

Effect of A Nurse-Led Intervention On Knowledge of Hypertension Among Patients in Selected Hospital in Saki, Oyo State

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Abstract

Knowledge of hypertension by hypertensive patients is important for them to maintain optimal health, prevent complications and live a productive life. There is a direct relationship between a patients' knowledge and the management of their illnesses. Majority of hypertensive patients are having complications due to poor knowledge of hypertension. Nurses as expert in health education are expected to influence patients' self-care of hypertension through increase in knowledge. Therefore, this study assessed the effect of a nurse-led intervention on knowledge of hypertension among patients in Baptist Medical Centre (BMC), Saki, Oyo State. The study design was a one group pre-test post-test quasi experimental design. The study took place at Baptist Medical Centre, Saki with one hundred and thirty three (133) respondents. Total enumeration sampling techniques was used to select the 133 participants for this study. The instrument for data gathering for this study was a test paper. Content and face validity of the research instrument were ensured by experts in the field of nursing science. The reliability coefficient value of the items that measures "Knowledge of Hypertension" was 0.803. Data was presented using descriptive statistics (percentages and mean) while inferential statistics (t-test) was used to test the hypothesis. The study showed that pre-intervention knowledge mean score of respondents on hypertension was 4.03 (40.3%), which was low while post intervention knowledge mean score was 7.41(74.1%), which is high. In conclusion, the study established that there is a significant difference in the pre and post mean score of knowledge level on

CJAR

Accepted 18 May 2021

Published 21 May 2021

DOI 10.5281/zenodo.4778446:



hypertension. The study recommended among others that intensive awareness through health education and information sharing needs to be advocated from a health perspective on hypertension to inform and educate the public at large.

Keywords: Hypertension, Knowledge, Patient, Nurse, Intervention,



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Introduction

Hypertension is a worldwide public health problem estimated to be affecting about 1.5 billion people worldwide and it is the main modifiable risk factor for strokes and other cardiovascular diseases. Despite the fact that drug treatments and effective lifestyle are available for the management of hypertension. Blood pressure control is suboptimal globally and the greatest problem of uncontrolled blood pressure is documented in low and middle-income countries (LMICs) where rates of cardiovascular diseases are rapidly increasing. The WHO African Region has the highest incidence of hypertension (27%) while the WHO Region of the Americas has the lowest incidence of hypertension (18%). Countries with high population are at high risk of having a large number of patients with hypertension (WHO, 2019).

Knowledge of a disease condition by patients having a particular disease is essential for effective coping and management of that disease. Patients diagnosed of hypertension supposed to have adequate understanding of hypertension for them to maintain optimal health, benefit maximally from available care, and prevent complications as well as improve their general outlook to live and live a productive life. Hypertension is a chronic non-communicable disease (NCD) condition requiring a long term management that requires its sufferers to have adequate understanding about the disease condition. Patients' knowledge of health risks associated with hypertension, and benefits of lifestyle modification are inadequate (Agyei-Baffour, et al., 2018). Nurses as experts in health education are expected to increase the awareness of hypertensive patients through a nurse led intervention.

Increasing patients' understanding through patient's education has been recognised as a major component in programs and interventions targeted at controlling hypertension. In effort to expand the effectiveness of patients' education, efforts were extended to improving public knowledge and awareness on hypertension risks and complications. (Chimberengwa & Naidoo, 2019). Also, a high knowledge of the disease by patients has been linked with better compliance to the treatment (Lugo-Mata, et al, 2017). When the knowledge level of patient on hypertension is low, it has been found to contribute significantly to poor blood pressure control which has led to the development of cardiovascular risk factors seen in hypertensive patients as their level of compliance to antihypertensive drugs as well as other life styles alterations needed to control the high blood pressure is low. High treatment efficacy has been seen among hypertensive patients who had adequate understanding of the disease (Mikhail, Nadezhda & Alexandra, 2019).

Although several studies had been done in some states of Nigeria including Oyo state on hypertension, no study had been conducted on knowledge of hypertension among hypertensive patients in Saki West Local Government to the best knowledge of the researchers. Interactions of the researchers with some hypertensive patients reveals that they have inadequate knowledge of the disease which had led to the development of complications in some and untimely death of those that are not too fortunate.

The main objective of this research is to assess effect of a nurse led intervention on the knowledge of hypertension among hypertensive patients in Baptist Medical Centre (BMC), Saki, Oyo State. This study specifically:

1. assessed the pre intervention knowledge level of hypertension among the respondents;
2. examined the post intervention knowledge level of hypertension among the respondents; and
3. determined the difference between pre and post intervention knowledge level of hypertension among respondents.



