



## Overview on Quality of Life in Patients with Hypertension

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### Abstract

Although the prevalence of hypertension is increasing, less than half of hypertensive patients are aware of their condition. The most common risk factor for cardiovascular disease is hypertension. Because symptoms of hypertension are not visible in the early stages, it is known as the silent killer; if left untreated, it causes end-organ damage. Because hypertension is a chronic disease, medications should be taken for the rest of one's life. To keep blood pressure under control, both pharmacological and non-pharmacological treatment is required. Quality of life has emerged as an important tool in the fields of social science, clinical medicine, and health care. Non-communicable and chronic diseases are evaluated in terms of quality of life. The assessment of health-related quality of life is important because it aids in the understanding of the effects of disease on health. Various questionnaires, such as the SF-36 (Short Form-36) and the SF-12 (Short Form-12), are used to assess the quality of life. Questionnaires cover a wide range of topics, including patients' mental and emotional health, physical functioning, social aspects, vitality, and overall health. The number of questions varies depending on the questionnaire used to assess quality of life, but most of them cover the same domain, such as mental health and general health.

**Keywords:** End organ damage, Quality of life, SF-36, SF-12

### Introduction

A persistent elevation of blood pressure (bp) in the arteries is defined as hypertension/high blood pressure. It is measured in terms of systolic and diastolic blood pressure (systolic –pressure exerted by blood on the artery walls of the heart during systole or heart contraction, diastolic –pressure exerted by blood on the artery walls of the heart during heart relaxation). Cardiac output (CO) and Systemic Vascular Resistance (SVR) or Systolic blood pressure (SBP), diastolic blood pressure (DBP) can be used to calculate Mean Arterial Pressure (DSP).

$$\text{MAP}=\text{CO}\times\text{SVR} \quad \text{or} \quad \text{MAP}=1/3 \text{ SBP} + 2/3 \text{ DBP}$$

Hypertension is called as a silent killer because there are no symptoms in the early stages of hypertension; it increases the risk of developing cardiovascular diseases and other conditions such as hemorrhagic stroke, ischemic stroke, stroke, and ischemic heart disease if left untreated. Headache, facial flushing, dizziness, chest tightness, and vertigo are a few clinical manifestations/symptoms of hypertension. Lack of physical activity, obesity, excessive salt consumption, smoking, and chronic alcohol consumption all increase the risk of hypertension.

The general public is unaware of hypertension. There are several types of hypertension.

- a) Essential hypertension
- b) Secondary hypertension

a) Essential hypertension: Also known as primary hypertension. When there are no underlying diseases in the case of primary hypertension, it may be due to genetic variation and family history.

b) Secondary hypertension: It develops as a result of underlying diseases such as primary aldosteronism, pheochromocytoma, etc.

### **Epidemiology:**

Hypertension affects not only the elderly but also young adults. Hypertension is recognised as an independent risk factor for chronic diseases such as diabetes, which impose a significant burden on society. The second leading risk factor is hypertension. Hypertension prevalence varies. Globally, 17 million people died as a result of hypertension complications. In middle- and lower-income countries, cardiovascular diseases account for roughly 80% of all deaths. Around 9 million deaths occur worldwide, so the World Health Organization identified hypertension as a major risk factor for morbidity and mortality. According to the global burden of disease study, the prevalence of hypertension is increasing on a daily (8.5 percent of the global population is affected every year). It is predicted that 1.5 billion people will be affected by hypertension by 2025. It is predicted that by 2025, the prevalence of hypertension will have risen to 29%. Primary hypertension affects approximately 90% of people when the underlying cause cannot be identified. According to studies, people with hypertension have 1.56 times the risk of developing atrial fibrillation. Approximately 50% of patients diagnosed with hypertension are receiving treatment, with the remaining 37% having hypertension under control. Rural people had a lower rate of awareness, treatment, and control than urban people. According to a 2004 turkey burden study, the prevalence of hypertension in developing countries was 32.2 % in males and 30.5 % in females. In developed countries, males account for 40.8 % and females account for 33.0 %.

