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A Clinical Audit to Assess the Adherence of Doctors Regarding Hypertension Management Guidelines in Bhopal (M.P.)

Aanchal Bijlwan[*1,] *Lopamudra Ghosh*[2], *Saurav Kumar*[3], *Pulkit Pandey*[4]

ABSTRACT

High blood pressure (BP) is a common condition. Globally, it is projected that there are over one billion hypertensive individuals, with the number expected to rise to 1.56 billion by 2025, representing a 60 percent increase since 2000.[1] In recent years, HTN has been identified as a factor in roughly half of all deaths caused by stroke and heart disease. Hypertension (HTN) is a serious public health issue across the world, with high rates of morbidity and mortality.[2] Because the vast majority of cases are asymptomatic, they go unnoticed and untreated, increasing the risk of coronary artery disease, heart failure, renal failure, cerebrovascular disease, and retinopathy. According to evidence, the number of deaths and disabilities caused by coronary heart disease and cerebrovascular illness is quickly growing in emerging nations, and they are predicted to rank first and fourth, respectively, as the leading causes of global disease burden by 2020.[3]

In India, hypertension (HTN) has a significant public health impact on cardiovascular health and healthcare systems.[4] In India, hypertension is directly responsible for 57% of all stroke fatalities and 24% of all coronary heart disease (CHD) death. [5] HTN is one of the leading causes of mortality in the globe, according to the WHO.[6]

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1*Corresponding author:. Aanchal Bijlwan, Assistant Professor, Community Medicine, R.D Gardi Medical College, Ujjain (M.P.); 2. Lopamudra Ghosh, PG Resident, ENT, Sumandeep University, Vadodara (Gujrat);3. Saurav Kumar ,Deputy Director, DHS, Bhopal (M.P.); 4. Pulkit Pandey ,Senior Resident, Psychiatry, R.D Gardi Medical College, Ujjain (M.P.)

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INTRODUCTION

The published guidelines offer various blood pressure objectives and pharmacological treatment approaches based on the clinical needs of each patient. Diuretics, angiotensin-converting enzyme inhibitors (ACEI), angiotensin II receptor blockers (ARBs), and calcium channel blockers are among the first-line antihypertensive medications used worldwide (CCB).[7]Non-adherence to clinical guidelines is regarded to be the main cause of non-compliance in developing nations due to a lack of clinical governance and regular clinical audit. Clinical governance provides a setting for safety and quality assurance.)[8] The aim of the study is to identify the quality of management of hypertensive patients as well as factors that cause poor management. Through this assessment we can develop strategies to overcome deficiencies and implement changes. The audit standard to be followed throughout the study was set at 80% and the basis for the standard was followed by the guidelines given by The Joint National Committee (JNC) 8 on hypertension and its sequelae.

Audit Criteria

Table 1: The criteria you used to measure the outcome

CRITERIA	STANDARD
Register	100%
BP measured at least two time (different occasions before starting drug therapy)	80%
Examination of target organ damage	80%
Risk factor for cardiovascular and Cerebrovascular diseases	80%
Patient reviewed at least every 6 months	80%
Blood pressure less than 140/90	80%
Patient referred to specialist	80%
Diet advice given	80%
Physical activity advice given	80%

Methodology-

A facility based descriptive cross-sectional study was conducted in the Kolar block of Bhopal city of Madhya Pradesh from November 2021 to May 2022. All the patients (105) registered in the primary health centre were selected for the study. An extensive literature search done on various audits available online helped shaped the methodology. The JNC 8 guideline was used to set standard for practices, symptoms and sequelae of hypertension. The target standard was arbitrarily set up at 80% (for practice sign and symptoms) as a reasonable standard. Records of all the hypertensive

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patients attending the PHC during the months of November and December 2021 were traced from daily patient record maintained by MRD department. Prior to intervention knowledge of the doctor were accessed based on the criteria provided in the assessment sheet. On locating lacunae in the practices, the doctors were trained through a series of lectures about hypertensive guidelines JNC8 as well as asking patients about sign, symptoms and practices pertaining to hypertension.In phase 2 doctors were reassessed through a standardised structure checklist to see how many criteria meet the target standard.

