



Assessment of pharmacist mediated patient counseling on knowledge, attitude and practices on hypertension in compliance with antihypertensive drugs in South Indian city

S.S. Biradar^{1*}, Srinivas Reddy², S.A. Raju³ and Rajashekhar Kapatae⁴

1, Research Scholar Pharmaceutical sciences (Pharmacy Practice), JJT University, Jhunjhunu - India
2, Biostatistician Department of Community Medicine, M.R. Medical College Gulbarga, (Karnataka) - India
3, HKES College of Pharmacy, Gulbarga (Karnataka) - India
4, Department of Community Medicine, M. R. Medical College, Gulbarga, (Karnataka) - India

Abstract

The purpose of this qualitative phenomenological survey was to determine hypertensive patients' knowledge, perceptions, attitudes and life-style practices so as to optimize their health and treatment needs. We examined a cohort of 123 randomly selected hypertensive by means of a self-structured questionnaire and a detailed interview. Analysis was by statistical package for social sciences (SPSS) and chi-square of the GraphPad Prism software was used for significance tests. The results shown that pharmacist mediated patient counseling of hypertensive patients was studied in 123 individuals intervention and its significance was tested with paired -T test, there was substantial increase in their Knowledge, Attitude as well as Practice and it was statically significant of $P<0.001$.

Key-Words: Hypertension, Counseling, Intervention, KAP, life-style practices

Introduction

Hypertension (HT) has been recognized as a common cardiovascular disease and a major risk factor for congestive heart failure, ischaemic heart disease, chronic renal failure and stroke ¹⁻³. Hypertension has become a significant problem in many developing countries experiencing epidemiological transition from communicable to non-communicable chronic diseases ⁴⁻⁶. Adherence can be characterized as the extent to which the individual's behavior agrees with the health treatment, in terms of taking the medication, following the diet, performing changes in lifestyle, and visiting to the physician ⁷. Therefore, pharmacist should know their patients profile and real needs. Thus, from these needs, strategies should be implemented with a view to achieve a higher degree of treatment compliance and further control of blood pressure levels

Hypertension in South India

High blood pressure (BP) is a major public health problem in India and its prevalence is rapidly increasing among both urban and rural populations. In fact, hypertension is the most prevalent chronic disease in India ⁸.

The prevalence of hypertension ranges from 20-40% in urban adults and 12-17% among rural adults. The number of people with hypertension is projected to increase from 118 million in 2000 to 214 million in 2025, with nearly equal numbers of men and women ⁹. A survey of 26,000 adults in South India showed a hypertension prevalence of 20% (men 23% and women 17%) but 67% of those with hypertension were unaware of their diagnosis. Majority of hypertensive subjects still remain undetected and the control of hypertension is also inadequate ¹⁰. This calls for urgent prevention and control measures for hypertension. Recent ¹¹ studies show that for every known person with hypertension there are two persons with either undiagnosed hypertension or prehypertension. But the implementation of the pharmaceutical care program in the health care centre is an urgent need to achieve the optimum therapeutic outcomes that improves patients' quality of life ¹². Moreover, pharmaceutical care program is of extreme importance in the patient with chronic illnesses ¹³. Lack of patients' knowledge of the disease, medications and life style modifications for the management of hypertension may be responsible factor. This fact is supported by many of the studies conducted worldwide ^{14, 15}. Thus, pharmacological and non-pharmacological has many advantages this can be achieved through the patient's

*** Corresponding Author**

E.mail: ssbiradar@rediffmail.com

knowledge of disease, medications & lifestyle modification, when the pharmacist provides them with useful practical information through counseling. Hence, an attempt to carry out the study to assess the effectiveness of counseling on hypertensive patients in terms of Knowledge, Attitude and Practice (KAP) outcomes in south Indian city.

Methodology

It is a prospective study to determine adherence to anti-hypertensive therapy in patients attending outpatient medical department at Government General Hospital, Gulbarga of Karnataka.

