Public Health and Preventive Medicine
Vol. 4, No. 2, 2018, pp. 29-34
http://www.aiscience.org/journal/phpm
ISSN: 2381-778X (Print); ISSN: 2381-7798 (Online)

Effect of Hypertension Awareness Progamme on Health Seeking Behaviour of Rural Dwellers in Isunjaba, Imo State, Nigeria

Osuala Eunice Ogonna*

Department of Nursing Science, Faculty of Health Sciences, Nnamdi Azikiwe University, Nnewi Campus, Anambra State, Nigeria

Abstract

Hypertension is a major Cardiovascular Disease (CVD) with complications such as stroke and heart failure. Awareness about hypertension has been indicated to influence attitude leading to practice of healthy lifestyles which has implications for hypertension prevention and control. Awareness of predisposing factors of a disease and the people's perception of its seriousness informs their decision on whether or not to adopt preventive measures such as regular blood pressure check. This study was designed to assess the effects of a Community Health Nurse-Led Intervention (CHNI) on awareness on hypertension and subsequent reaction of residents of Isunjaba, Imo State, Nigeria on regular blood pressure screening. The study adopted a quasi-experimental design. Multistage sampling technique was used to select two communities in Isunjaba, assigned into Experimental (EG) and Control groups (CG) by balloting. A total of 442 rural dwellers (199 from EG and 243 from CG), between ages 20 and 75 years that consented, were selected. A validated structured questionnaire with Correlation coefficient value of 0.76 was used to assess level of awareness and perception using five and eight statements respectively. The CHNI consisted of instruction on risk factors for BP, consumption of healthy diet, regular BP check and exercise as well as the importance of regular blood pressure screening and was administered to the EG only. The two Primary Health Care Centers in the two Communities were used as the referral and screening centers. Data were collected at baseline, Post Intervention 1 (P1) and post intervention 2 (P2) at three monthly intervals. Descriptive and statistical analysis was computed. Results were presented using tables and graphs. There was marked improvement in awareness, perception and high percentage of clinic attendance in the Experimental group after CHNI, buttressing the importance of Health Education. The difference between the number of clinic attendees in the experimental and control groups was significantly high (p= 0.000). Increased awareness on the benefits of regular blood pressure screening through outreaches is recommended to promote health seeking behaviour of rural dwellers for early diagnosis and prevention of stroke.

Keywords

Awareness, Health Behavior, Hypertension, Rural Dwellers, Nurse-Led Intervention

Received: March 26, 2018 / Accepted: May 3, 2018 / Published online: June 6, 2018

1. Introduction

Hypertension is a disease that is both common in urban and rural populace [1-2]. It is the fastest rising CVD in Africa [3-5]. Prevalence of hypertension is high among Nigerian population [6.] Over 4.3 million Nigerians, above the age of 15 years are classified as hypertensive with blood pressure greater than 160/90 mmHg, thus making it the commonest non communicable disease in Nigeria [7-8]. A study in Nsukka, South- East of Nigeria even reported a prevalence of 40.3% percent [9]. Similarly a study in Port Harcourt, South-

* Corresponding author
E-mail address: euniceosuala@yahoo.com

South of Nigeria reported a prevalence of 40.8% [10] while the study in Ibadan, South West of Nigeria had prevalence in males as 38.8% and females 31.1% and proportion of self reported hypertension as 11.1% [11]. A pilot study in Imo State, Nigeria among 120 rural dwellers ages 20-75 years recorded normal blood pressure for 47% while 30% were classified as pre hypertensive and 23% stage 1 hypertensive [12]. A systematic review and meta- analysis by Ataklte in 2014 to assess the recent burden of hypertension in Sub-Saharan Africa, based on 33 surveys pooled from 2000 – 2013 publications involving 110, 414 participants of mean age 40 years revealed prevalence varied from 15- 70%. [13]. Kaze et al, had overall prevalence as 55.2% [14]. In a study among different population groups defined by occupation and degree of urbanization in Uganda, school teachers in South Africa and Tanzania and nurses in Nigeria, only 50% of the participants with hypertension were aware of their raised pressure [15]. By casual observation cases of stroke and sudden deaths have been noted in Isunjaba in Isu Local Government Area of Imo State by the researcher. These cases may be linked to cardiovascular diseases (CVD). The world being a global village, Isunjaba need to be protected from cardiovascular diseases (CVD). Regular blood pressure screening especially in the rural area where the population is predominantly that of old people is important for early diagnosis prevention of complications of hypertension. A few studies have been done on hypertension among rural dwellers [9, 16] and this is applicable to Isunjaba [17]. The cases of stroke and sudden death observed in the community need to be curbed through improved health seeking behavior. This informed the decision of the researcher to create awareness on the menace of hypertension to sensitize the populace on the need to visit health facilities for checkup and evaluate the impact of intervention based on the test of null hypotheses of significant difference between the two groups.

