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Oral Health-Related Quality of Life (OHRQoL) in Menopausal Medically Compromised Patients at RSGM UMY

Bella Pardian Nur Allifiah[1], Dyah Triswari [2], Hartanti [3]
[1] Post Graduate Student, Faculty of Dentistry, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia
[2] Department of Biomedic, Faculty of Dentistry, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia
[3] Department of Periodontic, Faculty of Dentistry, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia
Email: bellaallifiah@gmail.com[1]; dyahtriswari@gmail.com[2], hartanti@umy.ac.id[3]

ABSTRACT
Menopause is the time of life when a woman's ovaries stop producing hormones and the menstrual periods stop. Menopausal women experience a decrease in the function of estrogen and progesterone hormones as a sign of the stopped fertile period for women. Menopause causes hormonal change and systemic conditions for menopausal woman. The systemic condition from hormonal change often makes medically compromised in menopausal woman. These conditions can be related to quality of life-related dental and oral health. This study aims to describe Oral Health-Related Quality of Life (OHRQoL) in menopausal patients with medically compromised at RSGM UMY. This type of research used is descriptive observational with cross-sectional design. 110 participants menopausal women with medically compromised ≥ 45 years were given were given the OHIP-14 questionnaire using interview techniques. This study used Oral Health Impact Profile-14 (OHIP-14) questionnaire instruments with frequency data distribution analysis. 40 respondents (36.6%) have good quality of life, 66 respondents (60%) have moderate quality of life, and as many as 4 respondents (3.6%) have poor quality of life. The respondents mayority felt complaints on the physical disturbance dimension of discomfort when chewing. Based on OHIP-14 questionnaire showed that most of the respondents have moderate quality of life (60%).

Keywords: menopause, medically compromised, quality of life, OHIP-14, dental

INTRODUCTION

Women starting from the age of 45 will experience changes in tissue, metabolism, hormones, and also reproductive function, and experience menopause. Menopause can be a marker of changes in the body's hormonal system for older women. Menopause is the cessation of female reproductive function characterised by the cessation of menstruation. Menopausal women experience a decrease in the function of the hormones estrogen and progesterone as a sign of the cessation of the fertile period for women (Turang, V. K., Tendean, L., & Anindita, P. S. (2018)

Many elderly people nowadays have systemic problems that make them medically compromised. Medically compromised patients are patients who have systemic diseases so that when going to carry out a treatment, various medical considerations are needed. Medically compromised conditions can be a problem that causes limitations in daily life. Patients who are included in the *medically compromised* group are patients who have disorders: cardiovascular, blood disorders, respiratory, endocrine, immune system, neurology, gastrointestinal, and renal disorders (Vitria,2011) with the following explanation:

- Cardiovascular Disorders

Cardiovascular disease is one of the medically compromised diseases. The estrogen hormone in the female body can be a cardio protection that will regulate lipoprotein density levels. A decrease in estrogen in the body can cause an increase in cardiovascular disease due to an increase in cholesterol and an increase in angiotensin resin which will trigger vasoconstriction and endothelial dysfunction and cause the risk of atherosclerosis to increase so that the risk of cardiovascular disease will increase (Riyadina, 2019).

- Blood Disorders (haematology)

Blood is a very important cell in the human body. Blood functions such as delivering oxygen to the tissues, transporting metabolic chemicals, and also as an immune material in the body. Blood disorders or haematology can be defined as conditions that cause one or more parts of the blood to not work normally, for example anaemia, leukaemia, thalassaemia, haemophilia, and others(Guyton and Hall, 2016).

- Pulmonary disorders

Pulmonary disorders or disorders in the respiratory system are abnormalities in the respiratory system that can be caused by abnormalities in lung ventilation, abnormalities in pulmonary membrane diffusion, and abnormalities in blood gas transport between the lungs and tissues (Guyton and Hall,2016.)

