Menopause and Biopsychosocial Factors Associated with Quality of Life in Women in Surakarta, Central Java

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ABSTRACT

Background: Women spend a third of life during menopause. The number of women entering menopause worldwide is estimated at 25 million annually. Women of menopausal age have decreased estrogen hormone which can decrease the quality of life. This study aimed to analyze the biopsychosocial factors and menopause affecting the women's quality of life.
Subjects and Method: This was an analytic observational study with a cross-sectional design. The study was conducted in Surakarta, from January to February 2018. A sample of 200 women was selected by cluster sampling. The dependent variable was quality of life. The independent variables were self-efficacy, healthy behavior, menopause, and social support. The data were collected by questionnaire and analyzed by path analysis.
Results: Women's quality of life increased with healthy behavior (b= 0.96; 95% CI= 0.35 to 1.56; p=0.002) and decreased by menopause (b= -0.96; 95% CI= -1.56 to -0.35; p= 0.002). Women's quality of life was indirectly affected by self-efficacy and social support.
Conclusion: Women's quality of life is affected by menopause, healthy behaviour, self-efficacy, and social support.

Keywords: quality of life, women, biopsychosocial, menopause

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BACKGROUND

Menopause is a universal and physiological event in women around the age of 50. Menopause is a sign of the end of the menstrual cycle that occurs 12 months after the last menstrual period (Abed-zadeh et al., 2011; Jenabi et al., 2015). This period is a critical period of a woman's life as the body experiences a decrease of estrogen hormones that cause a decrease in the fertility, physical and mental changes, as well as an increase of risk of cardiovascular disease, osteoporosis, endometrial cancer and breast cancer (Al Dughaither et al., 2015; Norozi et al. , 2013). Several studies have shown that menopausal symptoms caused by decreased estrogen hormone can degrade the quality of life in biological, psychological and social aspects (Al Dughaither et al., 2015; Yazdkhasti et al., 2012). Its impact on health begins when women's life expectancy rises over 60 years (Heffner and Schust, 2008). There is an increase in life expectancy then the quality of life becomes an important topic to study. If the main challenge in the 20th century is the the increase of life expectancy, then the main challenge in the 21st century is to live with high quality (Parsa et al., 2017; Ray and Dasgupta, 2012).

The WHO (2014) data show that women's global life expectancy is 84 years with Japan which has the longest life expectancy of 87 years, followed by Spain,

Switzerland and Singapore which is 85.1 years. BPS data (2013) show that the life expectancy of Indonesia was 70.1 years in the period 2010-2015 and will increase to become 72.2 years in the period of 2030-2035. Meanwhile, the data of Surakarta BPS (2016) show that the life expectancy of Central Java province is 73.96 years and the expectancy of Surakarta city is 77 years old. Increasing life expectancy results in a consequence of increasing the number of elderly women. The number of women over the age of 60 is estimated at 8% more than men. Each year, an estimated 25 million women worldwide will enter menopause. The number of women aged 50 years and over will increase from 500 million to over one billion by the year 2030 worldwide (Anwar et al., 2014; Sugiyanto, 2014). But 50% to 80% of women still complain about menopausal symptoms such as hot flushes, night sweats, sleep disturbances, fatigue, and depression that lead to decreased quality of life (Jenabi et al., 2015).

Quality of life is influenced by several factors such as education, occupation, income, physical activity, self efficacy, social support, healthy behavior, and menopause. Menopausal women with higher education will have a good knowledge of physical and psychological changes that occur so that it will emerge a healthy behavior that affects the quality of life. In addition, education and good knowledge will lead to self efficacy to be able to manage the state of self during the menopause period (Astari, Tarawan and Sekarwana, 2014). Individual self-efficacy can affect quality of life as it can provide better mental health and reduce depression in menopausal women (Norozi et al., 2013). High education also affects a person's income. Women with high incomes can access health services well (Barati et al., 2016).

