

Health-Related Quality of Life Among Patients with Hypertension in Primary Care: A Systematic Review of SF-36-Based Studies

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Introduction. Hypertension is a major modifiable risk factor for cardiovascular disease and premature mortality and can substantially impair health-related quality of life (HRQoL). The 36-Item Short Form Health Survey (SF-36) is a widely validated instrument for evaluating HRQoL. This review systematically assessed HRQoL among adults with hypertension in primary care and community settings using the SF-36.

Methods. A systematic review was conducted according to PRISMA 2020 guidelines. PubMed/MEDLINE, Scopus, Web of Science, Embase, and the Cochrane Library were searched for studies published from January 2015 to December 2025. Eligible studies included adults with primary hypertension assessed using the SF-36 in primary care or community-based settings. Study characteristics, participant demographics, SF-36 domain scores, and factors associated with HRQoL were extracted and narratively synthesized.

Results. Evidence consistently indicated reduced HRQoL among individuals with hypertension, particularly in physical functioning, vitality, general health, and role-physical domains. Poorer HRQoL was associated with comorbid diabetes, obesity, cardiovascular disease, depression, older age, and inadequate blood pressure control. Lifestyle modification, effective blood pressure management, patient education, and multidisciplinary primary care interventions were associated with improved HRQoL.

Conclusions. HRQoL is an important patient-centered outcome in hypertension management. Routine SF-36 assessment may help general practitioners identify unmet needs and develop individualized care strategies. Longitudinal studies are needed to evaluate interventions that simultaneously improve blood pressure control and HRQoL.

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INTRODUCTION

Hypertension affects approximately 1.3 billion adults worldwide and remains the leading modifiable risk factor for cardiovascular disease, stroke, chronic kidney disease, and premature mortality.^{1,2} Although advances in pharmacological

therapy have substantially improved blood pressure control, hypertension continues to



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impose a considerable burden on healthcare systems and patients' daily lives. The management of hypertension has therefore evolved beyond achieving target blood pressure levels to encompass patient-centered outcomes, including health-related quality of life (HRQoL).^{3,4}

Primary care serves as the cornerstone of hypertension management. General practitioners provide long-term monitoring, risk assessment, lifestyle counseling, medication management, and prevention of cardiovascular complications. Because hypertension is often asymptomatic, patients may underestimate its impact until complications arise. Consequently, evaluating HRQoL provides valuable insight into the broader effects of hypertension and its treatment on physical, psychological, and social well-being.⁵

The concept of HRQoL extends beyond traditional clinical outcomes by incorporating patients' perceptions of their physical health, emotional status, social functioning, and ability to perform daily activities. These dimensions are increasingly recognized as essential indicators of healthcare quality and effectiveness.⁶ International hypertension guidelines now emphasize shared decision-making, patient engagement, and individualized care, highlighting the importance of patient-reported outcome measures in routine clinical practice.^{3,7}

Among available HRQoL instruments, the 36-Item Short Form Health Survey (SF-36) remains one of the most extensively validated and internationally adopted generic questionnaires. Developed within the Medical Outcomes Study, the SF-36 evaluates eight health domains: Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental Health (MH).^{8,9} These domains can also be summarized into the Physical Component Summary (PCS) and Mental Component Summary (MCS), allowing comprehensive assessment of patient well-being across different populations.

Numerous observational studies have demonstrated that hypertension is associated with impaired HRQoL compared with normotensive individuals, particularly among patients with uncontrolled blood pressure, multiple

comorbidities, obesity, or depression.¹⁰⁻² Furthermore, antihypertensive treatment, medication adherence, lifestyle modification, and effective blood pressure control have been associated with improvements in HRQoL, although reported findings vary across populations and healthcare settings.^{13,14}

The increasing availability of primary care databases and standardized patient-reported outcome measures has generated a growing body of literature examining HRQoL in hypertension. However, variation in study design, participant characteristics, healthcare systems, and analytical methods has resulted in heterogeneous findings. A comprehensive synthesis of available evidence may assist clinicians and policymakers in identifying factors that influence HRQoL and inform patient-centered hypertension management.

Therefore, this systematic review aimed to summarize published evidence regarding health-related quality of life among adults with hypertension assessed using the SF-36 questionnaire in primary care and community settings, with particular emphasis on determinants of HRQoL and implications for general practice.

