

This is a provisional PDF only. Copyedited and fully formatted version will be made available soon.



ISSN: 2353-7752

e-ISSN: 2353-7760

The quality of life of patients with arterial hypertension in the bio-psycho-social dimension of health. Review of the literature

Authors: Adam Pawlak, Alicja Sierakowska

DOI: 10.5603/FC.a2022.0063

Article type: Review paper

Submitted: 2022-09-09

Accepted: 2022-11-22

Published online: 2022-11-29

This article has been peer reviewed and published immediately upon acceptance. It is an open access article, which means that it can be downloaded, printed, and distributed freely, provided the work is properly cited.

The quality of life of patients with arterial hypertension in the bio-psycho-social dimension of health. Review of the literature

Jakość życia pacjentów z nadciśnieniem tętniczym w wymiarze bio-psycho-społecznym zdrowia. Przegląd literatury

Adam Pawlak¹, Alicja Sierakowska²

¹Department of Family Medicine and Public Health, Faculty of Medicine, University of Opole, Poland

²Student Scientific Society of Medical Psychology, Faculty of Medicine, University of Opole, Poland

Address for correspondence: Adam Pawlak MD, Department of Family Medicine and Public Health, Faculty of Medicine, University of Opole, ul. Oleska 48, 45–040 Opole, Poland, e-mail: atpawlak@yahoo.com

Abstract

Arterial hypertension (AH) is the cause of a reduction in the quality of life (QoL), influencing not only its subjective dimension, related to the deterioration of well-being but also the objective dimension, making it impossible to fulfil the current social functions and reducing the individual's ability to adapt or worsening the economic status due to the need to resign from work and social isolation. The study aims to present, based on a literature review, the QoL of patients with AH in the bio-psycho-social dimension of health. These 3 health components affect the course of the disease and at the same time determine the QoL of patients.

Key words: quality of life, hypertension, cardiology

Introduction

For many years, cardiovascular diseases have been the main cause of human health problems and even death, and their morbidity is due to many reasons [1]. Significant factors in the incidence of cardiovascular diseases, despite high blood pressure values, are also smoking, reduced physical effort, excess body weight, high cholesterol levels, diabetic diseases, unhealthy lifestyle, including unhealthy eating, stressful situations and factors. non-modifiable, genetic predisposition and environmental factors [2]. Among Poles, 9.9 million people suffered from hypertension in 2018, which accounted for 31.5% of the adult population and compared to 2013, this number increased by almost 200 000 people. The most numerous groups of patients with arterial hypertension (AH) in 2018 were women aged 65–74, among men the largest group was those aged 55–64 [3]. According to the data of the World Health Organization (WHO), today in approximately 1.28 billion adults aged 30–79 years around the world, AH was diagnosed, and 46% of these people are not aware of their disease [4].

Table 1. Number of hypertensive patients in the Polish population

	2013	2018
Number of hypertensive patients in Poland	9.7 mln	9.9 mln
Percent of the adult population in Poland	30.9%	31.5%

Hypertension

Arterial hypertension remains the primary modifying factor for both cardiac and central nervous system diseases, despite the passage of time and the development of medicine [5]. Arterial hypertension is defined as measured systolic blood pressure ≥ 140 mm Hg and/or diastolic blood pressure ≥ 90 mm Hg [6]. In modern times, this disease is called the disease of civilization, it is very widespread due to the progress of urbanization and globalization, as a result of which people lead unhealthy lifestyles and emerging comorbidities. The disease can sometimes “bloom” for many years practically asymptotically, although it leads to serious health effects, e.g. stroke, ischaemic heart disease, or heart failure, the consequence of which may be death. According to available data, 8.5 million people die each year due to hypertension [7]. In selecting the appropriate treatment for hypertension, it is important to obtain the results of self-monitoring and correct blood pressure measurements at home in combination with blood pressure testing in the office. When talking about treatment, it should

be borne in mind that this disease is chronic and is accompanied by treatment for the rest of the patient's life, so it is important at this point to treat the patient holistically. Most often, treatment involves taking specific, well-matched medications to maintain optimal blood pressure, which significantly extends life, but may have an impact on quality of life (QoL) [8].