- Gastrointestinal Disorders

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Gastrointestinal disorders are abnormalities or diseases of the food passage or digestive system often associated with diseases of the oesophagus, stomach, intestine, colon, liver, bile ducts and pancreas (Wulansari, P., & Apriyani, H., 2017)

- Genitaurinary disorders

Genitourinary disorders are disorders of the urogenital system which consists of the urinary system (urinary system) and genitalia system (reproductive system). Genitourinary Syndrome of Menopause (GSM) is a new term that describes the various symptoms and signs of menopause including not only genital symptoms (dryness, burning, and irritation), and sexual symptoms (lack of lubrication, discomfort or pain, and impaired function, but also urinary tract symptoms (urgency, dysuria, and recurrent urinary tract infections) (Kim et al,2015).

- Endocrine Metabolic Disorders

The endocrine system is a system that functions by mediating chemical substances or commonly called hormones. Hormones in the body are produced by endocrine glands. One of the endocrine metabolic disorders is insulin hormone disorder which can cause diabetes mellitus. (Guyton and Hall,2016)

- Immunological Disorders

Immunological disorders are disorders of the body's immune system where there is a disruption of the immune system in fighting disease (Kusumo, P. D.,2012) .

- Neurological and Psychiatric Disorders

A system that studies psychiatric disorders resulting from diseases in the neurological system or nervous system. The most prominent symptoms are in the psychological element, the main cause can come from the body (somatogenic), in the social environment (sociogenic), or psychologically (psychogenic) (Effendy, E.,2021).

WHO in 2012 stated that quality of life is an individual assessment of a person's life which is closely related to standards, goals, and expectations about life. One of the main indicators to be able to measure quality of life can be seen from oral health. Measuring quality of life using dental health indicators is called Oral Health Related Quality of Life (OHRQoL). OHRQoL is closely related to age expectancy, physical, mental, and psychological health of a person, which is usually connected to income, living environment, and also the support of various parties both family and social life (WHO, 2012).

This study aims to determine the description of OHRQoL in menopausal patients with *medically compromised* at the Dental and Oral Hospital of Universitas Muhammadiyah Yogyakarta.

MATERIALS AND METHODS

This study used analytical observational research with a *cross sectional* research design. This research was conducted at RSGM UMY. The sample of this study was a minimum of 94 *medically compromised* menopausal women. With *total sampling* technique and this research was conducted from October 2022 to December 2022. The inclusion criteria are menopausal female patients who are willing to become respondents and have at least 1 *medically compromised* who have medical record data including patient identity, telephone number, and other information at RSGM UMY. The inclusion criteria are *medically compromised menopausal* female patients who are not willing to become respondents. A total of 110 respondents were given *informed consent* before the examination and filling out the questionnaire.

Socio-demographic Characteristics

The research subjects were asked to fill in personal data such as name, address, age, gender, latest education, occupation, history of *medically compromised* diseases and then continued with the Oral Health Impact Profile-14 (OHIP-14) questionnaire.

Oral Health Impact Profile-14 (OHIP-14)

The Oral Health Impact Profile-14 is a developmental instrument of the *Oral Health Impact Profile-* 49 (OHIP- 49). OHIP-14 has 14 questions that show 7 dimensions of functional limitations, physical discomfort, psychological discomfort, physical disability, psychological disability, social disability, and handicap (disability) (*Husain, F. A., & Tatengkeng, F.,2017*). The *Oral Health Impact Profile-14* can be assessed using a Likert scale. The Likert scale consists of several options, namely: never given a score of 0, rarely given a score of 1, sometimes given a score of 2, often given a score of 3, very often given a score of 4. OHIP-14 is shorter and practical, and has validity and has good reliability so that many researchers use OHIP-14 as a quality of life measurement instrument (*Papaioannou, W., Oulis, C. J., Latsou, D., & Yfantopoulos, J., 2011*.) .

Quality of Life

The classification of quality of life will be classified according to the score from OHIP-14 answered by the respondent. Where for the minimum overall score gets

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a value of 0 and for the maximum score is a value of 56 which consists of 14 questions (*Ratnawidya et al, 2018*). 56 Filling The OHIP-14 questionnaire can be categorised as respondents with a score of 0- 19 indicating the respondent's quality of life is good, a score of 20-37 indicates the respondent's quality of life is moderate, and > 37 indicates the respondent's quality of life is poor. this is determined based on the categorisation scale formula (Azwar, 2012).

