

Perception and Hypertension Prevention Practices of Teachers in selected Secondary Schools in Sagamu Local Government Area Ogun State, Nigeria

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Abstract

Prevention of Hypertension is important for reducing the high prevalence and incidence of Hypertension and can help reduce resultant morbidities and consequences of cardiovascular disorders. This study assessed the perception of teachers on hypertension prevention in selected secondary schools in Sagamu Local Government Area, Ogun State, Nigeria. The study employed a descriptive cross-sectional design. A Multi-stage sampling technique was used to select 418 respondents for the study. A validated semi-structured questionnaire was used for data collection. Descriptive and inferential statistics was used to analyze the data collected at ≤ 0.05 level of significance. The respondents had a mean age of 42.61 ± 7.79 years, with 313 (74.9%) of them having a bachelor's degree. The respondents' perception of hypertension prevention measured on a 72-point rating scale showed that the respondents had a mean score of 47.10 ± 8.48 . Most 225 (53.8%) of the respondents had a moderate perception of hypertension prevention. The respondents' hypertension prevention practices measured on a 24-point rating scale showed that the respondents had a mean score of 15.34 ± 4.95 . Less than half 184 (44.0%) of the respondents had moderate hypertension prevention practices. Furthermore, there is a significant relationship between respondents' perception and their hypertension prevention practice. The study revealed that the majority of the respondents had moderate perception of Hypertension and moderate prevention practices of Hypertension. It is recommended that the state ministry of education through the state ministry of health should conduct health education and promotion programs among teachers to change their perception of hypertension prevention which will, in turn, influence their prevention practices.

Keywords, Hypertension Prevention, Perception, Sagamu, Teachers.

Introduction

Hypertension is primarily considered a major risk factor for cardiovascular disease (CVD) with increasing prevalence and poor control, especially in sub-Saharan African countries, including Nigeria [1]. It is the fourth leading cause of premature death in developed countries and the seventh in developing countries [2]. It affects about 1.13 billion people and is responsible for about nine million deaths worldwide [2]. One in 10 Nigerian adults has

Hypertension, less than a third of those with Hypertension are aware they have Hypertension, and less than a third of those with Hypertension are on some form of treatment, while less than a third of those with Hypertension are adequately controlled [3].

Low-income countries such as those in sub-Saharan Africa are experiencing an unexpected increase in the incidence of Hypertension [4]. The economic and social changes taking place in developing countries and the resulting lifestyle changes have been linked to the rapid rise in

Hypertension [5]. Various professionals, including teachers, are not spared from the threat of Hypertension. Previous studies have shown that school teachers are prone to developing Hypertension due to their work-related risk factors such as unhealthy eating habits, overweight, obesity, and a less active lifestyle [6-8]. Although they are an educated group in society, their lack of motivation to reduce incidence may account for these reported risk factors. It is therefore important to study teachers' perceptions of Hypertension, as their physical and mental condition will affect the quality of the education of their students. Teachers with a good understanding of hypertension prevention can positively influence their students' lifestyles and spread these health messages to society as they are the students' role models. The prevention of Hypertension is important to reduce the high prevalence and the incidence of Hypertension and can help reduce the resulting morbidity and consequences of cardiovascular disease. More research on the factors that hinder hypertension prevention is needed to develop interventions that are effective in preventing Hypertension.

An individual's perception of a phenomenon or disease can influence the individual's actions and reactions to the phenomenon [9]. The health-belief model describes how perceptions can be used to adopt healthy behaviors, the severity of the problem, and at the same time, the perceived feeling that this problem is avoidable can contribute to the adoption of healthy behavior [9]. The perception in the Health Belief Model was used to predict the prevention of Hypertension among teachers.

Most of the studies conducted in Nigeria focused on awareness and Knowledge of Hypertension among teachers [10, 11]. There is paucity of research focusing on perception of teachers on hypertension prevention. This study therefore assessed the perception of teachers on hypertension prevention in selected secondary schools in Sagamu Local Government Area, Ogun State, Nigeria.

Material and Methods

This study employed a cross-sectional design. The population of the study comprised secondary school teachers in Sagamu Local Government Area.

