

Awareness and preventive practices related to hypertension among government school teachers in rural Tamil Nadu

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Abstract

Background: Being in the stressful profession of teaching, awareness about hypertension is very important in the prevention and early detection of hypertension and thereby reducing its morbidity and mortality. **Objectives:** 1) To assess the awareness of risk factors, symptoms and complications of hypertension among government school teachers. 2) To find out the preventive practices related to hypertension among government school teachers. **Methods:** A cross sectional study was carried out among 103 government school teachers with pre tested semi-structured questionnaire at Nandhivaram town of Kancheepuram district in Tamil Nadu. This study was done between August to October 2013. **Results:** Only 7.8% of the participants had high awareness score on hypertension. Prevalence of smoking among school teachers was found to be 2.92% (95% confidence interval -0.34 to 6.14%). About 19.41% were doing one or other form of physical activity in our study. Most of the participants (92.2%) checked their blood pressure at least once in the past and 37.9% were cautious about their daily salt intake. **Conclusion:** Most of the participants were not aware of effect and complications of hypertension and the preventive practices were low despite being teachers. Efforts should be made to implement comprehensive public health awareness programs to highlight the facts regarding hypertension and importance of lifestyle modifications.

Keywords: Hypertension, awareness, stress, teachers and preventive practices.

Introduction

Hypertension is a silent killer and remains one of the main risk factor for cardiovascular disease and stroke globally. It is one of the preventable and treatable causes of premature deaths worldwide but still remains hidden disease in the community. The World Health Organization (WHO) estimates that more than one in three adults, or about one billion people globally, are affected by hypertension.^[1] In 2008, worldwide, approximately 40% of adults had been diagnosed with hypertension; the condition rose from 600 million in 1980 to one billion. It attributes to 45% of deaths due to heart disease and 51% of deaths due to stroke.^[2]

In India, the magnitude of hypertension is anticipated to double from 118 million in 2000 to 213 million by 2025. It is often called as triple paradox disease i.e., it is easy to diagnose often remains undetected, simple to treat often remains untreated and despite availability of potent drugs, treatment is often ineffective.^[3]

The awareness of hypertension in India was low. Better awareness about hypertension will reduce morbidity and mortality attributed by hypertension.^[4] Among all the risk factors for hypertension, stress is the forerunner in the determination of the disease progress.⁵ Teaching profession is one among the stressful job. In a study from Bulgaria, they found that the relative risk of hypertension for female teachers was 1.5 compared with other female employees. These findings can classify teaching occupation as high risk for hypertension.⁶⁻⁷ Studies to assess the awareness of risk factors and preventive practices on hypertension especially among school teachers were very few in a country like India where the magnitude of the problem is huge.

Materials and methods

A cross-sectional study was done among government school teachers in Nandhivaram which is a field practice area of Shri

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Sathya Sai Medical College & Research Institute, Kancheepuram District, Tamil Nadu. Government boys and girls higher secondary school, Nandhivaram was selected randomly. All the teachers both males and females were included in the study. They were administered questionnaire after getting consent. There were 105 teachers working in the school and two of them didn't give consent for the study. So, finally 103 teachers were administered pre-tested structured questionnaire. Questionnaire consisted of questions related to their socio demographic profile, questions assessing awareness and practice of hypertension. Awareness related questions were allotted score one for all right options and zero score for wrong options. All the scores were added and the awareness scoring was classified as high (scoring 15-20), medium (scoring 8-14) and low (scoring 0-7). Data entry was made in excel software in codes and analysis was done by SPSS software. Levels of awareness were expressed in descriptive statistics.

Results

Mean age of 44.55, median of 46 and standard deviation of 7.72 with 95% confidence interval (CI) 43.06 to 46.04 were observed among the study participants. All the participants were currently married and 96.11% of the participants were having at least one child during the study period. (Table-1).