Determining the quality of life in the bio-psycho-social model of health

Modern medicine is more and more often talking about assessing the QoL of a sick patient. The purpose of introducing a given concept was to obtain accurate health information, considering not only the physical health of a given person, but also various spheres of a person: mental, social, and spiritual. This methodology is often called a holistic approach to the patient. This approach allows you to gain knowledge about the multidimensional determinants of health and disease, recognizing the bio-psycho-social distinctiveness of each patient and allowing you to choose the treatment best suited to the individual needs of the patient, adopting the thesis about the uniqueness of each life. Since the QoL is a broad concept and covers a wide range of problems, from a medical point of view, researchers of the QoL of patients focus mainly on this concept, which is conditioned by the state of health [9]. The holistic health perspective is in line with the WHO's health perspective, which defines it as a state of mental, physical and social well-being, not just the absence of disease or disability. Until now, according to the biomedical concept of health, the human body was treated as a machine, and the disease was a verifiable deviation from the norm, and health was defined as the lack of disturbances in the sphere of biological human functioning and grouped the subjective states of the organism. The bio-psycho-social model of health was created from the need to look at the patient's life situation from a different perspective, considering those areas of human functioning that were so far ignored in the clinic [10].

Definition of the quality of life in disease

The concept of QoL was defined, among others, by the WHO, according to which the QoL is an individual perception by an individual of his or her life position in the cultural context and value system in which he lives, and in relation to tasks, expectations and standards determined by environmental conditions. The indicators of QoL are the ability to play the current life roles, the ability to adapt, mental well-being or functioning within given social groups [11]. In

everyday medical practice, the QoL in terms of health is of great importance, considering the impact of disease and treatment on the patient's physical, mental and social functioning. Examination and assessment of the patient's QoL allow you to get to know his point of view, understand his condition, communicate with him or solve psychosocial healing problems. The aim here is to determine the effectiveness of treatment not only in terms of avoiding death, but also to assess the health and lifestyle that are relevant in chronic diseases. Testing the QoL in medical terms is the recognition of problems resulting from the disease and the treatment applied. It also seems important to define human activity in the physical, mental and social sense and to describe the patient's views on health and subjective well-being [12].

The contemporary concept of QoL was defined in the 1970s by Campbell, who proved the relationship between objective living conditions and life satisfaction [13]. Research on the QoL in medicine was first started by Rosser, who was the first to publish a method of measuring the QoL of patients. It exerted a great influence on subsequent works undertaken in this area, thus, in the following years, many definitions of QoL were created, focusing on the phenomena of health and disease [14]. Health-related (HR) QoL in 1990 defined Schipper as the functional effect of a physical, mental and social response to illness and treatment, perceived subjectively by the patient, and the assessment of the patient's life situation during the treatment period. The most important four aspects of the patient's functioning are the physical and motor skills, mental state, social and economic conditions, and somatic sensations. HRQoL allows you to look at the phenomena related to the disease in a broader aspect, both medical (e.g., testing the effectiveness of drugs) and non-medical (functioning in the family or society). Moreover, health examinations contributed to the possibility of a better assessment of the general subjective QALY level as a measure of the QoL [15].

Factors determining the quality of life during arterial hypertension

Arterial hypertension is a significant change in a person's life, which presents a sick person with many challenges that must be dealt with. The struggle is not a short-term process but often stretches over many years or until death [16]. Improving the QoL is an integral part of the treatment of AH. Pharmacological and non-pharmacological treatment of hypertension should prevent the deterioration of the QoL of patients in the long term. Improperly selected drugs may worsen the QoL, reducing the chance of a good prognosis and effective treatment of hypertensive disease [17]. It was observed that patients who complained about complications of pharmacological treatment most often did not follow the doctor's

recommendations for pharmacotherapy. And effective treatment, which would improve the QoL and alleviate the course of the disease, depends largely on compliance with the physicians' recommendations. The factors determining the patient's QoL also include material status, age, gender, socioeconomic variables of a person, housing conditions, education and many others, which contribute to QoL [18]. In some of the studies, it was shown that the above factors account for 32.7% of the variability in the quality-of-life level in patients with diagnosed hypertension [19]. And in many research studies it was concluded that in terms of the sense of well-being, a subjective assessment of health is a better determinant than an objective assessment of health. In the same studies, it was concluded that the QoL depends on clinical factors, such as blood pressure values (the higher the value, the worse the quality), overweight and organ complications, as well as the number and type of drugs used, e.g., over 4 types of drugs (all this makes the QoL deteriorate) [20]. It is also impossible not to include among these factors determining the QoL, the patient's beliefs and attitude towards his disease. In patients with long-term disease, higher levels of depression, stress, low mood, decreased energy and a higher level of social isolation are observed [21].

