International Journal of Advance Research in Community Health Nursing

E-ISSN: 2664-1666
P-ISSN: 2664-1658
www.communitynursing.net
IJARCHN 2021; 3(2): 95-97
Received: 17-06-2021
Accepted: 19-07-2021

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A study to assess the effectiveness of nurse led intervention regarding management of hypertension among hypertensive clients

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Abstract
The present study aims to determine the effectiveness of nurse led intervention of management of hypertension among hypertensive clients. A evaluative approach and one group pretest and post-test design was used for the present study. A total 30 samples were collected using non probability convenient sampling technique. The demographic data and level of knowledge on management of hypertension was assessed using self-structured questionnaire, followed by that the pretest and post-test was done by video based health education. The results of the study the pretest 19(67.86%) of clients had Stage -1 hypertension, 9(32.14%) were high normal and 2(7.14%) had stage – 2 hypertension. In the post test, 15(53.57%) clients had high normal, 11(39.29%) were normal and 3(10.71%) had stage-1 hypertension and diastolic BP in the pretest 19(67.86%) of clients had Stage -2 hypertension, 9(32.14%) had stage – 1 hypertension and 1(3.57%) had stage 3 and high normal hypertension. In the post test, 22(78.57%) clients had stage-1 hypertension, 5(17.86%) were normal and 3(10.71%) of clients had pre-hypertension. The pretest mean score of SBP was 141.0±9.95 and the post test mean score was 128.33±8.34. The calculated paired't' test value of t=15.425 was found to be statistically significant at p<0.001 level. The pre-test mean score of DBP was 96.97±5.39 and the post test mean score was 88.23±3.76. The calculated paired 't' test value of t=10.734 was found to be statistically significant at p<0.001 level. This clearly infers that the nurses led intervention on reduction of BP administered to hypertensive clients was found to be effective in reducing the level of BP in the post test.

Keywords: Hypertension, nurse, intervention, systolic BP, diastolic BP

Introduction
Hypertension is major health problem, proclaimed over globally and that co morbidities with cardiovascular di3and other complication [1]. Hypertension is a chronic non communicable disease, that propagates throughout the adult in the world, out of 750 adults, 25.2% were found to be with clinical symptoms of hypertension. The prevalence of hypertension is more in male than females [2]. In India, about 11.3% prevalence is more common in age group of 15-49, in females, which is 4 points higher among male (13.8%) [3]. hypertension acts as guide for mortality, they occupy first five space for causes of mortality that commonly affects, low and middle socio economic countries [4]. In Zimbabwe, 64.8% reported that, stress acts as major cause for hypertension [5]. High physical activities, tobacco, sedentary life style modification and diet are the only predictor of high blood pressure. 49.7% of population were aware of their disease and had knowledge on management [6]. Nurses expels out, by enhancing non pharmacological management than pharmacokinetics. The nurse led intervention were found to increase access to care and easily affordable. Nurses provide management, than support patient crisis as simultaneously control the high blood pressure were the researcher targets with management of hypertension through video based health education [7]. The purpose of the study. To assess the pre and posttest level of knowledge and blood pressure among hypertensive clients. To determine the effectiveness of nurses led intervention regarding management of hypertension among hypertensive clients. To associate the posttest level of knowledge and blood pressure with the selected demographic variables.

Material and Methods
The data was carried out with the prior permission of the village head and obtained permission from participants also.

Data collection period was 1 week. By using the non-probability convenient sampling technique 30 hypertensive clients who fulfilled inclusion criteria were selected. The inclusion criteria for the study, Clients those who are newly and already diagnosed with hypertension without any complications and co morbidity. Male and Female aged above of 25 to 60 yrs., those who are taking regular medication and has compliance to treatment. The exclusion criterion for the study is mentally and physically challenged persons. Those who are diagnosed with TB, CVA, lung cancer and bronchial asthma. Those are not willing to participate in the study. The investigator explained the purpose of the study to samples. A written consent was obtained from samples. Pretest questionnaire was given for hypertensive clients. Next day video based heath education was given for clients on hypertension with use of Structured Teaching Programme for 45 minutes. After 7 days post test was conducted with same questionnaire by interview method. All participants cooperated well with investigators. At the end of the investigators thanked the study participants for their co-operation during the study. The sample characteristics were described using frequency and percentage, paired t-test was used to assess the effectiveness nurse led intervention. Chi- square was used to associate the post-test level of knowledge among their selected demographic variables.

Results and Discussion

Section A: Demographic Data

shows that most of the hypertensive clients, 14(46.7%) were aged between 61 – 65 years, 16(53.3%) were male, 14(46.7%) had secondary education, 22(73.3%) were not employed, 17(56.7%) had monthly income of >10,000, 13(43.3%) had hypertension for 5 – 6 years, 24(80%) were residing in rural area, 26(76.7%) were non-vegetarian,11(36.7%) had the habit of smoking and had no habits respectively and 14(46.7%) received health information through television and newspaper.

