menopause, the prevalence of menopausal symptoms, the severity of symptoms varies depending on the geographic context, socio-economic and cultural circumstances in which women live (Brown et al., 2009; Freeman & Sherif, 2007; Melby et al., 2007; Melby et al., 2005; Palacios et al., 2010). Therefore, health workers from various countries with different ethnicities and cultural cultures need additional information about

menopause so that they can develop better health plans to deal with health problems experienced by women when entering the menopause transition period and also after menopause (Metintas et al., 2010).

Menopause symptoms appear as you enter the menopause transition period and after menopause because of a decrease in the hormone estrogen. Symptoms that appear are vasomotor symptoms, namely hot flushes (a feeling of heat that radiates to the chest), night sweats (night sweats), chest palpitations, and difficulty sleeping. In addition, you will feel symptoms of genitourism such as dryness in the genital area, difficulty holding urination and discomfort during sexual intercourse. No less important that is often felt by menopausal women is the emergence of psychogenic symptoms (Gharaibeh et al., 2010). Many factors affect menopause symptoms such as geographic conditions, socioeconomic conditions and the culture in which postmenopausal women live (Melby et al., 2005; Palacios et al., 2010). In addition, differences in lifestyle also affect menopausal symptoms (Gold et al., 2000).

Especially women in developing countries such as Indonesia, have a central role in caring for their families so that their own health is often neglected (McMaster et al., 1998). Health workers generally have a poor understanding of the symptoms of menopause and often do not educate women about the transition period. menopause and symptoms experienced (Mahadeen et al., 2008). Menopause symptoms have a substantial effect on a woman's quality of life so that awareness of menopause symptoms that arise and good coping can help overcome the negative impacts caused. Many studies have been conducted regarding menopausal symptoms, but information on menopausal symptoms, especially in Indonesia, has not been widely studied. Meanwhile, health workers need information related to menopause symptoms to provide health services to postmenopausal women in Indonesia. The success of this study can provide information related to menopause symptoms, especially women in Indonesia. The results of this research can later be used for the development of health management to overcome menopausal symptoms in order to improve the quality of life of menopausal women. The purpose of this study was to determine the prevalence of menopause symptoms and the factors that influence it (Eden, 2012; Al-Safi & Santoro, 2014).

## Method

This research is research with cross sectional design. The sample in this study amounted to 392 women aged 40-65 years in the working area of the puskesmas in Denpasar City, Bali, Indonesia. The Stages of Reproductive Aging Workshop (STRAW+10) Harlow et al. (2012), was used to identify premenopause, perimenopause and postmenopause. The instruments used in this study included demographic characteristics (age, number of children, age at menarche, occupation, occupation, education, marital status, exercise habits, coffee drinking habits, body mass index and history of hypertension and diabetes mellitus). Menopausal symptoms were measured using the Menopause Rating Scale (MRS) questionnaire. Data were analyzed using the SPSS program and were statistically significant at p value <0.05 for all analyses. This research has received ethical approval from the Research Ethics Commission of Institute of Technology and Health Bali (Nappi & Lachowsky, 2009; Al-Azzawi & Palacios, 2009).

## Result

Table 1  
Characteristics demographics

Characteristics	n (%) / Mean $\pm$ SD
Age	51.81 $\pm$ 6.34
Number of children	2.97 $\pm$ 1.07
Age of menarche	13.37 $\pm$ 1.58
Profession	
Working	154 (48.4)
IRT	164 (51.6)
Marital status	
Marry	290 (91.2)
Not married/divorced	28 (8.8)
Education	
No school	25 (7.9)
Primary school	67 (21.1)
Junior high school	40 (12.6)
Senior High School	104 (32.7)

College	82 (25.8)
Sports habits	
Yes	249 (78.3)
No	69 (21.7)
Habit of drinking coffee	
Yes	217 (68.2)
No	101 (31.8)
Diabetes mellitus	
Yes	12 (3.8)
No	306 (96.2)
Hypertension	
Yes	73 (23.0)
No	245 (77.0)
BMI	
Normal	219 (68.9)
Not normal	99 (31.1)
Menopausal status	
Pre menopause	92 (28.9)
Menopausal Fairly	106 (33.3)
Post menopause	120 (37.7)

