



Status quality of life in hypertensive patients at Hue University of medicine and pharmacy hospital

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Abstract

Background: Quality of life is becoming a central issue in patient care. In response to the increasing prevalence of hypertension worldwide, it is important to understand quality of life in hypertensive patients.

Objective: To describe the quality of life in hypertensive patients at Hue University of Medicine and Pharmacy Hospital.

Materials and Methods: The study was conducted on 172 subjects from May 2020 to July 2021 on hypertensive patients being treated at the Internal Medicine Department - Hue University of Medicine and Pharmacy Hospital. The study used a cross-sectional descriptive research method. Descriptive statistics were used to test the mean score of quality of life.

Results: WHOQOL – BREF Cronbach's alpha coefficient for 26 items is 0.811, demonstrating good internal consistency. Based on the 33rd and 66th percentile scores on the total quality of life score, most of the patients participating in the study rated the quality of life at an average level when comprehensively surveyed across four domains. In which, the average score in the field of environment has the highest rate (mean score is 55.32; SD = 10.29), the lowest is in the field of physical health (average score 45.67; SD = 13.57).

Conclusion: WHOQOL - BREF is a useful and highly reliable tool to assess the quality of life of hypertensive patients. With these results achieved, action is needed to improve the quality of life of hypertensive patients.

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Keywords: hypertension, quality of life, WHOQOL-BREF

1. Introduction

Hypertension is a serious public health condition due to its prevalence and increasing trend in all countries around the world, one of the eight leading causes of disability and global mortality. An analysis of worldwide data on the global burden of hypertension found that approximately 972 million adults had hypertension in 2000, of which 333 million were in developed countries and 639 million were in developing countries; It is estimated that by 2025, the prevalence of hypertension in the world will increase by about 60%, reaching 1.56 billion adults ^[1]. In Vietnam, according to the national survey of the Ministry of Health (2015), in adults aged 18 - 69 years in 63 provinces/cities, the rate of hypertension was 18.9% ^[2]. In 2012 - 2017, in Thua Thien Hue, through screening of 32,603 people aged 40 and older, there were 8,711 people with hypertension, accounting for 26.7%. By 2018, the percentage of people with hypertension increased to 27.8% ^[3].

For patients with hypertension, controlling blood pressure is a top priority not only because of the high frequency of the disease but also because of the effects of the disease on the patient's quality of life. The quality of life of people with hypertension is affected by issues related to the persistence of the disease and the chronic nature of hypertension; negative impact of the disease

on physical and emotional health [4]. Some changes in health standards, increases in prevalence, incidence of chronic diseases have been influenced by epidemiological and demographic changes and thus reduced quality of life [5].

In 2011, a systematic study conducted on 20 studies from 1980 to 2009 showed that patients with hypertension had a lower quality of life index than subjects without hypertension [6]. Furthermore, a decrease in quality of life with respect to the social domain was found in patients who did not participate in exercise and had mental fatigue [7]. In Chongqing China, research by Meng Xiao and colleagues (2019) showed that gender and economic burden are common factors affecting the quality of life of hypertensive patients of both sexes [8]. Old age and the presence of comorbidities are negatively related to the quality of life of hypertensive patients found in the study of Ninh Thi Ha *et al* [9].

Good quality of life is a necessary need for every patient with hypertension. It not only helps patients improve their condition but also helps them prevent dangerous complications. Enhancing quality of life becomes a central area of patient care. Understanding and objectively evaluating quality of life in hypertensive patients is essential to assist nurses in planning comprehensive patient care. Up to now, at Hue University of Medicine and Pharmacy, there have been a number of research projects on quality of life on many subjects. However, the issue of quality of life in hypertensive patients has not yet been studied. From the above facts, we conducted research on the topic: "Status quality of life in hypertensive patients at Hue University of Medicine and Pharmacy Hospital" with the goal: Describe the quality of life in with hypertensive patients at Hue University of Medicine and Pharmacy Hospital.

2. Subjects and Study to Design

2.1. Research subjects: including 172 The patient has been diagnosed with hypertension and is receiving inpatient treatment at the Department of Internal Medicine - Hue University of Medicine and Pharmacy Hospital from May 2020 to July 2021.

Selection criteria

- Patients over 18 years old.
- Diagnosed with hypertension for 6 months or more.
- Agree to participate in the study.

