



LITERATURE REVIEW

Patient Voices on Shared Decision-Making and Hypertension Management: An Integrative Literature Review

Nia Lane, BSN, RN*

San Antonio School of Nursing, University of Texas Health Science Center, USA



*Corresponding author: Nia Lane, San Antonio School of Nursing, University of Texas Health Science Center, USA

Abstract

Background: Hypertension is a consistent problem throughout the United States. Many individuals live with uncontrolled hypertension, which is the leading cause of strokes and cardiovascular events. The literature review focuses on the use of shared decision-making in assisting patient manage their hypertension.

Objective: The purpose of the review was to collectively analyze and identify patient perspectives on shared decision-making with hypertension management.

Design: The literature review integrates different research studies across various counties.

Data sources: Search strategies included search terms: SDM, shared decision making, hypertension, high blood pressure, and management. Terms were searched in PubMed, CINAHL, and Cochrane database between January 2020 and March 2020.

Review method: Ten articles were selected. Research articles were omitted that did not focus on hypertensive patients, SDM, or SDM interventions. Of the ten articles found, two research studies were qualitative, seven studies were quantitative, and one was a content validity study.

Results: Only two of the ten articles reviewed provided knowledge on patient perspectives of hypertension treatment. There were limited articles that identified patient preferences in hypertension control. Limited information was also found on patient perspectives on specific SDM interventions. SDM training was useful in managing blood pressure.

Conclusion: There is strong evidence that there are gaps in reviewing the literature spanning across two decades, centering on hypertensive patients. The literature is also missing the voice of the patient regarding their role in their care and treatment.

Implications: More research needs to be targeted towards what hypertensive patient deems as necessary for their care.

Keywords

Nursing, Shared decision making, Partnership, Patient preferences, Decision-making, Hypertension, Chronic illness management, Self-management, High blood pressure, Concordance

Introduction

In 2018, the United States had more than 494,873 individuals die from hypertension as a primary or contributing cause [1]. The damage to the walls of arteries from hypertension can lead to heart disease and stroke, which are the leading cause of death [1]. Based on the American College of Cardiology and the American Heart Association, patients are diagnosed with hypertension if blood pressures are consistently over 130/80 mmHg [2]. There is an estimated 108 million adults diagnosed with hypertension in the United States. This is approximately 1 out of 2 adults in the U.S [3]. Of the adults with hypertension, only 24% have their blood pressure controlled; and the other 76% of Americans have uncontrolled hypertension. The United States has spent approximately \$131 billion on hypertension costs [4].

In assisting individuals to manage their hypertension, numerous of interventions are implemented, such as pharmacological interventions (beta-blockers, calcium channel blockers, etc.) and non-pharmacological interventions (exercise, diet, decreasing alcohol consumption, and decreasing smoking cessation). There is vast knowledge of identified risk factors, including having diabetes, a high sodium diet, lack of physical activity, being obese, high alcohol intake, and having prehypertension [1]. Nevertheless, the prevalence of hypertension has remained unchanged from 1999 to 2016 research has shown [5].

Shared decision-making (SDM) has been added in healthcare practice to manage chronic illness and assist patients select treatment. The use of SDM focuses on providing patients with more authority and allowing a more active role in deciding care. SDM is an approach that enables clinicians and patients with the best evidence to support patients in considering options to achieve informed preferences [6]. SDM is defined as having three pillars: two-way communication, the use of patient preferences, and patient and provider involvement [7,8]. SDM is aimed at providing health condition information along with risks and benefits of different treatment options. Some challenges to implementing SDM include cost, quality, clarification on how patients participate, and the health effects across different healthcare settings [9].

Some other challenges also include time restraints and communication [7]. The benefits of SDM include increased patient knowledge, less anxiety, improved health outcomes, and increased patient satisfaction [10]. The use of SDM is even encouraged in the Affordable Care Act (ACA). The ACA was introduced in 2010 and defines SDM as:

“... collaborative processes between patients, caregivers or authorized representatives, and clinicians that engages the patient, caregiver or authorized representative in decision making, provides patients, caregivers or authorized representatives with information about trade-offs among treatment options, and facilitates the incorporation of patient preferences and values into the medical plan...” [11].