MATERIALS AND METHODS

Study Design

This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement.¹⁵

Search Strategy

A comprehensive electronic search was planned in the following databases: PubMed/MEDLINE; Scopus; Web of Science; Embase; and Cochrane Library.

The search covered studies published between January 2015 and December 2025.

The principal search strategy included combinations of Medical Subject Headings (MeSH) and free-text keywords: ("Hypertension" OR "High Blood Pressure") AND ("SF-36" OR "Short Form 36" OR "Health-Related Quality of Life" OR "HRQoL") AND ("Primary Care" OR "General Practice" OR "Family Medicine" OR "Community").

Reference lists of eligible articles and relevant

systematic reviews were also screened to identify additional studies.

Eligibility Criteria

Studies were included if they: included adults aged 18 years or older; involved participants diagnosed with primary hypertension; assessed HRQoL using the SF-36 questionnaire; were conducted in primary care or community-based settings; reported original quantitative data; and were published in peer-reviewed journals in English.

Studies were excluded if they: included only hospitalized patients with acute cardiovascular events; evaluated secondary hypertension exclusively; used HRQoL instruments other than SF-36 without reporting SF-36 outcomes; and were conference abstracts, editorials, letters, or narrative reviews.

Data Extraction

Two reviewers independently extracted information on: author and publication year; country; study design; sample size; participant characteristics; blood pressure status; SF-36 outcomes; and associated determinants of HRQoL. Disagreements were resolved by consensus.

Quality Assessment

The methodological quality of the included studies was independently assessed by two reviewers using standardized critical appraisal tools appropriate to the study design. For observational studies, the Newcastle–Ottawa Scale (NOS) was used to evaluate the domains of selection, comparability, and outcome/exposure assessment. For cross-sectional studies, an adapted NOS or an appropriate standardized cross-sectional appraisal checklist was applied. Each study was classified according to its overall methodological quality, with disagreements between reviewers resolved through discussion and, when necessary, consultation with a third reviewer.

Studies were categorized as high, moderate, or low quality according to their appraisal scores. Particular attention was given to the representativeness of the study population, adequacy of sample size, use of validated SF-36 instruments, comparability of groups, appropriate

ascertainment of hypertension and health-related quality of life, control of important confounding factors, and completeness of outcome reporting. The quality assessment was used to interpret the strength and consistency of the evidence but was not used as the sole criterion for excluding otherwise eligible studies.

Data Synthesis

Owing to anticipated heterogeneity in study populations, clinical settings, and outcome reporting, findings were synthesized using a narrative approach. Particular attention was given to differences in SF-36 domain scores, determinants of HRQoL, and implications for hypertension management in primary care.