Exclusion criteria

- Patients with mental disorders can-not answer a set of questions.
- Patients did not answer 100% of the questionnaires.

2.2. Research Methods

2.2.1. Research design: Cross-sectional descriptive research method.

2.2.2. Sampling method

Select sample: Select the whole sample.

2.2.3. The method of data collection

- We conduct this set of questions in the form of direct interviews with patients.
- Before interviewing the patient, we will briefly explain the set of questions and guide the patient to answer issues related to the patient's QoL. Items A1 - A6 include: age, height, weight, gender, place of residence, ethnicity. We refer to the patient's medical record to ensure accuracy

and save time. From sections A7 - B26, we conduct direct interviews with patients. During the patient's response, we will answer questions and terms that make the patient unclear about the issue to achieve the best answer.

- After the patient finishes answering, we review again to ensure that the content in the questionnaire is not missed.
- At the end of the interview, thank the research subjects for their cooperation.
- The average time spent for a subject participating in the study is 15 - 20 minutes.

2.2.4. Data collection tool

In this study, to investigate QoL in hypertensive patients, we refer to the WHOQOL - BREF QOL scale built in 1996 [10] and the translation by author Truong Quang Trung [11]. Author Truong Quang Trung's QoL scale has been tested in Vietnam and translated into Vietnamese according to the forward and back translation process; Cronbach's alpha coefficient for the 26 items of WHOQOL - BREF is 0.888, indicating a high level of internal consistency of the scale [11]. Using the WHOQOL - BREF scale by author Truong Quang Trung, we received approval and sent the Vietnamese version of the questionnaire via Email to the author. The WHOQOL - BREF scale is considered a reliable scale to measure the QoL of hypertensive patients. The reliability and validity of WHOQOL - BREF on hypertensive patients has been proven through an unpublished study in Ho Chi Minh City and the research results of author Ninh Thi Ha have also confirmed that this is a good scale. Reliable measure to measure QoL of hypertensive patients [9].

The questionnaire used to directly interview patients includes 2 main parts:

Part A. Characteristics of research subjects: age, gender, ethnicity, height, weight, place of residence, occupation, education level, marital status, economic status, duration of hypertension, treatment compliance, presence of comorbidities, physical activity, smoking, alcohol/beer consumption.

Part B. Questions about the patient's quality of life WHOQOL - BREF scale has a total of 26 questions, rated on a 5-point Likert scale [12]. Questions 1 and 2 in the scale are tested separately and the remaining 24 questions about satisfaction are divided into 4 areas: physical health, psychology, social relationships and environment.

How to calculate WHOQOL-BREF scale scores [10]

- Step 1. Review 26 sentences from B1 to B26. The patient circles answer 1 which is equivalent to 1 point (1=1), circle answer 2 which is equivalent to 2 points (2=2), circle answer 3 which is equivalent to 3 points (3=3), circle Enter answer 4 which is equivalent to 4 points (4=4), circle answer 5 which is equivalent to 5 points (5=5).

- Step 2. Use the recode command in spss to convert 3 negative sentences B3, B4 and B26. Circle answer 1 equivalent to 5 points (1=5), circle answer 2 equivalent to 4 points (2=4), circle answer 3 equivalent to 3 points (3=3), circle Answer 4 is equivalent to 2 points (4=2), circling answer 5 is equivalent to 1 point (5=1).

- Step 3. Calculate CLCS score within the range of 4-20.

+ Domain 1 (4-20) = MEAN(B3, B4, B10, B15, B16, B17, B18)*4

+ Domain 2 (4-20) = MEAN(B5, B6, B7, B11, B19, B26) *4

+ Domain 3 (4-20) = MEAN(B20, B21, B22)*4

+ Domain 4 (4-20) = MEAN(B8, B9, B12, B13, B14, B23, B24, B25) *4

- Step 4. Calculate CLCS score

Use the conversion table to convert scores from a scale of 4 - 20 to a scale of 0 - 100 points.

The QOL score is calculated as the average of 4 domains.

\sum Quality score = MEAN (domain 1 + domain 2 + domain 3 + domain 4)

The higher the score, the better the patient's quality of life. Classification of low, medium and high QoL scores based on the 33rd and 66th percentile cut-off points of the QoL score range (13).

+ Low QoL: < 33

+ Average QOL: 33 – 66

+ High QOL: > 66

Questions 1 and 2 are scored separately. These 2 questions do not include scores in the 4 domains.