Literature Reviews

Aim

The purpose of this review is to identify patients' perspectives on the use of SDM elaborating on the definition and the usefulness of SDM.

Design

The literature review integrates different research studies across different countries and followed a specific inclusion and exclusion criteria.

Search method

Search strategies included such search terms: SDM, shared decision making, hypertension, high blood pressure, and management. Terms were searched in PubMed, CINAHL, and analyzed through the Cochrane database. Ten articles were selected, and research articles were omitted that did not focus on hypertensive patients, SDM, or SDM interventions. No parameters were used in the timeline of the articles, and research was conducted between January 2020 and March 2020.

Selection outcome

Inclusion criteria included articles that focus on SDM,

decision making, decisional analysis, or decision aids on hypertensive patients. Articles could only focus on one chronic condition, hypertension. All articles had to be published and there was no exclusion on timeframe of publication. Only studies in English were included but articles did not have to be conducted in the U.S. Details on the aim and purpose of chosen studies can be found in Table 1.

Exclusion criteria included articles that did not focus on SDM, decisional making, decision aids, or decisional analysis. Articles were also excluded if the targeted population were not hypertensive patients and if the articles focused on other chronic conditions. Articles not published and in a different language other than English were also excluded.

Data Extraction & Synthesis

The author initially evaluated titles and abstracts by applying potential eligibility criteria to exclude articles that did not investigate SDM with hypertensive patients. The selected articles were fully reviewed and after developing definite eligible criterion. The author entered data from the selected articles into an analysis table. After compiling evidence, the data was then re-analyzed and written.

Results

Study characteristics

The reviewed literature included seven quantitative, two qualitative, and one content validity study. Among the seven quantitative studies, there was one study that introduced SDM training for patient and physicians, three studies that focused on physician taught training, and four studies focused on the use of decisional analysis. Among the two qualitative studies there was focus on identifying patient's preferences on treatment for managing their hypertension with the use of decisional analysis [12,13]. The reviewed studies were conducted in the United States, Germany, Malaysia, and Europe.

Participant characteristics

Study participants were diagnosed with hypertension. The total number of participants was an estimated 2,320. Two studies also included healthcare providers. There was a total of 44 healthcare providers [14,15]. Only one study did not provide patient characteristics [16]. In some studies, there was larger participation from females [12,14,17-19]. In other studies, males had greater participation [13,20,21]. The estimated average age of the participants was between 55-65 years [13-15,18-20]. The estimated mean duration of hypertension was between 5-15 years [13,18]. The estimated mean blood pressure was between 130-151 mmHg [12,14,18]. The location of the studies conducted included outpatient clinics and the use of medical records, but many of the studies did not include the exact location.

Main Findings

Defining shared decision-making (SDM)

In reviewing the literature that focuses on patient perspectives, the selected articles report contrasting views on the definition of SDM. Three articles explicitly define SDM. One article defines SDM as a process involving patients in medical decision-making, improving patient autonomy [18]. The term patient autonomy was not described further. One article defines SDM as a bi-directional communication in which physicians' and patients' knowledge and perspectives are used to assist in deciding treatment [13]. The other articles reviewed did not define SDM. Without such a definition, the reader is left to assume what the author is identifying. The other articles might have decided to omit such descriptions because of the varying explanations in the general literature on SDM. Some articles mentioned other concepts along with SDM, but definitions of such concepts were not provided. Concepts mentioned were patient empowerment [18], patient activation, and patient engagement [19]. Of the articles selected, the concept SDM is mentioned, but the theoretical framework was not mentioned in any article.