A total of 318 women aged 40-65 years participated in this study. The average age of women in this study was 51.81 6.34 years with an average number of children 2.97 1.07 and an average age at menarche of 13.37 1.58 years. Most of the women in the study were 164 (51.6%) housewives and 290 (91.2%). Only a small proportion of 25 (7.9%) women in this study did not attend school, most of which had their last education at senior high school 104 (32.7%) and college 82 (25.8%). Judging from their lifestyle, most of the women in this study had 249 (78.3%) exercise habits and 217 (68.2%) coffee drinking habits. The health status of the respondents in this study mostly had no history of diabetes mellitus 306 (96.2%), did not have a history of hypertension 245 (77.0) and had a normal body mass index of 219 (68.9%). When viewed from the menopausal status, 120 (37.7%) were postmenopausal, 106 (33.3%) were perimenopausal and 92 (28.9%) were premenopausal (Deeks, 2003; Süß & Ehlert, 2020).

Table 2  
Distribution of menopausal symptoms in postmenopausal women

Symptoms	No/little		Mild		Moderate		Severe	
	n	%	n	%	n	%	n	%
Hot flushes, sweating	88	27.7	128	40.3	62	19.5	40	12.6
Heart discomfort	78	24.5	118	37.1	92	28.9	30	9.4
Sleep problems	51	16.0	102	32.1	127	39.9	38	11.9
Depressive mood	77	24.2	123	38.7	79	24.8	39	12.3
Irritability	91	28.6	97	30.5	77	24.2	53	16.7
Anxiety	96	30.2	105	33.0	81	25.5	36	11.3
Physical and mental exhaustion	43	13.5	111	34.9	103	32.4	61	19.2
Sexual problems	81	25.5	114	35.8	95	29.9	28	8.8
Bladder problems	72	22.6	126	39.6	82	25.8	38	11.9
Dryness of vagina	96	30.2	115	36.2	77	24.2	30	9.4
Joint and muscle discomfort	44	13.8	106	33.3	114	35.8	54	17.0

Table 2 shows the prevalence of each menopausal symptom. The prevalence of each symptom is in the range of 8.8% - 40.3%. The most commonly reported severe and moderate symptoms were joint and muscle discomfort (52.8%) and sleep problems (51.8%). Only 32.1% of respondents reported hot flushes and sweating symptoms in this study (Heinemann et al., 2004). Most respondents reported mild symptoms for all menopausal symptoms compared to moderate and severe (Krieger et al., 1996; Pastore et al., 2004).

Table 3  
Prevalence of severe menopausal symptoms based on menopausal status

Symptoms	Total (n=318) (%)	Premenopause (n=92) (%)	Perimenopause (n=106) (%)	Postmenopause (n=120) (%)
Hot flushes, sweating	6.6	22.8	34.0	37.5
Heart discomfort	38.4	18.5	37.7	54.2
Sleep problems	51.9	33.7	51.9	65.8
Depressive mood	37.1	28.3	36.8	44.2
Irritability	40.9	43.5	38.7	40.8
Anxiety	36.8	31.5	37.7	40.0
Physical and mental exhaustion	51.6	30.4	50.0	69.2
Sexual problems	38.7	18.5	43.4	50.0
Bladder problems	37.3	16.3	37.7	54.2
Dryness of vagina	33.6	17.4	33.0	46.7
Joint and muscle discomfort	52.8	35.9	52.8	47.0

Postmenopausal women reported the highest prevalence of somatic and urogenital symptoms, whereas perimenopausal women reported the highest prevalence of psychological and somatic symptoms. Premenopause reports a low prevalence of most of the symptoms.