Women who work can make adjustments, social adjustments, and actualization. It has a positive effect on women's psychological impact on quality of life (Tan, Kartal and Guldal, 2014). Work is closely related to physical activity. Regular physical activity can improve health so that quality of life will be better. This is supported by a study conducted by Kalarhoudi et al. (2011) and Lima, Palacios and Wender (2012) indicating that lack of physical activity has an effect on the low quality of life. Low quality of life is also often associated with social support, both social support from family and community (Dewianti et al., 2013). Some studies show that social support especially from family members is helpful in improving the quality of life better because it can improve mental conditions and reduce depression in menopausal women in the face of menopause period (Norozi et al., 2013).

Menopausal women are one of the neglected groups of health aspects whereas one-third of women's lives is spent during menopause (Ray and Dasgupta, 2012). Women are important and inseparable parts of human resource development to enhance the active role in creating a healthy, prosperous and happy family. Therefore, the quality of life of menopause women becomes an important component of clinical practice and is important to investigate.

SUBJECTS AND METHODS

1. Study design

This was an analytic observational study with a case-control design. The study was conducted in Surakarta, from January to February 2018.

2. Population and sample

The target population in this study was all menopausal and premenopausal women, while the source population was postmen-

pausal and premenopausal women in Surakarta City. The sample size in this study was 200 subjects selected through cluster sampling with a ratio of 1: 1, ie the number of cases (menopause) 100 and control (premenopausal) of 100 subjects.

3. Study variables

The variables in this study consisted of independent and dependent variables. The independent variable in this study consisted of menopause, education, occupation, income, physical activity, healthy behavior, self efficacy, and social support. The dependent variable in this study was the quality of life.

4. Operational definition of variables

Menopause was defined as a time when a woman has not experienced menstruation for a year naturally without any other cause of illness. Physical activity is all the activities undertaken by the subject of research using the body muscles to produce movements.

Healthy behavior was defined as all the activities of research subjects related to disease prevention and health improvement. Self efficacy was defined as the belief of study subjects to be able to deal with problems with baik. Education level was defined as the last formal education ever undertaken by study subjects. Occupation was defined as an activity undertaken by research subjects to earn a living.

Income was defined as the amount of family income that is used to meet the needs of joint or individual needs in the household. Social support was defined as the support or assistance received by subjects from family, friends, and the nearest person in the face of menopause. Quality of life was defined as the life perception of the subject related to the goals, expectations, standards, and concerns it faces over a lifetime.

5. Data analysis

The data analysis in this study consisted of univariate analysis, bivariate analysis, and path analysis. Univariate analysis was used to describe the characteristics of each variable. Bivariate analysis was used to analyze the influence of each independent variable to the dependent variable. Univariate analysis and bivariate analysis was done using SPSS 22 program. Path analysis was used to know the effect of independent variable to dependent variable and to know the effect of the variable. Path analysis was conducted using Stata 13 program.

6. Research ethics

Research ethics conducted in this research is giving informed consent to research subjects before the research was conducted. In addition, this research has obtained ethical approval (ethical clearance) from health research ethics commission of Dr. Moewardi hospital Surakarta.

RESULTS

1. Univariate Analysis

Table 1 shows that subjects aged <50 years were 71 (35.5%) and aged ≥50 years were 129 (64.5%). Subjects who have not menopause were 100 women (50%) and those who have menopause were 100 women (50%). Study subjects with education <Senior high school were 116 (58%) and ≥Senior high school were 84 (42%).

Women who work in the house were 107 (53.5%) and those working outside the home were 93 (46.5%). Subjects with income <Rp 1,535,000 were 93 (46.5%) and ≥Rp 1,535,000 were 107 (53.5%). Women with low physical activity were 115 (57.5%) and high activity of 85 (42.5%). Women who had poor healthy behavior were 102 (51%) and good healthy behavior was 98 (49%).

Women with low self efficacy were 95 (47.5%) and self efficacy was 105 (52.5%).

