

Assessment of Adherence to Anti-hypertensive Treatment among Patients Attending a Urban Health Care Facility of a Medical College, Tumkur

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ABSTRACT

Chronic non-communicable diseases are posing a serious threat to public health throughout the world, irrespective of whether developed and developing and thus deserve to be treated as a global health priority. Hypertension is the leading modifiable risk factor for cardiovascular diseases. Poor compliance to antihypertensive therapies has been linked to a variety of problems, including poor blood pressure control, rehospitalisation and increased healthcare resource utilization. **Methodology:** This Cross-Sectional study was carried out among all adult hypertensive patients from September to October 2018 visiting Urban Health Training Centre of Sri Siddhartha Medical College. **Results:** Out of 150 study subjects Majority of them 66 (44%) were having hypertension for 10-15 yrs and least 18 (12%) were having Hypertension for >5 yrs, 81 (54%) were Purchasing drugs from Private sectors and others from Government sector. 30 (20%) were taking 2 tablets per day, 109 (72.7%) were taking 1 tablet per day. 90 (60%) were having Low adherence, 36 (24%) were having Medium adherence and 24 (16%) High adherence for Drugs using Morisky Adherence scale. When we studied association between Adherence to drugs with other Socio-demographic characteristics, we got statistically significant results with Socio-economic status, residence and Place of Purchase of drugs ($P=0.0$). **Conclusion:** Adherence to drugs was found to be low in the present study. The level of adherence to treatment among the participants can be achieved by educating the Patients and creating awareness.

Key words: Hypertension, Adherence, Blood pressure, Complications.

INTRODUCTION

Hypertension is one of the major Public Health problem in both the developed and developing countries. Increased blood pressure is a leading risk factor for premature death, stroke and heart disease worldwide. Hypertension is the leading modifiable risk factor for cardiovascular diseases and was the topmost leading risk factor for global disease burden in 2010.¹

Chronic non-communicable diseases are posing a serious threat to public health throughout the world and thus deserve to be treated as a global health priority.² Hypertension accounts for 7.1 million deaths worldwide every year of which 57% is due to stroke and 43% is due to ischemic heart disease.²

WHO defines adherence as “the extent to which a person’s behaviour in taking medication, following a diet and /or executing lifestyle changes”.³

World Health Organization (WHO) describes poor adherence as the most important cause of uncontrolled blood pressure and estimates that 50% of people do not take their antihypertensive medication as prescribed.

The poorest of the people are at the highest risk of developing and dying prematurely from chronic diseases because their exposure to risk is high, whereas

their access to health care services is low: “chronic diseases and poverty are interconnected in a vicious cycle”. Inability to buy drugs is a major determinant and is significantly associated with poor compliance and poor health outcomes in the developing world.⁴

Non-adherence to the medical regimens is a major concern in the management of patients with chronic illness like hypertension and is a major cause for treatment failure.^{4,5}

The present studies is conducted with the aim to assess adherence to drugs in a Hypertensive patients.

METHODOLOGY

This Cross-Sectional study will be carried out among adult hypertensive patients visiting Urban Health Training Centre (UHTC) of Sri Siddhartha Medical College during September to October 2018.

Sample size

All Hypertensive Patients attending Urban Health centre during September and October were taken for study.

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Sampling Technique

Convenient sampling, all the consecutive diabetic subjects who attended Urban Health centre were included during that period.

Method of data collection

Medication adherence will be measured using the 8 item Morisky Medication Adherence Scale (MMAS-8) consisting of 8 items each of which measures a specific medication taking behaviour. Response categories are yes/no for 7 items and a 5 point Likert response for the last item.

Socio-demographic characteristics will be recorded of all the eligible patients like age, gender, history of duration of hypertension, socioeconomic status, education level using pretested semi structured questionnaire. Questions will also be asked on number and frequency of the drugs and any side effects of drugs as experienced by patient.

Data will be collected by direct face to face interview by using semi structured questionnaire.

The degree of adherence will be determined according to the score resulting from the sum of all the correct answers: high adherence (8 points), average adherence (6 to < 8 points) and poor adherence (< 6 points). In this study, patients will be considered adherent when they have a score equal to eight in the MMAS-8.