The Study group included 123 cases of essential hypertension attending Outpatient department (OPD) who could be followed up as required. They were divided into two groups as test group and control group. The test group patients received patient counseling regarding lifestyle modifications, diet and other monitoring parameters including the patient information leaflets and control group received only patient information leaflets for their future reference and reading in local language. The follow-up of patients were done from baseline to follow-up -1 follow-up -2 for treatments. The patients were reminded by telephonically for their visits to hospitals. All patients received information regarding the objectives of the study and gave their written informed consent.

The data were collected from patients by useable medical records that met our sample frame and matched with the questionnaire data. The data was collected from October 2010 to July-2011. The questionnaire included the questions regarding the knowledge, attitude and practice of patients regarding the management of hypertension. Among 31 questions, Validation of questionnaire was carried out via conducting pilot study. The pilot study was conducted with 10 patients. The reliability analysis of the questionnaire was performed by calculating cronbach's α value. The cronbach's α value was obtained 0.82 which indicated that the questionnaire was valid to be used for the study.

Criteria of enrollment

Inclusion criteria

All Patients diagnosed with hypertension of either sex, aged 18 – 70 years and willingness to participate.

Exclusion criteria

Patients with portal hypertension, pre-eclampsia and patients diagnosed with other co-morbid diseases such as diabetes mellitus, dyslipidemia, heart failure, hepatic dysfunction, psychiatric disorder and cancer.

Demographics

Age and gender distribution

The age distribution of the patient is shown in the table 1. The gender distribution of the patients was almost equal consisting of n were in the age group of 40 to 69 years (78.04 %). Only two individuals were in the age group of 20-30 years and 3 were above 80 years.

Gender wise distribution of study population

In the present study male constituted 51.22 % and females were 48.78 % as given table -2.

Education

Most had some education (upto undergraduate level). But this was not a highly educated group as can be seen from the table-3. In the present study 60.2 % of study population were undergraduates. Graduates and Post graduates constituted merely 4.8 %. As shown in table-3

Results and Discussion

The pharmacist mediated patient counseling of hypertensive patients was studied in 123 individuals who were assessed for the Knowledge, Attitude and Practice before and after pharmacist intervention and its significance was tested with paired $-T$ test, there was substantial increase in their Knowledge, Attitude as well as Practice and it was statistically significant as shown in table-4.

Knowledge

The results of the t-test show that all Knowledge variables vary significantly ($P<0.001$) from baseline scores compared to the scores after counseling showing that counseling significantly impacts all areas of Knowledge dimension. The T values in question are more than twice the standard error showing that the after counseling results vary significantly from the baseline results. The variable in question has b in front referring to baseline value

Attitude

Attitude is a measure of intentionality and is an important predictor of future behavior. Here the results show that counseling affected all aspects of attitude towards lifestyle modification be it exercising, reducing salt intake or taking medications positively.

Practice

The practice dimension represents those who have put into practice the things they learnt during counseling. It consists of questions regarding non pharmacological approach like exercising, reducing salt intake, keeping medicine in one's possession, and taking medicines regularly.

In our study found that patients were generally aware of basic concepts related to hypertension, their knowledge of personal BP goals and current status of

control were suboptimal. Given evidence that suggests the importance of education and hypertension knowledge in increasing patient compliance and BP control, The improvement of KAP scores after the intervention clearly demonstrated the need of pharmaceutical care program in the management of chronic illness like hypertension in other study population in south Indian cities.