Sagamu is a conglomeration of thirteen towns located in Ogun State along the Ibu River and Eruwuru Stream between Lagos and Ibadan, founded in the mid-19th century by members of the Remo branch of the Yoruba people in South-western Nigeria. The 13 towns that made it up are: Makun, Offin Sonyindo, Epe, Ibido, Igbepa, Ado, Oko, Ipoji, Batoro, Ijoku, Latawa and Ijagba. Sagamu Local Government came into being on 23rd September 1991. It was carved out of the old Remo Local Government Area. The projected population for 2021 was 355,900. The people of the Sagamu Local Government area are predominantly farmers. The major cash crop is Kolanut. However, food crops such as cassava, melon, maize, and yam are grown as supplements. Ijebu language, a subdivision of Yoruba language is spoken in Sagamu. There are 10 public secondary schools and 22 private secondary schools in Sagamu Local Government Area.

A sample size of four hundred and eighteen (418) was determined using the Leslie Kish sample size formula. Multi-stage sampling technique was used to select the participants. Five public and eleven private secondary schools was selected by balloting. This represented 50% of all the schools in study location. The proportionate sampling technique was used. The proportion of each school's population was calculated from the total population; the resultant number was converted to a percentage, and the percentage was employed to generate the number of participants from the sample size. Simple random sampling by balloting was used to select the teachers from each school because the total number of the teachers in each school exceeds the number of teachers already calculated for each school.

The data collection instrument was a semi-structured questionnaire. The questionnaire

consisted of 38 items. The instrument was developed by the researcher from the literature. The Cronbach's Alpha coefficient was 0.84. The respondents' perception was assessed with a 72-point rating scale using to 4-point Likert response scale, which consisted of four-item ranging from Strongly agree to strongly disagree. The best option was assigned 3. While the wrong response was assigned zero, perception scores were classified by 50th percentile into 2. Those who scored ≤ 36 were regarded as having poor perception, while those who scored ≥ 37 were regarded as having good perception. The respondents' hypertension prevention practices were assessed on a 24-point rating scale. Various statements bothering on routine blood pressure check-ups, involvement in physical activities, food preferences, amongst others, were asked to know respondents' lifestyle practices towards hypertension prevention. Permission to conduct the study was obtained from the principals of each school. An informed consent form was filled out by the participants, and participation in the study was voluntary. Data were coded, analyzed, and

interpreted using descriptive statistical methods and statistical package for Social Science (SPSS) version 23.0. Variables were computed, and scores were allocated according to the rating scale for each variable. Summaries of descriptive statistics such as means and standard deviation were derived. Also, binary logistic regression was used to determine the association between variables. A p-value of ≤ 0.05 was considered significant.

Results

Socio-demographic Characteristics of the Respondents

The respondents had a mean age of 42.61 ± 7.79 years. More than half 250 (59.8%) of the respondents were females, and the majority, 375 (89.7%), were married. Most 311 (74.4%) of the respondents were of the Christian faith. A larger proportion, 313 (74.9%) of the respondents, had a Bachelor's degree (B.Sc). About a quarter 105 (25.1%) of the respondents had worked for a period of 6-10 years. (See Table 1).

Table 1. Socio-Demographic Characteristics of the Respondents

Socio-demographic variable for consideration	Respondents in this study, N = 418	
	Frequency (n)	Percentage (%)
Age in (years) Mean age \pmSD 42.61\pm7.79		
20-29	24	5.7
30-39	105	25.1
40-49	198	47.4
50-59	91	21.8
Gender		
Male	168	40.2
Female	250	59.8
Marital status		
Married	375	89.7
Single	33	7.9
Widowed	6	1.4
Divorced	4	1
Academic qualification		
NCE	59	14.1
BSc	313	74.9
Postgraduate	46	11

Work experience		
1-5years	53	12.7
6-10years	105	25.1
11-15years	95	22.7
16-20years	99	23.7
20 years and above	66	15.8
Religion		
Christianity	311	74.4
Islam	93	22.2
Others	14	3.3