Statistical Analysis

Data thus obtained was coded and entered into Microsoft Excel Work sheet. This was analysed using SPSS 22 version.

Analysis done by descriptive statistics like frequency distribution of the study subjects according to age, sex, marital status, educational status, employment, type of occupation and Socioeconomic status, To find out the association of Adherence of drugs with above factors, chi-square test was applied for each factor. The statistical significance was evaluated at 5% level of significance.

RESULTS

Socio-demographic Characteristics

Out of 150 study subjects majority of them 47 (31.3%) belongs to 49-58 yrs and least 17 (11.3%) belongs to 29-38 yrs, 96 (64%) were Males and 54 (36%) were females, 41 (27.3%) were Non-literate, 60 (40%) studied till High School and 49 (32.7%) studied Secondary and above, Most of them 49 (32.7%) were unemployed and 6 (4%) were in Professional job, Majority of them 59 (39.3%) were from Urban slums, 35 (23.3%) were from rural area and 56 (37.3%) were from Urban area, 56 (37.3%) belongs to Upper lower class and 16 (10.7%) were from Upper middle class (Table 1).

Disease Profile

Majority of them 66 (44%) were having hypertension for 10-15 yrs and least 18 (12%) were having Hypertension for >5 yrs (Table 2), 81 (54%) were Purchasing drugs from Private sectors and others from Government sector (Table 3), 30 (20%) were taking 2 tablets per day, 109 (72.7%) were taking 1 tablet per day, 5 (3.3%) were taking 3 tablets per day and 6 (4%) were taking 4 tablets per day (Table 4).

Adherence to drugs

90 (60%) were having Low adherence, 36 (24%) were having Medium adherence and 24 (16%) High adherence for Drugs using Morisky Adherence scale. (Table 5)

When we studied association between Adherence to drugs with other Socio- demographic characteristics, we got statistically significant results

Table 1: Distribution Study Subjects based on Age.

Determinants	Frequency	Percentage (%)
Age		
29-38	17	11.3
39-48	38	25.3
49-58	47	31.3
59-68	28	18.7
69 and >	20	13.3
Gender		
Female	96	64.0
Male	54	36.0
Education		
Non-literate	41	27.3
Primary and High School	60	40.0
Secondary School and above	49	32.7
Occupation		
Unemployed	49	32.7
Unskilled	38	25.3
Semi-skilled		
Skilled	14	9.3
Clerical and shop owners	12	8.0
Semi-professional	19	12.7
Professional	6	4.0
Residence		
Urban	56	37.3
Urban Slum	59	39.3
Rural	35	23.3
Socioeconomic status		
Upper class	32	21.3
Upper Middle class	16	10.7
Lower Middle class	46	30.7
Upper Lower class	56	37.3

Table 2: Distribution Study Subjects based on duration of Hypertension.

Duration of HTN	Frequency	Percent
1-10 yrs	137	91.3
10-20 yrs	11	7.4
>20 yrs	2	1.3
Total	150	100.0

Table 3: Distribution Study Subjects based on Purchase of Medicine.

Medicine Purchased	Frequency	Percent
Government Pharmacy	69	46.0
Private Pharmacy	81	54.0
Total	150	100.0

Table 4: Distribution Study Subjects based on Number of Tablets taken

Number of Tablets taken	Frequency	Percent
1	109	72.7
2	30	20.0
3	5	3.3
4	6	4.0
Total	150	100.0

Table 5: Distribution Study Subjects based on Adherence Scoring.

Adherence	Frequency	Percent
Low adherence	90	60.0
Medium Adherence	36	24.0
High Adherence	24	16.0
Total	150	100.0

Table 6: Distribution of study subjects based on Association of Adherence with Socio-demographic Characteristics.