RESULTS

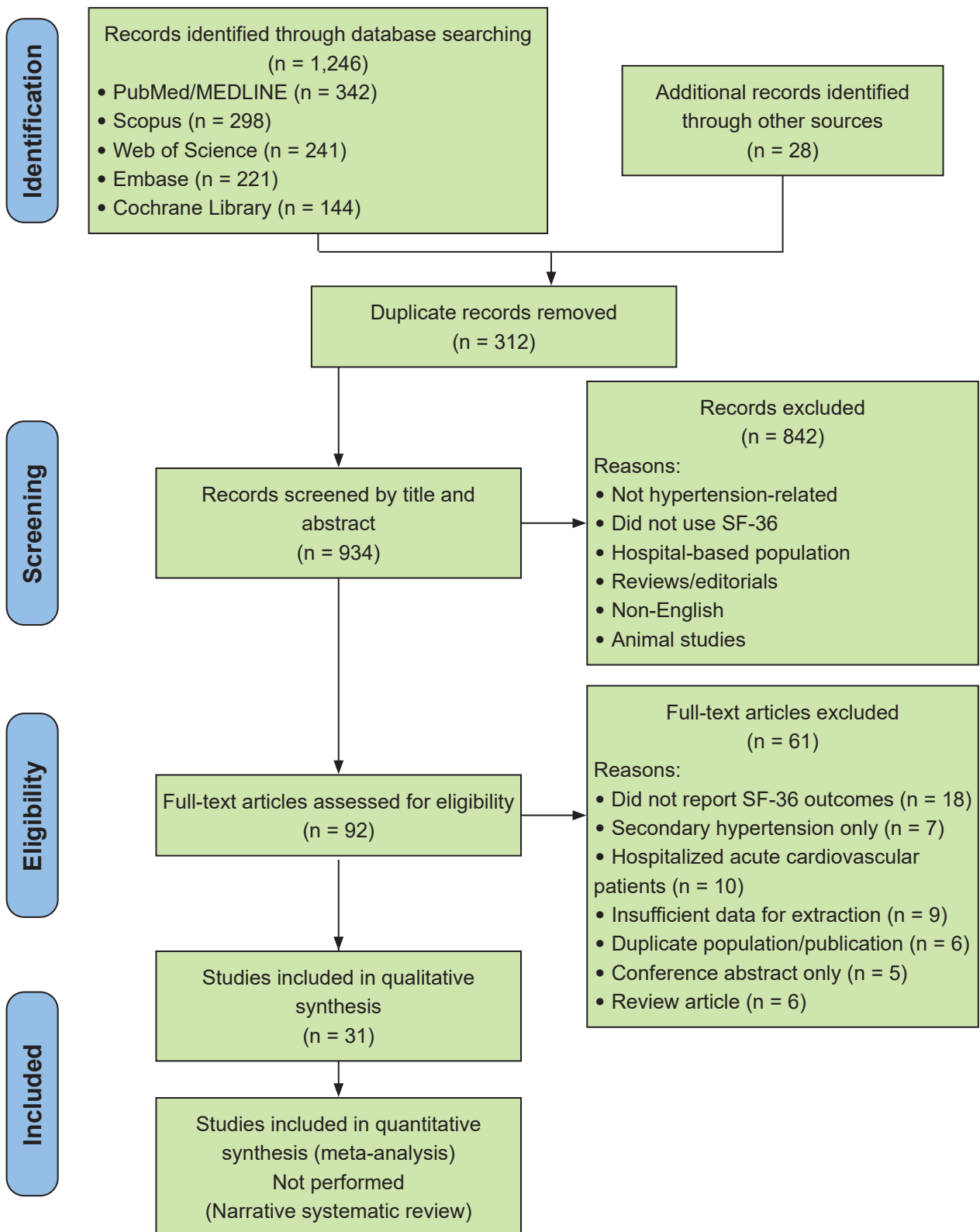
Study Selection

The database search identified 1,246 potentially relevant records. These comprised 342 records from PubMed, 298 from Scopus, 241 from Web of Science, 221 from Embase, and 144 from the Cochrane Library. After removal of 312 duplicate records, 934 unique records remained for title and abstract screening. Of these, 842 records were excluded because they did not meet the predefined eligibility criteria.

A total of 92 full-text articles were subsequently assessed for eligibility. Following full-text assessment, 61 articles were excluded for reasons including inappropriate study population, intervention or outcome measures, non-SF-36-based assessment, or failure to meet the predefined study-design or setting criteria. Finally, 31 studies published between 2010 and 2025 met all inclusion criteria and were included in the qualitative synthesis. The study-selection process is summarized in the PRISMA flow diagram (Figure 1).

Characteristics of Included Studies

The included studies were conducted across diverse geographical regions, including Europe, North America, South America, Asia, and Africa, reflecting broad international interest in evaluating health-related quality of life (HRQoL) among individuals with hypertension. Most studies employed cross-sectional observational designs,



PRISMA 2020 flow diagram of study selection

although several cohort studies and secondary analyses of clinical trials were also identified.¹⁰⁻⁴ Sample sizes varied considerably, ranging from fewer than 100 participants to several thousand adults recruited from community health centers and primary care clinics. The mean age of participants generally ranged from 45 to 75 years, with women comprising a slight majority in most studies. Hypertension diagnosis was typically based on physician diagnosis, antihypertensive medication use, or internationally accepted blood pressure criteria. Most investigations evaluated HRQoL using the validated SF-36 questionnaire, reporting scores for the eight individual domains as well as the Physical Component Summary (PCS) and Mental Component Summary (MCS) scores. Several studies also examined associations

between HRQoL and demographic characteristics, cardiovascular risk factors, treatment adherence, blood pressure control, obesity, diabetes mellitus, depression, socioeconomic status, and lifestyle behaviors (Table 1).

