# Nursing Management of Patients with Arterial Hypertension 

Besarta Pelaj ${ }^{\mathrm{a}^{*}}$, Nuhi Arslani ${ }^{\text {b }}$<br>${ }^{a}$ Departament of Nursing, University Clinical Center of Kosova, Pristina,Republic of Kosovo<br>${ }^{\text {a,b }}$ University Clinical Center,Maribor,Republic of Slovenia<br>${ }^{b}$ College of Medical Sciences, Pristina, Republic of Kosovo<br>${ }^{a}$ Email: besartapelaj@yahoo.com<br>${ }^{\text {b }}$ Email: arslani.nuhi@gmail.com


#### Abstract

Arterial hypertension (AH), is one of the most prevalent diseases in the words present a major risk factor for strokes, myocardial infarction, vascular and chronic renal disease. Purposes of this the research was to analyze nurses' knowledge about the nursing management of patients with arterial hypertension at the General Hospital Family Medicine Centers in Peja, to review the literature on nursing management in hypertensive patients, and to provide a series of recommendations that affect the quality of nursing management for patients who are suffering from arterial hypertension. Research is quantitative and analytical in nature. It also has an explanatory nature, relying on current international and domestic literature. The paper is also based on the surveying of 100 nurses. We can conclude that therapy is the patient's responsibility in collaboration with the healthcare provider. Educating about high blood pressure and how to manage it, including medications, diet lifestyle changes, weight control and exercise, setting blood pressure goals and social assistance can help the patient reach the blood pressure under control.


Key words: arterial hypertension; nursing management; primary care.

[^0]
## 1. Introduction

Hypertension is one of the most prevalent diseases in the world and is a major risk factor for strokes, myocardial infarction, vascular disease and chronic renal disease. Hypertension is diagnosed if when it is measured on two different days, the systolic blood pressure readings on both days is $\geq 140 \mathrm{mmHg}$ and/or the diastolic blood pressure readings on both days are $\geq 90 \mathrm{mmHg}$ [1]. High blood pressure (BP) is a major risk factor for the development of ischemic heart disease, which increases the mortality rate [2]. Based on a pooled analysis of available national and regional data, reported the estimated number of adults with hypertension in 2000 to be 972 million worldwide [3]. They further indicated that the estimated number of hypertensives in developing countries outweighed that of developed countries by almost twofold ( 639 million in developing countries versus 333 million in developed countries). The report states that the overall prevalence of hypertension in 2000 was estimated to be $26.4 \%$ of the world's population ( $26.6 \%$ male and $26.1 \%$ female) [4]. The the estimated global rate of hypertension in 2015 was $24.1 \%$ for adult men and $20.1 \%$ for adult women [5]. Hypertension is classified as primary or essential hypertension, which covers $90-95 \%$ of cases, in this case, there is no obvious, identifiable and curable cause, but we are sure that it affects age, heredity (lifestyle factors), lifestyle, overweight. Therefore, maintaining normal BP levels through appropriate treatment is important to reduce cardiovascular disease and mortality [6]. Previous longitudinal studies have associated an increase in treatment for hypertension with an increase in the number of patients achieving BP control [7]. Because high BP in young adults is associated with a higher risk of cardiovascular diseases and early mortality, its treatment and control in early adulthood is important $[8,9]$. The primary purpose of this paper is to analyze the knowledge of nurses about the nursing management of patients with Arterial Hypertension at the General Hospital in Peja and Family Medicine Centers in Peja. The secondary purpose of the paper is to research and review advanced the literature on nursing management in hypertensive patients, without any selection criteria namely the inclusion of international and local literature. The tertiary purpose of the paper is to provide a series of recommendations that affect the quality of nursing management for patients who are suffering from arterial hypertension.

### 1.1 Research questions

Should medications for the management of arterial hypertension be taken in other forms than the doctor's prescription? Are coffee, alcohol, fast food, salt, fat, and tobacco factors affecting arterial hypertension?

### 1.2 Hypotheses

H1. Nurses at the Hospital and Family Medicine Centers claim that if the medication for the management of arterial hypertension should be taken only with a doctor's prescription. H2. Hospital nurses and Family Health Centers claim that coffee, alcohol, fast food, tobacco are factors that influence arterial hypertension.