RESULTS

The respondents studied in this study were 110 people who had experienced menopause with *medically compromised* who fit the inclusion criteria and exclusion criteria of the study. The age of respondents was grouped based on the classification of the elderly age range according to WHO. There were 61 respondents aged 45-59 years (55.6%), 45 people (40.9%) aged 60-74 years and 4 people (3.6%) aged 75-90 years. Table 1 shows the distribution of the education history of the respondents, the results showed that 58 people (52.7%) studied up to senior high school, 23 people (20.9%) completed their studies up to bachelor, 12 people (10.9%) were junior high school graduates, 9 people (8.2%) were elementary school graduates, 4 people (3.6%) studied up to Diploma 3, 3 people (2.7%) completed their education up to Master degree and 1 person (0.9%) studied Diploma 2.

Table 1. Education of respondents

Education	Frequency (n)	Percent (%)
Elementary	9	8,2
Junior High School	12	10,9
Senior High School	58	52,7
Diploma 1	0	0
Diploma 2	1	0,9
Diploma 3	4	3,6
Bachelor	23	20,9
Master Degree	3	2,7
Total	110	100.0

Respondents in this study were mostly housewives (IRT) as many as 68 people (61.8%), 20 people (18.2%) worked as entrepreneur, 4 people (3.6%) were casual labourers, 3 people (2.7%) worked as civil servants (PNS), then there were 2 respondents (1.8%) who worked as employees, as many as 4 people (3.6%) as medical staff, 8 people (7.3%) and there were teacher 1person (0.9%) shown in table 2

Table 2: Occupational distribution of Respondent

Occupational	Frequency (n)	Percent (%)
Housewife	68	61,8
Entrepreneur	20	18,2
Lapour	4	3,6
PNS	3	2,7
Employee	2	1,8
Medical Staff	4	3,6
Retired	8	7,3
Teacher	1	0.9
Total	110	100.0

Table 3 shows the distribution of *meical compromise*. The majority of respondents had a history of hypertension as many as 68 people (51.9%), 27 people (20.6%) had a history of diabetes mellitus, 10 people (7.6%) a history of magh. 8 people (6.1%) history of hypotension, 3 people (2.3%), vertigo 3 people (2.3%), people with a history of brain tumours, heart problems, allergies, kidney stones have each 2 respondents (1.5%). Then for people with herpes, stroke, kidney tumours, hyperthyroidism each had a total of 1 respondent (0.8%).

Table 3. Frequency of medically compromised disease

Disease	Frequency (n)	Percent (%)
Hypertension	68	51,9
DM	27	20,6
Magh	10	7,6
Hypotension	8	6,1
Asthma	3	2,3
Herpes	1	0,8
Brain tumours	2	1,5
Vertigo	3	2,3
Stroke	1	0,8
Kidney tumour	1	0,8
Heart Disorders	2	1,5
Allergies	2	1,5
Kidney stones	2	1,5
Hyperthyroid	1	0,8
Total	110	100.0

Oral Health Related Quality of Life (OHIP-14) or the quality of life of menopausal women with *medically compromised* can be seen in table 4, it can be seen that the quality of life of the dimension of functional limitations with the question of difficulty in pronouncing words is: 37.3% answered never; 20% of respondents answered rarely; 22.7% answered sometimes; 13.6% answered often; and 6.4% answered very often. For the question of difficulty in tasting flavours, there were : 39.1% of respondents answered never; 12.7% answered rarely; 10% of respondents answered sometimes; 30% answered

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often; and 8.2% answered very often.

The second dimension is the Physical Disorders dimension with the question of pain in the oral cavity, 0.9% of respondents chose never; 18.2% chose rarely; 24.5% chose sometimes; 52.7% chose often; and 3.6% chose very often. In questions related to discomfort when chewing food, there were: 2.7% chose never; 21.8% answered rarely; 12.7% with the answer sometimes; 39.1% chose often; and 23.1% with the answer very often.

The third dimension, namely psychological discomfort with questions related to feeling anxious, 52.7% answered never; 7.3% answered rarely; 16.4% answered sometimes; 20% answered often; and 3.6% answered very often. Questions related to feeling tense related to oral problems were answered by respondents with: 10.9% answered never; 19.1% answered rarely; 23.6% answered sometimes; 40% answered often; and 6.4% answered very often.

