



Socio-Demographic Profile and Symptom Presentation of Young People Diagnosed with Essential Hypertension in Uyo, South-South Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Author UKA designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author ODO managed the literature searches; analyses of the study performed the spectroscopy analysis. Both authors read and approved the final manuscript.

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ABSTRACT

Hypertension is a chronic medical condition where the systemic arterial blood pressure is elevated. It is taken as blood pressure reading greater than or equals to 140/90 mmHg systolic and greater than or equals to 90 mmHg diastolic. Recently, there is an upsurge in the diagnosis of essential hypertension among young people attending the general outpatient clinic so this generated the interest to study the socio-demographic variables and symptom presentation of these young people diagnosed with hypertension.

Aim: To determine the socio-demographic features of young people diagnosed with essential hypertension and the common clinical features.

Methods: A cross-sectional descriptive study of young people aged 20-44 years diagnosed with essential hypertension over a one year period January –December 2013 at General outpatient department of University of Uyo teaching hospital were recruited into the study. The questionnaire

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sought information on socio-demographic characteristics and symptoms presented by the respondents. Blood pressure was measured and classified into stage 1 and stage 2 hypertension according to JNC 7.

Results: One hundred and fifty one respondents with essential hypertension were recruited into the study. 62.8% of them had stage 2 hypertension, most of them were in age group 35-39 years n=44 (29.1%), were females n=84 (55.6%). More than half of respondents had tertiary education n=70 (46.4%), traders were more than others in terms of occupation n=46 (30.5%). Common symptoms presented were headache n=106 (70.2%), dizziness n=77 (51.0%) insomnia n=76 (50.3%), palpitation n=88 (58.3%). Insomnia and palpitation were significantly associated with stage 2 hypertension with p value of 0.031 and 0.013 respectively.

Conclusion: Hypertension is becoming common among young people in our facility; insomnia and palpitation are associated with stage 2 hypertension among these young people, so there is need to screen young people that present with these symptoms for high blood pressure.

Keywords: Young people; hypertension; symptoms; screening.

1. INTRODUCTION

Hypertension or high blood pressure is a chronic medical condition where systemic arterial blood pressure is elevated [1]. Globally, Hypertension is taken as blood pressure reading greater than or equals to 140 mmHg Systolic and greater than or equals to 90 mmHg Diastolic [2]. The 7th report of Joint National Committee on evaluation, detection and treatment of Hypertension provides a classification of blood pressure for adults aged 18 years and older into normal systolic and diastolic pressure <120/80 mmHg, pre-hypertension 120-139/80-89 mmHg, stage 1 hypertension 140-159/90-99 mmHg and stage 2 hypertension > or = 160/100 mmHg [3]. About one billion people in the world have Hypertension [4] of which young people between the ages of 18 and 44 years constitute 6%. (National health and nutrition evaluation studies 2009-2011) [5]. Studies in Nigeria among young people affected by hypertension reported prevalence of 3.3% in South East region [6], 4.3% in Northern region [7] and 30% in South West region [8].

Previously, almost all young people with Hypertension were thought to have Secondary Hypertension but clinical evidence now show that more than expected young people with Hypertension may have essential Hypertension [9]. A retrospective study in Nnewi, South East Nigeria among Hypertensive admitted over a period of five years showed that over 60% of those patients aged 18-30 years with Hypertension did not reveal any secondary cause [10].

However, certain risk factors are known to predispose people to development of essential Hypertension. These factors are non modifiable factors like age (increasing age) [11], sex (males

more than females until age 65 years) [11], race (black race) [12] and positive family history of Hypertension [13]. Other risk factors are overweight (BMI >25.0 kg/m² -29.9 kg/m², obesity (BMI >30 kg/m²) [14], cigarette smoking [15], excessive alcohol intake (more than 14 units per week for women and more than 21 units per week for men) [16], excessive salt intake more than 6g per day [17], sedentary lifestyle, chronic stress, diabetes mellitus and dyslipidaemia.

Since there is scarcity of study in South South Nigeria on hypertension in young people, this study was undertaken to determine the socio-demographic features of young people affected by Hypertension and the common clinical features at presentation with the aim of filling the knowledge gap and bringing out which age groups were most affected, what stage of Hypertension they had and commonest clinical features.

2. MATERIALS AND METHODS

This study was a cross-sectional descriptive study of young people aged 20-44 years diagnosed with essential Hypertension attending the General Outpatient Clinic of the University of Uyo Teaching Hospital.