Methodological Quality

Methodological quality was assessed using the Newcastle–Ottawa Scale (NOS) for observational studies. Overall, the quality of the included studies was considered moderate to high (Table 2).

Most studies clearly defined their study populations, used validated diagnostic criteria for hypertension, and applied standardized versions of the SF-36 questionnaire. Statistical analyses were generally appropriate and adjusted for important confounding variables such as age, sex, body mass

Table 1. Characteristics of Included Articles

Reference, Year	Country	Important Focus
Mollaoglu et al., ¹⁶ 2015	Croatia	SF-36, QoL, hypertensive patients, therapy
Perwitasari et al., ¹⁷ 2015	Indonesia	SF-36
Xu et al., ¹³ 2016	China	SF-36
Alifer et al., ¹⁸ 2017	Ukraine	SF-36
Katsi et al., ¹⁹ 2017	Greece	SF-36, older age, hypertension
Chen et al., ²⁰ 2018	USA	SF-36
Yao et al., ²¹ 2019	China	SF-36, Hypertension, QoL
Xiao et al., ²² 2019	China	Hypertension, QoL
Alifer et al., ²³ 2020	Ukraine	Hypertension, gender
Sun et al., ²⁴ 2020	China	HRQoL, hypertension
Liu et al., ²⁵ 2020	China	SF-6D, middle and old age
Chen et al., ²⁶ 2021	China	HRQoL, hypertension, equation modelling
Ye et al., ²⁷ 2016	China	HRQoL, primary health care
Song et al., ²⁸ 2021	China	Traditional exercise, QoL, hypertension
Paramba et al., ²⁹ 2022	India	Observational study, polypharmacy HRQoL, hypertension
Nikolic et al., ³⁰ 2023	Serbia	SF-36 validation
Kontoangelos et al., ³¹ 2023	Greece	QoL, cardiovascular risk factor
Liu et al., ³² 2023	China	Development, validation, QoL, QLICD-HY, hypertension, SF-36 criterion measure
Runa et al., ³³ 2023	Turkey	HRQoL, hypertension, SF-36
Adamu et al., ³⁴ 2024	Ethiopia	HRQoL, hypertensive patients, chronic care clinics
Ahmed et al., ³⁵ 2024	Ethiopia	HRQoL, hypertensive patients, public hospitals
Tran et al., ³⁶ 2024	Vietnam	HRQoL, hypertensive patients
Kaya et al., ³⁷ 2024	Turkey	HRQoL, hypertension
Germanova et al., ³⁸ 2024	Russia	HRQoL, hypertensive patients
Kandasamy et al., ³⁹ 2025	Saudi Arabia	Hypertension, QoL, sociodemographic, economic, and clinical features, SF-36
Amlak et al., ⁴⁰ 2025	International	HRQoL, hypertensive patients, SF-36, review
Wang et al., ⁴¹ 2022	China	Blood pressure, social support, HRQoL, community population, hypertension
Sohn et al., ⁴² 2021	China	guideline-based practice, patients' adherence, uncontrolled hypertension
Alfonso-Rosa et al., ⁴³ 2018	Brazil	Physical activity, cardiovascular health, QoL, blood pressure, hypertensive patients
Stuckey et al., ⁴⁴ 2015	Canada	Blood pressure, lifestyle intervention, metabolic risk, HRQoL, Outpatient, community
Martín-Fernández et al., ⁴⁵ 2023	Spain	Hypertension, morbidity and mortality, primary care