The fourth dimension is the dimension of physical limitations, there is a question about food being less satisfying because of oral disorders, then there are 4.5% who answered never feel less satisfying; 25.5% answered rarely feel less satisfying; 25.5% answered sometimes feel less satisfying; 36.4% answered often feel less satisfying; and there are 6.4% answered very often. The question with the same dimension related to whether people have ever stopped eating because of problems in their oral cavity was answered by respondents with 37.7% answering never; 12.7% answering rarely; 27.3% answering sometimes; 18.2% answering often; and 4.5% answering very often.

The fifth dimension is the dimension of psychological inability, with the question of whether it is difficult to feel relaxed regarding oral problems, then 28.2% answered never; 12.7% answered rarely; 17.3% answered sometimes; 38.2% answered often; and 3.6% answered very often. The next question is still with the same dimension, namely related to feelings of embarrassment, with 47.3% answering never; 16.4% answered rarely; 10.9% answered sometimes; 12.7% answered often; and 12.7% answered very often.

The sixth dimension is the social ability dimension, with questions related to feeling offended by the condition of the oral cavity, 45.5% answered never; 10% answered rarely; 27.3% answered sometimes; 11.8% answered often, and 5.5% answered very often. The question related to difficulties in carrying out daily activities is also included in the social ability dimension, with answers of 40.9% feeling never; 20% answered rarely; 13.6% answered sometimes; 22.7% answered often; and there were 2.7% who answered very often.

The seventh dimension, namely the handicap dimension with the question that life feels less satisfying due to the condition of the oral cavity, obtained an answer of 42.7% who said never; 15.5% answered

rarely; 17.3% answered sometimes; 16.4% answered often; and there were 8.2% who answered very often. The next question from the seventh dimension, which is related to the condition of the respondent's oral cavity causing the respondent not to carry out activities, obtained answers, namely 66% answered never; 6.4% answered rarely; 9.1% answered sometimes; 20.9% answered often; and as many as 3.6% answered very often unable to carry out activities due to the condition of their oral cavity.

Table 4. Frequency of OHIP-14

Quality of Life		Never		Seldom		occasionally		Often		Very Often	
Dimensions	Question	n	%	n	%	n	%	n	%	n	%
Functional Limitations	Difficulty in pronouncing words	41	37,3	22	20,0	25	22,7	15	13,6	7	6,4
	Difficulty in tasting	43	39,1	14	12,7	11	10,0	33	30,0	9	8,2
Physical Disorders	Pain in the oral cavity	1	0,9	20	18,2	27	24,5	58	52,7	4	3,6
	Discomfort when chewing food	3	2,7	24	21,8	14	12,7	43	39,1	26	23,1
Psychological Discomfort	Feel anxious	58	52,7	8	7,3	18	16,4	22	20,0	4	3,6
	Feel tense	12	10,9	21	19,1	26	23,6	44	40,0	7	6,4
Physical limitations	Food is less than satisfying	5	4,5	28	25,5	28	25,5	40	36,4	9	8,2
	Stop eating	41	37,3	14	12,7	30	27,3	20	18,2	5	4,5
Psychological Incompetence	feel hard to relax	31	28,2	14	12,7	19	17,3	42	38,2	4	3,6
	Feel embarrassed	52	47,3	18	16,4	12	10,9	14	12,7	14	12,7
Social Skills	Feel offended	50	45,5	11	10,0	30	27,3	13	11,8	6	5,5
	Difficulty carrying out daily activities	45	40,9	22	20,0	15	13,6	25	22,7	3	2,7
Handicap	Life is less than satisfying	47	42,7	17	15,5	19	17,3	18	16,4	9	8,2
	Not doing activities	66	60,0	7	6,4	10	9,1	23	20,9	4	3,6

Table 5 shows that the distribution of the quality of life status of *medically compromised* menopausal women in 110 respondents mostly fell into the moderate category with 66 respondents (60%), then in second place was the good category with 40 respondents (2.6%), and as many as 4 people (3.6%) were in the bad category.

