Knowledge and awareness of high blood pressure in Ward F, Ifako-Ijaiye local government area, Lagos State, Nigeria

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Keywords: high blood pressure, knowledge, awareness, Ifako-Ijaiye local government area, Nigeria

Abstract

Objectives: In Nigeria, most people living with an elevated blood pressure are unaware of it until they suffer complications. The aim of this study was to determine levels of awareness of high blood pressure in Ward F, Ifako-Ijaiye local government area, Lagos, Nigeria.

Design: A multistage sampling technique was used to select 250 participants as the study population.

Setting and subjects: Trained interviewers administered questionnaires to collect information from the participants and measured their blood pressure to determine whether or not they had the correct information on their blood pressure readings.

Outcome measures: The questionnaire included questions on respondents' knowledge of high blood pressure, sources of information or knowledge, awareness of blood pressure status and blood pressure measurement.

Results: Radio was found to be the most utilised source of information on high blood pressure. The level of awareness of high blood pressure was 79.2%, while 21.6% of participants were aware of having high blood pressure. However, 37.2% had high blood pressure readings.

Conclusion: Even though the level of awareness among participants was relatively high (79.2%), the study showed that many people who had high blood pressure readings were unaware of having high blood pressure. The knowledge of high blood pressure among these participants was insufficient, especially in grassroots communities. There is an urgent need for community-based high blood pressure awareness programmes.

Ⓟ **Peer reviewed. (Submitted: 2012-07-14. Accepted: 2012-09-25.)** **S Afr Fam Pract 2013;55(3):270-274**

Introduction

The World Health Organization (WHO) regards hypertension or high blood pressure as the leading cause of cardiovascular mortality. The World Hypertensive League, an umbrella organisation of 85 national hypertension societies and leagues, recognises that more than 50% of the hypertensive population is unaware of their condition.[1]

Several surveys conducted in many countries worldwide established that public awareness of blood pressure was very poor.[2-10] Even in highly developed, resource-rich countries with high-quality healthcare systems, such as Canada, awareness of high blood pressure was only 58%.[9] In view of the transition, in terms of incidence, from infectious to degenerative chronic diseases in developed countries, the prevalence of high blood pressure is increasing.[11] At the same time, public awareness of hypertension in low- and middle-income countries is quite dismal.[12]

Limited data on high blood pressure prevalence trends suggest that it has increased in economically developing countries in recent years.[13] Most of the world's population with hypertension live in developing countries, where cardiovascular disease has an early onset and where there is a higher mortality rate than that in developed countries. Omuemu, Okojie and Omuemu reported on a prevalence of 20.2% in their study on the blood pressure pattern and prevalence of hypertension in a rural community in Edo State.[14]

In Nigeria, awareness of high blood pressure was poor, as only 33.8% of people with elevated blood pressure were aware of their condition in a study that was conducted in 2006.[15] In a study of patients, medical students, workers and factory hands in Sagamu, Nigeria, the level of information on high blood pressure and its various determinants ranged from 10-51.7%.[16] It is common in this environment, as well as in many other developing countries, for individuals with

chronic diseases to tend to assume the role of being a "source of information" on the disease in the community. People in the community seek health-related information from patients.[17]

Against this background, this study was conducted to determine the level of knowledge and awareness of high blood pressure in Ward F, one of the wards in the Ifako-Ijaiye local government area of Lagos State, Nigeria.

Objectives

The study objectives were threefold:

- To assess the level of awareness of high blood pressure among the people of Ward F in the Ifako-Ijaiye local government area.
- To determine the sources of information on blood pressure for the study population.
- To determine the beliefs of people in the community about high blood pressure symptoms.

Method

Ifako-Ijaiye local government area and 183 others were established in October 1996 by the then head of state, General Sanni Abacha. According to the 1991 census, the area is inhabited by over 300 000 people. The majority of the people belong to the Yoruba tribe. The literacy level of this area is approximately 75% as most residents are migrants from metropolitan Lagos.

The Ifako-Ijaiye local government area is bounded in the west by the Alimosho, in the east by Ikeja, in the south by Agege, and in the north by Ifo and Ado-Odo Ota (Ogun State) local government areas respectively.

Ward F is the smallest of the 11 wards in the local government area, located in the Iju-Ogundimu area with 25 streets. The study population included everyone older than 10 years of age residing in the ward.

This descriptive cross-sectional study employed a multistage sampling technique. Ten streets were selected using simple random sampling by balloting. Five streets were further selected by systematic random sampling and 50 subjects were then selected from each of the five streets by quota sampling.