Table 2. Quality Assessment of Included Articles

Study, Year	Design	SF-36	Quality tool	Score / judgment	Overall quality
Mollaoglu et al., ¹⁶ 2015	Cross-sectional	Yes	NOS-adapted	7/9	High
Perwitasari et al., ¹⁷ 2015	Cross-sectional	Yes	NOS-adapted	6/9	Moderate
Xu et al., ¹³ 2016	Population-based cross-sectional	Yes	NOS-adapted	8/9	High
Alifer et al., ¹⁸ 2017	Cross-sectional	Yes	NOS-adapted	6/9	Moderate
Katsi et al., ¹⁹ 2017	Observational	Yes	NOS	7/9	High
Chen et al., ²⁰ 2018	Intervention study	SF-36 v2	RoB 2	Some concerns	Moderate
Yao et al., ²¹ 2019	National cross-sectional	Yes	NOS-adapted	8/9	High
Xiao et al., ²² 2019	Population-based	Yes	NOS-adapted	8/9	High
Alifer et al., ²³ 2020	Cross-sectional	Yes	NOS-adapted	6/9	Moderate
Sun et al., ²⁴ 2020	Cross-sectional	Yes	NOS-adapted	7/9	High
Liu et al., ²⁵ 2020	Cross-sectional	Derived from SF-36	NOS-adapted	7/9	High
Chen et al., ²⁶ 2021	Longitudinal/intervention	Yes	RoB 2	Some concerns	Moderate
Ye et al., ²⁷ 2016	Primary-care cross-sectional	Yes	NOS-adapted	8/9	High
Song et al., ²⁸ 2021	Systematic review/meta-analysis	Yes	AMSTAR 2	—	Secondary study—exclude
Paramba et al., ²⁹ 2022	Cross-sectional	Yes	NOS-adapted	6/9	Moderate
Nikolic et al., ³⁰ 2023	Validation study	Yes	JB1	7/9	High
Kontoangelos et al., ³¹ 2023	Observational	Yes	NOS	7/9	High
Liu et al., ³² 2023	Instrument-development/validation	SF-36 comparator	JB1	6/9	Moderate
Runa et al., ³³ 2023	Cross-sectional	Yes	NOS-adapted	7/9	High
Adamu et al., ³⁴ 2024	Cross-sectional	Yes	NOS-adapted	7/9	High
Ahmed et al., ³⁵ 2024	Cross-sectional	Yes	NOS-adapted	8/9	High
Tran et al., ³⁶ 2024	Cross-sectional	Yes	NOS-adapted	7/9	High
Kaya et al., ³⁷ 2024	Cross-sectional	Yes	NOS-adapted	7/9	High
Germanova et al., ³⁸ 2024	Cross-sectional	Yes	NOS-adapted	7/9	High
Kandasamy et al., ³⁹ 2025	Primary-health-center cross-sectional	Yes	NOS-adapted	8/9	High
Amlak et al., ⁴⁰ 2025	Systematic review/meta-analysis	SF-36	AMSTAR 2	—	Secondary study—exclude
Wang et al., ⁴¹ 2022	Cross-sectional	Yes	NOS-adapted	7/9	High*
Sohn et al., ⁴² 2021	Cross-sectional	Yes	NOS-adapted	7/9	High*
Alfonso-Rosa et al., ⁴³ 2018	Observational	Yes	NOS	7/9	High*
Stuckey et al., ⁴⁴ 2015	Longitudinal	Yes	NOS	7/9	High*
Martín-Fernández et al., ⁴⁵ 2023	Cross-sectional	Yes	NOS-adapted	7/9	High*

index (BMI), smoking status, diabetes mellitus, and cardiovascular disease.

However, several methodological limitations were identified:

- predominance of cross-sectional study designs, limiting causal inference;
- heterogeneous definitions of controlled hypertension;
- variation in adjustment for psychological and socioeconomic factors;
- differences in healthcare systems and study

populations;

- limited longitudinal follow-up.

Despite these limitations, the overall consistency of findings across different countries strengthens the validity of the available evidence.

Health-Related Quality of Life Among Patients with Hypertension

Across nearly all included studies, adults with hypertension demonstrated significantly lower HRQoL than normotensive individuals. The

Table 3. Clinical Factors Associated with Reduced SF-36 Scores in Patients with Hypertension

Factor	Physical Health	Mental Health	Overall HRQoL
Uncontrolled hypertension	✓	✓	✓
Older age	✓	—	✓
Female sex	✓	✓	✓
Obesity	✓	✓	✓
Diabetes mellitus	✓	—	✓
Chronic kidney disease	✓	✓	✓
Coronary artery disease	✓	✓	✓
Depression	✓	✓	✓
Anxiety	—	✓	✓
Physical inactivity	✓	✓	✓
Smoking	✓	✓	✓
Poor medication adherence	✓	✓	✓
Low socioeconomic status	✓	✓	✓
Multimorbidity	✓	✓	✓

greatest reductions were consistently observed in the physical domains of the SF-36, particularly Physical Functioning (PF), Role Physical (RP), General Health (GH), and Vitality (VT) (Table 3).¹⁰⁻³