Women with weak social support were 118 (59%) and strong social support was 82 (41%). Women with poor quality of life were 110 (55%) and good quality of life was 90 (45%).

Table 1. UnivariateAnalysis

Variable	n	(%)
Age		
< 50 years old	71	35.5
≥ 50 years old	129	64.5
Menopause		
< 1 years old	100	50
≥ 1 years old	100	50
Education		
<Senior high school	116	58
≥Senior high school	84	42
Occupation		
Inside of the house	107	53.5
Outside of the house	93	46.5
Income		
< Rp 1.535.000	93	46.5
≥ Rp 1.535.000	107	53.5
Physical Activity		
Low	115	57.5
High	85	42.5
Healthy Behavior		
Poor	102	51
Good	98	49
Self Efficacy		
Low	95	47.5
High	105	52.5
Social Support		
Weak	118	59
Strong	82	41
Life Quality		
Bad	110	55
Good	90	45

2. Bivariate Analysis

Bivariate analysis was conducted to see the effect of menopause, education, occupation, income, physical activity, healthy behavior, self efficacy, social support, and quality of life.

Table 2 shows that menopause ≥1 year decreased post menopausal quality of life (OR= 0.40; 95 CI= 0.22 to 0.71; p= 0.002). Education ≥Senior high school (OR= 2.34; 95% CI= 1.32 to 4.17; p= 0.003), mother working outside the house (OR= 1.09; 95% CI= 0.62 to 1.91; p= 0.743), family income ≥Rp 1,535,000 (OR= 1.61; 95% CI= 0.91 to 2.83; p= 0.096), high physical activity (OR= 1.75; 95% CI= 0.99 to 3.08; p= 0.052), good healthy behavior (OR= 2.66; 95% CI= 1.50 to 4.73; p= 0.001), positive self-efficacy (OR= 1.73; 95% CI= 0.98 to 3.05; p= 0.055), and strong social support (OR= 2.14; 95% CI= 1.21 to 3.81; p= 0.009) increased quality of life aong post-menopausal women.

Table 2. Bivariate Analysis

Independent Variables	Poor Life Quality		Good Life Quality		OR	95% CI	p
	n=110	%	n=90	%			
Menopause							
< 1 year	44	44	56	56	0.40	0.22 to 0.71	0.002
≥ 1 year	66	66	34	34			
Education							
<Senior high school	74	63.8	42	36.2	2.34	1.32 to 4.17	0.003
≥Senior high school	36	42.9	48	57.1			
Occupation							
Inside of the house	60	56.1	47	43.9	1.09	0.62 to 1.91	0.743
Outside of the house	50	53.8	43	46.2			
Income							
<Rp 1.535.000	57	61.3	36	38.7	1.61	0.91 to 2.83	0.096
≥Rp 1.535.000	53	49.5	54	50.5			
Physical Activity							
Low	70	60.9	45	39.1	1.75	0.99 to 3.08	0.052
High	40	47.1	45	52.9			
Healthy Behavior							
Poor	68	66.7	34	33.3	2.66	1.50 to 4.73	0.001
Good	42	42.9	56	57.1			
Self-Efficacy							
Low	59	62.1	36	37.9	1.73	0.98 to 3.05	0.055
High	51	48.6	54	51.4			
Social Support							
Weak	74	62.7	44	37.3	2.14	1.21 to 3.81	0.009
Strong	36	43.9	46	56.1			