The minimum sample size was calculated using the formula to calculate the sample size for a descriptive cross-sectional study:

$n = (Z^2 p q)/d^2)$

where "n" is the desired sample size (when the population is greater than 10 000); "Z" is the standard normal deviate, usually set at 1.96; "p" is prevalence as a probability; "q" is 1 - p; "d" = degree of desired accuracy, usually set at 0.05; and "p" is 20% prevalence of high blood pressure in Udo community in Edo State:[14]

$$n = \frac{1.96^2 \times 0.2 \times 0.8}{(0.05)^2} = 246$$

The minimum calculated sample size was 246. Two hundred and fifty questionnaires were administered for greater precision and accuracy.

The trained interviewers asked participants standard questions to assess a variety of factors to determine their knowledge of high blood pressure. The questionnaire aimed to determine participants' socio-demographic details. If they had heard of high blood pressure, participants were asked where they first heard about it and what they thought caused it.

Blood pressure was measured using an Accoson® mercury sphygmomanometer, and for consistency, the following method was adopted. The individual was seated and rested for at least five minutes with the right arm positioned on a table at the level of the heart. Any tight clothing was removed. The cuff was inflated, palpating the radial artery, and the inflation was continued until 20-30 mmHg above the disappearance of the radial pulse. The stethoscope diaphragm was placed over the brachial artery in the antecubital fossa and the cuff deflated, allowing the mercury to fall gradually; approximately 2 mmHg per second. The first sound (Korotkoff 1) was taken as the systolic blood pressure and the extinction of all sounds (Korotkoff 5) as the diastolic blood pressure. Blood pressure was recorded to the nearest 2 mmHg. Two blood pressure readings were taken 15 minutes apart and the mean of the two readings was taken to be the individual's blood pressure measurement.

The blood pressure pattern of the study population was classified using the WHO/International Society of Hypertension defined criteria for high blood pressure.[21] Data analysis was carried out by computer using the SPSS® statistical package. Differences were considered to be significant at p-value < 0.05.

Ethics approval was obtained from the Hospital Research and Ethics Committee at Lagos University Teaching Hospital. The traditional ruler of the community was consulted for proper entry, and informed written consent was also obtained from the study participants before the study was conducted.

Results

Table I shows the age distribution of the participants.

Of the 250 participants, 79.2% had heard of high blood pressure and 20.8% had not.

Table II details the distribution of participants who had heard of high blood pressure and the sources of first-time knowledge of high blood pressure.

Table I: Age distribution of participants

Age	Frequency	Percentage
10-14	9	3.6
15-19	26	10.4
20-24	33	13.2
25-29	35	14
30-34	39	15.6
35-39	30	12
40-44	15	6
45-49	23	9.2
> 50	40	16
Total	250	100

Table II: Distribution of participants who had heard of high blood pressure and the sources of first-time knowledge of high blood pressure

	Frequency	Percentage
Have you heard of high blood pressure?		
Yes	198	79.2
No	52	20.8
Total	250	100
Sources of first-time knowledge of high blood pressure		
Radio	43	21.7
Television	41	20.7
Newspapers and magazines	19	9.6
Workplace	7	3.5
Neighbours	8	4
Doctors	26	13.1
Clinics	21	10.6
Friends and peer group	12	6.1
Family members	21	10.6
Total	198	100

The mass media was the most important source of information, with radio (21.7%), television (20.7%) and newspapers and magazines (9.6%) being the main sources. Other sources of information were the workplace (3.5%), neighbours (4%), friends and peer groups (6.1%) and family members (10.6%). Doctors and clinics were the source of information for 13.1% and 10.6% of the participants, respectively.

Table III shows participants' knowledge of high blood pressure symptoms, as well as the distribution of participants who knew that they had high blood pressure.

Table IV shows the distribution of systolic blood pressure.