Table 4  
The relationship between respondent characteristics and total menopausal symptoms

Variable	Total n=318  n(%)	No Symptoms (MRS ≤16) n=207 n(%)	Severe Symptoms total (MRS total>16) n=111 n(%)	$\chi^2$	p value
Age (years old)				12.2	<0.001
40-51	170 (53.5)	126 (74.1)	44 (25.9)		
52-65	148(46.5)	81 (54.7)	67 (45.3)		
Number of children				3.8	0.05
0-2	110 (34.6)	80 (72.7)	30 (27.3)		
≥3	208 (65.4)	127 (61.1)	81 (38.9)		
Age of menarche (years old)				8.8	0.003
10-13	197 (61.9)	141 (71.6)	56 (28.4)		
14-19	121 (38.1)	66 (54.5)	55 (45.5)		
Profession				8.3	0.004
Working	154 (48.4)	113 (73.4)	41 (26.6)		
Housewife	164 (51.5)	94 (57.3)	70 (42.7)		
Marital status				2.1	0.71
Marry	25 (7.9)	14 (56.0)	11 (44.0)		
Not married/divorced	67 (21.1)	42 (62.7)	25 (37.3)		
Education					
No school	40 (12.6)	29 (72.5)	11 (27.5)		
Primary school	104 (32.7)	69 (66.3)	35 (33.7)		
Junior high school	82 (25.8)	53 (64.6)	29 (35.4)		
Senior High School	290 (91.2)	194 (66.9)	96 (33.1)	3.8	0.05
College	28 (8.8)	13 (46.4)	15 (53.6)		
Sports habits				0.0	1.00
Yes	249 (78.3)	162 (65.1)	87 (34.9)		
No	69 (21.7)	45 (65.2)	24 (34.8)		

Habit of drinking coffee				0.4	0.48
Yes	217 (56.8)	138 (63.6)	79 (36.4)		
No	101 (31.8)	69 (68.3)	32 (31.7)		
Diabetes mellitus				15.1	<0.001
Yes	12 (3.8)	1 (8.3)	11 (91.7)		
No	306 (96.2)	206 (67.3)	100 (32.7)		
Hypertension				28.3	<0.001
Yes	73 (23.0)	28 (38.4)	45 (61.6)		
No	245 (77.0)	179 (73.1)	66 (26.9)		
BMI				0.5	0.45
Normal	219 (68.9)	146 (66.7)	73 (33.3)		
Not normal	99 (31.1)	61 (61.6)	38 (38.4)		

The univariate analysis (table 4) showed that severe menopause symptoms were related to age ( $p<0.001$ ), age at menarche ( $p=0.003$ ), occupation ( $p=0.004$ ), history of diabetes mellitus ( $p<0.001$ ) and hypertension ( $p<0.001$ ).

Table 5  
Factors that affect menopausal symptoms

Variable	Menopausal symptoms (MRS total>16) OR (95%CI)	p value
Umur (years old)	1.73 (0.92-3.25)	0.087
52-65 /40-51		
Number of Children	1.14 (0.63-2.05)	0.657
≥3/0-2		
Age of menarche (years old)	2.03 (1.19-3.45)	0.009
14-19 /10-13		
Profession	1.58 (0.88-2.83)	0.120
Working / Housewife		
Education		
Primary school/ Not school	1.28 (0.41-4.02)	0.667
Junior High school/ Not school	1.57 (0.44-5.60)	0.481
Senior High School/ Not school	2.14(0.66-6.97)	0.203
College / Not	2.38 (0.71-7.90)	0.156
Marital Status		
Marry/ Not	0.60 (0.23-1.58)	0.307
Sports Habits		
Not/ Yes	0.96(0.48-1.92)	0.911
Habit of drinking coffee		
Yes/Not	1.09 (0.62-1.92)	0.764
Diabetes Mellitus		
Yes/Not	0.65 (0.08-0.56)	0.013
Hypertension		
Yes/Not	0.29 (0.15-0.54)	<0.001
BMI		
Tidak normal <sup>a</sup> / Normal	0.88(0.50-1.56)	0.670
Menopausal Status		
Fairy menopausal/ Pre menopausal	1.05(0.51-2.15)	0.887
Post menopausal/ Pre menopausal	1.28 (0.56-2.94)	0.553