2.3. Analyze data

- Cronbach's alpha coefficient was calculated to estimate

the reliability of the WHOQOL – BREF scale. In our study, the Cronbach's alpha coefficient of WHOQOL – BREF for 26 items was 0.811.

- Data were described and analyzed using SPSS 20.0 software.
- Qualitative variables are described by frequency (n) and percentage (%).
- Quantitative variables are described using mean and standard deviation.

2.4. Ethics

The study complies with the approval process of the Ethics Council - Hue University of Medicine and Pharmacy according to decision No.: H2020/120 dated June 4, 2020. We only study patients who agree to participate in research. The study was explained to all participants and written informed consent was obtained before conducting interviews. All information collected through interviews and patient medical records are kept confidential. The research is for patient care purposes only and has no other purpose.

3. Results

3.1. General characteristics of research subjects

Table 1: General characteristics of study subjects

	Characteristics	N	%
Age	< 45	5	2,9
	45 – 54	10	5,8
	55 – 64	39	22,7
	≥ 65	118	68,6
	Mean ± SD	70,77 ± 12,85	
Location	Urban	101	58,7
	Rural	71	41,3
Ethnicity	Kinh	171	99,4
	Others	1	0,6
Sex	Male	77	44,2
	Female	96	55,8
Occupation	Civil servants	7	4,1
	Worker	8	4,7
	Farmer/Housewife	107	62,2
	Retire	14	8,1
	Purchase	27	15,7
	Others	9	5,2
Education level	Illiterate	17	9,9
	Elementary	86	50,0
	Junior high school	30	17,4
	High school	22	12,8
	Intermediate, college	11	6,4
University or higher	University or higher	6	3,5
	Poor households/ near-poor households	8	4,7
Economic status	Normal households	164	95,3
	Single	6	3,5
Marital status	Married	114	66,3
	Widowed/divorced/separated	52	30,2
	< 18,5	17	9,9
Body mass index	18,5 – 22,9	90	52,3
	23,0 – 24,9	34	19,8
	≥ 25,0	31	18,0
	< 1 year	11	6,4
Duration of disease	1 - 5 years	66	38,4
	5 - 10 years	42	24,4
	≥ 10 years	53	30,8
	Yes	112	65,1
Co-morbidities	No	60	34,9
	Yes	117	68,0
Adherence to treatment	No	55	32,0

Physical activities	Yes	125	72,7
	No	47	27,3
Smoke	Yes	40	23,3
	No	132	76,7
Alcohol/ beer	Yes	24	14,0
	No	148	86,0

Table 1 presents that the average age was 70.77 ± 12.85 , 58.7% live in urban, 99.4% were kinh, 55.8% were female, 62.2% were farmers/housewives, a half had (50.0%) reported elementary education, 95.3 % had normal households, 66.3% were married, 52.3% had only the number of normal body

mass index, the duration of disease from 1 to 5 years accounted for the highest rate (38.4%), the rate of co-morbidities accounted for 65.1%, with 68.0% complied with the treatment, 72.7% were physically active, 23.3% used tobacco, 14% drank alcohol.

Quality of life and its associated factors in hypertensive patients

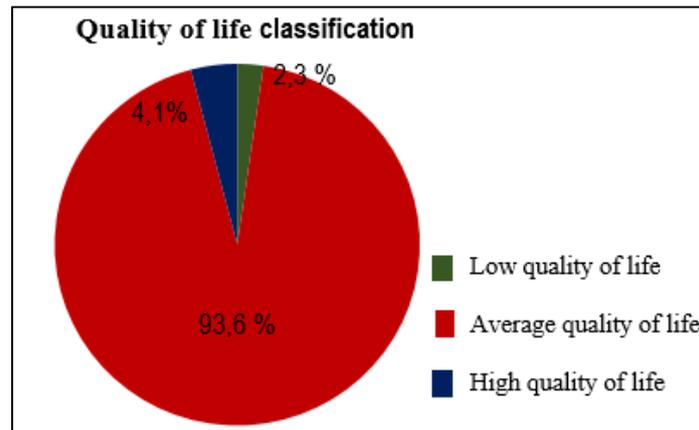


Fig 1: Quality of life and its associated factors in hypertensive patients

There were 93.6% of patients studied with average QoL classification.