Discussion

The total number of participants was 250, a similar number to that in a study conducted by Familoni, Abayomi and Olutoyin, who reported on the knowledge and awareness

Table III: Participants' knowledge of high blood pressure symptoms and the distribution of participants who knew that they had high blood pressure

	Frequency	Percentage
Participants' knowledge of high blood pressure symptoms		
Persistent headaches	44	17.6
Continuous dizziness	47	18.8
Vomiting	2	0.8
Difficulty in breathing	64	25.6
Disturbance of vision	6	2.4
Others	2	0.8
I don't know	85	34
Total	250	100
Do you have high blood pressure?		
Yes	54	21.6
No	196	78.4
Total	250	100

Table IV: Distribution of systolic blood pressure

Systolic blood pressure (mmHg)	Frequency	Percentage
< 130	162	64.8
130-139	19	7.6
140-159	51	20.4
160-179	15	6
≤ 180	3	1.2
Total	250	100

of hypertension among 254 patients with systemic hypertension.[17]

The participants belonged to different age groups (Table I), the youngest age being 10 years old. The average age was 33.7 ± 2.45 years. This is close to the national average as demonstrated in the 1991 National Census (31.6 ± 14.1 years).[18] The age group with the highest frequency was the age group > 50 years (16%).

The participants were both men and women. The men had the highest frequency (54.4%). These results are similar to those in a study conducted by Sonkodi et al[19] on hypertension screening in a salami factory.

As illustrated in Table I, 79.2% of participants were aware of high blood pressure. Compared to several surveys from many countries around the world, which reported that public awareness of blood pressure levels was very poor,[2-10] this study reported a high level of awareness. Awareness of high blood pressure was only 58% in developed, resource-rich countries with high-quality healthcare systems, such as Canada.[9]

Among the sources of awareness (Table II), radio was the most utilised. This shows the importance of the mass media as an agent of communication, as postulated by

Merrill: "Mass media can contribute to people's awareness of potentialities, dissatisfaction and a desire to change".[20]

Although the majority of participants with high blood pressure had no symptoms and most were unaware of it until they suffered complications, 64 (25.6%) of the participants indicated that difficulty breathing was the presenting symptom, while 85 (34%) said they do not know what the symptoms were.

In a study of 107 Gambians and Nigerians, Isezuo[21] observed that 44% of respondents with high blood pressure were unaware that they had hypertension.

The symptomless effect of high blood pressure has made it an incidental finding during routine check-ups in clinics. Of all the participants, only 21.6% were aware that they had high blood pressure (Table III), but after taking blood pressure measurements, 37.2% were observed to have systolic high blood pressure (Table IV). This shows that there were more people with high blood pressure who were unaware of it, than those with high blood pressure who knew that they had it. We were able to educate the community. Leaflets on the signs and symptoms of high blood pressure were given out to participants.

Programmes aimed at educating grassroots communities on noncommunicable diseases, such as high blood pressure, are very important as most people in such communities do not have access to healthcare facilities, because of ignorance or poverty. Low levels of awareness of hypertension in communities have been attributed to the quality of advice given and the lack of time investment.[16] Unavailability of information may lead people to believe and accept incorrect information about their health status. Therefore, primary healthcare centres nearest to grassroots communities should be empowered with medical personnel with time to listen and to provide communities with necessary information on the disease before the development of complications leads to organ damage.

Although the subject of this study is of importance, some limitations were experienced. As study participants were required to rest before blood pressure measurements could be taken, as well as in-between consecutive measurements, it was difficult to find participants patient enough to do this. The expense of the blood pressure measuring equipment, the personnel needed to apply it, as well as the difficulty in formulating standard questions which were comprehensive enough to reflect participants' level of awareness and knowledge of high blood pressure, were further limitations. However, the study showed that awareness and knowledge of high blood pressure were insufficient among participants with elevated blood pressure readings.

Conclusion

In this study, even though participants' awareness levels were relatively high (79.2%), many people with elevated blood pressure readings were unaware that they had high blood pressure. The people who had high blood pressure had insufficient knowledge about it. This was especially so in the grassroots communities. There is an urgent need for community-based high blood pressure awareness programmes, as well as screening, to encourage people who have high blood pressure to seek medical care.

This study has highlighted the fact that hypertension is a problem in our society. Considerable attention is given to the control of communicable diseases, while noncommunicable ones, such as hypertension, go unchecked. There is a need for programmes that target the control of noncommunicable diseases, such as hypertension, which is often symptomless. The community should have access to information, education and communication on hypertension to facilitate regular screening in order to detect and initiate early treatment. Promotion and prevention, with a focus on a healthy lifestyle, may prevent or delay the onset and complications of hypertension.

If national health objectives are to be met, public health efforts must continue to focus on the prevention of high blood pressure by improving awareness.

Acknowledgments

The authors are immensely grateful to the religious and traditional rulers of the community for allowing entry into the community and for giving their support. Appreciation of their time and consent is also given to the residents of the ward who participated in the study. We thank the health workers in the community primary healthcare centre for their support in administering the questionnaires and taking the blood pressure measurements.

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