All the study participants were aware of the term hypertension. For the upper limit of normal blood pressure, 5.8% of them didn't give any response but 48.54% gave

wrong options. About 14.6% gave wrong options for symptoms of hypertension. Regarding the risk factors of hypertension, only 7.66% gave all the known risk factors correctly. Similarly, for symptoms and complications 6.8% of them gave all possible correct options. Only 7.8% of them were having high awareness score (Table-3).

About 92.2% of the participants checked their blood pressure in the past and rest 7.8% didn't check their blood pressure even once. Among those doing physical activity (n=20), 15% of the participants practiced yoga and rest 85% were doing other physical exercises. Among them, 60% were doing walking for at least half an hour in a day, 40% attached to local gym doing fitness exercises. None of the female teachers were practicing smoking. Altogether only 2.92% (95% confidence interval -0.34 to 6.14%) teachers were current smokers- smoking cigarettes daily.

Among those who checked blood pressure (n=95), 41.05% of the participants checked their blood pressure in the last six months, around 31.57% of them checked in between 6 months to one year. About 16.84% of them measured their blood pressure in between one to two year, 5.26% checked at last at more than two years. About 5.26% didn't know when they checked their blood pressure. Self reported hypertension were reported by 8.7% of participants and all of them were taking their anti-hypertensive drugs regularly and were cautious about salt intake.

Discussion

Among the study population of 103 school teachers, all the participants were aware of the term hypertension. Since no

Table 1: Socio demographic profile of the participants (n=103)

Variable	Frequency	Percentage
Age		
≤ 30 years	9	8.7
31-40 years	21	20.4
41-50 years	51	49.5
≥ 51 years	22	21.4
Sex		
Male	21	20.4
Female	82	79.6
Religion		
Hindus	73	70.9
Christians	27	26.2
Muslims	3	2.9
Educational qualification		
Literature Graduate	37	35.9
Science Graduate	31	30.1
Commerce Graduate	7	6.8
Science and commerce Graduate	22	21.4
Others	6	5.8

Table 2: Awareness about different aspects of hypertension (n=103)

Variable	Frequency (%)
Knowledge on upper limit of blood pressure with correct response(140/80mm hg)	47(45.63)
Recommended average salt intake per day with correct response(<5gms/day)	20(19.4)
Risk factors for hypertension *	
Obesity	32(31.1)
Smoking	15(14.6)
Stress	91(88.3)
Family history	13(12.6)
Aging	18(17.5)
Alcohol intake	21(20.4)
Excess salt intake	38(36.9)
Don't know	1(1)
Symptoms of hypertension *	
Headache	40(38.8)
Giddiness	86(83.5)
Blurred vision	17(16.5)
Nose bleed	2(1.9)
Weakness of limbs	14(13.6)
Pedal edema	24(23.3)
Don't know	2(1.9)
Complications of uncontrolled hypertension *	
Stroke	63(61.2)
Coronary heart disease	67(65.0)
Kidney failure	22(21.4)
Blindness	9(8.7)
Rupture of blood vessels	53(51.5)
Don't know	4(3.9)

* Multiple responses obtained

such study was conducted in India among School teachers, the study results were compared with other population. In Thailand, the awareness of the term hypertension found to be 88.26% among rural population, in Mangolia study, 82.6% heard of it and in Tanzania it was reported to be 66.8%.^[8-10] The difference might be due to different educational level of the study participants.

