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Knowledge, Attitude and Practice in Relation to Stroke: Comparative Study between Hypertensive and Non-Hypertensive Patients Attending a Tertiary Care Centre in Gorakhpur, Uttar Pradesh, India

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ABSTRACT

Introduction - *It is not possible to reduce the stroke burden, without the awareness in public and concerned attitude and practice towards the same. It is vital to analyse public awareness about present knowledge, attitude and practices (KAP) to prevent mortality-morbidity of stroke particularly in high risk cases.*

Objective - *To study the knowledge, attitude and practice in relation to stroke among hypertensive and non-hypertensive patients attending a tertiary care centre OPD.*

Methodology – *Cross-sectional study was conducted at Medicine OPD of BRD Medical College in the month of November 2016. Consecutive Sampling was used to enrol the patients in two groups (Hypertensive and Non-hypertensive patients). Sample size was calculated using G power 3.1.9.2. Individual score were calculated for Knowledge, Attitude and Practice section and analysed using T- test.*

Results - *The mean difference in Knowledge score of HTN group was 1.99 ± 0.86 and 1.91 ± 0.96 in Non HTN group patients (p=0.54). The Attitude score of HTN group was 19.22 ± 2.34 and 18.79 ± 2.11 in Non HTN group (p=0.15). Whereas the Practice score in HTN group was 6.5 ± 2.1 and 6.96 ± 2.2 in Non HTN group patients (p=0.13).*

Conclusion - *Insignificant difference in Knowledge, Attitude and Practice scores of HTN and Non-HTN group. We found 66.7% of patients attending tertiary care centre are good in knowledge, knowledge, 73.8% are having positive attitude, 62.9 % having good practice in relation to stroke.*

Keywords – *Stroke, Awareness, Knowledge, Attitude, Practice, Hypertension.*

INTRODUCTION

Stroke is considered as one of the major cause of death and disability globally. It creates economical and psychological complexities for patients and their families. The victims of stroke are still a major burden on the healthcare system. But still, in developing countries the incidence of stoke is seen increasing in contrast to the developed countries. [1]

In India the burden of stroke has been raising over preceding few decades [2] when compared to developed countries where it is noted to be stable or decreasing [3]. At present, it is estimated to be approximately 1.8 million Indians out of total population i.e. 1.2 billion suffer from stoke every year and annually about one third of them die whereas other one third suffers from disability that are permanent. These statistics emphasize the

necessity with which the phenomenon of stoke is needed to be studied in India with the goal to reduce the massive burden of stroke that the country is facing.[4]

It is not possible to reduce the stroke burden, without the awareness in public and concerned attitude and practice towards the same. In such instance, it is also important to know that therapeutic opportunities are limited in stroke. Additionally, there is lake of awareness and concern about the timely treatment of hypertension and adaptation of proper lifestyle that may help to reduce the incidence of stroke and morbidity among the stroke survivors in long run. [5]

KAP studies have been chiefly undertaken in developed countries all across the continents, assessing hospital based patients or related set-ups, or community dwellers through house to house survey[6],[7],[8],[9],[10],[11],[12],[13] . The studies conducted in Asia have also been mostly undertaken in the developed countries such as, Hong Kong, South Korea. [14],[15]. Studies that are conducted in developing countries have been restricted to very few countries like Brazil, Oman, Iran, India, Pakistan across the continent[16],[17],[18],[19].

It is vital to analyse public awareness about present knowledge, attitude and practices (KAP) to prevent mortality-morbidity of stroke particularly in high risk cases. In case of insufficient knowledge among the mass, governmental and non-governmental efforts to empower the mass with adequate knowledge, practice and the right attitude may help stretch this objective.