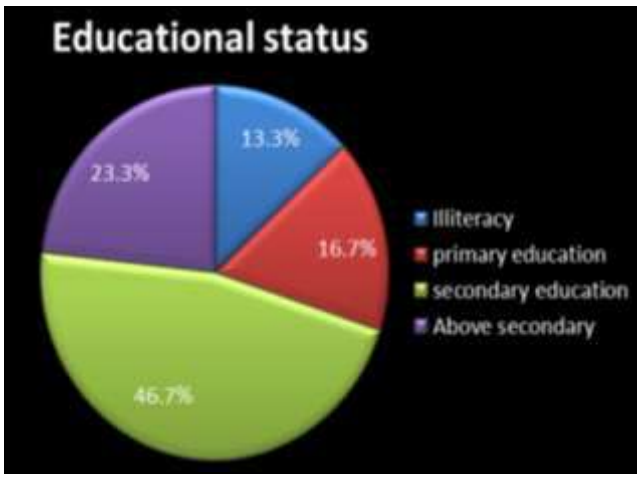

Fig 1: Percentage distribution of educational qualification of hypertensive clients

These findings was supported by Birdee Gupta, *et al*., (2009) conducted a study to estimate the prevalence and risk factors on hypertension in rural area of Tamil Nadu. Out of 35,000 individuals nearly 1,936 patients were included in the study based on the Indian hypertensive risk score (IHRS), out of these, hypertensive high risk score was seen in 1936(64%) patient. The prevalence of hypertension was 5.99%, out of 56% those who are known case of hypertension had high score of >60 and it was correlated with BMI and they suggested that if BMI increases from <18.50 to more than 30 has the chance of developing hypertension which also significantly increased. The study concluded that use of IHRS helps in identifying the undiagnosed hypertension cases in India [8].

Section B: Assessment of pre-test and post-test level of blood pressure among hypertensive clients.

Table 1: Frequency and percentage distribution of pre-test and post-test level of systolic blood pressure (sbp) among hypertensive clients. n=30

Systolic Blood Pressure	Normal (<130)		High Normal (130 – 139)		Stage 1 HP (140 – 159)		Stage 2 HP (160 – 179)		Stage 3 HP (>=180)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Pretest	0	0	9	32.14	19	67.86	2	7.14	0	0
Post Test	11	39.29	15	53.57	3	10.71	0	0	0	0

Table 1 illustrates that with regard to systolic BP in the pretest 19(67.86%) of clients had Stage -1 hypertension, 9(32.14%) were high normal and 2(7.14%) had stage – 2 hypertension. In the post test, 15(53.57%) clients had high normal, 11(39.29%) were normal and 3(10.71%) had stage-1 hypertension.

Table 2: Frequency and percentage distribution of pre-test and post-test level of Diastolic Blood Pressure (DBP) among hypertensive clients. n=30

Diastolic Blood Pressure	Normal (<85)		High Normal (85 – 89)		Stage 1 HP (90 – 99)		Stage 2 HP (100 – 109)		Stage 3 HP (>=110)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Pretest	0	0	1	3.57	9	32.14	19	67.86	1	3.57
Post Test	5	17.86	3	10.71	22	78.57	0	0	0	0

Table 2 illustrates that with regard to diastolic BP in the pretest 19(67.86%) of clients had Stage -2 hypertension, 9(32.14%) had stage – 1 hypertension and 1(3.57%) had stage 3 and high normal hypertension. In the post test, 22(78.57%) clients had stage-1 hypertension, 5(17.86%) were normal and 3(10.71%) of clients had pre-hypertension. The findings was supported by Manzoor A Lala, *et al*., (2015) conducted a study to find out the effects of dietary salt on BP in a general adult population, and to perform a systematic review of all published and non-published available scientific literature on dietary salt in relation to BP. Four trials with normotensive individuals (n=2326) and six trials with stage 1 hypertensive (n=387) were included, with follow up from 28 days to 1095 days. Six, high quality

(and therefore most informative) studies and four neutral quality trials used intensive behavioral interventions. Both systolic and diastolic BP were reduced at 1 to 39 months in those given a low salt diet as compared with a usual salt (systolic by 1.7 mm Hg to 12.6 mmHg, diastolic by 0.9 mm Hg, to -10.9 mmHg), as was urinary 24-hour sodium excretion (by 42 mmol per day, to 78 mmol per day). The reduction in sodium intake and the change in BP were not related. The study concluded that evidence suggests a small but beneficial effect of reduced dietary salt on BP, with benefits that extend to both non-hypertensive and mild to moderate hypertensive patients. A BP lowering effect of a low sodium diet may have important public health implications, although no clear dose response association could be distinguished. Furthermore, more data are needed on dietary salt from specific sources in relation to BP, and on the salt - BP relations in population subgroups [9].

Section C: Effectiveness of nurses led intervention regarding management of hypertension among hypertensive clients.

The results shows that the pre-test mean score of SBP was 141.0±9.95 and the post-test mean score was 128.33±8.34. The calculated paired 't' test value of t=15.425 was found to be statistically significant at p<0.001 level.

The results also also shows that the pre-test mean score of DBP was 96.97±5.39 and the post-test mean score was 88.23±3.76. The calculated paired 't' test value of t=10.734 was found to be statistically significant at p<0.001 level.

Section D: Association of level of blood pressure with the selected demographic variables among hypertensive clients.

The results shows that the demographic variables educational status and dietary pattern had shown statistically significant association with post-test level of systolic BP among hypertensive clients at p<0.05 level and the other demographic variables had not shown statistically significant association with post-test level of systolic BP among hypertensive clients.

Conclusion

From the results of the present study, the nurses led intervention by video based health education plays a significant role on reduction of BP administered to hypertensive clients was found to be effective in reducing the level of BP in the post test.

Acknowledgement

Authors would like to appreciate participants for their cooperation to complete the study successfully**.**

Authors Contribution

All the authors actively participated in the work of study. All the authors read and approved the final manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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