The quality of life of patients with arterial hypertension — a review of studies in the literature

Sawicka et al. found that the duration of the disease has an impact on the QoL of the respondents in the physical aspect, as well as the number of drugs used. The shorter the duration of the disease, the better the QoL, and the subjects who took one drug had a better QoL. The authors claim that the individual general perception of the QoL and own health is better among women and that men indicate a better QoL in terms of physical and environmental aspects [23]. The analysis of the literature shows that one of the factors having a significant impact on the QoL of people with hypertension is the level of education. According to Bień, the level of education is in a high position in the ranking of the independent factor influencing health. Hypotonic people with higher education are characterized by a higher QoL, and a low level of education is associated with higher incidence and mortality due to hypertension and a lower QoL [24]. Kocowska et al. [20] proved a significant relationship between compliance with the doctor's recommendations and the QoL. Lack of knowledge about the disease, and thus not following the doctor's recommendations, worsens the patient's QoL [20–22]. On the other hand, the results relating to the relationship between physical activity and QoL should be related to the observations of

Cegła et al. [25], which conducted a study aimed at determining the impact of physical activity on the QoL of patients with confirmed AH. The analysis of the test results showed that a quarter of the patients (24, 8%) with AH are not physically active and lead a passive lifestyle. Only 34% of the respondents declared that they are physically active. Therefore, it was concluded that the patients lead a less active lifestyle and that the lack of physical activity significantly deteriorates the daily functioning and QoL of patients with hypertension, and their QoL depends on the physical activity practised, its type and regularity [25, 26]. Paczkowska et al. concluded that the socio-demographic factors significantly differentiating the assessment of the QoL of the respondents included: gender, age, education, source of income, and financial situation [27]. Arterial hypertension significantly impairs the QoL of patients, regardless of sex and age, which is confirmed by many studies [27–30].

Conclusions

Arterial hypertension, as a chronic disease, affects the patient's QoL and the discomfort in the bio-psycho-social sphere in people suffering from this disease, especially in those patients who are not aware of their disease and do not have proper knowledge about its treatment. In the treatment of AH, pharmacotherapy is indicated, and often psychological support and psychoeducation.

Conflict of interest

None declared.

References

1. Kowalewski W, Hebel K. Increased arterial pressure as a cardiovascular risk factor. *Annals of the Pomeranian Medical University in Szczecin*. 2013; 59(1): 18–24.
2. Knić M, Kujawska-Łuczak M. The influence of lifestyle on the occurrence of arterial hypertension in adults. *Metabolic Disorders Forum*. 2012; 3(1): 14–23.
3. NHF report. Hypertension. <https://www.nfz.gov.pl/aktualnosci/aktualnosci-centrali/raport-nfz-nadcisnienie-tetnicze,7352.html> (18.11.2021).
4. Surma S, Szyndler A, Narkiewicz K. Awareness of high blood pressure and other risk factors for cardiovascular disease in adults. *Cardiovascular Disease*. 2018; 15(1): 14–22.

5. Baszczuk A, Kopczyński Z, Musialik K. The prevalence of arterial hypertension in the world and in Poland. *Metabolic Disorders Forum*. 2014; 5(4): 141–147.
6. Kowalewski W, Hebel K. Increased blood pressure as a cardiovascular risk factor. *Annales Academiae Medicae Stetinensis*. 2013; 59(1): 18–24.
7. Jarosz M, Respondek W. Hypertension. PZWL Wydawnictwo Lekarskie, Warszawa 2015: 120–124.
8. Gupta A, Mackay J, Whitehouse A, et al. Long-term mortality after blood pressure-lowering and lipid-lowering treatment in patients with hypertension in the Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT) Legacy study: 16-year follow-up results of a randomised factorial trial. *Lancet*. 2018; 392(10153): 1127–1137, doi: [10.1016/s0140-6736\(18\)31776-8](https://doi.org/10.1016/s0140-6736(18)31776-8), indexed in Pubmed: [30158072](https://pubmed.ncbi.nlm.nih.gov/30158072/).
9. Ostrzyżek A, Marcinkowski JT. Biomedical versus holistic health model versus theory and clinical practice. *Probl Hig Epidemiol*. 2012; 93(4): 682–686.
10. Stachowska M, Szalbierz H, Szewczyczak M, et al. Quality of life in patients suffering from arterial hypertension. *Hygeia Public Health*. 2014; 49(4): 813–819.
11. Szyguła-Jurkiewicz B, Kowalska M, Mościński M. Quality of life as an element of health assessment and treatment effectiveness of patients with cardiovascular diseases. *Folia Cardiologica Excerpta*. 2011; 6(1): 62–71.
12. Kowalewska B, Jankowiak B, Rolka H. Quality of life in medical and social sciences, Białystok 2017: 29–85.
13. Stańczak-Mrozek K, Biłant E, Mućka K. QALY as a measure of the quality of life, Warszawa 2019.
14. Souza AC, Borges JW, Moreira TM. Quality of life and treatment adherence in hypertensive patients: systematic review with meta-analysis. *Rev Saude Publica*. 2016; 50: 71, doi: [10.1590/S1518-8787.2016050006415](https://doi.org/10.1590/S1518-8787.2016050006415), indexed in Pubmed: [28099657](https://pubmed.ncbi.nlm.nih.gov/28099657/).
15. Walentynowicz-Moryl K. [Wielowymiarowe modele zdrowia]. *Hygeia Public Health*. 2017; 52(1): 1–5.
16. Czachowski S. Psychosocial determinants of diseases. Medical implications in primary healthcare, public health and management. *Scientific Papers of Healthcare*. 2014; 12(4): 322.
17. Bykov AT, Chernyshev AV, Vartazaryan MA, et al. [Early diagnostics, prophylaxis, and non-pharmacological treatment of the preclinical] stages of atherosclerosis and arterial hypertension. *Vopr Kurortol Fizioter Lech Fiz Kult*. 2015; 92(5): 18–21, doi: [10.17116/kurort2015518-21](https://doi.org/10.17116/kurort2015518-21).