Research Questions

The following research questions were raised for this study:

1. What is the pre intervention knowledge level of hypertension among the respondents?
2. What is the post intervention knowledge level of hypertension among the respondents?

Research Hypothesis

This alternate hypothesis was postulated for this study:

1. There is a significant difference between pre and post intervention knowledge level of hypertension among respondents.

Methodology

The study design was a one group pre-test post-test quasi experimental design which determined the effect of a nurse led intervention on knowledge of hypertension among hypertensive patients. Study participants were drawn from the out-patients department of the hospital on clinic days which run on Mondays, Tuesdays and Thursdays and the intervention will include all hypertensive patients in the hospital who met the inclusion criteria and were willing to participate in the study. Total enumeration sampling techniques was used to select the 133 participants for this study.

The instrument for data gathering for this study was a test paper. Content and face validity of the research instrument were ensured by experts in the field of nursing for scrutiny. The observations of the experts were used in correcting the research instrument. The internal consistency approach using Cronbach's Alpha was used for computation of reliability. The coefficient value of the items that measures "Knowledge of Hypertension" was 0.803. The study was carried out in three phases namely pre-intervention, intervention and post-intervention phases. The completed pre and post-test papers were analyzed using the Statistical Package for Social science. Data was presented using descriptive statistics (percentages and mean) while inferential statistics (t-test) was used to test the hypothesis.

Results

Research Question 1: What is the pre intervention knowledge level of hypertension among the respondents?

Table 1: Descriptive Statistics showing the pre knowledge level of hypertension among participants

Pre intervention knowledge level of hypertension	Category of scores	Pre intervention	
		F	%
Low knowledge	1-3	85	64.0
Moderate Knowledge	4-6	39	29.3
High Knowledge	7-10	9	6.7
Total		133	100.0
Mean (%)		4.03 (40.3%)	
Maximum		9	
Minimum		2	
Range		7	

Results from Table 1 shows the pre intervention mean score of knowledge level of hypertension among the participants. 85 (64.0%) participants had low knowledge mean score, 39 (29.3%) and 9 (6.7%) had moderate and high knowledge mean scores respectively

on hypertension. The table also revealed the weighted pre-intervention knowledge means score of participants on hypertension to be 4.03 (40.3%). From this finding it could be inferred that pre knowledge level of hypertension among participants is low.

Research Question 2: What is the post intervention knowledge level of hypertension among the respondents?

Table 2: Descriptive Statistics showing the post knowledge level of hypertension among participants

Post knowledge level of hypertension	Category of scores	Post intervention	
		F	%
Low knowledge	1-3	11	8.2
Moderate Knowledge	4-6	41	30.8
High Knowledge	7-10	81	61.0
Total		133	100.0
Mean (%)		7.41 (74.1%)	
Maximum		10	
Minimum		3	
Range		7	

Results from Table 2 shows the post intervention mean score of knowledge level of hypertension among the participants. Eleven (8.2%) participants had low knowledge mean score, 41 (30.8%) and 81 (61%) had moderate and high knowledge mean scores respectively on hypertension. The table also revealed the weighted post-intervention knowledge means score of participants on hypertension to be 7.41 (74.1%). From this finding it could be inferred that post knowledge level of hypertension among participants is high.

Test of Hypothesis

Hypothesis 1: There is a significant difference between pre and post intervention knowledge level of hypertension among respondents

Table 3: Independent T-test to show the difference in the pre and post knowledge level of hypertension among participants

	N	Mean	Std. Deviation	Std. Error Mean	Df	T	Mean diff	P value
Pre	133	4.03	1.10	0.56				
Post	133	7.41	1.65	0.91	131	15.132	3.38	.000

Table 3 presents the result of hypothesis one postulated in this study. It is indicated that there is a significant difference in the pre and post knowledge level of hypertension among participants (Mean difference = 3.38, $t_{(133)} = 15.132$, $p = .000$). Going through the pre intervention knowledge mean scores, one can say that there is a significant difference between pre-test (N = 131, Mean = 4.03, Std. dev. = 1.10) and the post-test (N = 133, Mean = 7.41, Std. dev. = 1.41). Based on this, the earlier set hypothesis is hereby accepted. Therefore, there is a significant difference in the pre and post mean score of knowledge level on hypertension among participants

