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Review Article

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Quality of Life in Older Patients with Arterial Hypertension

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Abstract

Arterial Hypertension (AH) remains one of the leading causes of cardiovascular morbidity and mortality among older adults, exerting a significant impact on patients' Quality of Life (QoL). This review analyzes current literature data on the effects of AH on the physical, psycho-emotional, and social well-being of older patients. Modern approaches to QoL assessment are considered, including the use of standardized questionnaires, primarily the SF-36, as well as the importance of QoL assessment for monitoring treatment effectiveness and predicting cardiovascular risk. The available evidence demonstrates that AH, age-related changes, and modifiable risk factors significantly impair QoL, reduce adherence to therapy, and increase the likelihood of adverse cardiovascular outcomes. A literature review of publications from 2013 to 2026 was conducted using the PubMed, Scopus, Web of Science, and Google Scholar databases. Full-text studies published in Russian or English and involving patients over 60 years of age were included if they assessed quality of life in patients with arterial hypertension. Publications before 2019, individual case reports, studies without data on older patients, and duplicate publications were excluded. Of the 534 sources identified, 48 publications met the eligibility criteria. These findings highlight the need for a comprehensive approach to the management of older patients with AH, including QoL assessment as an important clinical criterion of treatment effectiveness, optimization of pharmacological therapy, and implementation of preventive measures aimed at reducing cardiovascular risk and improving prognosis.

Keywords: Arterial hypertension, Quality of life, Older adults, Cardiovascular risk, Prognosis.

Introduction

In contemporary clinical medicine, Health-Related Quality of Life (HRQoL) has become an important outcome measure for evaluating the effectiveness of therapeutic, preventive, and rehabilitation interventions. Unlike conventional clinical endpoints, HRQoL reflects the patient's subjective perception of physical, psychological, and social well-being and therefore provides additional information about the overall impact of a disease and its treatment. The World Health Organization (WHO) defines Quality of Life (Qol) as an individual's perception of their position in life

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within the context of the culture and value systems in which they live, in relation to their goals, expectations, standards, and concerns. This multidimensional concept emphasizes that QoL cannot be adequately characterized by clinical or laboratory parameters alone and should also incorporate the patient's perception of functional capacity and well-being [1,2].

In clinical practice, the concept of QoL is increasingly considered in relation to specific diseases and treatment strategies. The term health-related quality of life is used to describe those dimensions of general QoL that are directly or indirectly affected by an individual's health status, disease burden, symptoms, functional limitations, and medical treatment. Such an approach makes it possible to evaluate not only whether a particular therapeutic intervention improves physiological parameters, but also whether it produces a meaningful improvement in everyday functioning, psychological well-being, and social participation. Consequently, HRQoL assessment may complement conventional clinical indicators and provide a more patient-centered evaluation of treatment effectiveness [3,4].

The assessment of QoL is particularly relevant in older adults. Population aging is accompanied by an increasing prevalence of chronic non-communicable diseases, multimorbidity, functional limitations, and long-term medication use. Older individuals frequently experience several interacting conditions, including Arterial Hypertension (AH), coronary artery disease, heart failure, chronic kidney disease, cerebrovascular disease, diabetes mellitus, and cognitive impairment. These conditions may independently or collectively affect physical functioning, psychological status, social activity, and perceived health. Therefore, the QoL of an older person is determined by a complex combination of somatic, psychological, social, and socioeconomic factors rather than by a single disease or clinical parameter [5,6,7].

An important characteristic of QoL research in older adults is the need to consider the multidimensional nature of aging. Chronological age does not fully reflect an individual's functional status, adaptive capacity, or ability to maintain independence. Frailty, cognitive impairment, nutritional status, physical activity, social support, and the presence of multiple chronic diseases may substantially influence both QoL and treatment tolerance. Studies of geriatric patients with AH indicate that multimorbidity and impaired functional status are closely associated with poorer health perception and reduced ability to perform daily activities [8,5]. Accordingly, assessment of QoL should be integrated into a comprehensive evaluation of older patients rather than regarded as an isolated questionnaire-based outcome.

The clinical importance of QoL assessment is particularly evident in patients with AH. Hypertension is one of the most common chronic cardiovascular conditions and remains a major contributor to cardiovascular morbidity and mortality. Long-term exposure to elevated Blood Pressure (BP) is associated with structural and functional changes in target organs, including the heart, brain, kidneys, and vascular system. At the same time, AH may negatively affect patients' subjective well-being even in the absence of severe clinical complications. Symptoms such as headache, dizziness, fatigue, sleep disturbances, reduced exercise tolerance, and emotional distress may contribute to deterioration of QoL, although the intensity of these symptoms varies considerably between individuals [9,10].

