EVALUATION OF EDUCATIONAL STATUS OF HYPERTENSIVE PATIENTS ATTENDING OPD OF R D GARDY MEDICAL COLLEGE, UJJAIN ACCORDING TO NATIONAL AND INTERNATIONAL GUIDELINES

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Abstract

Background: Hypertension is a condition that affects one billion people worldwide and is a leading cause of morbidity and mortality. Consecutive 230 hypertensive patients were enrolled attending OPD at R D Gardy Medical College, Ujjain after taking their informed consent to participate in the study.

Result: The distribution of patients according to educational status in relation to blood pressure status. In the controlled blood pressure group, all the patients were graduates (100%). In the uncontrolled blood pressure group, there were 130 (63.1%) were graduates, 31 (15.1%) were illiterates, 14 (6.8%) were educated up to 10th standard, 13 (6.3%) were educated upto 12th standard and others as mentioned in the above table. There was a statistically no significant association seen between educational status and the blood pressure ($P > 0.05$), showing that blood pressure is independent of the educational status.

Conclusion: Lower level of education would result into lesser knowledge about hypertension, which would have negative impact on control of hypertension. Non-compliant patients had education less than graduate. This shows that level of education could be an important contributor for non-compliance to treatment.

Keywords: Hypertension, Education & Blood Pressure.

INTRODUCTION

Hypertension in adults age 18 years and older is defined as systolic blood pressure of 140 mmHg or greater and/or diastolic blood pressure of 90 mmHg or greater or any level of blood pressure in patients taking antihypertensive medication.^{1, 2}

Hypertension is a major public health challenge, with increasing prevalence worldwide. It is the leading cardiovascular (CV) risk factor for morbidity and mortality and the largest contributor to the global burden of disease.³ Approximately 40% of adults aged 25 years and older worldwide had hypertension in 2008, with Africa and the Americas having the highest (46%) and lowest (35%) prevalence respectively.⁴

High prevalence and poor control of hypertension have challenged the public health around the world.

Material & Method

Hypertension is a condition that affects one billion people worldwide and is a leading cause of morbidity and mortality.

R D Gardy Medical College, Ujjain is a multidisciplinary, tertiary care hospital and has a very busy OPD on the medical side. The average OPD attendance per day is 60 – 70 patients for every general physician.

Consecutive 230 hypertensive patients were enrolled attending OPD at R D Gardy Medical College, Ujjain from April 2018 to March 2019 after taking their informed consent to participate in the study. All patients diagnosed as hypertensive as per recommendation of JNC7.

This is an observational, single center, non-interventional study in a cohort of 230 consecutive

hypertensive subjects. Data was collected at one single, routine patient's visit in clinic.

INCLUSION CRITERIA

- 1) Patients of essential hypertension who would consent to participate in the study.
- 2) Hypertensive patients of at least one year duration under treatment at R D Gardy Medical College, Ujjain OPD.

EXCLUSION CRITERIA

- 1) Patients of secondary hypertension
- 2) Hospitalized patients
- 3) Patients less than 20 years of age

Results

Table 1: Distribution of hypertensive patients according to educational status

(N=230)

Education	Uncontrolled BP (>140 mmHg systolic with any diastolic)	Controlled BP(SBP≤140mmHg, DBP≤90mmHg)	Total
Illiterate	31 15.1%	0 0.0%	31 13.5%
6 th standard	4 1.9%	0 0.0%	4 1.7%
8 th standard	5 2.4%	0 0.0%	5 2.2%
Highschool	5 2.4%	0 0.0%	5 2.2%
10 th standard	14 6.8%	0 0.0%	14 6.1%
11 th standard	4 1.9%	0 0.0%	4 1.7%
12 th standard	13 6.3%	0 0.0%	13 5.7%
Graduate	130 63.1%	24 100.0%	154 66.9%
Total	206 100.0%	24 100.0%	230 100.0%

P value = 0.066, Not significant

The above table shows the distribution of patients according to educational status in relation to blood pressure status.

In the controlled blood pressure group, all the patients were graduates (100%). In the uncontrolled blood pressure group, there were 130(63.1%) were graduates, 31(15.1%) were illiterates, 14(6.8%) were educated up to 10th standard, 13(6.3%) were educated upto 12th standard and others as mentioned in the above table.

There was a statistically no significant association seen between educational status and the hypertension (P>0.05), showing that distribution of hypertension is independent of the educational status.