Table 2: Self-assessment of quality of life in terms of personal health

Self-assessment of quality of life about personal health		Frequence (n = 172)	Ratio (%)
Self-assessment of quality of life	Poor	35	20,3
	Neither poor nor good	113	65,7
	Good	24	14,0
Self-assess your level of satisfaction with your health	Very dissatisfied	1	0,6
	Dissatisfied	101	58,7
	Neither satisfied nor dissatisfied	68	39,5
	Satisfied	2	1,2

In table 2, 14.0% of patients a self-assessed good quality of life, 1.2% of patients were satisfied with their health.

Table 3: Quality of life domain scores

Quality of life domains	Mean \pm SD	Min-Max
Physical	45,67 \pm 13,57	19 – 81
Psychological	51,01 \pm 13,75	19 – 88
Social relationships	48,45 \pm 12,09	25 – 75
Environment	55,32 \pm 10,29	38 – 88
The average score of quality of life	50,11 \pm 9,96	31,25- 81,5

The average score in the physical health domain is 45.67 ± 13.57 ; Psychological domain was 51.01 ± 13.75 ; The social relationship domain was 48.45 ± 12.09 ; The environmental field is 55.32 ± 10.29 .

The average QOL score is 50.11 ± 9.96 . The lowest score is 31.25 and the highest score is 81.5.

4. Discussion

Table 3.1 shows that patients aged < 45 years old account for the lowest percentage (2.9%), the highest percentage is patients aged 65 years or older, accounting for 68.6%. The average age of the study was 70.77 ± 12.85 , the average age of the study was quite high because more than half of the patients in the study were 65 years old or older. Our research results are higher than the research results of author Ninh Thi Ha *et al* [9] (the average age of the study is 65.8 ± 9.9), also higher than the study of Zhuoru Liang *et al* (14) (patients aged 65 years and older accounted for only 45.77%). This result is completely consistent with the reality of our research conducted on patients living in urban and rural areas, while author Ninh Thi Ha's research and Zhuoru Liang's research only conducted research on patients living in urban and rural areas. Table 3.1 shows another characteristic of the research subjects is the place of residence. Our study shows that more

than half of the patients live in urban areas, accounting for 58.7%, the remaining 41.3% of patients live in regional areas countryside. The results of our study are higher than the results of the Meng Xiao study^[8] (patients living in urban areas account for 38.45%). A prominent feature in table 3.1 shows that most of the research subjects were of Kinh ethnicity, accounting for 99.4%, with only 0.6% of research patients being of other ethnicities. The reason for this difference may be because our study sample size is not large enough.

Another characteristic of the study population is gender, the percentage of female patients is 55.8 % higher than that of men (44.2 %). Our research results are similar to the research results of authors Nguyen Hoang Dinh^[15], Ninh Thi Ha^[9], Meng Xiao^[8]. However, in 2019, author Hoang Van Minh and colleagues^[16] showed that the percentage of female patients with hypertension was 14.9% lower than that of male patients (23.1%). Although in our study the percentage of female patients was higher than that of male patients, the difference was not large. Therefore, the ratio of male and female patients still ensures equal gender representation for the research sample and reflects the actual situation of patients treated at the hospital at the time of the study.

Patients who are farmers/housewives account for the highest rate at 62.2%, and civil servants are the profession with the lowest rate at 4.1%. Research by Tran Cong Duy and Chau Ngoc Hoa^[17] shows that in the group of grouped occupations, farmers have the highest percentage, accounting for 19.7%, occupations that are not grouped account for nearly half of the number of research subjects (44%). There is this obvious difference because in the author's research, when dividing occupational groups, the author did not compile statistics on the diversity of occupations.

Primary education accounts for half of the research patients (50%), with the lowest being university and postgraduate education, accounting for 3.5%. Education level is an important factor that helps sick patients be able to realize the importance of the problem, grasp more information and be more alert to risk factors that make the disease worse. Thereby helping patients change their lifestyle to improve their condition. Our results are similar to other studies, most of the patients participating in the study had an education level of elementary school or less. A study by author Zhuoru Liang^[14] showed that 24.45% had primary education, college education only accounted for 0.4% of the population total research. Besides, the rate of illiterate patients also accounts for a fairly high percentage in research in recent years. In 2019, Meng Xiao's research^[8] showed that 36.33% of the study subjects were illiterate. Author Nguyen Hoang Dinh^[15] in 2016 also showed that the rate of illiterate patients was 17.07%. The high illiteracy rate in the studies can be explained because most of the participating patients were older.