OBJECTIVE

To study the knowledge, attitude and practice in relation to stroke among hypertensive and non-hypertensive patients attending a tertiary care centre OPD

METHODOLOGY

Cross-sectional study was conducted at Medicine OPD of BRD Medical College in the month of November 2016. Consecutive Sampling was used to enrol the patients in two groups (Hypertensive and Non-hypertensive patients). After a written informed consent, using standardised questionnaire with aextensive range of responses were read to the participants. Questionnaire were divided in to four section with a pre-defined scoring criteria. Demographic profile of patient including epidemiological determinants which can affect the patient knowledge, attitude and practice in relation to stroke were recorded to compare between the two groups. Known case of hypertensive on Medication were enrolled in hypertensive group and Normal blood pressure patients with no history of CVD were enrolled in Non-hypertensive group. Sample size was calculated using G power 3.1.9.2, with two tailed alpha error of 5%, power of study 95%, effect size of 0.5, 1:1 allocation ratio of two groups, the calculated sample size was 210 (105 in each group). Individual score were calculated for Knowledge, Attitude and Practice section and analysed using T- test. Epidemiological determinants were compared using chi square test.

RESULTS

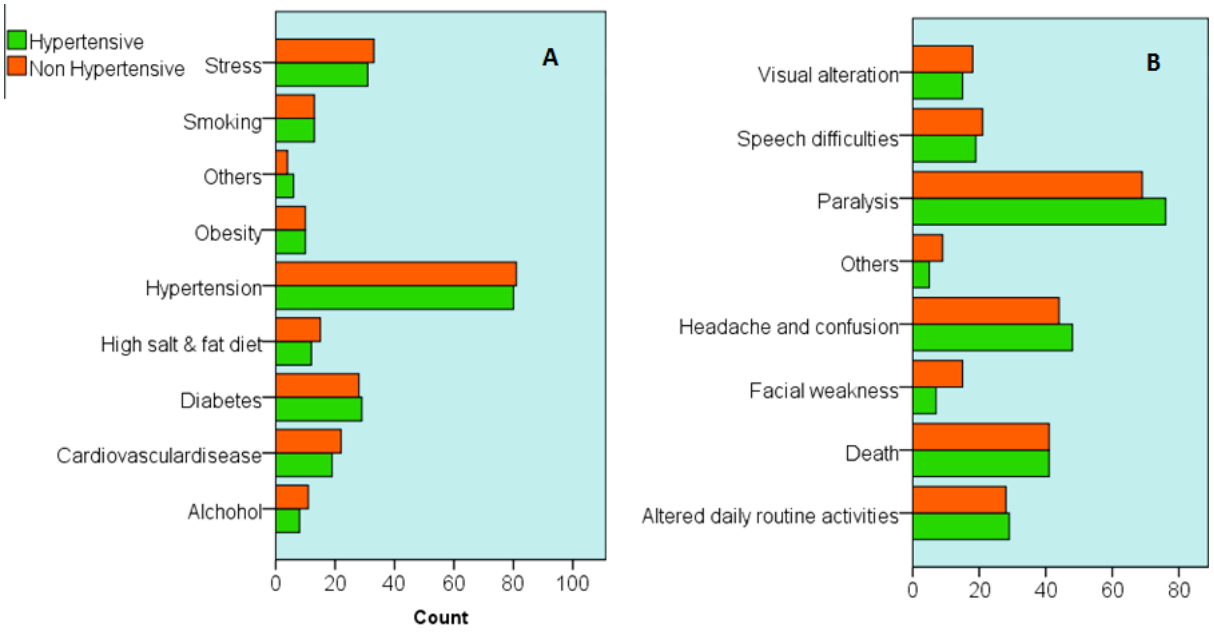
The participants from the hypertensive (HTN) group were age-matched with the participants of the non-hypertensive (Non-HTN) group (mean ± standard deviation: 47.5 ± 14.03 years in the HTN group; 47.9 ± 14.19 years in the Non-HTN group; P = 0.649) but were not matched in terms of gender. There were 35 female respondents (33.3%) in the HTN Group compared to 31 females (29.5%) in the Non HTN Group (P = 0.55). There was a no significant difference in the number of years of formal education between respondents from the two groups (P = 0.28). Table 1.