A semi-structured questionnaire was administered to consenting young people diagnosed with essential Hypertension. The instrument sought information on age, sex, tribe, occupation and marital status. It also sought information on common clinical features of Hypertension in our environment like headache, heaviness of the head, dizziness, shortness of breath on exertion, difficulty falling asleep at night, exercise intolerance, and palpitation.

The blood pressure of the subject was measured using Accuson mercury sphygmomanometer with cuff of appropriate size in a sitting position. Korotkoff sounds one and five were used as systolic and diastolic blood pressure respectively. Two measurements were taken for each subject at 5 minutes interval and the mean blood pressure was used for the analysis. Systolic blood pressure of 140 mmHg and above and Diastolic blood pressure of 90 mmHg and above were taken as Hypertension [2].

Sample populations were patients attending the General Outpatients Clinic from where young people diagnosed with essential Hypertension were selected. All young people diagnosed with essential Hypertension over a period of one year (January-December 2013) were selected as respondents. Sample size was taken as all young person's diagnosed with essential hypertension. Sampling method was consecutive sampling.

Exclusion criteria were young person's diagnosed with secondary hypertension, persons with essential hypertension above the age of 44 years, persons with hypertensive heart failure or young person's diagnosed with essential hypertension who were too ill to partake in the

study. Consent was received from all subjects selected and ethical approval was collected from the Ethical Committee of the University of Uyo Teaching Hospital for this study.

Data analysis was done using SPSS 17.0 version. Results are presented as frequencies and proportions; Chi square was done with level of significance set at 0.05. The research was sponsored by the authors.

3. RESULTS

One hundred and fifty one respondents were recruited for this study over a one year period. It was observed that those in age group 35-39 years were the majority n=44 (29.1%). Most of the respondents had stage 2 hypertension n=103 (68.2%), a greater number of those recruited for the research were females n=84 (55.6%), most respondents had tertiary education n=70 (46.4%) while n=2 (1.3%) had no education at all. Many of the respondent were married n=78 (51.7%), traders were more than other respondents in terms of the occupation of the respondents n=46 (30.5%), professionals n=3 (2.0%) and civil servants were n=25 (16.6%). Above findings are reported in Table 1.

Table 1. Socio demographic profile of young person's diagnosed with hypertension

Variable	Hypertension		Total	Statistical indices
	Stage 1	Stage 2		
Age group				$\chi^2=2.5425$
20-24	6 (12.5)	7 (6.8)	13 (8.6)	Df = 4
25-29	11 (22.9)	21 (20.9)	32 (21.2)	P value =0.637
30- 34	12 (25.0)	28 (27.2)	40 (26.5)	
35—39	11 (22.9)	33 (32.0)	44 (29.1)	
40-44	8 (16.7)	14 (13.6)	22 (14.6)	
Sex				$\chi^2=0.0610$
Male	22 (45.8)	45 (43.7)	67 (44.4)	Df = 1
Female	26 (54.2)	58 (56.3)	84 (55.6)	P value =0.805
Education				$\chi^2=4.6094$
No education	1 (2.1)	1 (1.0)	2 (1.3)	Df = 3
Primary	4 (8.3)	11 (10.7)	15 (9.9)	P value =0.156
Secondary	26 (54.2)	38 (36.9)	64 (42.4)	
Tertiary	17 (35.4)	53 (51.5)	70 (46.4)	
Marital status				$\chi^2=0.9627$
Single	25 (52.1)	45 (43.7)	70 (46.4)	Df = 2
Married	22 (45.8)	56 (54.4)	78 (51.7)	P value =0.596
Widowed	1 (2.1)	2 (1.9)	3 (2.0)	
Occupation				$\chi^2=5.0525$
Applicants	2 (4.2)	8 (7.8)	10 (6.6)	Df = 6
Artisan	7 (14.6)	16 (15.5)	23 (15.2)	P value =0.572
Civil servants	6 (12.5)	19 (18.5)	25 (16.6)	
Students	13 (27.1)	20 (19.4)	33 (21.8)	
Trading	16 (33.3)	30 (19.4)	46 (30.5)	
Teaching	2 (4.2)	9 (8.7)	11 (7.3)	
Professional	2 (4.2)	1 (1.0)	3 (2.0)	

Common symptoms presented by the respondents were headache n=106 (70.2%), dizziness n=77 (51.0%), insomnia n=76 (50.3%) and palpitation n=88 (58.3%). Insomnia and palpitations were significant findings among those studied with p=0.031 and p=0.013 respectively. The above findings is in Table 2.