The perspective of the patients

In analyzing all of the selected literature, only a few articles provided knowledge on patient perspectives of hypertension treatment. One study reported age and educational levels influenced patient involvement in shared decision making [13]. This study used surveys at an outpatient clinic to learn patient preferences for hypertension management in a Malaysian population. Older patients were more comfortable with a less active role, while more educated patients preferred a more active role in deciding their care. The same study also identified that many patients feel their providers do not want to change their preferences in treatment [13]. Such feelings could be from the rushed environment in the health care realm. Providers have so many patients to see with such little time. In one study, general providers were not seen as an additional source of clinical information to patients [16]. Patients may not feel comfortable discussing further details with their providers. This study examined fifteen newly diagnosed hypertensive patients and provided aids to help patients decide treatment while using informative videos and educational booklets. Another study discovered that patients would prefer hypertensive medications if the patient had a high risk of a cardiovascular event within the next five years [12]. This study was conducted by interviewing hypertensive patients after using a decision tree to aid patients in determining their treatment.

There were limited articles that identified patient preferences in hypertension control. One study has shown an increase in systolic blood pressure over time gave patients more significant concern [17]. By provi-

ding a visualization of patient blood pressure over time, this allowed patients a different view of blood pressure by using a graph. The study created visual displays of blood pressure to help provide meaningful clinical information. Two studies found that patient's perspectives were influenced by the way blood pressure data was represented [12,17]. If patients perceive that their blood pressure is not in control, patients are more willing to participate in treatment as opposed to those believing their blood pressure is normal. Different tools were used in measuring patient preferences with SDM. Two studies used SDM-Q-9 [13,14]. This tool was developed to assist in capturing patient feedback on patient perspectives of the care they received with nine questions [22]. One article provided SDM physician training on German patients to help discover patient perceptions and lower blood pressure [14]. Other measurement tools used by another study was the Autonomy Preference Index [API], Combined Outcomes Measure for Risk Communication and Treatment Decision Making Effectiveness [COMRADE] [18]. The study compared the use of physician taught SDM with educational programs on a German population. API was created to measure patient preferences in the involvement of their treatment [22]. The measurement COMRADE was intended to be generalized in different patient situations to focus on treatment decisions and communication [23]. The validity of such tools was not discussed in the articles.

Limited information was also found on patient perspectives on specific SDM interventions. There was only one intervention of the ones identified from the selected literature. Decision aids were found favorable in assisting patients that decided their treatment of care [15,16]. One study was conducted to validate the use of a decision aid, such as a decision tree [15]. The decision tree provided different treatments for hypertension and potential consequences. The study evaluated patient and health professional preferences. There were also patients and health care professionals who felt they would not use the program and that it was too long [15]. Decision aids are a tool used to help facilitate patient involvement in their care [16]. Decision aids provide a different avenue to help patients analyze and decide their treatment for their care, along with the assistance of their providers.

The usefulness of SDM interventions

Of the literature articles selected, the usefulness of two SDM interventions were examined. One intervention observed was a physician leading SDM training. There were limited articles in the literature that focused on physician taught SDM training. The proximal outcomes of such intervention involved lowered patient blood pressures at six months [14,19]. One study implemented physician training with 60 to 90 minutes of training sessions [19]. Implementing such interventions seems promising, but the long-term effects were

not supported in this literature review. Blood pressure control was not as effective in long-term outcomes with the implementation of physician taught SDM [14,19]. There is limited evidence that evaluates the re-implementation of SDM intervention after six months.

Another intervention evaluated was the usefulness of decision analysis or decision aids. There were only several articles in the literature review that focus on effectiveness. In analyzing the usefulness, it has been noted that decision aids improve patient knowledge [20]. Patient perspectives on such improved knowledge was not provided. Decision aids were not effective in controlling blood pressure long-term [20,21]. One study was conducted to investigate the effects of decision analysis with the implementation of informational videos and leaflets and followed-up three years later [21]. In analyzing such interventions, decision aids were also used as a way to assist patients in starting antihypertensive drugs [20,21].

Discussion

There is strong evidence that there are gaps in reviewing the literature spanning across two decades, centering on hypertensive patients. The research identified that a definitive definition of SDM is missing. Of the ten articles analyzed, only three provided a definition of SDM, and each was different. The literature does not have a clear and consistent definition, which leads to uncertainty of whether inventions that are implemented to support SDM are proven effective. None of the articles followed a theoretical framework. In examining all of the literature, SDM is a vague concept, and when focusing on a specific chronic condition, the reader is missing the different elements that create the term.