## 2. Methods

A quantitative method was used. This method used was carried out through the survey process and represents a structured procedure. The nature of the study is analytical, so the aspect of nursing management in patients with arterial hypertension is investigated, Second, the study has an exploratory / explanatory
nature, relying on secondary sources such as: current international and domestic literature on nursing management in patients with arterial hypertension. Third, the study has an empirical research nature, relying on the quantitative method, such as surveying. Samples- we selected 100 nurses. The sampling criterion was for the respondent to have experience with the care of patients with arterial hypertension. Data for the study were collected through a structured questionnaire. The questionnaires were anonymous, the questionnaires were personally distributed by me and returned to me. The nurses in the questionnaire were able to read the introductory part and be informed about the details of the questionnaire and how to complete it. The deadline for completing the questionnaire was 10 days (11-22 March 2019). 110 questionnaires were distributed and 100 of them were returned completed. Data were analyzed from 22.03 .2019 to 22.04.2019) using Excel software. Findings were presented in diagrams using percentages for calculation. We have carefully analyzed the data trying to make a connection between these data and on this basis come to useful conclusions.

## 3. Results

Gender structure of the respondents In the period of study at the General Hospital in Peja and at the Family Medicine Center in Peja- Kosovo, 100 nurses were surveyed. Regarding the gender of the respondents, $62 \%$ of the respondents belong to the female gender, while $38 \%$ of the respondents belong to the male gender. From this result we see that the female gender is dominant in the nursing a profession in these institutions. $15 \%$ of the respondents belong to the age group of $20-29$ years, $30 \%$ of the respondents belong to the age group of $30-39$ years, $33 \%$ of the respondents belong to the age group of $40-49$ years, $20 \%$ of the respondents are aged $50-59$ years, while $2 \%$ of respondents are aged $60-65.35 \%$ of respondents say they live in rural areas, while $65 \%$ of respondents live in urban areas. Research respondents were also asked about their educational level: $70 \%$ of respondents have completed Nursing High School, $25 \%$ of respondents have completed Bachelor Degree, and 5\% of them have completed a Bachelor Degree. respondents have completed Master Studies. 18\% of respondents have 1-9 years of work experience, $25 \%$ of respondents have work experience of $10-19$ years, while $33 \%$ of respondents have over 20-29 years of work experience., and $24 \%$ over 30 years of work experience. According to the results, $69 \%$ of the respondents did not attend any nursing care training in patients with arterial hypertension, $16 \%$ of the respondents attended only one training, $14 \%$ of the respondents attended $2-3$ pieces of training, while no respondent stated that they attended more than 3 training. When asked what are normal blood pressure values, respondents answered as follows; $10 \%$ of respondents stated that normal values of TA $=120 / 80 \mathrm{mmHg}, 70 \%$ stated that normal values of $\mathrm{TA}=130 / 80,18 \%$ state that normal values $\mathrm{TA}=140 / 90 \mathrm{mmHg}$ and $2 \%$ of respondents state that normal values $\mathrm{TA}=140 / 100.72 \%$ of respondents claim that arterial hypertension is hereditary, $13 \%$ of respondents state that arterial hypertension is not hereditary, while $15 \%$ of respondents chose the alternative do not know. When asked about the causes of arterial hypertension, $20 \%$ of respondents state that arterial hypertension is caused by food habits, $10 \%$ of respondents state that arterial hypertension is caused by environmental causes, $15 \%$ of respondents state that socioeconomic causes are arterial hypertension, and $25 \%$ of the state that arterial hypertension is caused by stress and $30 \%$ state that the causes are hereditary factors. (Figure 1). No respondents state that the patient should not have the heart checked without presenting problems, $34 \%$ of respondents state that the patient should have the heart checked once a year, while $66 \%$ of respondents state that the patient should check his heart depending on his health condition. Immediate and subsequent complications
of arterial hypertension was discussed, and none of the respondents chose the alternative that vomiting can be an immediate complication, $60 \%$ of respondents state that loss of consciousness and a heart attack can be immediate complications of arterial hypertension while only $4 \%$ of respondents state that body tremor can be an immediate complication of arterial hypertension, and $36 \%$ state that Brain attack and paralysis can be an immediate complication (Figure 3) $15 \%$ of respondents state that acute myocardial infarction may be a later complication, $9 \%$ of respondents state that hypertensive retinopathy may be a later a complication of arterial hypertension, $5 \%$ of respondents state that paralysis may be a complication of after arterial hypertension, $3 \%$ of respondents state that the bodily deformity may be a subsequent a complication of arterial hypertension while $68 \%$ of respondents state that all of the above may be subsequent complications of arterial hypertension (Figure 4). When asked how should medication be administered to manage arterial hypertension, respondents gave the following answers: $54 \%$ of respondents state that medication to manage arterial hypertension should be taken on a regular basis. according to the doctor's prescription and regular checkups, $3 \%$ of respondents state that medications for managing arterial hypertension should be taken only arterial hypertension has high rates, $43 \%$ state that management of Arterial Tension is done by taking medication therapy, changing lifestyle and doing physical activities. Since patients' habits regarding coffee, alcohol, fast food smoking, salts, spices, and fats are unavoidable, it was of interest to this paper to explore the opinion of respondents what they think and $30 \%$ of respondents state that coffee, alcohol, tobacco, fast food, are factors that affect arterial hypertension, $66 \%$ of respondents state that salts, spices, Fats, alcohol, tobacco are factors that affect arterial hypertension, $4 \%$ of respondents are neutral in this finding., while no respondent chose the alternative I disagree and disagree at all. Arterial hypertension medications in regards to sleep was evaluated. None of the respondents selected the options "Completely Agree" and "Agree", $10 \%$ of respondents are neutral in concluding that the patient once getting arterial hypertension therapy can fall asleep, $12 \%$ of respondents disagreed that the patient once getting arterial hypertension management therapy may fall asleep, and $78 \%$ of respondents strongly disagreed with the finding that the patient may fall asleep once receiving arterial hypertension management therapy. The penultimate question was about whether arterial hypertension in a patient can be managed in Primary Care (Family Medicine Center). $50 \%$ of respondents fully agree that arterial hypertension in a patient can be managed in Primary Care, $45 \%$ of respondents agree with this finding, $5 \%$ of respondents are neutral if arterial hypertension in the patient can be managed in Primary Care (Family Medicine Centers), while alternatives disagree and disagree were not selected by any respondent (Figure 5). The final question presented to respondents was whether the patient who has just received therapy for the management of arterial hypertension can drive without a problem. No respondents fully agreed on alternatives and $5 \%$ of respondents chose neutral, $40 \%$ of respondents disagree with the finding that the patient who has just received treatment for management of arterial hypertension can drive without a problem, while $55 \%$ of the respondents disagree with the finding that the Patient who has just received treatment for the management of arterial hypertension arterial hypertension can drive without a problem.