References

- Chobanian AU, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr et al. (2003)Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure. *JAMA*; 289: 2560-2572.
- Whelton PK. Epidemiology of hypertension. (1994) *Lancet*; 344: 101-106.
- Akinkugbe OO. (1987)World epidemiology of hypertension in blacks. *J Clin Hypertens*. 3:1S-8S.
- Dodu RSA(1988). Emergence of cardiovascular diseases in developing countries. *Cardiology*, 75: 56-64.
- Nissinen A, Bothig S, Granroth H, Lopez AD(1988) Hypertension in Developing Countries. *World Health Stat Q*; 41: 141-154.
- World Health Organization(1993) Cardiovascular Diseases in Developing Countries. *World HealthStat Q*; 46: 90-150.
- Dos perfis dos pacientes hipertensos atendidos (2004)em Pronto- Socorro e em tratamento ambulatorial. *Rev Esc Enferm USP*. 38(1):90-8.
- Rajeev Gupta , Soneil Gupta (2010) Strategies for initial management of hypertension *Indian J Med Res* 132, , pp 531-542
- Reddy KS. (2009) Regional case studies—India. Nestle Nutr Workshop Ser Pediatr Program.;63:15-24; discussion 41-16, 259-268.
- Mohan V,Deepa M, Farooq S, Datta M, Deepa R. (2007) Prevalence, awareness and control of hypertension in Chennai—The Chennai Urban Rural Epidemiology Study (CURES-52). *J Assoc Physicians India*. 55:326-332.
- Joshi SR, Saboo B, Vadivale M, et al. (2012) Prevalence of Diagnosed and Undiagnosed Diabetes and Hypertension in India—Results from the Screening India's Twin Epidemic (SITE) Study. *Diabetes Technol Ther*. (Jan);14(1):8-15.
- Wledenmayer K, Summers RS, Mackle CA, Gous AGS, Everard M. Developing pharmacy practice: A focus on patient care 2006. Available from URL http://www.who.int/medicines/publications/WHO_PSM_PAR_2006.5.pdf
- Palaian S, Prabhu M, Shankar PR.(2006)Patients Counseling by pharmacist- A focus on chronic illness. *Pak J pharm Sci*; 19(1): 62-65.
- Aubert L, Bovet P, Gervasoni JP, Rwebogara A, Waever B, Paccaud F.(1998)Knowledge, Attitudes and Practices on hypertension in a country in epidemiological transition. *Hypertension* ; 31(5): 1136- 1145.
- Olivera SA, Chen RS, McCarthy BD, Davis CC, Hill MN. (2005)Hypertension Knowledge, awareness and attitude in hypertensive population. *J Gen Intern med*; 20(3): 219-225.

Table 1: Age wise distribution of study population

Age	Frequency	Percent
20-29 yrs	2	1.63
30-39 yrs	11	8.94
40-49 yrs	24	19.51
50-59 yrs	34	27.64
60-69 yrs	38	30.89
70-79 yrs	11	8.94
≥80yrs	3	2.44
Total	123	100.0

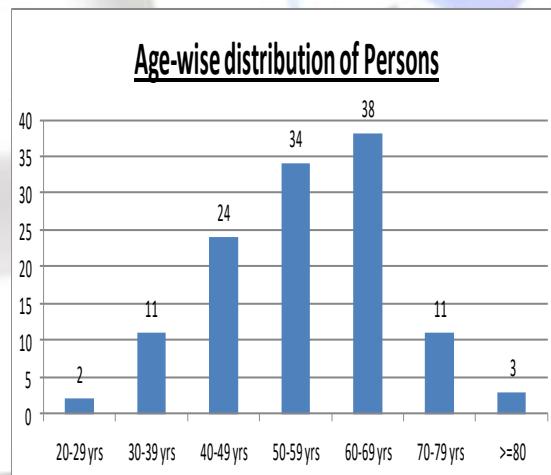


Table 2: Gender wise distribution of study population

Gender	No.	%
Male	63	51.22
Female	60	48.78
Total	123	100.00

Sex wise distribution of Persons

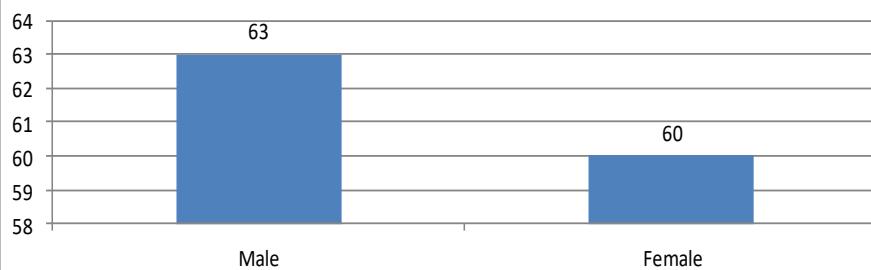


Table 3: Distribution of study population by educational status

Education	Frequency	Percent
Illiterate	30	24.39
Undergraduate	80	65.04
Graduate	10	8.14
PG	3	2.43
Total	123	100.00

