



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

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**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<sup>1-3</sup>. Hypertension has become a significant problem in many developing countries experiencing epidemiological transition from communicable to non-communicable chronic diseases<sup>4-6</sup>. 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<sup>7</sup>. 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<sup>8</sup>.

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<sup>9</sup>. 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<sup>10</sup>. This calls for urgent prevention and control measures for hypertension. Recent<sup>11</sup> 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<sup>12</sup>. Moreover, pharmaceutical care program is of extreme importance in the patient with chronic illnesses<sup>13</sup>. 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<sup>14, 15</sup>. Thus, pharmacological and non-pharmacological has many advantages this can be achieved through the patient's

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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 in to 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 ted 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 á value. The cronbachs á 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 assesed for the Knowledge, Attitude and Practice before and after pharmacist intervention and its significance was tested with paried –T test,there was substantial increase in their Knowledge, Attitude as well as Practice and it was statically 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.

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**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   |

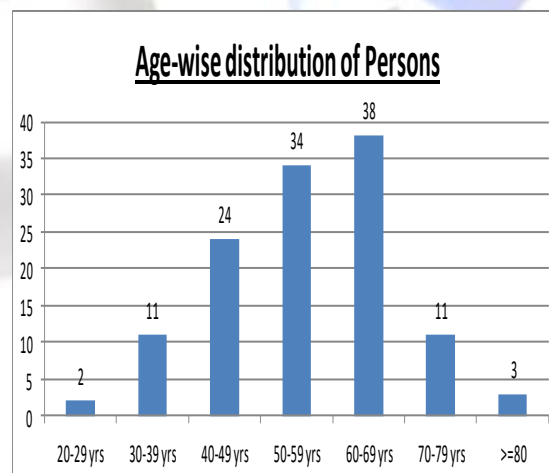


Table 2: Gender wise distribution of study population

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

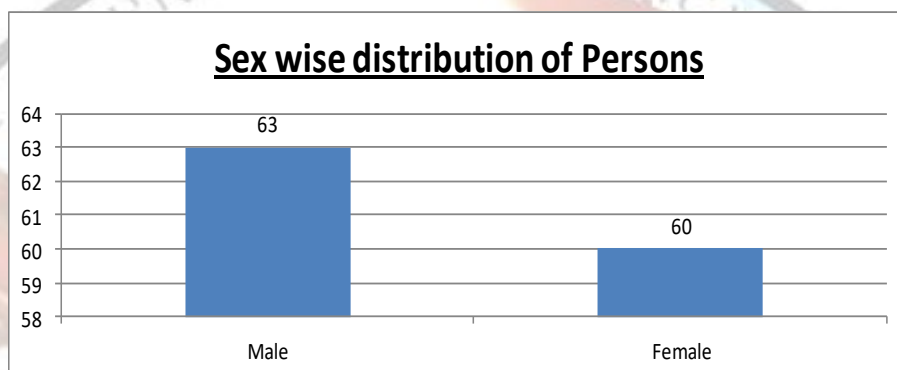
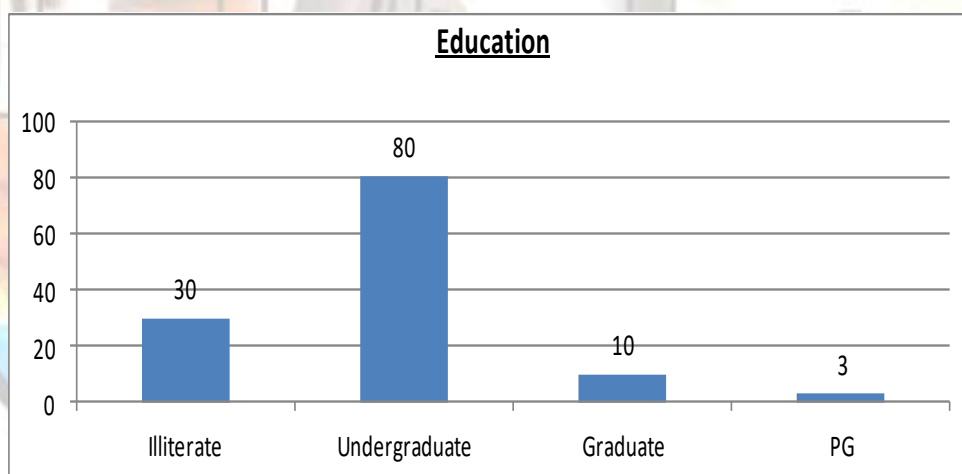


Table 3: Distribution of study population by educational status

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



**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.         |
| <b>Attitudes</b>  |                      |       |            |         |              |
| 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.         |
| <b>Practice</b>   |                      |       |            |         |              |
| 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.         |