The impact of AH on QoL is determined by a combination of disease severity, duration, associated cardiovascular risk factors, target-organ damage, comorbid conditions, and treatment-related factors. Persistent elevation of BP may contribute to left ventricular hypertrophy, arterial stiffness, renal dysfunction, and cerebrovascular injury, all of which may ultimately restrict physical and social functioning. Moreover, the psychological burden associated with living with a chronic disease and the need for continuous treatment may adversely influence perceived health and emotional well-being. Consequently, QoL assessment may provide clinically relevant information that is not always apparent from office BP measurements alone [11,12].

A number of studies have demonstrated that cardiovascular risk factors can independently contribute to deterioration in QoL. Excess body weight, physical inactivity, smoking, excessive dietary sodium intake, dyslipidemia, impaired glucose metabolism, and chronic psychosocial stress may increase cardiovascular risk while simultaneously reducing physical and psychological well-being. In older adults, the influence of these factors may be amplified by reduced physiological reserve and functional limitations. Therefore, evaluation of QoL should be performed in conjunction with an assessment of modifiable and non-modifiable cardiovascular risk factors [13,14].

Pharmacological treatment represents another important determinant of QoL in patients with AH. Antihypertensive therapy reduces cardiovascular risk and prevents major complications; however, treatment itself may be associated with adverse effects that influence the patient's subjective perception of health. Dizziness, weakness, orthostatic symptoms, excessive BP reduction, electrolyte disturbances, fatigue, and other medication-related complaints may reduce treatment acceptability and adherence. These problems are particularly relevant in older adults, who frequently receive several medications for different chronic conditions. Polypharmacy increases the complexity of treatment regimens and may increase the risk of drug interactions and medication-related adverse effects [15,16].

Treatment adherence should therefore be regarded as an important component of the relationship between AH therapy and QoL. A complex dosing schedule, insufficient understanding of the disease, inadequate communication with healthcare professionals, adverse effects, and the absence of immediately noticeable symptoms may contribute to poor adherence. Conversely, simplified treatment regimens, patient education, regular follow-up, and adequate communication can facilitate long-term treatment persistence. Evidence from studies of antihypertensive adherence

indicates that improvement in treatment adherence is associated with better achievement of BP control and may contribute to improved patient-reported outcomes [17,3].

The evaluation of QoL in patients with AH can be performed using generic and disease-specific instruments. Generic questionnaires allow comparison of QoL across different diseases and populations, whereas disease-specific instruments may provide more detailed information about particular clinical manifestations. Among generic instruments, the 36-Item Short Form Health Survey (SF-36) is widely used in cardiovascular research because it evaluates several clinically relevant dimensions of physical and psychological functioning. The questionnaire includes physical functioning, role limitations due to physical health, bodily pain, general health, vitality, social functioning, role limitations due to emotional problems, and mental health. These domains can subsequently be summarized into physical and mental health components, providing an integrated assessment of the patient's perceived health status. The use of standardized QoL instruments is particularly valuable when evaluating therapeutic interventions. Changes in BP or other physiological parameters do not necessarily correspond to changes in how patients perceive their health. For example, an intervention may successfully reduce BP but simultaneously cause symptoms of excessive hypotension or fatigue, resulting in little or no improvement in overall QoL. Conversely, an intervention that produces only modest changes in conventional clinical parameters may improve sleep, emotional well-being, physical activity, or social functioning. Thus, patient-reported outcomes may provide an important complementary perspective when determining the overall clinical value of treatment [1,4].

Particular attention should be paid to the relationship between QoL and cognitive and psychological status in older patients with AH. Cognitive impairment may reduce treatment adherence, interfere with self-monitoring of BP, and limit the patient's ability to follow lifestyle recommendations. At the same time, anxiety, depressive symptoms, sleep disturbances, and chronic psychological stress may adversely affect both QoL and cardiovascular risk. The interaction between cardiovascular and cognitive health is therefore bidirectional and requires an integrated approach to patient management [6,7].

Comorbidity represents another major determinant of QoL. The simultaneous presence of several chronic diseases may intensify symptoms, increase functional limitations, complicate the selection of pharmacological therapy, and increase the risk of adverse drug reactions. In older patients, the combination of AH with coronary artery disease, heart failure, chronic kidney disease, and other chronic disorders may result in a particularly substantial reduction in both physical and psychological components of QoL. Multimorbidity also increases the number of medications required, thereby creating additional challenges related to adherence and polypharmacy. Consequently, therapeutic decisions should take into account the total burden of disease rather than focus exclusively on BP reduction [5,18,19].

The social dimension of QoL is also important in older adults. Reduced mobility, retirement, changes in financial circumstances, loss of social contacts, dependence on relatives, and limitations in participation in social activities may contribute to a decline in perceived well-being. The presence of supportive family and social networks may, conversely, facilitate adaptation to chronic illness and improve adherence to treatment. For this reason, QoL assessment should include not only physical symptoms and psychological status but also the patient's ability to maintain meaningful social relationships and independence. Lifestyle factors are closely related to both cardiovascular risk and QoL. Regular physical activity, maintenance of an appropriate body weight, a balanced diet with moderation of sodium intake, smoking cessation, and adequate sleep may contribute to better BP control and improved overall health. However, recommendations for older adults should be individualized according to functional capacity, frailty, comorbidities, balance disorders, and musculoskeletal limitations. Lifestyle modification should therefore be considered as part of a comprehensive management strategy rather than as a standardized set of recommendations applicable equally to all patients [20].