### **Quality of life:**

In the 1930s, studies on quality of life began to emerge. In recent years, quality of life has taken a leading role in health care. In the research sector, the importance of health-related quality of life has grown over the last 15 years. Many authors defined the concept of quality of life as an individual's perception of their situation. Quality of life is a subjective concept that is based on individual perception. The physical, psychological, social, and spiritual well-being all have an impact on health-related quality of life. Quality of life is defined by the World Health Organization as "individual perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns." In the field of health and medicine, the concept of quality of life is used as a target for research and practice. Understanding the quality of life aids in the improvement of symptoms, the restoration of patient health, and the modification of treatment. The impact of disease on health can be measured using health-related quality of life. While assessing the quality of life, one can learn about the population's social vulnerability.

Various questionnaires are used to assess health-related quality of life. Most commonly, SF (short form)-36, SF (short form)-12, and WHOQOL-BREF (World Health Organization Quality Of Life Scale) are used.

) WHOQOL-BREF consists of 26 questions and two individual questions based on health transition and insight into the quality of life. WHOQOL-BREF is composed primarily of four domains, which are as follows:

#### **1. Physical health**

- ) Activities of daily living
- ) Dependence on medicinal substances and medical aids Energy and fatigue
- ) Mobility
- ) Pain and discomfort
- ) Sleep and rest
- ) Work Capacity

**2. Psychological**

- ) Bodily image and appearance
- ) Negative feelings
- ) Positive feelings
- ) Self-esteem
- ) Spirituality / Religion / Personal beliefs
- ) Thinking, learning, memory, and concentration.

**3. Social relationships**

- ) Personal relationships
- ) Social support
- ) Sexual activity

**4. Environment**

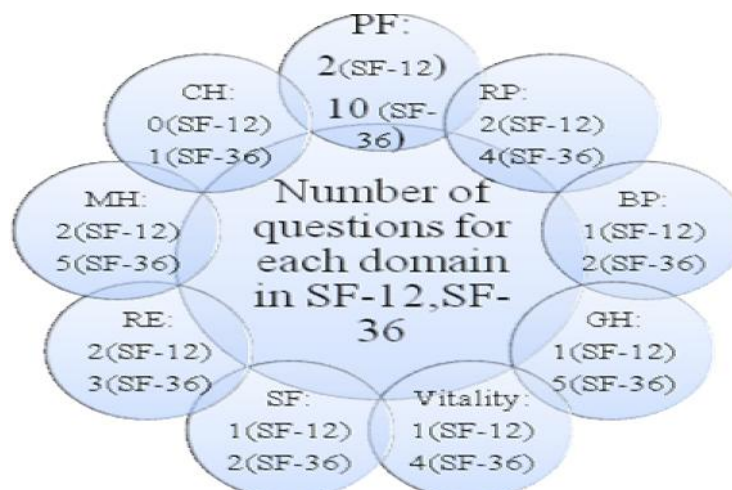
Financial resources  
 Freedom, physical safety and security  
 Health and social care: accessibility and quality  
 Home environment  
 Opportunities for acquiring new information and skills  
 Participation in and opportunities for recreation / leisure activities

Physical environment (pollution / noise / traffic / climate)  
 Transport

The SF-36 questionnaire has been widely used in health-related quality of life studies (HRQOL). It was divided into two categories: mental health components (vitality, social function, mental health, and emotional problems), and physical health components (Physical function, general health, body pain, limitation due to physical function). It is made up of eight domains, which are as follows:

- A) Physical Functioning (PF)
- B) Role- Physical (RP)
- C) General Health (GH)
- D) Vitality
- E) Social Functioning (SF)
- F) Role- Emotional (RE)
- G) Mental Health (MH)
- H) Bodily Pain. (BP)

SF (short form-12): The SF-12 is a shortened form of the SF-36. It has eight domains; similar to the SF-36, but the number of questions in each domain varies.



The WHOQOL-100 consists of a hundred questions. Along with general health, it consists of six domains, which are as follows:

1. Overall Quality of Life and General Health
2. Physical Health (Energy and fatigue, Pain and discomfort, Sleep and rest)

**3. Psychological**

- ) Bodily image and appearance
- ) Negative feelings
- ) Positive feelings
- ) Self-esteem
- ) Thinking, learning, memory and concentration

**4. Level of Independence**

- ) Mobility
- ) Activities of daily living
- ) Dependence on medicinal substances and medical aids
- ) Work capacity