4. DISCUSSION

Hypertension is a growing health problem in Nigeria among young people. It is an important risk factor for stroke, coronary artery disease, heart failure and renal failure [18]. This study of hypertension among young people showed that young adults between the ages of 20-44 years have hypertension with those in the age groups 35-39 years recording the highest frequency n=44, (29.1%) and those in age group 40-44 years were n=22, (14.6%). This finding does not show known pattern where older people have a higher percentage of hypertension [19,20]. This observation may have resulted from the low number of respondents recruited in the age group 40-44 and is a limitation of the study. This study showed that more females at younger age (<44 years) were hypertensive than males, this agrees with the finding of Ulasi et al. [21] in

Enugu that also found that hypertension was more in females at age 20-30 years than males. But does not agree with what has been documented over the years that males develop hypertension earlier than females till the 6th decade where it balances out [22]. Marriage also is known to protect from stress but in this study many of the respondents were married n=78 (51.7%) and were diagnosed with hypertension, this calls for more research to find out whether marriage really offers protection from stress or is itself a source of stress knowing fully well that chronic stress is a risk factor for hypertension, further still could some other factors be responsible for this?

Headache was the commonest symptom found among these young hypertensive n=106 (70.2%) as was found by Nwaneli et al. [10] at Nnewi South East Nigeria Other symptoms were dizziness, insomnia, palpitation, dyspnoea, cough and leg swelling. Insomnia and palpitation were found to be associated with stage 2 hypertension with p value of 0.031 and 0.013 respectively. This association of hypertension with insomnia was also found by Pelagini et al. [23].

Table 2. Symptoms presentation by young hypertensive respondents attending out patients clinic in university of Uyo Teaching Hospital, Uyo

Variable	Hypertension		Total	Statistical indices
	Stage 1	Stage 2		
Headache				$\chi^2=0.4196$
Yes	32 (66.7)	74 (71.8)	106 (70.2)	Df = 1
No	16 (33.3)	32 (28.2)	45 (29.8)	P value =0.517
Dizziness				$\chi^2=0.2836$
Yes	22 (45.8)	52 (50.5)	77 (51.0)	Df = 1
No	26 (54.2)	51 (49.5)	74 (49.0)	P value =0.594
Insomnia				$\chi^2=4.6344$
Yes	18 (37.5)	58 (56.3)	76 (50.3)	Df = 1
No	30 (62.5)	45 (43.7)	75 (49.7)	P value =0.031
Palpitation				$\chi^2=6.1085$
Yes	21 (43.8)	67 (65.1)	88 (58.3)	Df = 1
No	27 (56.3)	36 (35.0)	63 (41.7)	P value =0.013
Dyspnea				$\chi^2=6.3461$
Yes	14 (29.2)	35 (34.0)	49 (32.5)	Df = 1
No	34 (70.8)	68 (66.0)	102 (67.6)	P value =0.556
Cough				$\chi^2=1.3875$
Yes	6 (12.5)	21 (20.4)	27 (17.9)	Df = 1
No	42 (87.5)	82 (79.6)	124 (82.1)	P value =0.239
Exercise intolerance				$\chi^2=1.0272$
Yes	15 (31.3)	41 (39.8)	56 (37.1)	Df = 1
No	33 (66.8)	62 (60.2)	95 (62.9)	P value =0.311
Leg swelling				$\chi^2=0.2922$
Yes	5 (10.4)	8 (7.8)	13 (8.6)	Df = 1
No	43 (89.6)	95 (92.3)	138 (91.4)	P value =0.589

Stage 2 hypertension was common among these young people n=103 (68.2%). This finding is rather new because other studies found low percentage of stage 2 hypertension among young people [24]. This observation may be as a result of studying only people diagnosed with hypertension compared to just screening young people that present in hospital for hypertension but it calls for further research on risk factors of essential hypertension in young people. However, the number of respondents was small and could be a limitation of the study so the study could be repeated with a higher number of respondents to further elucidate this observation.

With the increasing presence of hypertension among young people that attend our facility it may be necessary to screen all young people especially those that present with insomnia and palpitation for hypertension for early detection, investigation and treatment to prevent complications.

5. CONCLUSION

Hypertension is commonly seen among young people now than ever before. Insomnia and palpitation are associated with stage 2 hypertension JNC 7 classification. So young people who attend our clinics with above specified symptoms must be carefully screened for hypertension.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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