Logistic regression (table 5) shows that the age of menarche (14-19 years) is twice as likely to experience severe menopausal symptoms (OR, 2.03; CI, 1.19-3.45;  $p=0.009$ ). Meanwhile, other risk factors for severe menopausal symptoms are having a history of diabetes mellitus (OR, 0.65; CI, 0.08-0.56;  $p = 0.013$ ) and had a history of hypertension (OR, 0.29; CI, 0.15-0.54;  $p < 0.001$ ). The prevalence of menopausal symptoms experienced by women in this study was mostly mild when compared to studies conducted in western countries. Hot flushes and night

sweats are the most common symptoms experienced by postmenopausal women. However, in this study only 32.1% of women reported moderate and severe hot flushes and night sweats symptoms. This result is slightly higher than a study conducted on postmenopausal women in China Yang et al. (2008), where in their study only 17.5% of women reported hot flushes and night sweats. However, compared to women in western countries, Asian women generally report lower severity of hot flushes and night sweats symptoms (Anderson et al., 2004; Gold et al., 2000). On the other hand, somatic and psychological symptoms such as joint and muscle discomfort (52.8%) and sleep problems (51.8%) are the two symptoms with the highest prevalence. The results of this study are consistent with studies conducted on postmenopausal women in Japan, Singapore and China (Chim et al., 2002; Kasuga et al., 2004; Yang et al., 2008). The results of this study indicate that it is very important for health workers to pay attention to or assess the musculoskeletal symptoms and sleep difficulties experienced by postmenopausal women and plan appropriate management (Lachowsky & Nappi, 2009; Glaser et al., 2011). Moderate and severe urogenital symptoms are common in postmenopausal women. The results of this study are in line with previous research on postmenopausal women where sexual problems, bladder problems and also dryness of the vagina are more common symptoms experienced by this group (Li et al., 2012; Oskay et al., 2005). Decreased estrogen causes urinary incontinence, vaginal dryness and pain during sexual intercourse. All of these symptoms can cause sexual problems as well as decreased sexual desire (Nappi & Nijland, 2008; Sturdee & Panay, 2010). Seeing from the results of this study, it is very important to be aware of the effects of decreasing the hormone estrogen so that it can provide the right treatment.

Chi square analysis showed that age, age at menarche, occupation and medical history were associated with severe menopausal symptoms. However, in the logistic regression analysis, only age at menarche and a history of chronic diseases such as hypertension and diabetes mellitus were risk factors for severe menopausal symptoms. Although age at menarche was not associated with menopausal symptoms in previous studies Gjelsvik et al. (2011); Zhang et al. (2020), this study found a late age of menarche (late menarche) has a doubled risk of experiencing severe menopausal symptoms. The results of this study are in line with research conducted by Thakur et al. (2019), where menarche age >14 years increases the risk of severe menopausal symptoms. However, it is not uncommon for studies to find early menarche or <14 years more at risk for severe menopausal symptoms. In the future, further research is needed regarding the mechanism of the relationship between age at menarche and the incidence of severe menopausal symptoms. Menopausal women with a history of hypertension and diabetes mellitus are also more at risk of experiencing severe menopausal symptoms compared to those without a history of both diseases. The results of this study are supported by the results of previous studies which found that women 40-65 years of age who have chronic diseases are at greater risk of experiencing severe menopausal symptoms (Li et al., 2012). Another study conducted by Essa & Mahmoud (2018) and also Tan et al. (2014) also found the same thing where menopausal symptoms were felt to be lighter in women who had no history of diseases such as diabetes mellitus or hypertension (Ruchi et al., 2022; Hanson et al., 2022).

## Conclusion

This study shows the prevalence of menopausal symptoms in women aged 40-65 years in Indonesia. Menopausal symptoms are more felt when entering the peri and post menopause. The severity of each menopausal symptom varies and severe menopausal symptoms are influenced by several factors. Age at menarche as well as history of diseases such as diabetes mellitus and hypertension should be considered when treating postmenopausal women. In addition, health workers must provide care not only for women of reproductive age but also for women who are entering the menopausal transition. This study provides important information for health workers and policy makers to plan specific programs to improve the quality of life of postmenopausal women.

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