**5. Social Relations**

- ) Personal relationships
- ) Social support
- ) Sexual activity

**6. Environment**

- ) Financial resources

- ) Freedom, physical safety and security
- ) Health and social care: accessibility and quality
- ) Home environment
- ) Opportunities for acquiring new information and skills
- ) Participation in and opportunities for recreation/leisure
- ) Physical environment (pollution/noise/traffic/climate)
- ) Transport

**7. Spirituality/Religion/Personal beliefs**

- ) Religion/Spirituality/Personal beliefs (single facet)
- ) Minichal Scale: The Minichal Scale consists of 17 questions. Along with the overall impact on health and two domains, they are:
  - (A) Mental domain (9 questions)
  - (B) Somatic domain (7 questions)
  - (C) Last question is based impact of hypertension on quality of life

**Results and Discussion**

S. No	Author	Year	Study Design	Study Period	Sample size	questionnaire
1	Xianglong Xu et.al	2016	Cross-sectional	6 months	1224	SF-36
2	Dhfer mahdi et.al	2019	Observational cross sectional	4 months	280	EQ-5D
3	M.Elshazly et.al	2017	Descriptive cross-sectional	6 months	341	SF-36
4	Kaliyaperumal et. al	2016	Cross-sectional	6 months	300	SF-36

1. Xianglong Xu et al., (2016): A cross-sectional study with 1224 participants was carried out. There were 150 (12.25 percent) hypertensive participants among these participants. According to the findings of this study, participants with hypertension had a lower score in a physical functioning domain of quality of life when compared to non-hypertensive participants (without hypertension). Sleep deprivation is associated with a low quality of life in participants. Participants

with poor family relationships scored lower in physical functioning, social function, and emotional domains of quality of life. The BMI is directly proportional to the physical and mental health score (High BMI-high score of Physical and mental domain in quality of life). Participants with a low level of education had lower levels of physical functioning and body pain.

2. Dhfer Mahdi et al., (2019): The prospective observational study was carried out in Saudi Arabia to assess the quality of life in hypertensive patients using the EQ-5D questionnaire. In this study, 140 subjects with hypertension and 140 subjects without hypertension were included (a total of 280 subjects). Study revealed that subject with hypertension and other co-morbid conditions such as diabetes, dyslipidemia, angina, myocardial infarction, and stroke had lower daily activity and pain sensation domain scores when compared to subjects without hypertension either subject with hypertension without co-morbid conditions. There was a significant difference in a physical component of quality of life between subjects with and without hypertension. The collected data is analyzed using the T-test and SPSS.

3. M.Elshazly et al., (2017): A descriptive cross-sectional study was conducted with 224 participants with diabetes and 117 participants with hypertension. The study was carried out for 6 months. The research was carried out at the primary health care unit (PHC) of El batanon village, shebin el-kon district, menoufia governorate. The SF-36 questionnaire is used to assess one's quality of life. Data were analysed using the Statistical Package for the Social Sciences software; the student  $t$ -test was used to measure quantitative data, and the chi-square test was used to measure qualitative data. According to the findings of this study, subjects with hypertension have a higher quality of life than subjects with diabetes. Age, duration of illness, occupation, and low income all have an impact on the quality of life of people who have hypertension or diabetes. Low income is one of the major factors influencing life quality. Males are four times more likely than females to suffer from hypertension. Subjects with hypertension and diabetes did not differ significantly in terms of demographics, level of education, marital status, or employment status.

4. Kaliyaperumal et al., (2016): This study included 300 participants. The study was carried out over a six-month period. In this study, SF-36 questionnaires were used to assess quality of life. The study included 54.66 % males and 45.33 % females. According to the findings of the previous study, the prevalence of hypertension is higher among people over the age of 60. A patient with hypertension has a lower quality of life. As the number of co-morbidities increases, so does the quality of life. Participants with hypertension had low scores in the mental (Avg score-258) and emotional (Avg score-33.43) domains of quality of life. Participants' mental and emotional well-being is based on hypertension treatment and education. Pain

has a moderate impact on quality of life. A low vitality score was found to decrease energy levels.

## Conclusion

The economic burden of hypertension was identified as a common factor influencing health-related quality of life. People with normal blood pressure have a higher quality of life. A patient with hypertension has a low quality of life. Patients with other co-morbid conditions, in addition to hypertension, had a lower quality of life than patients with hypertension who did not have co-morbid conditions.

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