Table 1 . Demographic Profile of Hypertensive and Non- Hypertensive patients

Characteristic	Hypertensive N (%)	Non –Hypertensive N (%)	Statistical Significance*
Gender			
Male	70 (66.7)	74(70.5)	$\chi 2$ - 0.35, df-1,
Female	35(33.3)	31(29.5)	p – 0.55
Age Category			
30 - 50yrs	48(45.7)	40(38.1)	$\chi 2$ - 1.89, df-2,
51 - 70yrs	44(41.9)	46(43.8)	p – 0.38
Above 70yrs	13(12.4)	19(18.1)	
Locality			
Rural	60(57.1)	52(49.5)	$\chi 2$ – 1.22 , df-1,
Urban	45(42.9)	53(50.5)	p – 0.26
Marital status			
In union	94(89.5)	88(83.8)	$\chi 2$ -1.48 , df-1,
Not in union	11(10.5)	17(16.2)	p – 0.22
Socioeconomic status			
Upper class	1(1.0)	2(1.9)	$\chi 2$ – 1.96, df-1,
Upper middle	10(9.5)	18(17.1)	p – 0.16
Lower middle	59(56.2)	58(55.2)	(Upper & Lower
Upper lower	14(13.3)	14(13.3)	Middle vs Group)
Lower	21(20.0)	13(12.4)	
Smoking habits			
Non smoker	75(71.4)	72(68.6)	$\chi 2$ –0.20, df-1,
Smoker	30(28.6)	33(31.4)	p – 0.65
Alcoholism			
Habitual	5(4.8)	8(7.6)	$\chi 2$ – 3.83, df-2,
Social	6(5.7)	13(12.4)	p – 0.14
Never	94(89.5)	84(80.0)	
History of diabetes			
Yes	32(30.5)	31(29.5)	$\chi 2$ –0.02, df-1,
No	73(69.5)	74(70.5)	p – 0.88
Educational status			
illiterate	33(31.4)	32(30.5)	$\chi 2$ – 2.53 , df-1,
Primary level Education	35(33.3)	26(24.8)	p – 0.28
Secondary level / higher level	37(35.2)	47(44.8)	
Family history CVD			
Yes	47(44.8)	40(38.1)	$\chi 2$ –0.96, df-1,
No	58(55.2)	65(61.9)	p – 0.37

In knowledge section patients knowledge regarding basic awareness including prevention, risk factor and Consequence of stroke were recorded. Almost 80% of people in both group are aware that hypertension as a risk factor for occurrence of stroke, other risk factors are registered low in both group. In HTN group 18.6 % people are consider family history of CVD as a risk factor while in Non- HTN group it is 21.6% (Figure 1 A). 72.45% in HTN group and 65.7% in Non-HTN group are aware that paralysis of limb or body is the consequence of Stroke followed by headache and confusion (45.7% in HTN & 65.7% Non-HTN). (Figure 1B).

Figure 1. Distribution of patient's response on Knowledge about Risk factor (A) and Consequences (B) of Stroke(Both are Multiple Response Questions)



Regarding awareness on prevention of occurrence of stroke 73.3% in HTN group & 71.4% in Non-HTN group believed that medication as a way of prevention. 42.9% in HTN group &37.1% in Non-HTN group were aware that regular physical exercise can prevent the episode of stroke (Figure-2). Responses to other measures of prevention such as weight reduction, quitting smoking and alcohol were low.

Figure 2. Bar chart showing distribution of preventive measures awareness responses of stroke