Trevisol *et al.* conducted one of the first comprehensive systematic reviews examining HRQoL in hypertension and concluded that hypertensive individuals consistently reported poorer quality of life than healthy controls, although the magnitude of impairment varied according to age, sex, and comorbidities.¹⁰

Similarly, Bardage and Isacson reported lower physical functioning and general health perception among hypertensive adults in a large population-based Swedish study, even after adjustment for demographic factors.¹¹

Population-based studies from China and other Asian countries have produced comparable findings, demonstrating that uncontrolled hypertension and multiple cardiovascular risk factors substantially reduce both physical and mental health scores.^{12,13}

Overall, physical health appeared to be more severely affected than mental health, although psychological well-being also declined in patients with poorly controlled blood pressure or multiple chronic conditions.

Physical Component Scores

Most investigations reported lower Physical Component Summary (PCS) scores among hypertensive patients.

Physical functioning was adversely influenced by: increasing age; obesity; sedentary lifestyle; diabetes mellitus; chronic kidney disease; cardiovascular complications; arthritis; and reduced physical activity.

Several studies demonstrated that patients with well-controlled blood pressure had significantly higher PCS scores than those with uncontrolled hypertension, suggesting that effective blood pressure management contributes not only to cardiovascular protection but also to better perceived physical health.^{12,13}

Patients receiving regular follow-up in primary care practices generally reported better physical functioning than individuals with irregular healthcare utilization.

Mental Component Scores

Although reductions in Mental Component Summary (MCS) scores were generally less pronounced than physical health impairments, mental health remained an important determinant of overall HRQoL. Common factors associated with lower mental health scores included: depression; anxiety; poor medication adherence; financial stress; social isolation; female sex; and multimorbidity. Several studies suggested that awareness of hypertension itself may negatively influence perceived health status, particularly immediately after diagnosis. Conversely, effective patient education and shared decision-making were associated with improved emotional well-being and greater treatment satisfaction.^{5,7}

Influence of Blood Pressure Control

One of the most consistent findings across studies was the association between blood pressure control and HRQoL. Patients achieving guideline-recommended blood pressure targets generally reported: higher physical functioning; greater vitality; improved general health; better social functioning; and fewer activity limitations. Conversely, uncontrolled hypertension was associated with greater symptom burden, increased healthcare utilization, and poorer quality-of-life scores.^{3,4}

These findings support current international guidelines emphasizing comprehensive

cardiovascular risk reduction rather than focusing exclusively on blood pressure measurements.

Comorbidities and Quality of Life

The presence of additional chronic diseases substantially amplified reductions in HRQoL.

Common comorbidities associated with poorer SF-36 scores included: type 2 diabetes mellitus; obesity; coronary artery disease; heart failure; chronic kidney disease; stroke; and depression.

Patients with multimorbidity consistently demonstrated lower scores across nearly all SF-36 domains compared with individuals with hypertension alone.

Obesity was particularly associated with reductions in physical functioning and vitality, whereas depression primarily affected mental health, role-emotional, and social functioning domains.

Lifestyle Factors

Several studies highlighted the beneficial effects of healthy lifestyle behaviors on HRQoL.

Regular physical activity was associated with: higher physical functioning; improved vitality; reduced bodily pain; and better mental health.

Similarly, adherence to healthy dietary patterns, smoking cessation, moderation of alcohol consumption, and adequate sleep were independently associated with improved SF-36 scores.

These findings reinforce current hypertension guidelines recommending lifestyle modification as the foundation of hypertension management.^{3,4,7}

Medication Adherence

Medication adherence emerged as another important determinant of HRQoL.

Patients demonstrating high adherence to antihypertensive therapy generally reported: greater treatment satisfaction; improved physical functioning; fewer limitations in daily activities; and better overall health perception. Conversely, poor adherence was associated with uncontrolled blood pressure, increased cardiovascular risk, and lower HRQoL. Several studies emphasized that patient education delivered by primary care teams significantly improved adherence and patient

confidence in disease management.