3. The Result of Path Analysis

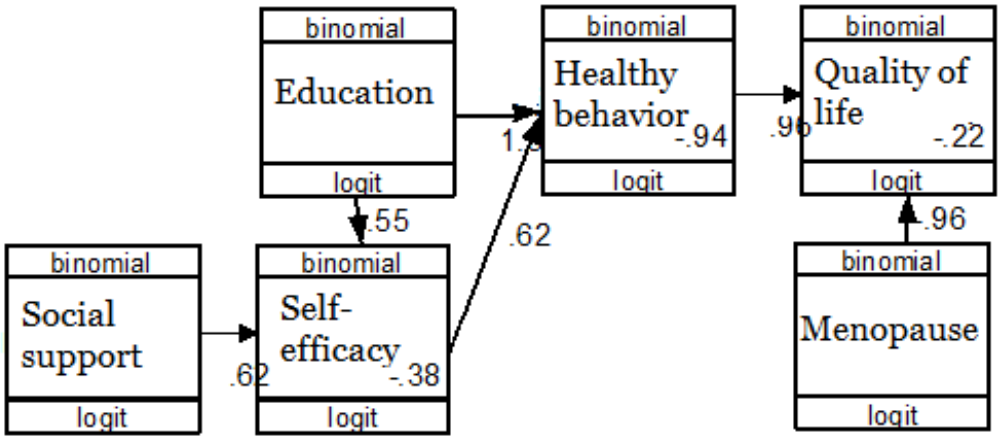

Figure 1. Structural model with estimation

Table 3 showed that there was a positive effect between healthy behaviour and the quality of life. The higher the healthy behaviour, the better the quality of life (b=0.96; 95% CI= 0.35 to 1.56; p= 0.002). Women's quality of life was negatively affected by menopause. The longer the women's menopause time, the lower the quality of life (b= -0.96; CI 95%= -1.56 to -0.35; p= 0.002).

There was a positive effect of education on the quality of life. The higher the education, the better the quality of life (b= 1.45; CI 95%= 0.82 to 2.07; p<0.001). Women's quality of life was positive effected by self-efficacy. The higher the self-efficacy, the better the quality of life (b=0.61; CI 95%= -0.01 to 1.23; p=0.051).

There was a positive effect between education and self-efficacy. The higher the education, the better the self-efficacy (b= 0.55; CI 95%= -0.03 to 1.14; p=0.067). There was a positive effect between social support and self-efficacy. The stronger the social support, the better the self-efficacy (b=0.62; CI 95%= 0.02 to 1.22; p=0.042).

Table 3. Path Analysis Results

Dependent Variable		Independent Variable	b	95% CI		p
				Lower Limit	Upper Limit	
Direct Effect						
Quality of Life	←	Healthy Behaviour	0.96	0.35	1.56	0.002
Quality of Life	←	Menopause	-0.96	-1.56	-0.35	0.002
Indirect Effect						
Healthy Behaviour	←	Education	1.45	0.82	2.07	<0.001
Healthy Behaviour	←	Self-efficacy	0.61	-0.01	1.23	0.051
Self-efficacy	←	Education	0.55	-0.03	1.14	0.067
Self-efficacy	←	Social Support	0.62	0.02	1.22	0.042
Observation Score = 200						
Log likelihood = -361.29						

DISCUSSIONS

1. The effect of healthy behaviour on the quality of life

The result of path analysis showed that healthy behaviour was affected quality of and it was statistically significant.

The result of this study is consistent with a study by Şenol et al. (2014), which stated that women who have healthy behavior would increase better quality of life's score. Lima et al.,(2011) also stated that healthy behaviour and quality of life reflected a positive association. The healthy behaviors were doing physical activity, not smoking, and not consuming alcohol. Based on the description above, it can be concluded that healthy behavior affected women's quality of life.

The WHO's purpose in the 21st century was a healthy lifestyle in general, with special attention in promoting healthy behavior of nutrition, physical activity, and sexuality. The long-term result of the promotion of healthy behavior, which was one of the most important factors in improving health was the improvement of life span and quality of life. Improving healthy behavior especially in middle-aged women population has the benefits of protecting against diseases and disabilities, improving the welfare, and increasing functional capacity.In general, healthy behavior was very important in everyday life especially for the elderly, and there were many factors that can affect healthy behavior (Şenol *et al.*, 2014).

2. The effect of menopause on the quality of life

The result of path analysis showed that menopause affected women's quality of life and it was statistically significant.

