
Quality Of Life of Menopausal Women Suffering from Periodontitis Relating to Dental Conditions

Kualitas Hidup Perempuan Menopause Penderita Periodontitis, Berkaitan dengan Kondisi Gigi Geligi

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Abstract

Menopause describes the cessation of a woman's menstrual period due to the ovaries' shutdown of estrogen and progesterone production. Decreased levels of these hormones cause menopause symptoms and reduce the quality of life. Therefore, this study aims to determine how the quality of life of postmenopausal women and the practice of periodontics in Medan City are related to the condition of teeth. A descriptive method was used with a cross-sectional design to adapt the questionnaires. The number of samples was 60 people based on medical record data at the periodontics installation of the RSGM USU and dentists' practice in Medan. Furthermore, a Likert scale was used to assess the quality of life of postmenopausal women with periodontitis. The results showed that the quality of life, which strongly influenced the teeth, was Stage IV Grade B. In terms of social relations, the most decisive influence on the condition of the teeth was appearance. The aspect of the physical ability which strongly influences the condition is chewing hard food. In conclusion, menopausal women with periodontitis influence their quality of life from aspects of physical ability, social relations, general health, and psychology.

Keywords: quality of life, menopausal women, periodontitis, dental conditions

Abstrak

Menopause adalah kondisi ketika masa menstruasi seorang perempuan berakhir karena ovarium berhenti memproduksi estrogen dan progesteron. Penurunan kadar hormon-hormon tersebut menyebabkan perempuan mengalami gejala menopause yang dapat menurunkan kualitas hidup mereka. Penelitian ini bertujuan untuk mengetahui bagaimana kualitas hidup perempuan menopause penderita periodontitis di Instalasi periodonsia RSGM USU dan Praktik dokter gigi spesialis periodonsia di Kota Medan: berkaitan dengan kondisi gigi geligi. Penelitian ini menggunakan metode deskriptif dengan desain *cross-sectional* serta menggunakan kuesioner yang telah diadaptasi. Jumlah sampel pada penelitian ini sebanyak 60 orang yang diambil berdasarkan data rekam medis di instalasi periodonsia RSGM USU dan praktik dokter gigi spesialis periodonsia di Kota Medan. Penilaian gambaran tingkatan kualitas hidup perempuan menopause penderita periodontitis menggunakan skala likert. Hasil penelitian menunjukkan bahwa, tingkat kualitas hidup perempuan menopause yang berpengaruh sangat kuat berkaitan dengan kondisi gigi geligi terbanyak yaitu pada Stage IV Grade B. Pada aspek hubungan sosial, yang berpengaruh sangat kuat berkaitan dengan kondisi gigi geligi adalah penampilan. Pada aspek kemampuan fisik, yang berpengaruh sangat kuat berkaitan dengan kondisi gigi geligi adalah mengunyah makanan yang keras. Kesimpulan dari penelitian ini adalah perempuan menopause penderita periodontitis di Kota Medan memiliki pengaruh terhadap kualitas hidup dari aspek kemampuan fisik, hubungan sosial, kesehatan umum, dan psikologi.

Kata kunci: kualitas hidup, perempuan menopause, periodontitis, kondisi gigi

INTRODUCTION

Periodontal disease is inflammation of the supporting tissues of the teeth and has affected about 20-50% of the global population in developed and developing countries.¹ The prevalence and severity of gingivitis increased at age 21-30 years, whereas periodontitis increased significantly at age >40 years.² According to the Basic Health Research (RISKESDAS) 2018, caries and periodontal disease are the two dental and oral diseases with the highest prevalence. The prevalence of periodontal disease has reached 60% in Indonesian society³, and this phenomenon can describe the high risk of Indonesian people getting affected.

Menopause is one of a woman's life stages during the transition phase from reproductive to non-reproductive. It can be established retrospectively after 12 months of amenorrhea, followed by decreased circulating estrogen levels due to cessation of ovarian function.⁴ The decrease in estrogen levels causes the oral cavity to have physiological changes causing discomforts, such as pain, burning sensation, salivary gland hypofunction, and oral mucosal atrophy. The decrease is correlated with loss of periodontal tissue attachment. It is a factor in osteoporosis, affecting alveolar bone resorption and can result in tooth loss. This will cause the masticatory function to be disrupted in the toothless elderly and affect general health due to food choices.⁵

The research of Williams et al. showed that postmenopausal people with poor oral health had significantly poorer quality of life.⁶ The results of Debaz et al. showed that patients with periodontitis had a poor quality of life than healthy subjects, with significant physical, social and psychological impacts.⁷ In conclusion, a relationship between menopausal women with periodontitis affects patients' quality of life.