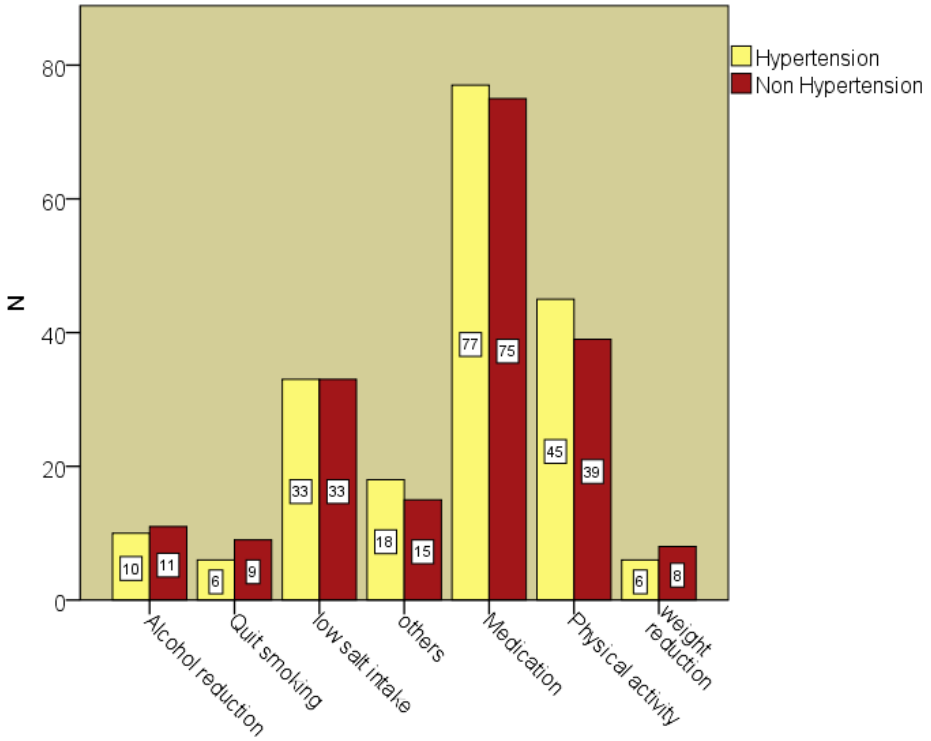


Table-2: Table showing patients attitude responses in relation to stroke using Likert scale

Characteristic	Hypertensive N (%)	Non –Hypertensive N (%)
High BP only risk factor of stroke		
Strongly agree	5 (4.8)	7 (6.7)
Agree	53 (60)	68 (64.8)
Don't know	6 (5.7)	6 (5.7)
Disagree	31 (29.5)	24 (22.9)
Strongly disagree	0 (0.0)	0 (0.0)
Stroke only happens in elderly people		
Strongly agree	12 (11.4)	12 (11.4)
Agree	54 (51.4)	55 (52.4)
Don't know	4 (3.8)	4 (3.8)
Disagree	25 (23.8)	22 (21.0)
Strongly disagree	10 (9.5)	12 (11.4)
Regular strenuous exercise can cause stroke		
Strongly agree	13 (12.4)	19 (18.1)
Agree	44 (41.9)	33 (31.4)
Don't know	20 (19.0)	31 (29.5)
Disagree	21 (20.0)	17 (16.2)
Strongly disagree	7 (6.7)	5 (4.8)
Regular strenuous physical exercise can cause stroke		
Strongly agree	34 (32.4)	33 (31.4)
Agree	66 (62.9)	67 (63.8)
Don't know	3 (2.9)	4 (3.8)
Disagree	2 (1.9)	1 (1.0)
Strongly disagree	0 (0.0)	0 (0.0)
Stroke patient can become paralysed for life		
Strongly agree	4 (3.8)	5 (4.8)
Agree	54 (51.4)	39 (37.1)
Don't know	5 (4.8)	7 (6.7)
Disagree	39 (37.1)	52 (49.5)
Strongly disagree	3 (2.9)	2 (1.9)
Fear of having a stroke concerns you		
Strongly agree	10 (9.5)	12 (11.4)
Agree	80 (76.2)	77 (73.3)
Don't know	3 (2.9)	3 (2.9)
Disagree	12 (11.4)	13 (12.4)
Strongly disagree	0 (0.0)	0 (0.0)

60% of HTN group and 58.1% of Non HTN group patient visit nearby hospital for the routine check-up. Intake of fruits and vegetables regularly once in a day in 37.1% of HTN group and 52.4% of Non HTN group. While 54.3% of HTN group 49.5% of Non HTN group have practice of consuming fatty/oily food. 47.6% of HTN group and 38.1% of Non HTN group patients never spend time for any physical activity other than routine work. (Table-3)