Table 2: Association of education with response to harmful effects of high blood pressure (N=230)

Education	Brain damage /stroke	Brain damage /stroke,heart failure	Heart failure / Attack	Heart failure / attack,brain damage	Kidney damage	Kidney damage,brain damage/St	Kidney damage,heart failure / a	Noharmful effect	Total
10 th std	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	14 20.0%	14 6.1%
11 th std	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 8.9%	0 0.0%	0 0.0%	0 0.0%	4 1.7%
12 th std	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	13 18.6%	13 5.7%
6 th std	0 0.0%	0 0.0%	4 8.9%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	4 1.7%
8 th std	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 7.1%	5 2.2%

Education	Brain damage /stroke	Brain damage /stroke,heart failure	Heart failure / attack	Heart failure / attack,brain damage	Kidney damage	Kidney damage,brain damage/St	Kidney damage,heart failure / a	Noharmful effect	Total
Graduate	37 100.0%	10 100.0%	27 60.0%	10 100.0%	28 62.2%	4 100.0%	9 100.0%	29 41.4%	154 66.9%
Highschool	0 0.0%	0 0.0%	5 11.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	5 2.2%
Illiterate	0 0.0%	0 0.0%	9 20.0%	0 0.0%	13 28.9%	0 0.0%	0 0.0%	9 12.9%	31 13.5%
Total	37 100.0%	10 100.0%	45 100.0%	10 100.0%	45 100.0%	4 100.0%	9 100.0%	70 100.0%	230 100.0%

P value=0.000*,Highly significant

The above table shows the distribution of patients according to educational status in relation to response for harmful effects of high blood pressure from the respondents.

Table 3: Association of no advise with current blood pressure

Advise	Uncontrolled BP (>140 mmHg systolic with any diastolic)	Controlled BP(SBP <=140mm Hg, DBP <=90mm Hg)	Total
Advise given	75 36.4%	0 0.0%	75 32.6%
No advise given	131 63.6%	24 100.0%	155 67.4%
Total	206 100.0%	24 100.0%	230 100.0%

P value = 0.000, Highly significant

The above table shows the association between advise given and the current blood pressure status. In the uncontrolled blood pressure group, 75 (36.4%) were given advise, while 131 (63.3%) were not given any advise. In controlled blood pressure group, 24 (100%) were not given any advise.

There is a statistically significant association seen between advise given and the blood pressure ($P < 0.05$), showing that there is a significant difference in the proportion of advise given between controlled and uncontrolled blood pressure groups.

Discussion

According to JNC 7 in the face of declining budgets, community programs are challenged to increase activities to prevent high blood pressure and serve more persons with hypertension.

In our study there were 151 patients in the high risk group (including diabetes, chronic kidney disease and other co-morbidities), where goal blood pressure to be achieved was $< 130 / 85$ mmHg. Survey of the prescription of physician treating hypertension showed that in the high risk group we had 151 patients. Out of these 151 patients, 62 were on monotherapy, 21 were on two drug therapy, 29 were on triple drug therapy and drug was neither stepped up or changed in 70 patients (58.8%) in spite of blood pressure being uncontrolled.⁷

Our study and studies in literature show that gaps in knowledge of hypertension is an important factor for control of blood pressure in the patients under their care. This is an important area of intervention which has to be looked into by our health administrators and it needs to be handled by arranging for

comprehensive update sessions, educating seminars / workshops, lectures and also think of introducing recertification courses.⁸

In a study of Ragot Set al (2005) showed various reasons for non-compliance such as forget fullness 53.3%, presence of drugs effects 33.3%, drugs out of supply 26.7%, polypharmacy 6.7% and absence of symptoms 6.7%. Heals found that non-compliance was associated with lack of knowledge of hypertension.⁹

Out of 230 patients studied there were 46 patients (20%) who were daily smoking and 46 patients (20%) who were taking at least > 40 gm/day of any kind of liquor daily. Our numbers are small and we need to have more number of patients to study this important aspect in our setting. In a study done in Saudi Arabia by Al-Soweilem and Elzubier (1998)¹⁰ showed cigarette smoking to be prevalent in 7.9% of hypertensive patients.

Conclusion

Lower level of education would result into lesser knowledge about hypertension, which would have negative impact on control of hypertension. Non-compliant patients had education less than graduate. This shows that level of education could be an important contributor for non-compliance to treatment.

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