Patients with average economic status or higher account for 95.3 %. This result shows that most patients who come to the hospital for treatment have a stable economic status, meeting their medical examination and treatment needs. The economic situation of the studied patient is completely consistent with the economic situation in Thua Thien Hue according to the 2020 review plan, the rate of poor households accounts for 3.45% of the entire province^[18]. According to Meng Xiao^[8], the research results showed that more than four-fifths of the patients participating in the study had economic status from average to high, accounting for

83.95%, of which more than half of the patients in the study had economic status. High economic level accounts for 57.67%. Ninh Thi Ha *et al*^[9] also showed similar results, patients participating in the study had poor households accounting for about 4.7%.

In addition, our research results also show that another characteristic of the research subjects is marital status. More than half of the patients participating in the study were married, accounting for 66.3%, 30.2% of patients were separated/divorced/widowed and 3.5% lived alone. The results of our study are similar to other studies, most of the patients studied were in a married state: in Ninh Thi Ha *et al*'s study, it was 70.2%^[9], Ana Carolina Melchior was 67, 5%^[19].

In our study, patients participating in the study with normal BMI accounted for the highest percentage of 52.3%, followed by patients with overweight BMI accounting for 19.8%, and 18.0% of patients with BMI being obese and 9.9% of patients had lean BMI. Our research results are similar to the results of Nguyen Hoang Dinh and Huynh Bich Nhieu^[15] in 2016, the percentage of patients with normal BMI was the highest at 72.46%. This result is similar to the research of Tran Cong Duy and Chau Ngoc Hoa^[17], the percentage of patients with normal BMI accounts for 49.0%.

Duration of hypertension is also a characteristic of the study subjects. The percentage of study patients with duration of hypertension less than 1 year accounts for the lowest rate (6.4%), 1 - 5 years accounts for the highest rate (38.4%), from 5 - 10 years and from 10 years or more account for 24.4% and 30.8%, respectively. In our study, the percentage of patients with hypertension for about 1 to 5 years was the highest, this result is similar to the results of authors Nguyen Hoang Dinh and Huynh Bich Nhieu (49.10%)^[15], Ninh Thi Ha *et al* (53.5%)^[9], Ana Carolina Melchior (41.5%). However, in the study by authors Tran Cong Duy and Chau Ngoc Hoa^[17], the highest rate of patients with.

The presence of co-morbidities accounts for 65.1%, while patients without co-morbidities account for 34.9%. Our research results are higher than the research results of author Ninh Thi Ha *et al*^[9], the percentage of patients with comorbid diseases accounts for 43.7%. Treatment compliance is a study feature, 68% of participating patients adhered to treatment. Hypertension is a chronic disease that requires lifelong treatment. Compliance with treatment is one of the factors ensuring treatment effectiveness, helping patients control blood pressure within normal limits, minimizing complications and improve lives. Ninh Thi Ha's study also showed that more than half of the patients participating in the study complied with the treatment regimen (53.5%). Besides, table 3.1 shows the results of physical activity characteristics, 125 participating patients were physically active, accounting for 72.7% and 27.3% of patients were not physically active. Physical activity in our study is understood as any body movement performed by skeletal muscles, which requires energy expenditure - including those performed during exercise. when working, playing, performing household chores, traveling and engaging in recreational purposes^[19]. This is also a beneficial feature that deserves attention to help patients control their condition and lead a healthy lifestyle. Smoking and drinking alcohol/beer are also two characteristics of the study subjects. These are two factors that negatively impact hypertensive patients and negatively affect the patient's quality of life. Table 3.1 shows that the rates of smoking and drinking alcohol/beer are 23.3% and

14.0%, respectively. Our research results are similar to the research results of some other researchers. Even though they have hypertension, these patients still maintain bad habits, continue to smoke and drink alcohol/beer. Research by Tran Cong Duy and Chau Ngoc Hoa [17] showed that 25.7% of patients used tobacco. Zhuoru Liang's study [14] showed that 14.42% of patients participating in the study used tobacco.

QoL survey plays a very important role, this has great significance for patients themselves and society. Measuring QoL helps identify priority issues and monitor changes in treatment response.