Table-3: Table showing patient's practices in order to prevent occurrence of stroke among two groups

Characteristic	Hypertensive N (%)	Non –Hypertensive N (%)
Do you take the prescribed medications regularly		
Yes	83 (79.0)	86 (81.9)
No	3 (2.9)	2 (1.9)
Sometimes	19 (18.1)	17 (16.2)
Where do you regularly go for routine follow up		
This health centre	1 (1.0)	1 (1.0)
Nearby hospital	63 (60.0)	61 (58.1)
Nearby primary health centre	41(39.0)	43 (41.0)
How often do you consume fruits and vegetables		
Never	39 (37.1)	35 (33.3)
1 time a day	59 (56.2)	55 (52.4)
2 times a day	7 (6.7)	15 (14.3)
How often do you consume fatty/oily food		
Never	26 (24.8)	23 (21.9)
1 time a day	21 (20.0)	27 (25.7)
2 times a day	57 (54.3)	52 (49.5)
>3 times a day	1 (1.0)	3 (2.9)
How often do u do physical activity		
1-3 times a week	8 (7.6)	13 (12.4)
3-5 times a week	15 (14.3)	17 (16.2)
5-7 times a week	32 (30.5)	35 (33.3)
Never	50 (47.6)	40 (38.1)

The mean difference in Knowledge score of HTN group was 1.99 ± 0.86 and 1.91 ± 0.96 in Non HTN group patients (p=0.54). The Attitude score of HTN group was 19.22 ± 2.34 and 18.79 ± 2.11 in Non HTN group (p=0.15). Whereas the Practice score in HTN group was 6.5 ± 2.1 and 6.96 ± 2.2 in Non HTN group patients (p=0.13). The difference between these two group's Knowledge, Attitude, and Practice scores were analysed using independent sample T test and found insignificant in all three domain. (Table-4)

Table-4: Mean difference between HTN and Non HTN patients Knowledge, Attitude, and Practice score

	HTN Group	Non-HTN Group	Statistical significance
	Mean(SD)	Mean(SD)	
Knowledge (N = 105)	1.99 (0.86)	1.91 (0.96)	t = .605, df = 208, p = 0.546
Attitude (N = 105)	19.22 (2.34)	18.79 (2.11)	t = 1.422, df = 208, p = 0.156
Practice (N = 105)	6.50 (2.18)	6.96 (2.20)	t = -1.511, df = 208, p = 0.132

*Independent sample t-test

DISCUSSION

We found insignificant difference in Knowledge, Attitude and Practice scores of HTN and Non-HTN group. The results indicate that in general, study participants from both stroke-affected and non-affected families were aware of the basic meanings of the term "stroke" and its association with paralysis. The knowledge regarding stroke risk factors was inadequate. In line with previous Indian reports,[20],[21] comparatively better knowledge prevailed about the risk factors. For discussion purpose we classifiedthe scores of Knowledge Scores of all 210 patients in to three levels on the basis of Mean and standard deviation as shown in table 5. Attitude and Practice Score on the basic of percentile.

Table 5: Classification of KAP Scores of all patients attending tertiary health care centre

	N (%)
Knowledge	
Poor (> Mean + SD)	11 (5.2)
Average (Mean ± SD)	59 (28.1)
Good (> Mean + SD)	140 (66.7)
Attitude	
Bad attitude (< 50th percentile)	55 (26.2)
Good attitude (≥ 50th percentile)	155 (73.8)
Practice	
Good practice (< 50th percentile)	78 (37.1)
Bad Practice (≥ 50th percentile)	132 (62.9)

We found 66.7% of patients attending tertiary care centre are good in knowledge, knowledge, 73.8% are having positive attitude, 62.9 % having good practice in relation to stroke. Our study is limited by the fact that it was cross-sectional, used close-ended questions, and was confined to a fairly limited geographic area. This might have limited the responses regarding knowledge and attitudes to stroke omitting some of the respondents' responses.

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