Figure 1: Arterial hypertension causes

## How should a patient with arterial hypertension be managed? (respondents' answers in \%)



- medication
- diet
- physical activity
- all methods

Figure 2: Arterial hypertension management


Figure 3: Immediate complications of arterial hypertension


Figure 4: Subsequent complications of arterial hypertension


Figure 5: Management of arterial hypertension in Primary Care

## 4. Discussion

This study describes the knowledge, opinions, and perceptions of nursesregarding nursing management in patients with arterial hypertension. The study approahinvolves systematic collection of numerical data. The target group in this study was 100 nurses from the General Hospital in Peja and the Family Medicine Centers, who provide health services to patients with arterial hypertension.During the study period 100 nurses were surveyed. Regarding the gender of the respondents, $62 \%$ of the respondents belong to the female gender, while $38 \%$ of the respondents belong to the male gender. From this result we see that the female gender is dominant in the nurse profession. Regarding the level of education, $70 \%$ of the respondents have graduated from the Nursing High School which indicates that in our country nurses are still dominating
high school, $25 \%$ of the respondents have completed a Bachelor Degree, while $5 \%$ of respondents have completed Master Studies, which indicates that nurses in Kosovo are continuing their education for further studies. The study found that $69 \%$ of respondents did not receive any training in nursing management in patients with arterial hypertension, which is to be considered as a recommendation for health institutions managing human resources. Although it is assumed that arterial hypertension is not hereditary and is controllable, the basis of the inheritance of this disease has not been established in this work. But it is suggested that if someone in a close family has hypertension, he/she should have a checkup at least every two years. Asked if arterial hypertension is hereditary $72 \%$ of respondents chose the alternative Yes. The results are partly positive in terms of nurses' knowledge of normal blood pressure values. We say this because when asked what normal blood pressure values are, $70 \%$ of respondents state that normal values of $\mathrm{TA}=130 / 80 \mathrm{mmHg}$. WHO now says that TA $=140 / 90$. However, this is considered to be correct as these values are considered to be optimal. Although we are witnessing that there are many factors that cause arterial hypertension today, according to the results, $55 \%$ of respondents consider stress and hereditary factors as the main cause of arterial hypertension. Other respondents think that food habits, environmental causes and socioeconomic causes are other factors that cause arterial hypertension. Respondents are well informed that symptoms of arterial hypertension muscle and back pain are symptoms of arterial tension, not neglecting dizziness, ringing in the ears and head, however, they are well prepared in this regard since that none of them have chosen the alternative of colic as symptoms of arterial hypertension. Regarding the methods of management of arterial hypertension, in this regard the nurses were found to be quite prepared as to the question of what are the most appropriate methods of management of arterial hypertension, although we offered the alternatives: medication, diet, activity physically, $70 \%$ of the respondents' state that the management of arterial hypertension is done by all the above mentioned methods. When it was clearly known that arterial hypertension was targeting heart disease, respondents were asked how often a patient with arterial hypertension should have a heart check. No respondent stated that the patient should only have a heart check when problems arose, $66 \%$ of the respondents stated that the patient should have a heart check depending on their health status.Nurses are also well aware of the immediate complications of arterial hypertension $60 \%$ of respondents state that loss of vision, and heart attack can be immediate complications of arterial hypertension as well as complications and subsequent complications of arterial hypertension, 68\% - acute myocardial infarction, hypertensive retinopathy, paralysis, body deformity may be a subsequent complication of arterial hypertension. Nurses have a good knowledge of when to take and how to take medications. But they do not have enough knowledge that managing the TA is not only about taking medication but also about changing lifestyles and physical activities where $43 \%$ respondents state this. Nurses are well prepared and aware of the risks that may be caused by taking the medication without a doctor's recommendation / recommendation. Regarding the question of