Respondents' Perception towards Hypertension Prevention

Less than half 76 (18.2%) of the respondents strongly agreed that they were worried of probably developing Hypertension. Few 81 (19.4%) of the respondents strongly agreed that having a family history of Hypertension may likely make them a candidate for Hypertension. Less than a quarter 86 (20.6%) of the respondents strongly affirmed that unhealthy lifestyle such as smoking, dietary habit, lack of exercise, amongst others, may result in developing Hypertension. A small proportion 56 (13.4%) of the respondents, were of a strong view that having Hypertension may likely result to stroke. Thirty-seven of the respondents strongly refuted the notion that Hypertension results in death and that no one recovers from it, while 60 (14.4%) of the respondents strongly reaffirm that it is unlikely that they die from Hypertension. A few proportion 72 (17.2%) of the respondents, were of a strong opinion that having Hypertension may lead to financial problems for them, while forty-two (10.0%) of the respondents were of the view that Hypertension may lead to health problems for them. Few 64 (15.3%) strongly concurred that having Hypertension may cause a heart attack. Few 78 (18.7%) of the respondents strongly disagreed that having a regular check-up to monitor their blood pressure is too expensive, and a few 86 (20.6%) of the respondents totally disagreed that maintaining a healthy diet is expensive. Few 48 (11.5%) of the respondents

strongly affirmed that quitting or reducing smoking is not possible. A small proportion 48 (11.5%) of the respondents, strongly disagreed that they cannot do without adding much salt to their food. Thirty-seven (8.9%) of the respondents strongly disagreed that performing 30-60 minutes' physical activities most days of the week is strenuous and time consuming. Less than a quarter (11.2%) of the respondents strongly refuted the statement that "they could not do without high cholesterol meals". Less than a quarter 60 (14.4%) of the respondents strongly disagreed that limiting alcohol consumption is difficult when with family or friends. A small proportion, 29 (6.9%) of the respondents, were of a strong view that taking up preventive measures can reduce their chances of becoming hypertensive. Few 61 (14.6%) of the respondents strongly affirmed that if they don't have Hypertension, there will be no need to spend money on managing it. A small proportion 24 (5.7%) of the respondents, strongly agreed that if they prevented Hypertension, it might reduce their chance of developing stroke. Few 13 (3.1%) of the respondents strongly agreed that taking up preventive measures can reduce their chance of having early death. A small proportion 9 (2.2%) of the respondents strongly agreed that taking up preventive measures can keep them healthy. Few 13 (3.1%) of the respondents strongly agreed that taking up preventive measures can reduce their chances of having a heart attack. (See Table 2).

Table 2. Respondents' Perception of Hypertension

Perception variable for consideration	Respondents in this study, N = 418			
	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
I am not worried of probably developing hypertension	76 (18.2)	132 (31.6)	120 (28.7)	90 (21.5)
I have a family history of Hypertension so I may fall victim of Hypertension	81 (19.4)	124 (29.7)	82 (19.6)	131 (31.3)
I am worried I may develop Hypertension due to my unhealthy lifestyle (smoking, dietary habit, lack of exercise)	86 (20.6)	86 (20.6)	107 (25.6)	139 (33.3)
I am too healthy to come down with Hypertension	99 (23.7)	129 (30.9)	93 (22.2)	97 (23.2)
If I have Hypertension, it may cause me to have stroke	56 (13.4)	118 (28.2)	145 (34.7)	99 (23.7)
If I have Hypertension, I would definitely die from it; nobody recovers from Hypertension	31 (7.4)	117 (28.0)	233 (55.7)	37 (8.9)
It is not likely I die from Hypertension	60 (14.4)	123 (29.4)	137 (32.8)	98 (23.4)
If I have Hypertension, it may lead to physical problem for me	36 (8.6)	161 (38.5)	145 (34.7)	76 (18.2)
If I have Hypertension, it may lead to financial problems for me	72 (17.2)	140 (33.5)	116 (27.8)	90 (21.5)
If I have Hypertension, it may lead to health problems for me	42 (10.0)	188 (45.0)	145 (34.7)	43 (10.3)
If I have Hypertension, it may cause me to have heart attack	64 (15.3)	152 (36.4)	142 (34.0)	60 (14.4)
Having regular check-up to monitor my blood pressure is too expensive	71 (17.0)	156 (37.3)	113 (27.0)	78 (18.7)
Maintaining a healthy diet is expensive	80 (19.1)	138 (33.0)	114 (27.3)	86 (20.6)
Quitting or reducing smoking is not possible	25 (6.0)	94 (22.5)	251 (60.0)	48 (11.5)
I cannot do without adding much salt in my food	37 (8.9)	167 (40.0)	166 (39.7)	48 (11.5)
Performing 30-60 minutes physical activity most days of the week is strenuous and time consuming	63 (15.1)	163 (39.0)	155 (37.1)	37 (8.9)
I cannot do without high cholesterol meals	21 (5.0)	186 (44.5)	164 (39.2)	47 (11.2)
Limiting alcohol consumption is difficult when I am with family or friends	52 (12.4)	119 (28.5)	187 (44.7)	60 (14.4)
Taking up preventive measures can reduce my chance of becoming hypertensive.	29 (6.9)	167 (40.0)	189 (45.2)	33 (7.9)
If I don't have Hypertension, I would not have to spend on managing Hypertension	61 (14.6)	123 (29.4)	180 (43.1)	54 (12.9)
If I prevent Hypertension, it can reduce my chance of developing stroke.	24 (5.7)	137 (32.8)	227 (54.3)	30 (7.2)
Taking up preventive measures can reduce my chance of having early death	13 (3.1)	134 (32.1)	235 (56.2)	36 (8.6)
Taking up preventive measures can keep me healthy	9 (2.2)	132 (31.6)	256 (61.2)	21 (5.0)
Taking up preventive measures can reduce my chances of having a heart attack	13 (3.2)	118 (28.2)	257 (61.5)	30 (7.2)