The purpose of this study was to determine the quality of life of postmenopausal women with periodontitis in the periodontics installation of the RSGM USU and the practice of dentists in the city of Medan related to the condition of the teeth.

MATERIALS AND METHODS

Research design. This research type is descriptive with a cross-sectional design and was implemented at the RSGM USU and a periodontics practice in Medan City. Ethical clearance. It has been approved by the Health Research Ethics Committee, Faculty of Medicine, Universitas Sumatera Utara (No. 721/KEP/USU/2021).

Population and sample. The population were all postmenopausal patients with periodontitis who came

to the Periodontics Installation of the RSGM USU and the practice of periodontics during the period 2018-2021. According to the criteria, sampling from medical records used a purposive sampling technique. Menopausal women with periodontitis came to the Periodontal Installation of the RSGM USU and dentistry specialist practice periodontics during the 2018-2021 period. Meanwhile, women in premenopausal, perimenopause, and postmenopausal stages are aged 40 -70.

The tools used are stationary and a cell phone. The questionnaire was adapted from Modified Questionnaire Quality of Life in Periodontitis Patients related to Teeth in 2020.⁸ Quality of life questionnaires were distributed online in google forms.

In this questionnaire, there are 11 questions which are divided into four aspects. These consists of questions 4, 5, and 6 regarding aspects of physical ability, questions 1, 2, 7, 8, and 9 regarding aspects of social relations, question 3 regarding general health, and questions 10 and 11 regarding psychological aspects.

No effect = 0, very weak influence = 1, weak influence = 2, moderate influence = 3, strong influence = 4, and very strong influence = 5 are the scores assigned to the modified questionnaire. Assessment of the quality of life level is based on the total score obtained from each choice of statements in the questionnaire on the quality of life section. The category is divided into 5, namely the score 0 - 11 = no effect, 12 - 18 = weak influence, 19 - 27 = moderate influence, 28 - 33 = strong influence, 34 -55 = very strong influence.

RESULTS

Based on the demographic data in Table 1, the most age categories are 27 people or 45% aged 46-57. Based on the severity of periodontitis, 41 people, or 68.3%, were in Stage III and Grade B. Meanwhile, 44 people or 73.3%, experienced the most tooth loss, with less than six teeth. Then 29 people, or 48.3%, were in the perimenopause phase.

Based on Table 2, the result showed the subject had answered all the questions in the category of very strong influence, with the highest number in question 1, consisting of 25 subjects or 41.7%. The subject with the category not having the most influence is found in question 8 with 39 subjects or 65%.

Regarding physical ability, the question of the effect of chewing hard food had a very strong influence on 24 people or 40%. In social relations, the question

of influence on appearance strongly influenced 25 people or 41.7%.

The question of influence on general health strongly affected 27 people or 45%. On the psychological aspect, the question of the influence on mood strongly influenced 17 people or 28.3%.

Tables 3, 4, 5, and 6 show that the number of patients with a very strong influence on the quality of life is 40%. This strong effect was found in patients with periodontitis stage IV, grades B and C, perimenopausal patients, and patients with loss of 6-10 teeth.

DISCUSSIONS

The results found that the quality of life of postmenopausal women was based on the stage of periodontitis. The highest prevalence is in stages III and IV, with a strong and moderated influence of 40% and 35%. Furthermore, the quality of life of postmenopausal women is based on the grade of periodontitis, with the highest percentage in grades B and C. It can be concluded that the higher the severity of periodontitis, the worse the quality of life. Menopausal women with severe periodontitis assume that the condition of their teeth affects their quality of life. The study conducted by Debaz C et al.⁷ also shows that menopause with periodontitis has a worse quality of life than healthy subjects. This could be due to a decrease in estradiol levels, decreasing salivary flow, and impacting oral health, including the health of periodontal tissues.⁹