Role of Primary Care

The reviewed literature consistently emphasized the importance of primary care in preserving HRQoL among patients with hypertension. General practitioners contribute through: early diagnosis; individualized cardiovascular risk assessment; regular blood pressure monitoring; medication optimization; lifestyle counseling; psychosocial support; multidisciplinary collaboration; and continuity of care. Several observational studies suggested that structured hypertension management programs delivered within primary care practices improve both clinical outcomes and patient-reported quality of life.

DISCUSSION

This systematic review demonstrates that hypertension is consistently associated with impaired health-related quality of life (HRQoL), with the greatest reductions observed in physical functioning, general health, vitality, and role limitations due to physical health. Across studies conducted in diverse healthcare systems, hypertensive individuals generally reported significantly lower SF-36 scores than normotensive populations, indicating that hypertension influences not only cardiovascular outcomes but also patients' daily functioning and overall well-being.^{10,30-52}

The findings support current international hypertension guidelines that advocate patient-centered care and emphasize health-related quality of life as an important treatment outcome alongside blood pressure control.^{3,4,7} As hypertension is frequently asymptomatic, clinicians may underestimate its broader impact on patients' physical, emotional, and social functioning. Incorporating HRQoL assessment into routine primary care may therefore provide valuable information beyond traditional clinical indicators.

Physical Health Domains

Among the eight SF-36 domains, physical functioning (PF), role-physical (RP), vitality (VT), and general health (GH) were the most

consistently affected. These findings are biologically plausible because hypertension often coexists with obesity, diabetes mellitus, chronic kidney disease, dyslipidemia, and cardiovascular disease, all of which contribute to reduced physical capacity and increased fatigue.^{12,48,51}

Furthermore, several studies demonstrated that uncontrolled hypertension was associated with significantly lower physical component scores than controlled hypertension.^{47,51} This suggests that successful blood pressure management may improve not only cardiovascular prognosis but also patients' perception of their physical health.

Mental Health and Psychological Well-Being

Although reductions in mental health scores were generally smaller than impairments in physical health, psychological well-being remains an important component of hypertension management. Depression, anxiety, stress, sleep disorders, and fear of cardiovascular complications were repeatedly associated with poorer mental component summary (MCS) scores.^{11,48} Several studies suggested that the psychological burden associated with receiving a diagnosis of hypertension may negatively influence perceived health status, particularly among younger adults and newly diagnosed patients.

Primary care physicians should therefore recognize hypertension as both a cardiovascular condition and a chronic illness that may substantially affect emotional well-being.

Influence of Comorbidities

A consistent finding across the included studies was the cumulative impact of multimorbidity on HRQoL. Patients with hypertension combined with diabetes mellitus, obesity, chronic kidney disease, heart failure, or previous stroke demonstrated substantially lower SF-36 scores than individuals with hypertension alone.^{12,49,51}

These observations highlight the importance of comprehensive cardiovascular risk assessment within primary care. Rather than managing hypertension as an isolated disease, clinicians should adopt integrated management strategies that address multiple chronic conditions simultaneously.

Lifestyle Modification and Quality of Life

Lifestyle modification remains the cornerstone of hypertension management and was consistently associated with improved HRQoL across the reviewed studies.

Regular physical activity has been shown to improve physical functioning, reduce fatigue, enhance mental well-being, and lower cardiovascular risk.^{10,52} Likewise, dietary approaches such as the Dietary Approaches to Stop Hypertension (DASH) diet and sodium restriction contribute to improved blood pressure control and may positively influence patients' perception of general health.⁵³

Smoking cessation, moderation of alcohol consumption, weight reduction, adequate sleep, and stress management further enhance both cardiovascular outcomes and quality of life. These findings reinforce current recommendations from the European Society of Cardiology, the American College of Cardiology/American Heart Association, and the World Health Organization, which emphasize lifestyle intervention as first-line therapy for many patients with hypertension.^{1,3,4}

Medication Adherence

Medication adherence emerged as another important determinant of HRQoL. Patients who adhered to prescribed antihypertensive therapy generally reported better physical and mental health than those with poor adherence.⁵⁴

The relationship between adherence and HRQoL is likely bidirectional. Improved adherence facilitates blood pressure control and reduces complications, while patients experiencing better health-related quality of life may be more motivated to continue long-term treatment.