In our study, 45.63% knew the upper limit of normal blood pressure. This finding was similar to Thailand study where they reported it to be 43.48%.^[8] But higher than the rate observed from Nigeria study (1.45%).^[11] Regarding risk factors, majority of them i.e., 88.3% pointed out that stress as important factor in the development of hypertension. Similar finding was reported by Pakistan study where it was 95.55%.¹² But higher than the reports from Thailand study (55.11%) and Mangolian study (42.7%).^[8-9]

Major risk factors identified by the participants were excess salt intake (36.9%), obesity (31.1%), alcohol intake (20.4%), aging (17.5%), smoking (14.6%) and family history of hypertension (12.6%). Pakistan study has reported as follows: excess salt intake (88.2%), obesity (84.1%), smoking

(68.2%), family history (54.3%), aging (46.4%) and alcohol intake (22.7%).^[12] Reports from Thailand study showed that excess salt intake was recognized as risk factor by 57.61% of the study population, similarly for smoking (54.03%), alcohol intake (52.01%), overweight (51.68%) and old age (41.61%).^[8]

Common symptoms listed by the respondents in the current study were giddiness (83.5%), headache (38.8%), pedal edema (23.3%), blurred vision (16.5%), weakness of limbs (13.6%), and nose bleed (1.9%). Giddiness was the top response in our study, in Pakistan study it was headache (90.5%) followed by dizziness (88.6%), weakness (75.7%), visual disturbance (63%) and nose bleed (60.7%).^[12] No one in our study mentioned that hypertension often has no warning signals.

Regarding complications of hypertension, coronary heart disease was identified by 65% of the participants, followed by stroke (61.2%), rupture of blood vessels (51.5%), kidney failure (21.4%) and blindness (8.7%). Nigerian study revealed the knowledge on complication of hypertension as follows - stroke (21.9%), poor vision (21.8%), coronary heart disease (1.5%) and kidney failure (0.55%).^[11] This vast difference might

Table 3: Awareness scoring on hypertension (n =103)

Awareness level	scoring	N (%)	95%CI
Low	0-7	78 (75.7)	67.42 to 83.98%
Medium	8-14	17 (16.5)	9.33 to 23.67%
High	15-20	8 (7.8)	2.62 to 12.98%

Table 4: Preventive practices on hypertension (n=103)

Variable	Frequency	Percentage
Checked blood pressure at least once	95	92.2
Cautious salt intake	39	37.9
Physical activity	20	19.4
Non- smoker	100	97.08
Non – alcoholics	103	100.0

be due to regional variation and educational status. Overall, majority of them i.e., 75.7% were having low awareness score.

As far as preventive practices concerned, it was quite interesting to know that 92.2% of our study participants checked their blood pressure at least once. This was comparatively high than the rate reported from Nigeria where it was 40.35%.^[11] But only, 37.9% of our study population were cautious about their daily salt intake. In Mangolian study, it was found that 66.2% of the respondents were cautious of salt intake.^[9] Regarding practicing physical activity, it was quite unhappy to know that only 19.41% were doing one or other form of physical activity in our study. Similar finding was reported from Bahrain (18%).^[14] But very low compared to Tanzania study, where it was 52.35%.^[10]

Surprisingly, none of the teachers were current alcohol users. According to National Family Health Survey (NFHS)-III study, 32% in the general population were current alcohol users.^[13] Prevalence of smoker among school teachers in our study was found to be 2.92%. In Bahrain study among school teachers it was 7%.^[14] According to National Family Health Survey (NFHS)-III study report prevalence of smoking among general population in India was found to be 35%.^[13] A study done in Belgaum city, Mangalore, India among primary school teachers found that the prevalence of smoking was 14.5%.^[15] Our findings among school teachers was found to be lower than NFHS report and Belgaum study. Smoking habit was exclusively seen among male teachers. Similar findings were reported by Bahrain and Botswana study.^{[13],[16]}

Even though, all were aware of the term hypertension. None of them knew that it was a silent killer, often present without warning signals. It was unfortunate that, awareness score was low in majority of them. Only few were cautious about salt intake and their physical activity.

The study concludes that the respondents had limited knowledge on hypertension, despite being teachers. Further, it was unsatisfactory to find their preventive practices which weren't enough to prevent hypertension and other lifestyle related diseases. The need of the hour is to educate the

population regarding hypertension, its complication, availability of health services for early diagnosis and treatment of hypertension through comprehensive public health education programs.

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