who should take the medication for the management of arterial hypertension, $96 \%$ of the respondents stated that patients should take the medication only with a doctor's prescription to manage arterial hypertension. This also tests our first hypothesis which is: H1. Nurses claim to claim that if medications for the management of arterial hypertension should be taken only with a doctor's prescription. The research highlights good knowledge about patients' daily habits. In finding that coffee, alcohol, fast food, tobacco are factors that affect arterial hypertension. $96 \%$ of respondents fully agree that coffee, alcohol, fast food, tobacco are factors that affect arterial hypertension, salts, spices, alcohol fats affect the growth of TA. This result also tests our
second a hypothesis which is: H2. Nurses claim that coffee, alcohol, fast food, tobacco, salts, fats are factors that influence arterial hypertension. There is also a good preparation of nurses regarding sleep after taking anti-arterial hypertension medication. In conclusion: once he receives therapy before managing arterial hypertension the a patient may fall asleep. $78 \%$ of respondents strongly disagree with the finding that the patient may fall asleep as soon as he or she receives therapy for the management of arterial hypertension (because the pressure should be measured after receiving therapy with no change in the values of TA. for patients who have Hypertension when measuring TA). They are also prepared and clearly know that arterial hypertension in a patient can be managed in Primary Care (Family Medicine Centers) while regarding whether a patient who has just received arterial hypertension management therapy can drive without a problem, $55 \%$ of respondents strongly disagree with the finding that a patient who has just received therapy for the management of arterial hypertension can drive without a problem. In this scoping review, the effectiveness of nurses in providing screening, diagnosis, education, and treatment of hypertension, the most prevalent NCD, is significant. Equally noteworthy is the dearth of studies and the absence of NCD- specific nurse preparation and regulatory protection. The lack of nurses who are included in hypertension intervention studies is in stark contrast to the abundant support for an integrative primary care approach. There is renewed support for and focus on nurses being able to contribute to the fullest extent of their education (Nurse, 2019).

## 5. Conclusion

The paper finds that arterial hypertension is a controllable disease. Uncontrolled hypertension has serious consequences including stroke, coronary heart disease, heart failure and kidney disease [10]. Research highlights that arterial hypertension usually does not cause symptoms at first, but sustained hypertension over time is an important risk factor for hypertensive heart disease, coronary artery disease, aortic aneurysm, peripheral artery disease, and chronic kidneys, cerebrovascular insult etc. It was found that physical examination may reveal no abnormality other than high blood pressure. Occasionally retinal changes such as haemorrhages, exudates (air accumulation), arterial narrowing, and minor strokes can occur. In severe hypertension, papilledema (swelling of the optic disc) may be seen. People with hypertension can be asymptomatic and remain so for many years. However, when specific signs and symptoms appear, they usually indicate vascular damage, with specific manifestations regarding the organs served by the vessels involved [11]. It can be concluded that the patient needs to understand the disease process and how lifestyle changes and medications can control hypertension. The nurse should emphasize the concept of controlling hypertension rather than curing it. The nurse may encourage the patient to consult a dietician to help develop a weight loss plan. In conclusion, we can conclude that therapy is the patient's responsibility in collaboration with the healthcare provider. Educating about high blood pressure and how to manage it, including medications, diet lifestyle changes, weight control and exercise, setting blood pressure goals, and social assistance can help the patient reach the blood pressure under control.Training nurses to manage hypertension improves their skills in measuring blood pressure, their knowledge of hypertension management and their attitudes about their role in hypertension care. Nurses can improve a patient's adherence to prescribed medication and recommended diet and exercise habits. Mobilizing nurses for hypertension screening will be crucial for the improvement of population outcomes. Nurses' roles should be expanded based on research on influencing factors and patient outcomes as it is clear that nurses' involvement in interprofessional patient treatment is essential [11].