Table 2- Job profile of doctor at Primary Health Centre

Sl. No	Variables	
1.	**Duration of clinical experience**	
	1-5 years	✓
	6-10 years	
	> equal to 11 years	
2.	**Job title**	
	Medical officer	✓
	Community health officer	
3.	**Any specific training on hypertension**	
	Yes	
	No	✓

Table 3- Regarding awareness and adherence to hypertension guidelines

Sl.no	Characteristics	Response
1	Awareness of any major hypertension treatment guidelines	
	Aware	
	Not aware	✓
2	Do you follow any guidelines	
	Yes	
	No	✓
3.	Suggestion to increase guidelines adherence	
	Regular training programs	
	Continuous assessment	
	Treatment protocol in PHC	✓

Table 4: Phase 1 Audit review

Criteria	Standard	Yes	No
1.Register	100%	105(100%)	0
2.BP measured at least two time (different occasions before starting drug therapy	80%	20(19%)	85(81%)
3. Examination of the target organ damage	80%	0(0%)	105(100%)
4. Risk factor for cardiovascular and cerebrovascular disease	80%	27(25.7%)	78(74.28%)
5.Blood pressure less than 140/90 mmhg	80%	44(41.9%)	61(58%)
6.Patient reviewing at least 6 months	80%	38(36.1%)	67(63.80%)
7.Patients referred to specialist	80% (57 total)	12(23.5%)	45(78.5%)
8.Diet advice given	80%	24(22.85%)	81(77.14%)
9.Physical advise given	80%	44(41.9%)	61(58%)

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Table 5: Phase 2 Audit Review

Criteria	Standard	Yes	No
1.Register	100%	110(100%)	0
2.BP measured at least two time (different occasions before starting drug therapy	80%	96(87.2%)	14(12.7%)
3. Examination of the target organ damage	80%	27(25%)	83(75%)
4. Risk factor for cardiovascular and cerebrovascular disease	80%	88(80%)	22(20%)
5.Blood pressure less than 140/90 mmhg	80%	90(81.81%)	20(18.18%)
6.Patient reviewing at least 6 months	80%	82(74.52%)	28(25.45%)
7.Patients referred to specialist	80% (62 total)	51(82%)	11(21.1%)
8.Diet advice given	80%	103(93%)	7(6.36%)
9.Physical advise given	80%	101(91.8%)	9(6.36%)

Table 6: Association of Response to Criteria for Audit

Criteria	Yes	No	p Value
1.Register	105(100%)	0	0.000
2.BP measured at least two time (different occasions before starting drug therapy	20(19%)	85(81%)	0.00
3.Examination of target organ damage	0(0%)	105(100%)	0.00
4.Risk factor for cardiovascular and cerebrovascular disease	27(25.7%)	78(74.28%)	0.00
5.Patient reviewed at least every 6 month	38(36.1%)	67(63.80%)	0.00
6.Blood pressure less than 140/90	44(41.9%)	61(58%)	0.09
7.Patient referred to specialist	12(23.5%)	45(78.5%)	0.00
8.Diet advice given	24(22.85%)	81(22.1%),	0.00
9.Physical activity advice given	44(41.9%)	61(58%)	0.09

Initial assessment

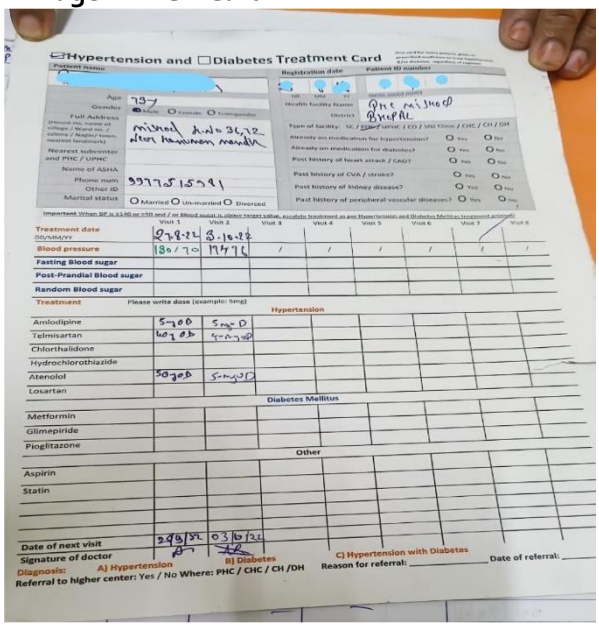
All the patients (105) with hypertension registered in the primary health centre were selected for the study. Records of all the hypertensive patients attending the PHC during the months of December 2021 were traced from daily patient records maintained by the MRD department, reviewed and interviewed telephonically with the help of ASHA.Initial assessment revealed that BP was measured at least two times, risk factors, dietary and physical activity advice, and patients reviewed at least every 6 months were not adequately done, and there is a huge gap. Whereas target organ damage examination was not done in any of the patients.