Table 5. Frequency of respondents' status based on quality of life

	Frequency	Percent
Good	40	26,4
Medium	66	60,0
Bad	4	3,6
Total	110	100.0

DISCUSSION

Based on research on *Oral Health Related Quality of Life* in Menopausal Women with *medically compromised* at RSGM UMY, it shows that the distribution of characteristics related to respondents is seen from the average Oral Health Related Quality of Life or quality of life related to teeth and mouth in

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medically compromised menopausal patients at RSGM UMY in a table that provides information that the highest average score is in the dimension of physical disorders, especially complaints of pain in the oral cavity and discomfort in chewing food. The results of this study are in line with the research of (Berutu, M. S., Dharmautama, M, 2015) which states that the highest complaints are owned in the dimension of physical disturbance in respondents who use GTL with the OHIP-14 instrument which states that GTL users feel uncomfortable when eating and performing masticatory movements compared to when they still have natural teeth. Couto et al, 2018 also obtained the results of their research that the dimension of physical disturbance was the most frequent dimension of disturbance to respondents, and then the existence of poor oral health causes pain, feelings of discomfort , decreased self-confidence levels, and can cause difficulties in rest and sleep, this then makes a person's quality of life decrease.

The distribution of respondent characteristics based on the dimension of functional limitations in difficulty pronouncing words described in table 4 provides information that this is not a complaint for *medically compromised* menopausal women respondents. Alamsyah, R. M. (2018) in his research found similar results, that in his research there were 37.3% of respondents who had never felt any speech impairment based on problems with their teeth and mouth. in research on the quality of life of *medically compromised* menopausal women in RSGM itself, it was found that 39.1% of respondents stated that they did not experience changes in taste when tasting food, the results of this study are also in line with research conducted by Massie et al (2016) where in their research most respondents did not experience complaints about functional limitations due to problems from their teeth and mouth where respondents also mentioned that they were satisfied with the condition of their oral cavity which was assisted by using dentures.

The dimension of physical disturbance in this study is mentioned in table 4 which states the results that the majority of respondents feel frequent pain in their teeth and mouth (52.7%), especially feelings when chewing food and frequent feelings of discomfort (39.1%). Couto, P., Pereira, P. A., Nunes, M., & Mendes, R. A, (2018) in their research stated that most of the respondents, namely 61.9% of the respondents felt that there were physical disorders related to their oral cavity. Physical disorders related to one's oral cavity can occur due to discomfort and feelings of pain suffered (Baiju, R., Peter, E., Varghese, N., & Sivaram, R., 2017). The feeling of discomfort felt by most respondents occurs due to gingivitis, subgingival calculus, deep caries, and the loss of permanent teeth so that it interferes with them when eating and masticating, this causes them to be at risk of disruption of nutrition for the body(Sheng et al 2018)

The dimension of psychological discomfort can be obtained information in table 4 with the highest distribution value is that respondents answered that they never felt anxious and tense due to dental and oral problems, namely with a percentage (52.7%). (*Ratnawidya et al. 2018*.) also have research results that are in line with the results of this study that most respondents do not feel anxious or tense. In this study, most of the respondents, namely menopausal women with *medically compromised*, stated that they did not feel anxious and tense due to easy access to treatment, especially for teeth and mouth.

The dimension of physical limitations in seen in table 4 which in the table provides information that most respondents do not stop when chewing food (37.3%) but most respondents often feel dissatisfied with the food consumed (36.4%) due to their oral cavity problems. The same thing was also mentioned by Massie et al (2016) who stated that the majority of their respondents felt that they never stopped suddenly while consuming food. In this study, most of the respondents felt dissatisfied with the food they consumed because one of the factors was that most of the respondents were elderly people who had lost many teeth, and also most of the respondents came with pain in their teeth, so this affected satisfaction with the food they consumed.