2. Method

2.1. Design

It is a community intervention study that utilized quasi experimental design involving an experimental and a control group. The study was carried out in two communities in Isunjaba. Structured questionnaire was used to elicit information on awareness and perception of hypertension.

2.1.1. Sample Size

Sample size of 442 was determined based on the formula for two proportions [18]. Multistage sampling technique was adopted: Through purposive sampling, out of the 21 Local Government Areas (LGA) in Imo State, Isu LGA and Isunjaba, one of the five towns in Isu LGA were selected. This was followed by simple random selection by balloting, the required number of communities, clusters of villages, households and participants. Isu LGA comprises of five towns, Isunjaba (a rural community) one of the towns was chosen purposively for the study based on researcher's observation and familiarity with health issues in the community. From the four autonomous communities, using simple random (balloting) technique, two communities were selected. One of the communities was assigned head and the other tail by balloting. With tossing of the coin, the first appearance which was the coat of arms (head) was assigned the experimental group, and Isuobishi (subjects) from this process was assigned the Experimental group (Group A) while Isuokporo (control) was assigned the Control group (Group B). The subjects in Isuobishi were therefore assigned into Group A, and those in Isuokporo into Group B, as experimental and control respectively. A total of 442 subjects were selected for the study.

2.1.2. Ethical Approval

Approval to conduct the study was obtained from the ethical committee, Nnamdi Azikiwe University Teaching Hospital Nnewi, Anambra State in line with its ethical protocol (NAUTH/CS/66/VOL.3/009). Participants were given essential information about the study procedure, duration, its purpose and benefits. Confidentiality of the respondents was assured. The right and integrity of the study participants was fully protected and written consent also obtained from each and every one of them. Only those who were willing to participate were included in the study.

2.2. Pre-Intervention

Pre-intervention phase (Baseline) involved gathering of data from both experimental and control groups on the various variables using questionnaires. Data was collected with the assistance of the research assistants. There was a Community Health Nursing intervention for group A (Experimental) and none for Group B, (Control) at the intervention stage (Table 1)

Table 1. Over view of the Community Health Nursing intervention.

Group	Baseline data collection	Intervention 2 weeks after	First Follow-up 3 months	Second Follow-up 6 months
Experimental Group E	Yes	Yes	Yes	Yes
Control C	Yes	No	Yes	Yes

This was to improve level of awareness, positive perception of subjects in relation to hypertension prevention and control through health education. Participants in this group were also encouraged to form the habit of checking their blood pressure

regularly as hypertension is termed a 'silent killer'. Data was again gathered at three months from both group A (Experimental) and B (Control). Blood pressure and anthropometric measurements (height and weight) were also taken.

2.3. Post Intervention

A repeat of this exercise was carried out in another three months to assess sustainability. Registers were provided at each of the designated health centers and nurses were directed to keep record of any member of the communities that came for blood pressure screening over the six months (April 2012 to March 2013).

2.4. Data Analysis

Data analysis was done. Awareness and perception scores were computed based on the responses; each correct response has a score of 1, incorrect response was scored 0 and 'do not know' was not scored. The resulting scores were converted to percentages, therefore the resulting scores ranged from (0 – 100%). The scores were categorized as follows: 70 -100% (high), 50 – 69% (average) and 0 - 49% (low). Inferential statistics was done using X^2 at p value 0.000< 0.05. The percentage and frequency of socio-demographic characteristics was presented using table. Attendance at the clinics was also summarized using frequency and percentages.