Intervention

A dedicated NCD clinic was established in the PHC. It was held once a week on every Saturday. Mandatory checkup of all the vitals of the patients was done at the registration

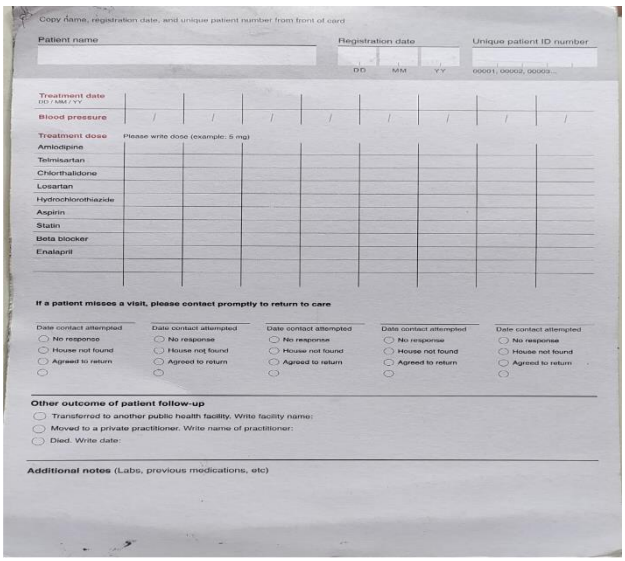
counter. Booklet on hypertension was distributed among the patients on long term follow up. Google sheet was formed for the compliance of due date of follow up and referral and linkages done for the patients.

Image 1: NCD Card



This intervention was done to establish a long-term follow-up treatment for the hypertensive patients and to establish a linkage between the Primary Health Centre and Tertiary care Centres.

Image2: Treatment protocol of Hypertension



Reassessment

It was carried out in the month of May 2022 and was found that we were able to achieve most of the audit standards as the audit was carried out in a structured manner to resolve the problem. Patients were treated and dispersed via a single channel which made it easy for the doctor and other staff of PHC that were treating the patient. One of the main problems encountered during the reassessment was that when the doctor referred the patient to tertiary care centre, most of the patient did not visit the higher centre, which could be attributed to the long distance of tertiary centre from PHC, to overcome this issue we are trying to arrange a single day dedicate transport facility for these patients to higher centre and visit to PHC by specialist doctors.

Discussion

In the present study, there was only one medical officer having 1-5 years of clinical experience with no specific training on hypertension who was posted in the primary health centre selected in the Kolar block. Through a standardised structured checklist which was provided by us to the doctors, it was concluded that the doctors were unaware of the current major hypertension treatment guidelines. Despite having a fair share of patients who required treatments for hypertension, the doctors did not follow any established guideline while treating the patient. Upon asking we also found lack of adherence to be a common factor resulting in poor management and lack of achievement of target blood pressure.In our study we are able to achieve the standard for most of the audit criterias like patient being reviewed every 6 months, diet advice, exercise advice and maintaining blood pressure <140/90 mmhg(74.52%, 93%, 91.8% and 81.81%), similarly an audit conducted by **Ling L** found that their study also fulfilled audit criterias and the standard achieve by him was 78.8%, 68.6%, 89% and 97.2% respectively.[9] We are unable to achieve the standard of a few of the criteria because of difficulties in the transportation of the patient. In contrast to our study, a study by **Jacqueline P.**

Duncan found that interruptions in the medical supply was the main reason behind non compliance to the audit standards.[10] On interviewing doctors, we found that treatment protocol was the preferred option to increase the adherence to guidelines.

Conclusion

The standard of care can be greatly enhanced with small changes and interventions at various levels. A team approach simplifies the process and aids in delivering high-quality public care. Following this audit, we achieved strong compliance from patients in their hypertension treatment. Most patients reached the standard blood pressure cut-off levels. Consequently, it became easier for doctors and staff to provide behavioural therapy and counselling. Additionally, we established a more effective monitoring system.

Recommendation

In small healthcare setups with limited manpower, this type of structured approach is highly beneficial for improved monitoring, treatment, and patient compliance.

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