This study found the quality of life based on the menopause phase (Table 5). The highest prevalence in the perimenopause phase has a very strong influence. This is because the subjects had the largest age range of 46 to 57 years in the perimenopause phase. In this phase, hormonal changes cause physiological variations in the oral cavity, causing discomforts such as pain, burning sensation, salivary gland hypofunction, and oral mucosal atrophy.¹⁰ This percentage does not indicate that the menopausal phase affects the patient's quality of life. In this study, the severity of periodontitis showed an influence on the quality of life because dental conditions in periodontitis may compromise functional aspects of the stomatognathic system, such as chewing, swallowing, speech, and smile esthetics.¹¹

The results also found that the quality of life was based on tooth loss (Table 6). A strong, moderate and weak effect was primarily found in patients missing more than 10, 6-10 and less than 6 teeth. Adhiatman also showed that tooth loss of less than 6 was the

highest group with a percentage of 65.1% and the lowest group with tooth loss of more than ten teeth with a rate of 13.8%. There was no relationship between tooth loss and quality of life. At the time of the research, their answers did not describe the feelings experienced by older adults.¹² McGrath and Bedi's¹³ research shows the loss of one or more teeth can cause functional and aesthetic disturbances affecting a person's quality of life.

This study found the quality of life of several question items. In the aspect of physical ability, the question item with the most strong influence is the effect of the condition of the teeth on chewing hard food, consisting of 24 people or 40%. The subject has difficulty chewing hard food because many teeth have been lost, hence softer food is preferred. Rizkillah MN's research in 2019¹⁴ also showed that individuals tend to eat softer foods because of difficulties and pain in eating hard food.

In social relations, the most influential question was the influence of the condition of the teeth on the appearance of 41.7%. The patient complained of a lack of confidence when smiling and was reluctant to travel or leave the house due to missing teeth, especially in the anterior. Davis et al.'s¹⁵ research in London also showed that 45% of patients who experienced tooth loss felt less confident and did not want to be seen by others.

In this study, the question items are related to general health aspects. The condition of the teeth had a strong influence of 45% on their quality of life. Reduced oral function due to tooth loss can lead to the avoidance of stringy, crunchy and dry solid foods, and in turn, food avoidance can increase the risk of nutritional deficiencies.¹⁶

On the psychological aspect, the question with the most powerful influence is the effect of the condition of the teeth on the mood of 28.3%. Patients often feel sad, disappointed and angry because of missing teeth, recession and cavities. Dumitrescu, studied in 2016¹⁷, also suggested that periodontal disease may increase the risk of depression through the psychosocial effects of poor oral hygiene and halitosis.

In conclusion, the results show that the quality of life of postmenopausal women with periodontitis in Medan City can be influenced by physical abilities, social relationships, general health, and psychology. Health workers are advised to provide education on the importance of maintaining the oral cavity condition, especially in menopause. Therefore, they give more close attention to the condition of their teeth to improve their quality of life and welfare.

TABLES

Table 1. Demographic data of research subjects

Characteristics	n	Percentage (%)
Ages		
40-45	26	43.3%
46-57	27	45%
58-70	7	11.7%
Periodontitis severity		
Stage I	0	0%
Stage II	3	5%
Stage III	41	68.3%
Stage IV	16	26.7%
Grade A	9	15%
Grade B	41	68.3%
Grade C	10	16.7%
Tooth Loss		
< 6 teeth	44	73.3%
6-10 teeth	15	25%
> 10 teeth	1	1.7%
Menopausal phase		
Premenopausal	22	36.7%
Perimenopausal	29	48.3%
Postmenopausal	9	25%

Table 2. The distribution of postmenopausal women with periodontitis is related to the condition of the teeth

	No effect		Very weak influence		Weak influence		Moderate influence		Strong influence		Very strong influence	
	n	%	n	%	n	%	n	%	n	%	n	%
... the condition of your teeth influences your appearance?	0	0	0	0	1	1.7	4	6.7	30	50	25	41.7
... the condition of your teeth influences your self-esteem?	6	10	1	1.7	2	3.3	5	8.3	28	46.7	18	30
... the condition of your teeth influences your general health?	0	0	21	35	6	10	6	10	27	45	0	0
... the condition of your teeth influences the type of food you choose?	0	0	1	1.7	3	5	3	5	32	53.3	21	35
... the condition of your teeth may be causing problems chewing hard food?	8	13.3	13	21.7	3	5	4	6.7	8	13.3	24	40