Based on the 33rd and 66th percentile cutoff points on the total QOL score, QOL is divided into three levels [13]. The results of chart 3.1 show that the average quality level category accounts for the highest rate of 93.6%, the good quality level category accounts for 4.1%, and the lowest quality level category accounts for 2.3%. This result shows that most patients participating in the study rated QoL at an average level when comprehensively surveyed in four areas. Our research results are similar to the study by author Hoang Thi Lien and colleagues conducted in Hue City in 2014. In this study, the percentage of research subjects with average quality of life accounted for The highest rate (82.8%), the good quality level classification accounts for 14.0% and the lowest is those with low quality standards, accounting for 3.2% [13]. From the above results, it is necessary to improve the quality of life for people with diseases, thereby leading to a better quality of life.

The QoL scale includes 26 questions. In which sentences 1 and 2 are tested separately. Question 1 shows the level of self-assessment of patient's quality of life, 14.0% of patients self-assess their quality of life as good, 20.3% of patients rate their quality of life as poor, and the remaining 65.7% of patients Self-assessed QoL at average level, no patient rated QoL of life at very poor or very good level. Question 2 is to self-assess your level of satisfaction with your health. 1 patient out of 172 patients, accounting for 0.6%, self-assessed their health satisfaction, more than half. Patients who are dissatisfied with their self-assessment of their health account for 58.7%, 39.5% of patients rate their satisfaction with their health as acceptable, and 1.2% Patients self-assessed their satisfaction with their health and no patient self-rated as very satisfied with their health. The remaining 24 questions of the WHOQOL-BREF scale are divided into four areas and used to calculate QoL scores of hypertensive patients.

Table 3.3 shows that the average score in the environmental field has the highest percentage (average score is 55.32; SD = 10.29), and the psychological field (average score is 51.01; SD = 13.75), the field of social relationships (mean score 48.45; SD = 12.09), the lowest is the field of physical health (mean score 45.67; SD = 13.57). The average QoL score in our study was 50.11, SD = 9.96, the lowest score was 31.25 and the highest score was 81.5. Our research results are lower than those of author Ninh Thi Ha *et al.* In Ninh Thi Ha's study, the physical health domain had a mean score of 54.7 and SD of 14.9; The psychology field had an average score of 49.4 and SD = 12.7, this is also the field with the lowest score in the author's research; The social relations domain has the highest score (mean score 64.1, SD = 14.1); The environmental field has an average score of 59.5 and SD = 10.4 [9]. Our study results are also lower than those of Ana Carolina Melchior *et al* [20], the study's QoL scores ranged from 59.7 (for the environmental domain) to 72.3 for the social relations domain. Although the three studies had

differences in scores, the difference was not too large. The difference in QoL scores can be explained by the difference in study time. Research by Ninh Thi Ha and colleagues was conducted in 2014, research by Ana Carolina Melchior and colleagues was conducted 13 years ago. At these times, hypertensive patients may not pay much attention to their own quality of life, and interviewing is still subjective. However, with the rapid development of society, human needs are increasing, demanding a better life, but the medical condition has greatly affected the patient's life, thereby reducing the patient's QoL. On the other hand, our results are much higher than the research results of Nguyen Hoang Dinh and Huynh Bich Nhieu [15] conducted in 2016. In this study, the author used the SF-36 scale to survey QoL. In patients with hypertension at Can Tho City General Hospital (average QoL score was 31.4). This difference is due to differences in research areas and the use of different measurement tools. Compared to other studies on chronic diseases using the WHOQOL-BREF scale, it shows that the QoL of the studied patient is at an average level. At Thai Nguyen Central General Hospital in 2018, a study on QOL on patients with chronic obstructive pulmonary disease, the average QOL score was 42.9 ± 6.9 [21]. Another study by Rosa Azevedo Da Luz in Brazil on QoL of patients with chronic pelvic pain also showed similar results [22]. Chronic diseases in general and hypertension in particular are health conditions that develop over a very long period of time and often cannot be completely cured, although some diseases can be controlled through lifestyle and medication. Chronic diseases affect the patient's daily activities and life, and over time will negatively affect the patient's quality of life and cause serious consequences if there is not timely intervention and lifestyle changes. Therefore, during the treatment and care process, it is necessary to have an impact on factors affecting the patient's quality of life and disease.

5. Conclusion

WHOQOL – BREF is a useful tool to assess the quality of life of hypertensive patients. The study's quality of life score is at an average level. This is a warning to individuals, families, local authorities and medical staff to take necessary actions to improve the quality of life for patient.

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