18. Mirski A. Biopsychosocial types, behavior patterns and personality in the psychosomatic approach. *Scientific Periodical of the Polish Academy of Sciences*. 2016; 16(1): 17–28.
19. Zygmuntowicz M, Olszanecka-Glinianowicz M, Chudek J. Quality of life in people with arterial hypertension. *Endocrinology, Obesity and Metabolism Disorders*. 2011; 7(3): 26–37.
20. Kocowska M, Stolarz-Skrzypek K, Denderska H, et al. Factors determining the compliance of hypertensive patients with medical recommendations in the field of physical activity and other non-pharmacological treatment methods. *Hypertension*. 2012; 16(6): 15–22.
21. Yao DK, Su W, Zheng Xi, et al. Knowledge and understanding of hypertension among tibetan people in Lhasa, Tibet. *Heart Lung Circ*. 2016; 25(6): 600–606, doi: [10.1016/j.hlc.2015.11.007](https://doi.org/10.1016/j.hlc.2015.11.007), indexed in Pubmed: [26726008](https://pubmed.ncbi.nlm.nih.gov/26726008/).
22. Kleinrok A, Kamiński M, Domański T, et al. Correct and incorrect knowledge of the risk factors concerning the development of arterial hypertension. Part 2. Population of patients with identified arterial hypertension. *Arterial Hypertension*. 2017; 21(2): 83–92, doi: [10.5603/ah.2017.0011](https://doi.org/10.5603/ah.2017.0011).
23. Sawicka K, Wieczorek A, Łuczyk R, et al. Assessment of selected aspects of the quality of life in the group of patients with arterial hypertension. *Journal of Education, Health and Sport*. 2016; 6(11): 161–178.
24. Stachowska M, Szalbierz H, Szewczyczak M. Quality of life in patients suffering from arterial hypertension. *Hygeia Public Health*. 2014; 49(4): 813–819.
25. Cegła B, Filanowicz M, Dowbór-Dzwonka A, et al. Physical activity of patients with arterial hypertension and their quality of life. *Surgical and Angiological Nursing*. 2012; 1: 26–33.
26. Arija V, Villalobos F, Pedret R, et al. Physical activity, cardiovascular health, quality of life and blood pressure control in hypertensive subjects: randomized clinical trial. *Health Qual Life Outcomes*. 2018; 16(1): 184, doi: [10.1186/s12955-018-1008-6](https://doi.org/10.1186/s12955-018-1008-6), indexed in Pubmed: [30217193](https://pubmed.ncbi.nlm.nih.gov/30217193/).
27. Paczkowska A, Hoffmann K, Bryl W, et al. Assessment of the quality of life in patients with arterial hypertension. *Polish Review of Health Sciences*. 2017; 3(57): 45–57.
28. Knić M, Kujawska-Łuczak M. The influence of lifestyle on the occurrence of arterial hypertension in adults. *Metabolic Disorders Forum*. 2012; 3(1): 14–23.

29. Wiśniewska W, Zagroba M, Ostrowska B, Marcysiak M. Quality of life in health and disease - description of the concept. In: Kowalewska B, Jankowiak B, Rolka H, Krajewska-Kułak E. ed. Quality of life in medical and social sciences. , Białystok 2017: 43–44.
30. Wang C, Lang J, Xuan L, et al. The effect of health literacy and self-management efficacy on the health-related quality of life of hypertensive patients in a western rural area of China: a cross-sectional study. *Int J Equity Health*. 2017; 16(1): 58, doi: [10.1186/s12939-017-0551-9](https://doi.org/10.1186/s12939-017-0551-9), indexed in Pubmed: [28666443](https://pubmed.ncbi.nlm.nih.gov/28666443/).