Furthermore, respondents' mean perception score and standard deviation was 47.10±8.48. This was categorized into low (0-24), moderately (25-48), and high (49-72). Few 6 (1.4%) of the respondents had low perception,

more than half 225 (53.8%) of the respondents had moderate perception, while almost half had a high perception of Hypertension. (See, Table 3).

Table 3. Categorization of the Respondents Perception of Hypertension

Respondents Category Mean = 47.10±8.48	Frequency (n)	Percent (%)
Low (0-24)	6	1.4
Moderate (25-48)	225	53.8
High (49-72)	187	44.7
Total	418	100

Respondents' Hypertension Prevention Practices

Few 62 (14.8%) of the respondents always performed routine blood pressure check-ups. A small proportion of 32(7.7%) of the respondents always performed 30-60 minutes of physical activity most days of the week. A little above a quarter 119 (28.5%) of the respondents had never eating fats from chicken, beef, pork or from any other type of meat. Less than half 101 (24.2%) of the respondents always avoided or

reduced tobacco smoking to prevent Hypertension. Less than half 114 (27.3%) of the respondents consumed alcohol with 1 drink per day for women and 2 drinks per day for men. Few 72 (17.2%) of the respondents had never added salt in their food once it is served. A small proportion, 44(10.5%), of the respondents always consumed a diet containing adequate fruits and vegetables on a daily basis. Few 49 (11.7%) of the respondents always maintained a diet that is low in fat, cholesterol, and salt (See table 4).

Table 4. Respondents' Hypertension Prevention Practices

Prevention practices variable for consideration	Respondents in this study, N = 418			
	*N (%)	**R (%)	+O (%)	++A (%)
I perform routine blood pressure check-up	92 (22.0)	179 (42.8)	85 (20.3)	62 (14.8)
I perform 30-60 minutes of physical activity most days of the week (For example, walking, running, swimming, housework, yard work, weight training, dancing, cycling, etc.)	90 (21.5)	123 (29.4)	173 (41.4)	32 (7.7)
I do not eat fats of chicken, beef, pork, or fats from any other meat	119 (28.5)	116 (27.8)	92 (22.0)	91 (21.8)
I avoid or reduce tobacco smoking to prevent hypertension	56 (13.4)	51 (12.2)	210 (50.2)	101 (24.2)
I limit alcohol consumption to 1 drink per day(for women) or 2 drinks per day (for men)	48 (11.5)	61 (14.6)	195 (46.7)	114 (27.3)
I add salt to my food once it is in my plate	55 (13.2)	72 (17.2)	269 (64.4)	22 (5.3)
On a daily basis, I consume a diet that contains adequate fruits and vegetables	78 (18.7)	146 (34.9)	150 (35.9)	44 (10.5)
I maintain a diet that is low in fat, low in cholesterol and low in salt	72 (17.2)	108 (25.8)	189 (45.2)	49 (11.7)

*N= Never, **R= Rarely, +O= Occasionally, ++A= Always

Furthermore, respondents' mean prevention practices score and standard deviation was 15.34 ± 4.95 . This was categorized into low (0-8), moderate (9-16), and high (17-24). Less than half 192 (45.9%) of the respondents had high prevention practices while one hundred and

eighty-four (44.0%) of the respondents had moderate hypertension prevention practices, and only a few 42 (10.0%) of the respondents had low hypertension prevention practices (See table 5).