Education

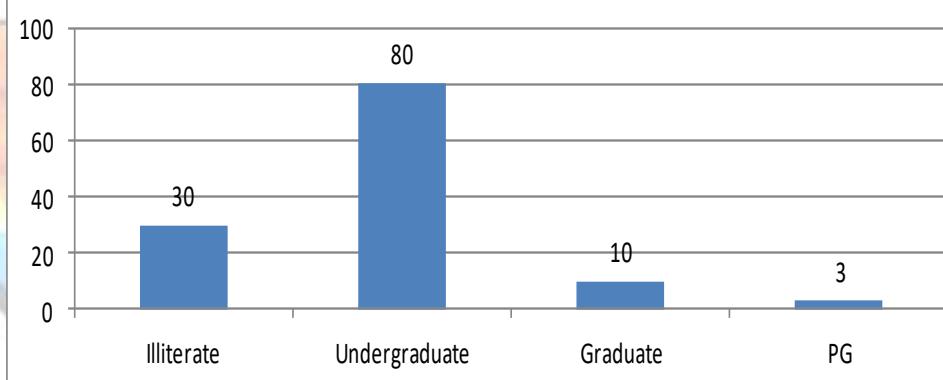


Table 4: Distribution of study population by knowledge, attitude and practice

Knowledge	Intervention (n=123)				
	Before	After	Chi-square	P-value	Significance
Is Hypertension and high BP same	96	123	30.33	P<0.001	H.S.
Is High BP Serious disease	101	123	24.16	P<0.01	H.S.
Do you Know Your Blood Pressure	75	120	50.09	P<0.001	H.S.
Does the above number indicate high blood pressure	50	122	100.19	P<0.001	H.S.
Do you think hypertension is life long disease requiring drugs	100	123	25.37	P<0.001	H.S.
Is Your BP High?	86	123	43.55	P<0.001	H.S.
Does Excess Salt cause high Blood pressure?	78	121	48.63	P<0.001	H.S.
Do u know stress in life is one of the causes for hypertension	108	123	15.97	P<0.001	H.S.
Does Regular Exercise control BP	90	120	29.28	P<0.001	H.S.
Consequences of hypertension	70	118	51.98	P<0.001	H.S.
Precautions for control of HTN	102	120	14.96	P<0.001	H.S.
symptoms	80	121	45.72	P<0.001	H.S.
regular drug taking is important	78	123	55.07	P<0.001	H.S.
hypertension is to be treated even if no symptoms are present	59	120	76.32	P<0.001	H.S.
hypertension may cause heart attack	80	120	42.78	P<0.001	H.S.
hypertension can lead to paralysis	86	122	40.34	P<0.001	H.S.
hypertension can lead to kidney problems	73	100	14.20	P<0.001	H.S.
you think people with hypertension can carryout normal activities	87	120	33.18	P<0.001	H.S.
you know that drugs can cause side effects	49	101	46.19	P<0.001	H.S.
think alternative medication can cure or reduce hypertension	109	123	14.84	P<0.001	H.S.
regular checkup is essential for controlling hypertension	96	123	30.33	P<0.001	H.S.
Attitudes					
Intention to exercise for controlling hypertension	88	120	31.87	P<0.001	H.S.
Intention to stop exercising once hypertension is under control	79	108	18.75	P<0.001	H.S.
Intention to Reduce salt intake	78	121	48.63	P<0.001	H.S.
Intention to take drugs regularly	78	123	55.07	P<0.001	H.S.
Intention to undergo regular checkup	96	123	30.33	P<0.001	H.S.
Practice					
exercise regularly	86	118	29.40	P<0.001	H.S.
reduced salt intake	75	120	50.09	P<0.001	H.S.
take medicines regularly as prescribed	75	121	53.11	P<0.001	H.S.
medicine any time	70	121	60.90	P<0.001	H.S.
undergo regular check up	91	115	17.20	P<0.01	H.S.