General practitioners can improve adherence through patient education, simplified medication regimens, shared decision-making, and regular follow-up consultations.

Role of Primary Care

The findings of this review reinforce the central role of primary care in improving health-related quality of life among individuals with hypertension.

General practitioners are uniquely positioned to provide: early diagnosis and cardiovascular risk assessment; individualized lifestyle counseling;

evidence-based antihypertensive treatment; routine monitoring of blood pressure and treatment adherence; identification of depression and anxiety; management of multimorbidity; and coordination with nurses, pharmacists, dietitians, and other allied health professionals.

Because hypertension requires lifelong management, continuity of care in primary care settings facilitates stronger patient–physician relationships, improves treatment adherence, and enhances long-term clinical outcomes.⁵⁵

Clinical Implications for General Practice

The reviewed evidence has several practical implications for family physicians and primary care teams.

First, blood pressure values alone should not be considered the sole measure of successful hypertension management. Assessment of patient-reported outcomes, including HRQoL, provides additional insight into treatment effectiveness and patients' unmet needs.

Second, routine use of validated instruments such as the SF-36 may help identify patients experiencing reduced physical functioning, fatigue, emotional distress, or impaired social participation that may otherwise remain undetected.

Third, individualized management plans combining pharmacological therapy with lifestyle modification, psychosocial support, and multidisciplinary care appear most effective for improving both blood pressure control and quality of life.

Finally, integrating HRQoL assessment into routine hypertension follow-up may strengthen shared decision-making and promote patient-centered care.

Limitations

Several limitations should be acknowledged.

Most included studies employed cross-sectional designs, limiting the ability to establish causal relationships between hypertension and HRQoL.

Considerable heterogeneity existed regarding participant characteristics, healthcare settings, methods of blood pressure measurement, and adjustment for confounding variables.

Some studies included participants with

substantial comorbidity, making it difficult to isolate the independent effect of hypertension on quality of life.

Publication bias and restriction to English-language publications may also have influenced the available evidence.

Finally, although the SF-36 is one of the most widely validated generic HRQoL instruments, it may not fully capture disease-specific concerns experienced by individuals with hypertension.

CONCLUSIONS

This systematic review demonstrates that hypertension has a substantial negative impact on health-related quality of life (HRQoL), affecting both physical and psychological well-being. Across the reviewed studies, patients with hypertension consistently reported lower SF-36 scores than normotensive individuals, particularly in the domains of Physical Functioning, Role Physical, General Health, and Vitality. Although mental health impairment was generally less pronounced, depression, anxiety, poor medication adherence, and multimorbidity were important contributors to lower Mental Component Summary scores. Future research should prioritize prospective longitudinal studies, implementation research, and randomized controlled trials evaluating interventions that improve both blood pressure control and HRQoL. The integration of digital health technologies, telemedicine, wearable monitoring devices, artificial intelligence, and patient-reported outcome measures into routine primary care may further enhance patient-centered hypertension management. Overall, HRQoL should be considered an essential outcome measure in hypertension care, complementing conventional clinical indicators and supporting a more holistic approach to chronic disease management.

CONFLICT OF INTEREST

The authors declare that they have no competing financial or non-financial interests relevant to the content of this manuscript. However, it is noted that the authors are member of the editorial board of the journal to which this manuscript is submitted. This affiliation has not influenced the design, analysis, interpretation, or writing of

this review, and the manuscript has undergone standard independent peer review in accordance with the journal's policies.

ARTIFICIAL INTELLIGENCE (AI) DISCLOSURE

During the preparation of this manuscript, the authors used ChatGPT (OpenAI), Claude (Anthropic), and Gemini (Google) to assist with language editing, grammar improvement, formatting, and/or text refinement. The authors carefully reviewed, verified, and edited all AI-generated content and accept full responsibility for the accuracy, integrity, originality, and final content of the manuscript. No AI tool was involved in data collection, data analysis, interpretation of results, or final scientific decision-making unless explicitly stated in the Methods section.

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