Discussion

Results from this study shows the pre intervention mean score of knowledge level of hypertension among the participants to be 40.3%. It could be inferred that pre knowledge

level of hypertension among participants is low. Knowledge of the cause and course of hypertension by patients is essential in improving its outlook. Knowledge about the disease condition is essential for treatment efficacy. Patients low level of knowledge of hypertension has been found to contribute significantly to poor blood pressure control which has contributed significantly to the development of cardiovascular risk factors seen in hypertensive patients as their level of adherence to antihypertensive drugs as well as other life styles changes needed to control the high blood pressure is low. This finding is supported by findings of a study of knowledge of hypertension among 304 patients in Zimbabwe which show that knowledge on hypertension was poor, with 64.8% of respondents stating that stress was its main cause, 85.9% stated that palpitations were a symptom of hypertension and 59.8% of respondents added salt on the table (Chimberengwa & Naidoo, 2019).

Also, this finding is similar to the studies that have reported deficiencies in the knowledge of hypertension in patients who suffer from it. Studies in different parts of the world had identified lack of knowledge of hypertension among hypertensive patients as a major challenge in controlling hypertension. 82% of patients did not know about hypertension in Canada (Ukoha-Kalu, et al., 2016) while 92.2% had inadequate knowledge on hypertension in Sri Lanka (Sarfo, 2021).

Results show the post intervention mean score of knowledge level of hypertension among the participants to be 74.1%. From this finding it could be inferred that post knowledge level of hypertension among participants is high. This finding is consistent with a previous study that reported higher post-test scores on hypertension knowledge, attitude and practices (KAP) than the pre-test scores (Roopa, Rama & Devi, 2014). Several studies have indicated the prevalence of poor knowledge about hypertension among older adults (WHO, 2018). Therefore, valid and culturally contextualized health education intervention on hypertension is vital for increasing knowledge among the hypertensive and non-hypertensive older adults. Implementation of health education interventions that target knowledge improvement among older adults in diverse regions in Nigeria may reduce the prevalence of hypertension and its associated disability, mortality and morbidities in this sub-population (Ozoemena et al., 2019). They equally reported that the paired comparison analysis showed that the mean hypertension knowledge score significantly increased in the T-group between baseline and 1 month (4th month) post-intervention compared to those in the C-group

The outcome of the study indicated that there is a significant difference in the pre and post knowledge level of hypertension among participants. This result or difference did not occur by error but it happened based on nurse intervention given to enhance their knowledge. Therefore, increasing patients' knowledge through patient education has been identified as a key component in the programs and interventions designed to control hypertension. In order to increase the effectiveness of patients' education, efforts have also been extended to improving public knowledge and awareness on the risks and complications of hypertension (Chimberengwa & Naidoo, 2019). Knowledge about the disease allows adequate management from prevention to treatment, and a better knowledge has also been associated with better adherence to the treatment (Lugo-Mata, et al, 2017).

Conclusion

Overall, this finding provides evidence for the efficacy of a nurse-led health education intervention. Hence, it was concluded that the training increased the knowledge of hypertension among hypertensive patients in Baptist Medical Centre (BMC), Saki, Oyo State.

Recommendations

The improvement in knowledge of hypertension among hypertensive patients found in this study demonstrates the effectiveness of the nurse led intervention. The researcher therefore recommends that:

- i. There is need for nurses to be more involved in initiating more nurse-led intervention studies not on hypertension alone but in other chronic and long term illnesses.
- ii. Hypertension prevention interventions need to focus on health education directed to the needs of heterogeneous communities in order to increase knowledge.
- iii. Intensive awareness through health education and information sharing needs to be advocated from a health perspective on hypertension to inform and educate the public at large.
- iv. A more systematic education programme for hypertension education by nurses is necessary and should be implemented at all levels of healthcare, from the community to the highest referral level.
- v. Incentives in form of grants should be given to nurse researchers to embark on nurse-led interventions studies

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Cite this article:

Author(s), OLAOGUN, Elizabeth Titilayo (RN, RM, RME, BNSc., MPH, M.Sc.), DR. POPOOLA, Rabi Olalekan (RN, Ph.D), (2021). "Effect of A Nurse-Led Intervention On Knowledge of Hypertension Among Patients in Selected Hospital in Saki, Oyo State". **Name of the Journal**: Commonwealth Journal of Academic Research, (CJAR.EU), P, 51- 59. DOI: <http://doi.org/10.5281/zenodo.4778446> , Issue: 5, Vol.: 2, Article: 6, Month: May, Year: 2021. Retrieved from <https://www.cjar.eu/all-issues/>

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