## 6. Recommendations

Based on the reviewed literature, the research is done, and the research findings, we come to the following recommendations:

Competent health authorities should organize more frequent training for their staff on nursing management in patients with arterial hypertension. Mechanisms should be set up to enrich as many Family Medicine Centers and clinics as possible with leaflets, leaflets, and other visual resources, so that in addition to nurses, patients also have access to information sources on hypertension. arterial. Nurses working in all levels of health (ambulances, clinics, etc.) have a professional responsibility, within a supportive-education nursing a system, to provide hypertensive patients with the best possible health services. Nurses involved in the management of arterial hypertension should assess their needs to support patients and to provide or assist them in obtaining the information required during the care the process especially when they have hypertensive crisis. Nurses of all levels of health care should provide support, guidance, and education to help patients achieve therapeutic self-care. As patient educators, nurses should inform patients about issues related to arterial hypertension.

## Acknowledgments

We would like to thank the medical staff of the Department of Nursing, University Clinical Center of Kosova, Republic of Kosovo

## References

[1]. World Health Organization. (2019). Hypertension. https://www.who.int/news-room/fact sheets/detail/hypertension
[2]. Hales C. M., Carroll M. D., Simon P. A., Kuo T., \& Ogden C. L. (2017). Hypertension prevalence, awareness, treatment, and control among adults aged $\geq 18$ years-Los Angeles County, 1999-2006 and 2007-2014. Morbidity and Mortality Weekly Report, 66(32), 846-849. https://doi.org/10.15585/mmwr.mm6632a3
[3]. Kearney, P., Whelton, M., Reynolds, K., Muntner, P., Whelton, P., \& He, J. (2005). Global burden of hypertension: analysis of worldwide data. The Lancet, 365(9455), 217-223. https://doi.org/10.1016/s0140-6736(05)17741-1
[4]. World Health Organization. (2017). Global health observatory data repository. Retrieved from http://apps.who.int/gho/data/view.main.NCDBPAREGv
[5]. Law M. R., Morris J. K., \& Wald N. J. (2009). Use of blood pressure-lowering drugs in the prevention of cardiovascular disease: A Meta-analysis of 147 randomised trials in the context of expectations from prospective epidemiological studies. BMJ, 338(b1665), 1-19. https://doi.org/10.1136/bmj.b1665
[6]. Yoon S. S., Gu Q., Nwankwo T., Wright J. D., Hong Y., \& Burt V. (2015). Trends in blood pressure among adults with hypertension: The United States, 2003 to 2012. Hypertension, 65, 54-61. https://doi.org/10.1161/HYPERTENSIONAHA.114.04012
[7]. Gray L., Lee I., Sesso H. D., \& Batty G. D. (2011). Blood pressure in early adulthood, hypertension in middle age, and future cardiovascular disease mortality. Journal of the American College of Cardiology, 58(23), 2396-2403.https://doi.org/10.1016/j.jacc.2011.07.045
[8]. Zhang Y., \& Moran A. E. (2017). Trends in the prevalence, awareness, treatment, and control of hypertension among young adults in the United States, 1999 to 2014. Hypertension, 70(4), 736-742. https://doi.org/10.1161/HYPERTENSIONAHA.117.09801
[9]. Anand I., Mustafa I. A., Gerasimos F., James E., Inmaculada A., Thomas E. L., et al.,(2010). Uncontrolled Hypertension and Increased Risk for Incident Heart Failure in Older Adults with Hypertension: Findings from a Propensity Matched Prospective Population Study. J Am Soc Hypertens, 4(1):22-31. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2914566/
[10]. Williams B., Mancia G., Spiering W., Agabiti R. E., Azizi M., Burnier M., et al. (2018). ESC/ESH Guidelines for the management of arterial hypertension. European Heart Journal, 39(33), 3021-3104. https://doi.org/10.1093/eurheartj/ehy339
[11]. Spies L., Bader S., Opollo J., \& Gray J. (2018). Nurse-Led Interventions for Hypertension: A Scoping Review With Implications for Evidence-Based Practice. Worldviews On Evidence-Based Nursing, 15(4), 247-256. https://doi.org/10.1111/wvn. 12297


[^0]:    * Corresponding author.