3. Results

Table 2 shows. demographic variable with ages of respondents ranging from 20 – 75 with mean 49.49 $\pm$ 14.45. Ages 50 -59 were greatest in number 100 (22.6%) followed by ages 60 – 69 [94 (21.3%)] while <30 were the least with 42 (9.5%) in number. Participants with primary school education had the highest percentage of 38.5. Participants of low income class were 243 (57.6%) while upper class was 28 (6.6%). This is based on house hold income/ day of Lower class < N 500 (< $3), Middle class N 500 – 2500 ($3 – 15), and Upper class > N 2500 (> $15) based on United States Census Bureau household income [19].

Table 2. Socio demographic characteristics of respondents in Experimental and Control at baseline.

Variables	Experimental N = 199	Control N = 243	Total N= 442	X^2	P value
Sex					
Male	74 (37.2)	108 (44.4)	182 (41.2)	0.123	2.380
Female	125 (62.8)	135 (55.6)	260 (58.8)		
Marital Status				0.365	0.947
Married	166 (83.4)	198 (81.5)	364 (82.4)		
Single	22 (11.1)	31 (12.8)	53 (12.0)		
Separated	2 (1.0)	3 (1.2)	5 (1.1)		
Widowed	9 (4.5)	11 (4.5)	20 (4.5)		
Age (years)				1.280	0.937
< 30	21 (10.6)	21 (8.6)	42 (9.5)		
30 - 39	30 (15.1)	37 (15.2)	67 (15.2)		
40 - 49	43 (21.6)	47 (19.3)	90 (20.4)		
50 -59	45 (22.6)	55 (22.6)	100 (22.6)		
60 – 69	40 (20.1)	54 (22.2)	94 (21.3)		
> 70	20 (10.1)	29 (11.9)	49 (11.1)		
Occupation				9.197	0.056
Jobless	21 (10.6)	28 (11.5)	49 (11.1)		
Civil Servant	45 (22.6)	39 (16.0)	84 (19.0)		
Farming	68 (34.2)	114 (46.9)	182 (41.2)		
Petty trading	37 (18.6)	32 (13.2)	69 (15.6)		
Artisan	28 (14.1)	30 (12.3)	58 (13.1)		
Income				13.988	0.003
Upper class	14 (7.0)	14 (6.3)	28 (6.6)		
Middle class	31 (15.6)	11 (26.2)	42 (10.0)		
Lower middle class	50 (25.1)	59 (26.5)	109 (25.8)		
Lower class	104 (52.3)	139 (62.3)	243 (57.6)		
Religion				7.077	0.132
Anglican	11 (5.5)	9 (3.7)	20 (4.5)		
Catholic	147 (73.9)	200 (82.6)	347 (78.7)		
Pentecostal	33 (16.6)	26 (10.7)	59 (13.4)		
Moslem	2 (1.0)	0 (0.0)	2 (0.5)		
African Traditional	6 (3.0)	7 (2.9)	13 (2.9)		
Level of education				1.655	0.647
Non formal	29 (14.6)	42 (17.3)	71 (16.1)		
Primary	73 (36.7)	97 (39.9)	170 (38.5)		
Secondary	47 (23.6)	51 (21.0)	98 (22.2)		
Tertiary	50 (25.1)	53 (21.8)	103 (23.3)		

Respondents' awareness on hypertension pre and post intervention was documented. At baseline, out of the 442 participants, 403 (92.6%) have heard of hypertension, 112 (28.7%) knew they have hypertension, 125 (32.9%) knew their blood pressure reading while 254 (61.7%) were aware of cases of sudden death and stroke in the community. Out of these figures, 179 (90. 4%) of the experimental group have heard of hypertension, 56 (28.6%) knew they have hypertension, 56 (28.6%) knew their blood pressure reading and 108 (56.5%) were aware of incidents of stroke and sudden death while in the control group it was 224 (94.5%), 59 (28.1%), 69 (37.5%) and 146 (66.1%) respectively. At end – line in the experimental group, 199 (100.0%) have heard of hypertension, 76 (34.7%) knew they have hypertension, 198 (99.5%) knew their blood pressure reading and 195 (98.0%) were aware of incidents of stroke and sudden death in their community while in the control group it was 235 (97.5%), 76 (34.7%), 104 (52.0%) and 153 (68.9%) respectively.