The result of this study is consistent with a study by Moustafa et al., (2015), which stated that menopause was a cause of decreased quality of life and there was a positive correlation between menopausal symptoms with quality of life. This was due to the ovarian hormones which not only

acted on the genital organs, but also on the extra genital tissues. The lack of estrogen that occur during menopause would affect the gynecological and the entire body. Menopausal symptoms such as hot flushes, headaches, sleep disturbances, and moods can greatly disrupt women's quality of life.

A study by Mohamed et al. (2014) also stated that menopause lead to the reduction of women's quality of life characterized by the menopausal symptoms in women. This was seen in the score of each domain of decreased quality of life. According to Putri et al. (2014), menopause has been a prominent issue in women's health because menopause can caused women to experience physical and psychological disorders such as depression and others. Some women experience symptoms of menopause that were severe enough to affect daily activities that can ultimately reduce their quality of life.Based on the description above, it can be concluded that menopause affected women's quality of life.

3. The Effect of Education on the Quality of Life

The result of path analysis showed that education was indirectly affected to quality of life among post-menopausal women through healthy behaviour and self-efficacy.

The result of this study is consistent with a study by Norozi et al., (2013), which stated that education has significant correlation on the quality of life. Low-educated women were at higher risk of having more severe menopausal symptoms and decreased mental health. Based on the description above, it can be concluded that educational level affected women's quality of life. High education level was associated with improved quality of life in menopausal women (Jenabi et al., 2015).

Menopausal women with high educational level would have high self-efficacy. A person who gained an educational experience can be a basis for developing his/her cognitive skills and knowledge which can be the basis of his/her self-confidence. Highly educated women adapted faster to menopausal conditions, meaning that women know how to deal with menopause. This situation was due to highly educated women's way of thinking which was more rational and more open in receiving information, therefore, the knowledge was wider, and produce a more positive attitude in facing a problem (Rohmah and Ismarwati, 2017).

4. The effect of self-efficacy on the quality of life

The result of analysis showed that self-efficacy indirectly affected the quality of life through healthy behaviour.

The result of this study is consistent with a study by Moradi et al. (2017), which stated that there was a significant relationship between self-efficacy and quality of life which was showed by social relationship and satisfaction with the environment. Based on the description above, it can be concluded that self-efficacy affected the quality of life. Self-efficacy was associated with feelings of value, self-efficacy, feeling of sufficiency, and effectiveness in handling this life. Low self-efficacy would weaken the motivation and decreased the sufficiency. When menopausal women were evaluated, the outcomes of cognitive power, physical strength, and physical attractiveness would be in accordance with self-efficacy in menopausal women. This made self-efficacy as an important factor in analyzing the quality of life (Forugh and Leila, 2013).

Menopausal women's quality of life was related to the enhancement of self-efficacy. Some studies showed that the effect of self-efficacy on quality of life was the enhancement in health behavior.The beliefs of menopausal women on their

ability to treat menopause symptoms were the important factors that affect their quality of life. Other studies have also shown that individuals' adaptation was associated with self-efficacy. Self-adaptation became an important factor for better mental health and lower depression in menopausal women (Norozi *et al.*, 2013).

5. The effect of social support on the quality of life

The result of path analysis showed that social support indirectly affected the quality of life through self-efficacy and it was statistically significant.

The result of this study was in line with a study by Kyung Lee and Hee Shin, (2016) which stated that social support was the greatest factor of women's quality of life. It was found in middle-aged women who work received more social support from their work environment.

Abedzadeh-Kalahroudi (2013) stated that support from the family, especially from husband can give a positive role in improving women's mental condition. The establishment of social support networks and programs to promote physical and mental health can help in improving menopausal women's quality of life.

According to Wang and Gruenewald (2017), the social support would have a more positive effect on a person than those who did not get social support. Yazdkhasti et al., (2012) stated that social support can improve the menopausal women's quality of life.

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