Table 5. Categorization of Respondents Level of Hypertension Prevention Practices

Respondents' prevention practice category Mean \pmSD 15.34\pm4.95	Frequency (n)	Percent (%)
Low (0-8)	42	10
Medium (9-16)	184	44
High (17-24)	192	45.9
Total	418	100

Association between Perception and Hypertension Prevention Practices

Binary logistic regression was used to examine whether perception was associated with the likelihood of engaging in preventive practices towards Hypertension. As shown in

Table 6 below, respondents' perception significantly contributed to their hypertension preventive practice (Odds ratio=1.05; CI= 1.02-1.08; $p=0.001$). The perception odds ratio of 1.054 suggests that for every increase in perception, respondents were 1.054 times more likely to engage in preventive practices.

Table 6. Logistic Regression Predicting the Likelihood of Preventive Practices of Hypertension

	B	S.E	Wald	Df	Sig	Exp (B)	95% C.I. for Exp (B)	
							Lower	Upper
Perception	0.53	0.013	15.5	1	0.001	1.054	1.027	1.082
Constant	-1.52	0.625	5.915	1	0.015	0.219	-	-

Discussion

The present study assessed the perception of teachers on hypertension prevention in selected secondary schools in Sagamu Local Government Area, Ogun State, Nigeria. The mean age and standard deviation of the respondents was 42.61 ± 7.79 years. This is similar to the mean age reported in a study among public secondary school teachers in Ekiti State, Nigeria [10]. Also, a similar age group was reported in Oyo State [11]. These similarities may be due to the fact that they are the productive age group [12].

The current study revealed a higher proportion of female to male ratio, which is similar to the findings of [10, 13], but different to the respondents of [12,14]. The difference

observed in the gender distribution might be due to the area where the research was carried out as in Iran, most females are not allowed to work outside their homes.

The present study also reported that a larger percentage of the population were married and were of the Christian faith, and had tertiary education. This result supports the finding of a study of in southwest Ethiopia [15]. Most of the respondents had first-degree (BSc), which corroborates the findings in Ekiti State and Ethiopia [10, 16]. This may be because of the study area, and the study populations were teachers expected to be educated, as tertiary education may be one of the requirements for teaching. Contrary to this report on educational status was the study of [14], where they reported

that only 15.7% of their population had tertiary education.

Furthermore, most of the respondents' downplayed the likelihood of a hypertensive patient degenerating to stroke and cardiac problems. The report of this study was similar to the study carried out by Abdullahi & Jegede, in Ibadan and Chimberengwa & Naidoo in Zimbabwe. The finding showed that respondents' perception of Hypertension was statistically significant to their preventive practices [17, 18].

The study showed that the respondents had moderate preventive practices towards Hypertension. This current report was different from a study carried out by Hussain & Ajuwon, where the majority of their respondents had unhealthy preventive practices [19]. The current result was also at variance to the study of Annadurai, where about 92% of their respondents checked their blood pressure at least once a month [20]. The result concerning blood pressure check-ups was also at variance to the report of [21]. Concerning the addition of salt to meals, the present study was different from the report of [22], where the respondents added salt to their meal after being served. Regarding involving in physical activity, only few of the respondents were taking part in one or other forms of physical activity, this finding is similar to the report of Demaio et al in Monogolia.

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Conclusion

The study revealed that the majority of the respondents had a moderate perception of Hypertension and moderate prevention practices of Hypertension. This is not surprising as the perception was associated with the likelihood of engaging in preventive practices towards Hypertension. It is recommended that the state ministry of education through the state ministry of health should conduct health education and promotion programs among teachers to change their perception of hypertension prevention which will, in turn, influence their prevention practices.

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Conflict of Interest

The authors declare that they have no competing interests.

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