	No effect		Very weak influence		Weak influence		Moderate influence		Strong influence		Very strong influence	
	n	%	n	%	n	%	n	%	n	%	n	%
... the condition of your teeth may be causing difficulty speaking?	17	28.3	19	31.7	4	6.7	9	15	11	18.3	0	0
... the condition of your teeth influences your family's life?	19	31.7	11	18.3	6	10	5	8.3	19	31.7	0	0
... the condition of your teeth influences your job?	39	65	5	8.3	4	6.7	4	6.7	3	5	5	8.3
... the condition of your teeth influences your social relationships?	15	25	14	23.3	5	8.3	21	35	5	8.3	4	6.7
... the condition of your teeth influences your mood?	8	13.3	6	10	9	15	10	16.7	10	16.7	17	28.3
... the condition of your teeth influences your anxiety?	1	1.7	6	10	12	20	11	18.3	24	40	6	10

Table 3. Quality of Life Level of Menopausal Women with Periodontitis related to Dental Conditions based on Staging

Dental Condition	Stage				Total
	I	II	III	IV	
	n (%)	n (%)	n (%)	n (%)	
No effect	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Weak influence	0 (0%)	3 (5%)	2 (3.3%)	0 (0%)	5 (8.3%)
moderate influence	0 (0%)	0 (0%)	21 (35%)	0 (0%)	21(35%)
Strong influence	0 (0%)	0 (0%)	8 (13.3%)	2 (3.3%)	10 (16.7%)
Very strong influence	0 (0%)	0 (0%)	10 (16.7%)	14 (23.3%)	24 (40%)
Total	0 (0%)	3 (5%)	41 (68.3%)	26 (26.7%)	60 (100%)

Table 4. Quality of Life Level of Menopausal Women with Periodontitis related to Dental Conditions based on Grading

Dental Condition	Grade			Total
	A	B	C	
	n (%)	n (%)	n (%)	
No effect	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Weak influence	2 (3.3%)	3 (5%)	0 (0%)	5 (8.3%)
moderate influence	2 (3.3%)	16 (26.7%)	3 (5%)	21 (35%)
Strong influence	1 (1.7%)	9 (15%)	0 (0%)	10 (16.7%)
Very strong influence	4 (6.7%)	13(21.7%)	7 (11.7%)	24 (40%)
Total	9 (15%)	41 (68.3%)	10 (16.7%)	60 (100%)

Table 5. Quality of Life Level of Menopausal Women with Periodontitis related to Dental Conditions based on Menopausal Phase

Dental Condition	Menopausal Phase			Total
	Premenopause	Perimenopause	Pascamenopause	
	n (%)	n (%)	n (%)	
No effect	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Weak influence	2 (3.3%)	3 (5%)	0 (0%)	5 (8.3%)
moderate influence	10 (16.7%)	9 (15%)	2 (3.3%)	21 (35%)
Strong influence	1 (1.7%)	5 (8.3%)	4 (6.7%)	10 (16.7%)
Very strong influence	8 (13.3%)	13 (21.7%)	3 (5%)	24 (40%)
Total	21 (35%)	30 (50%)	9 (15%)	60 (100%)

Table 6. Quality of Life Level of Menopausal Women with Periodontitis related to Dental Conditions based on Tooth Loss

Dental Condition	Tooth Loss			Total
	< 6 Tooth	6-10 Tooth	> 10 Tooth	
	n (%)	n (%)	n (%)	
No effect	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Weak influence	5 (8.3%)	0 (0%)	0 (0%)	5 (8.3%)
moderate influence	21 (35%)	0 (0%)	0 (0%)	21 (35%)
Strong influence	8 (13.3%)	2 (3.3%)	0 (0%)	10 (16.7%)
Very strong influence	10 (16.7%)	13 (21.7%)	1 (1.7%)	24 (40%)
Total	44 (73.3%)	15 (25%)	1 (1.7%)	60 (100%)

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