The distribution of psychological disability characteristics in table 4 shows that the majority of respondents did not feel any feelings of embarrassment (47.3%) but felt that it was often difficult to relax due to the condition of their teeth and mouth (38.2%). *Berutu(2015*) also has similar research results that some of his respondents did not feel any feelings of embarrassment in his respondents. Darjanki, C. M., Perdana, S., Purwaningsih, Y., & Palupi, R, (2020) stated that the psychological dimension was the least felt by respondents where their research stated that their research had no effect on psychological disability and also had no effect on the social life of the respondents. Some *medically compromised* menopausal respondents mentioned that most of them were more concerned with health than appearance and aesthetics due to their age, most of whom were no longer young and also most suggested that their oral disease was not a life-threatening disease so that it did not make patients feel tense or excess stress. The feeling of difficulty relaxing in this study was found to be one of the factors because most of the respondents were patients who came in a state of dental pain so that it had an effect on their feelings of difficulty relaxing.

Complaints on the social ability dimension can be seen

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in table 4 which shows that most respondents never feel offended (45.5%) and never feel that their oral problems interfere with their daily activities (40.9%). This is similar to the research of Darjanki et al (2020) which states that the majority of respondents were only slightly disturbed in the social dimension. This can occur because respondents are more accepting of the conditions felt in their oral cavity so that this does not become an obstacle in their social life (Hongxing, L., List, T., Nilsson, I. M., Johansson, A., & Astrøm, A. N, 2014).

The distribution of characteristics in the handicap dimension in table 4 shows that most respondents have never felt that their lives are less satisfying (42.7%) and do not prevent them from carrying out activities due to complaints felt in their oral cavity (60.0%). This is in line with research conducted by Warsi et al (2018) which in their research found that respondents did not feel complaints about the handicap dimension. Handicap or disability or disability is less of a priority for respondents so that the results of the handicap dimension are placed in the distribution of characteristics with the lowest position(Skos kiewicz-Malinowska, K., Kaczmarek, U., Ziętek, M., & Malicka, B, 2015).

The status of respondents based on Oral Health Related Quality of Life in *medically compromised* menopausal female patients at RSGM UMY described in table 5 shows that the quality of life of respondents related to their oral health mostly has a moderate quality of life (60%). This research is in line with the research of Syariza et al (2018) which has the result that individuals with systemic diseases such as hypertension have a lower quality of life, especially in individuals who use terpai drugs, this happens because one of the factors is drug therapy from hypertension that controls their disease.Setijanto (2019) mentioned that the quality of life of most women can be affected by oral health disorders which will have an impact on their physical, psychological, and social well- being. *Medically compromised* systemic diseases are associated with various other complications in addition to oral and dental diseases whose presence can also interfere with quality of life and cause patients to underestimate the oral health problems they experience. In another study also mentioned that hypertensive patients have a high risk of oral disorders due to the therapy caused so that it affects their quality of life(Wong, F. M., Ng, Y. T., & Leung, W. K, 2019).

The results of research on Oral health Related Quality of Life in medically compromised menopausal women stated that most had a moderate quality of life. Quality of life is related to self-adjustment to the demands of the situation, if a person has a good quality of life, then the individual is easier to adjust to the demands that exist so that the stress experienced is low, otherwise people who have a low quality of life will increase the stress of the demands faced, this is what makes it difficult to adjust to the chronic disease faced, causing high levels of stress(Riyadina, 2019).

CONCLUSIONS

1. Most of the respondents of *medically* compromised menopausal women patients at RSGM UMY were at the age of 45-59 years.
2. Most of the *medically compromised* menopausal women respondents worked as housewives.
3. Most of the *medically compromised* menopausal women respondents had a high school education level.
4. Most of the *medically compromised* menopausal women respondents felt complaints on the physical impairment dimension of chewing discomfort.
5. Most respondents never had difficulties with the functional limitation dimension, psychological discomfort dimension, physical limitation dimension, social ability dimension, and handicap dimension.
6. Most of the *medically compromised* menopausal women respondents at RSGM UMY had hypertension.
7. Most of the *medically compromised* menopausal women respondents had moderate quality of life based on OHIP- 14.

RECOMMENDATION

Future research is expected to consider conducting research on the relationship between quality of life with *medically compromised* menopausal women patients and can also increase supervision, control, and comprehensive services by health care providers to *medically compromised* menopausal women patients related to their oral health by providing education to patients in maintaining oral and dental health in order to maintain a good quality of life.

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