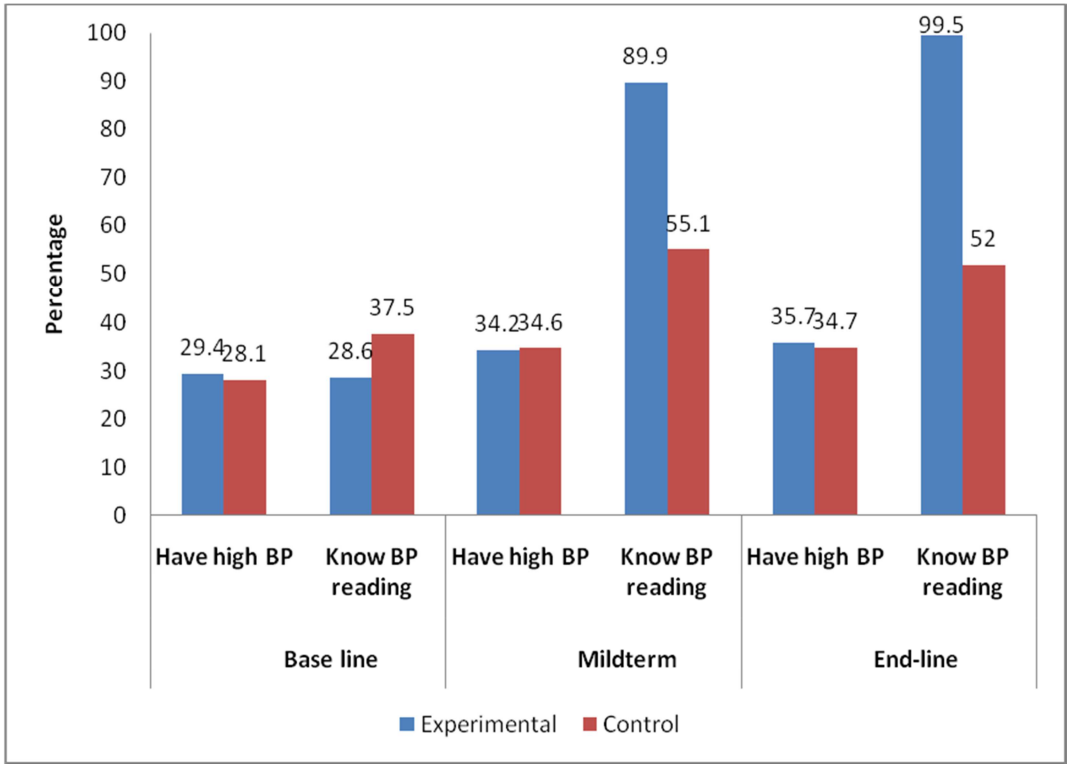

Figure 1. Awareness of Hypertension by Respondents.

Clinic attendance

Attendance to the designated Primary Health Centers for blood pressure check was 337 (83.8%) for the experimental group and 73 (16.2%) for the control group. March had the highest number of overall attendance followed by January.

Table 3. Monthly record of clinical attendance record of blood pressure check in the two communities of study from April 2012 to March 2013.

	Group		
	Experimental	Control	
Month	N=%	N=%	Total
April 2012	9 (2.4)	7 (9.6)	16 (3.6)
May,,	8 (2.1)	7 (9.6)	15 (3.3)
June,,	8 (2.1)	7 (9.6)	15 (3.3)
July,,	6 (1.6)	5 (6.8)	11 (2.4)
August,,	7 (1.9)	7 (9.6)	14 (3.1)
September,,	6 (1.6)	8 (11.0)	14 (3.1)
October,,	20 (5.3)	5 (6.8)	25 (5.6)
November,,	41 (10.9)	5 (6.8)	46 (10.2)
December,,	50 (13.3)	6 (8.2)	56 (12.5)
January 2013	68 (18.1)	5 (6.8)	73 (16.3)
February,,	64 (16.8)	6 (8.2)	70 (15.4)
March,,	90 (23.9)	5 (6.8)	95 (21.2)
Total	377 (100.0)	73 (100.0)	450 (100.0)
Percentage	83.8	16.2	