The literature is also missing the voice of the patient regarding their role in their care and treatment. Of the ten articles selected, only one focused on the patient's involvement and involvement preferences. In creating and using different interventions to help patients manage their hypertension, an evaluation from the patient's perspective is needed, or the patient may not participate in using the intervention. Patient input is necessary for research and should be considered more frequently.

When targeting SDM on a specific population such as hypertensive patients, there is evidence of some potential in assisting patients in managing their treatment. The usefulness of such interventions needs more evidence, especially when examining the long-term effects. In managing and controlling hypertension, it can take several months. Blood pressure fluctuates daily. The sustainability of implementing SDM was not identified during this limited search.

The literature review provided evidence of different measurement tools used in evaluating patient's preferences. A valid measurement tool was created to assist in capturing patient feedback on patient preferences

on care received from their provider and if patients were able to have an active role [22]. Such a tool was SDM-Q-9, yet the measurement tool was only represented in two articles. It seems as if the literature does not widely accept SDM-Q-9 as a measurement tool. When so many different measurements are used to measure similar concepts, it becomes difficult to analyze the validity.

In examining the existing research on SDM, one literature review article on SDM in hypertensive patients was identified in this limited review paper [24]. The review conducted by Johnson et al. identified eleven reports based on six research studies that spanned from 1987 to 2014. The review defined SDM as a partnership between clinicians and patients in deciding health-care treatment [24]. This review focused on quantitative research methods to identify useful SDM inventions to help general practitioners implement SDM and provide a comprehensive analysis focused on intervention effectiveness rather than patient perspectives. The review identified no difference in blood pressure control between the control group and experimental group in all studies [24].

Conclusion

Overall, the review provided a summary on literature on SDM in managing hypertension and expressed an avenue missing currently in research. SDM could possibly provide knowledge to the gap of literature in identifying patient perspectives. Hypertension continues to affect millions of individuals though there is vast knowledge of the condition. The statistics in 2019 identified that nearly 1 in 2 American has hypertension [3]. Yet, instead of a decline of the condition it remains unchanged. SDM might be beneficial in assisting patient management their hypertension but understanding how SDM works is still needed.

Limitations of the study involve the limited number of articles used in the literature review. The review was conducted over a short time frame as well and limited databases were used. Of the articles reviewed many did not efficiently explain the participants demographics limiting the generalizability of the review.

Future Implications

After conducting the literature review, there were some implications for future research. More research needs to be targeted towards what hypertensive patients deem necessary for their care. Since the SDM tool is not consistently used, a different SDM tool might need to be created and evaluated in a comparison study. More mixed-method studies are needed using the SDM tool and in-depth interviews to capture what is needed with this population. An examination in the literature of other chronic illnesses implementing SDM and possibly conducting a comparative study.

What is Leading me to Focus on Hypertension Management with Use of Shared Decision Making (SDM)?

I had the opportunity to work on a neuroscience unit and care for many patients with uncontrolled hypertension, newly diagnosed strokes, recurrent strokes, and many different neurological surgeries. When communicating with my patients and educating them on hypertension management, many have voiced their opinion that they are not listened to by their primary care provider. Some have mentioned that they do not like taking medications, or they do not know why they have prescribed medications. There have been times that patients describe provider visits where there is no follow-up after prescribing new hypertension medications. From the clinical perspective, I hear what patients are needing, and they would like any opportunity to be actively involved and deciding what they want in their care. I pondered what the literature would uncover on hypertensive patients' perspectives on their treatment of care with the use of SDM.

Acknowledgments

I want to thank Dr. Ko and other professors for your assistance in helping through this nursing research journey. I appreciate the different feedback and look forward to further expand on my knowledge and contributing to the profession.

Funding Statement

The author received no financial support for the research, authorship, and/or publication of this article.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

Conflict of Interest

No conflicts of interest were noted.

Ethical Approval

Ethical approval is not required.