The concept of patient-centered treatment is particularly important in geriatric hypertension. Contemporary approaches emphasize that treatment goals should be determined not solely by chronological age but also by functional status, frailty, comorbidities, life expectancy, cognitive status, risk of falls, and previous tolerance of antihypertensive therapy. In relatively fit older adults, intensive BP reduction may be appropriate when well tolerated, whereas patients with frailty or multiple comorbidities may require a slower and more cautious treatment strategy. Such individualization may help balance cardiovascular protection against the potential adverse effects of excessive BP reduction [21,22,23].

The therapeutic strategy should also consider the complexity of pharmacological treatment. Major antihypertensive drug classes include angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, calcium channel blockers, beta-blockers, and thiazide or thiazide-like diuretics. Selection of a particular agent or combination should be based on the patient's cardiovascular risk profile and concomitant diseases. Fixed-dose combinations may be useful in appropriately selected patients because they reduce the number of tablets and may facilitate adherence. However, treatment should be accompanied by regular assessment of BP, renal function, electrolyte status, and tolerability [24,12,25].

Another important issue in older patients is BP variability. Orthostatic hypotension, nocturnal BP abnormalities, morning BP surges, and changes in circadian BP patterns may occur in the same patient. Such fluctuations can make treatment difficult because excessive intensification of antihypertensive therapy may increase the risk of symptomatic hypotension, whereas

insufficient treatment may result in persistent periods of elevated BP. Ambulatory and home BP monitoring may therefore provide clinically useful information that cannot always be obtained through isolated office measurements. Circadian regulation of BP and the role of autonomic mechanisms are particularly relevant when evaluating these patterns [26,27,28].

In this context, additional therapeutic approaches aimed at improving both cardiovascular parameters and patient-reported outcomes are of increasing interest. Melatonin is of particular relevance because of its involvement in circadian regulation and sleep–wake processes. Disturbances in circadian rhythms are common in older adults and may influence sleep quality, autonomic regulation, and BP patterns. Available clinical data suggest that melatonin may have potential as an adjunct to conventional antihypertensive therapy, although its role requires further investigation in adequately designed clinical studies [29].

The relationship between AH treatment and QoL is especially important because successful management should extend beyond the achievement of target BP values. The ultimate goals of treatment include prevention of cardiovascular and cerebrovascular complications, preservation of functional independence, maintenance of cognitive and psychological health, and improvement or preservation of QoL. Contemporary evidence supports the importance of evaluating treatment outcomes from both the clinician's and the patient's perspective. This is particularly relevant in older adults, in whom even relatively minor treatment-related symptoms may have substantial consequences for mobility, independence, adherence, and social participation [4,16].

Despite the substantial body of evidence concerning AH and QoL, several aspects remain insufficiently investigated. In particular, there is a need for studies focusing on older patients with different clinical phenotypes of AH and varying degrees of cardiovascular comorbidity. The effects of treatment on individual SF-36 domains may differ from changes in conventional clinical parameters, and the contribution of sleep disturbances, psychological status, medication adherence, and circadian BP abnormalities requires further clarification. In addition, evidence concerning the potential contribution of melatonin-containing comprehensive treatment regimens to QoL in older patients with AH remains limited [30-48].

Therefore, systematic assessment of QoL may be considered an important component of the comprehensive management of older patients with AH. Combining clinical examination, BP monitoring, assessment of cardiovascular risk and target-organ damage, evaluation of comorbidities, analysis of treatment tolerability, and standardized patient-reported outcomes provides a more complete picture of the effectiveness of medical care. Such an integrated approach is consistent with the modern concept of individualized hypertension management and may contribute to improving long-term treatment outcomes.

Conclusion

Thus, QoL represents a multidimensional and clinically meaningful outcome in older patients with AH. Its assessment allows the effects of hypertension, comorbid cardiovascular conditions, lifestyle factors, treatment-related adverse effects, and adherence to be considered from the patient's perspective. The use of standardized instruments such as the SF-36 provides an opportunity to identify impairments in physical, psychological, and social functioning that may not be adequately reflected by conventional clinical parameters. In older adults, individualized antihypertensive therapy should therefore aim not only to achieve appropriate BP control and reduce cardiovascular risk but also to preserve functional independence, psychological well-being, and QoL. Further studies are warranted to clarify the determinants of QoL and to evaluate the potential benefits of comprehensive therapeutic strategies, including interventions targeting circadian regulation and melatonin pathways, in older patients with AH.

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Conflicts of interest

The authors have no conflicts of interest.

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