There was increase in clinic attendance in the experimental community from 44 (11.7%) pre- intervention to 333 (83.3%) after intervention while in the control it dropped from 41 (56.2%) and 32 (43.8%) respectively. There was significant difference between Experimental and control χ^2 79.023 P value 0.000

Table 4. Clinic Attendance among Experimental and Control groups – 6 months pre and post intervention.

Period	Month	Group		Total	χ^2	P-value
		Experimental	Control			
Pre-intervention	April-Sept. 2012	44 (11.7)	41 (56.2)	85 (18.9)	79.023	.000
Post intervention	Oct. 2012 – March 2013	333 (83.3)	32 (43.8)	365 (81.1)		
Total		337 (83.8)	73 (16.2)	450 (100.0)		

4. Discussion

Clinical attendance record of blood pressure check in the two communities of study from April 2012 to March 2013

Four hundred and fifty people went to the two Primary Health Care Centers in the communities of study from April 2012 to March 2013, to check their blood pressure out of which 84% were from the Experimental community while 16% were from the control. This could be as a result of the sensitization of the experimental group on the importance of regular blood pressure check. Those in the control group that also went for regular check may be referral cases. Age ranged from 20-94 years with mean 57.0 $\pm$ 11.5. This buttresses the importance of population focused intervention as non participants in the study also benefited from the outcome of the intervention. Mean blood pressure was 136/83 mmHg. Seriousness of complications of hypertension may have prompted even people with normal blood pressure to go for routine blood pressure checks. There was increase in clinic attendance in the experimental community from 12% pre-intervention to 84% after intervention, which is as a result of the Community Health Nursing intervention programme. There was significant difference between percentage clinic attendance of Experimental and control (P value <0.05). Highest attendance was in March (21%) followed by 16% in January. The high patronage witnessed in the experimental community during these months may not be unconnected with Easter and Christmas celebrations in the South East of Nigeria which attracts relatives from cities home. The financial implications of the health visits could easily be cushioned by them. High awareness and negative perception was same with the studies by Ekwunife [9], Osuala, et al [12, 17]. This may be due to ignorance which is common among less educated people that mainly form the rural populace in developing countries.

Limitations of the study

With global service mobile communication (GSM), even though the two communities were widely apart, intactness of information to experimental group cannot be guaranteed. There could have been possible sipping out of information through phone.

5. Conclusion

The influence of awareness programme can not be over emphasized as revealed in the post intervention outcome in the experimental group as evidenced by impressive compliance to regular clinic attendance. There was also significant difference between number of clinic attendance of the experimental and control group. Awareness programme on hypertension and its sequel as well as making health facilities accessible to the populace in line with Primary Health Care principles should be intensified by health workers and the Government.

References

[1] Jolly, S. 2010. Higher Cardiovascular disease prevalence and mortality among younger blacks compared to whites. *Am J Med* 9: 811-8.

[2] Okpechi, I. G., Chukwuonye, I. I., Toffin, N., Madukwe, O. O., Onyeonoro, U. U., Umeizudike, T. I., and Ogah O, S. 2013. Blood pressure gradients and cardiovascular risk factors in urban and rural populations in South East Nigeria using WHO STEPWISE approach. *PLoS* 8; 9:e73403.

[3] Kadiri, S. 2005. Tackling cardiovascular diseases in Africa. *BJM [West African Edition, 8.] 331: 771-772.*

[4] Ike, S. O, Aniebue, P. N. and Aniebue, U. U. 2010. Knowledge, perception and practices of lifestyle - modification measures among adult hypertensive in Nigeria. *Royal Society of Tropical Medicine and Hygiene* 104. 1: 55–60.