References

- (2018) Underlying cause of death, 1999-2018. Centers for disease control and prevention. CDC WONDER Online Database. Atlanta, Georgia.
- (2019) Hypertension guideline toolkit. American heart association.
- (2019) Estimated hypertension prevalence, treatment, and control among U.S. Adults. Centers for disease control and prevention.
- Farley TA, Dalal MA, Mostashari F, Frieden TR (2010) Deaths preventable in the U.S. by improvements in use of clinical preventive services. *Am J Prev Med* 38: 600-609.
- Fryar CD, Ostchega Y, Hales CM, Zhang G, Kruszon-Moran D (2017) Hypertension prevalence and control among adults: United States, 2015-2016. *NCHS*.
- Elwyn G, Edwards A, Wensing M, Hibbs R, Wilkinson C, et al. (2001) Shared decision making observed in clinical practice: Visual displays of communication sequence and patterns. *J Eval Clin Pract* 7: 211-221.
- Ankolekar A, Dekker A, Fijten R, Berlanga A (2018) The benefits and challenges of using patient decision aids to support shared decision making in health care. *JCO Clin Cancer Inform* 2: 1-10.
- Charles C, Gafni A, Whelan T (1997) Shared decision-making in the medical encounter: What does it mean? (or it takes at least two to tango). *Soc Sci Med* 44: 681-692.
- Elwyn G, Frosch DL, Kobrin S (2015) Implementing shared decision-making: Consider all the consequences. *Implementation Science*.
- Oshima Lee E, Emanuel EJ (2013) Shared decision making to improve care and reduce costs. *N Engl J Med* 368: 6-8.
- (2010) The patient protection and Affordable Care Act (PPACA). *Health Care*.
- Montgomery AA, Harding J, Fahey T (2001) Shared decision making in hypertension: The impact of patient preferences on treatment choice. *Family Practice* 18: 309-313.
- Mah HC, Muthupalaniappen L, Chong WW (2016) Perceived involvement and preferences in shared decision-making among patients with hypertension. *Family Practice* 33: 296-301.
- Tinsel I, Buchholz A, Vach W, Siegel A, Durk T, et al. (2013) Shared decision-making in antihypertensive therapy: A cluster randomised controlled trial. *BMC Family Practice* 14.
- Thomson P, Dowding D, Swanson V, Bland R, Mair C, et al. (2006) A computerised guidance tree (decision aid) for hypertension, based on decision analysis: Development and preliminary evaluation. *Eur J Cardiovasc Nurs* 5: 146-149.
- Weiss MC, Montgomery AA, Fahey T, Peters TJ (2004) Decision analysis for newly diagnosed hypertensive patients: A qualitative investigation. *Patient Educ Couns* 53: 197-203.
- Shaffer VA, Wegier P, Valentine KD, Belden JL, Canfield SM, et al. (2019) Patient judgments about hypertension control: The role of variability, trends, and outliers in visualized blood pressure data. *J Med Internet Res* 21.
- Deinzer A, Veelken R, Kohnen R, Schmieder RE (2009) Is a shared decision-making approach effective in improving hypertension management? *The Journal of Clinical Hypertension* 11: 266-270.
- Olomu A, Khan NN, Todem D, Huang Q, Bottu S, et al. (2016) Blood pressure control in hypertensive patients in federally qualified health centers. *MDM Policy Pract*.
- Montgomery AA, Fahey T, Peters TJ (2003) A factorial randomised controlled trial of decision analysis and an information video plus leaflet for newly diagnosed hypertensive patients. *Br J Gen Pract* 53: 446-453.
- Emmett CL, Montgomery AA, Peters TJ, Fahey T (2005) Three-year follow-up of a factorial randomised controlled trial of two decision aids for newly diagnosed hypertensive patients. *Br J Gen Pract* 55: 551-553.
- http://www.patient-als-partner.de/index.php?article_id=4&clang=2.
- Edwards A, Elwyn G, Hood K, Robling M, Atwell C, et al. (2003) The development of COMRADE-a patient-based outcome measure to evaluate the effectiveness of risk communication and treatment decision making in consultations. *Patient Educ Couns* 50: 311-322.
- Johnson RA, Huntley A, Hughes RA, Cramer H, Turner KM, et al. (2018) Interventions to support shared decision making for hypertension: A systematic review of controlled studies. *Health Expect* 21: 1191-1207.