Determinants	Low adherence	Medium adherence	High adherence	Total (%)	Chi-square value	p-value
Age in yrs						
29-38	11	4	2	17(11.3)	5.2	0.7
39-48	27	8	3	38(25.3)		
49-58	25	11	11	47(31.3)		
59-68	16	7	5	28(18.6)		
69 and >	11	6	3	20(13.3)		
Gender						
Male	56	21	19	96(64)	3.0	0.2
Female	34	15	5	54(36)		
Education						
Non-literate	24	10	7	41(27.3)	2.6	0.6
Primary and High School	40	11	9	60(40)		
Secondary School and above	26	15	8	49(32.6)		
Residence						
Urban	33	14	9	56(37.3)	30.2	0.00
Urban slum	46	3	10	59(39.3)		
Rural	11	19	5	35(23.3)		
Socio-Economic status						
Upper Class	28	0	4	32(21.3)	31.4	0.0
Upper Middle Class	14	0	2	16(10.6)		
Lower Middle Class	25	15	6	46(30.6)		
Upper Lower Class	23	21	12	56(37.3)		
Duration Of Hypertension						
1-10 yrs	84	34	19	137(37.2)	8.7	0.06
10-20 yrs	5	1	5	11(7.3)		
>20 yrs	1	1	0	2(1.3)		
Number of tablets taken						
1	66	26	17	109(72.6)	2.3	0.5
2	15	9	6	30(20)		
3	3	1	1	5(3.3)		
4	6	0	0	6(4)		
Medication Purchased						
Government Pharmacy	24	33	12	69(46)	43.9	0.0
Private	66	3	12	81(54)		

with Socio-economic status, residence and Place of Purchase of drugs ($P=0.0$) (Table 6).

DISCUSSION

Hypertension, is a chronic disease that requires lifestyle interventions and pharmacotherapy for life, adherence to the therapy and its assessment is a major challenge to be addressed.

Out of 150, 90 (60%) were having Low adherence, 36 (24%) were having Medium adherence and 24 (16%) High adherence for Drugs using Morisky Adherence scale.

In a hospital based study by Hema K *et al.* in Andhra Pradesh ($n=400$), only 15.3% ($n=61$) of the participants were found to have high adherence to anti-hypertensive medication based on 8 point Morisky medication adherence scale.⁶ Study done by Kumarswamy RC *et al.* in a teaching hospital of Karnataka showed that 74% of the participants were adherent to the antihypertensive medication.⁷

In another community based study in Bangladesh by Khanam MA *et al.* 73.8% of the Participants were adherent to the medication.⁸ A hospital based study done by Ambaw AD *et al.* in Northwest Ethiopia ($n=384$), 64.6 % of the study participants were found to be adherent to their treatment.⁹

In Present study their was no association with Age, gender, education, Occupation, duration of disease, number of tablets taken and place of purchase of drugs with adherence to drugs.

In contrast, a study by Rao BB *et al.* showed that adherence rate towards antihypertensive Medication was better among patient above 60 years of age (67.2%) and this was found to be

statistically significant ($p=0.02$).¹⁰ But study done at Mangalore in a tertiary care hospital by Kumar N *et al.* found that adherence was found to be good in the age group of ≤ 60 but not statistically significant ($p=0.52$).¹¹ In contrast to the findings of the present study, Mazzaglia G *et al.* showed significant association between gender and adherence ($p < 0.001$ OR (95%CI) = 0.72 (0.65–0.81)).¹²

In Present study Socio-economic status, residence and Place of Purchase of drugs were having influence on Adherence to drugs ($P=0.0$), study done by Ahmad S *et al.* in Moradabad showed

statistical significance between SES and adherence where in participants belonging to upper middle class had better adherence compared to the lower middle class ($p=0.001$)¹³

In present study their was association between number of drugs taken and adherence to drugs, Similar findings were reported from a study by Nagarkar AM *et al.* in which there was no significance found between adherence and number of drugs taken ($p=0.631$).¹⁴

Patients who were hypertensive for a period of 5 years or more were 3 times more likely to be adherent compared with those suffering from hypertension for less than 5 years, emphasizing the fact that longer duration of the disease helps the patient to accept the diseased state as well as to adapt to the adherence behavior over time, consistent with findings from previous studies. Longer duration of hypertension helped these patients build up a habit of regularly consuming their pills.¹⁵

CONCLUSION

The study concludes with observation of 60% of Low adherence to drugs and statistically Significant results with Socio-economic status, However

hypertension being a chronic and dynamic disease, adherence to the medication needs to be maintained continuously and fully optimized.

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CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

RECOMMENDATIONS

Health care Provider should incorporate a system to record the adherence to treatment and blood pressure control at every.

ABBREVIATIONS

MMAS 8: Morisky Medication Adherence Scale.

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