[5] Dalal, S., Beunza, J. J., Volmink, J., Adebamowo, C., Bajunirwe, F., Njelekela, M., Holmes, M. D. 2011. Non-communicable diseases in sub-Saharan Africa: what we know now. *International Journal of Epidemiology*, 40; 4: 885–901. doi: 10.1093/ije/dyr050.

[6] Akinula, J. T, Meakin, R., Umar, A. M. and Freemantle N. 2015. Current prevalence pattern of hypertension in Nigeria: A systematic review. *PLoS* One, 10; 10: eo140021.

[7] Familoni, O. B. and Olunga, T. O. 2005. Comparison in the knowledge and awareness of hypertension among hospital and factory workers in Sagamu, Nigeria. *Nigerian Medical Practitioner,* 47. 3: 43-45.

[8] Awotidebe, T., Adedoyin, R., Rasaq, W., Adeyeye, V., Mbada, C., Akinola, O. and Otwombe, K. (2014). Knowledge, attitude and Practice of Exercise for blood pressure control: A cross-sectional survey, 10. 1: 1. Retrieved 10 Dec. 2014 fromhttp://search.informit.com.au/documentSummary;dn=755688598487763;res=IELHEA

[9] Ekwunife, O. I., Udeogaranya, P. O and Adibe, M. O. 2010. Predictors of self reported adherence to antihypertensive medication in a Nigerian population. *Journal of Clinical Pharmacy* 001.002.3-5: 133-138.

[10] Akpa, M. R., Emem-Chioma, P. C. and Odia, O. J. 2008. Current epidemiology of hypertension in Port Harcourt metropolis, Rivers State, Nigeria. Port Harcourt Medical Journal 2: 218-223.

[11] Ajayi, I. O, Sowemimo I. O, Akpa, O. M and Ossai, N. E. 2016. Prevalence of hypertension and associated factors among residents of Ibadan North Local Government Area of Nigeria. Nigerian *Journal of Cardiology* 13; 1: 67-75.

[12] Osuala, E. O., Oluwatosin, O. A. and Kadiri, S. (2014). Knowledge, attitude to hypertension and lifestyle habits of rural dwellers in Owerre – Nkwoji, Imo State, Nigeria. *Journal of Public Health and Epidemiology.* 6 (1): 48–51.

[13] Ataklte, F., Erquo, S., Kaptoge, S., Taye, B., Echouffe – Tcheugu, J. and Kengne, A. P. 2014. Burden of undiagnosed hypertension in Sub-Saharan Africa: A systematic Review and Meta - Analysis. *Hypertensionaha*. 11. 10: 114.04394 doi: 101161/hypertensionaha114.04394.

[14] Kaze, A. D, Schutte, A. E, Ergou, S, Kengne, A. P. and Echouffo-Tcheugui, J. B. 2017. Prevalence of hypertension in older people in Africa: a systemic review and meta-analysis. *J. Hypertens* 35; 7: 1345-1352. doi: 10.1097/HJH.0000000000001345.

[15] Guwatudde, D., Nankya-Mutyoba, J., KalyeSubula, R., Lawrence, C. Adebamowo, C., Ajayi, I. O., Bajunirwe, F., Njelekela, M, Chiwanaga F, S. and Reid, T. 2015. The burden of hypertension in Sub-Saharan Africa: a four-country cross sectional study. *BMC Public Health* 15: 1211.

[16] Demaio, A. R., Otgontuya, D., Maximillam de Courten., BygbjergIb C., Enkhtuya P., Meyerowitsch, D. W. and Oyunbileg, J. 2013. Hypertension and hypertension- related disease in Mongolia; findings of a national knowledge, attitude s and practice study. *BMC Public Health.* 13: 194.

[17] Osuala, EO., Oluwatosin, AO, Osuala, FN and Ibe, S. N. O. Perceptions & Thirst for Knowledge Regarding Hypertension among Rural Dwellers in Isunjaba, Imo State, Nigeria; A Qualitative study. Health. 2016; 8: 1603-1615.

[18] Maxwell, F. P. 1998. A-Z of Medical statistics. A comparison for critical appraisal. London, Oxford University Press Inc. New York.

[19] United States Census Bureau, household income 2006. Classification of income was adopted from USA bureau of household income.