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Research Article

Patient based factors influencing drug compliance among hypertensive patients in a tertiary care hospital in Mysore

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ABSTRACT

Background: Hypertension is deemed as the tip of the iceberg due to the mortality and morbidity associated with it. A major factor accounting for inadequate treatment of hypertension is poor compliance.
Methods: Morisky 8-Item Medication Adherence Questionnaire was used for a cross sectional study. The term compliance is defined as the extent to which the patient's behaviour coincides with the clinical prescription, implying that the patient defaults by not following the advice of the health care provider
Results: Mean age of the participants was 59.2yrs (S.D. 10.37 yrs). Compliance was found to be good 71.3% of respondents, medium in 20.4% and poor in 8.3%.52.8% had one or two other ailments (diabetes, asthma etc.).
Conclusions: Patient's medication compliance is a multifactor behaviour in which the role of patient's attitude is very important. Patients related factors known to affect compliance were equally distributed among good, medium and poorly compliant participants

Keywords: Hypertension, Adherence, Drug compliance

INTRODUCTION

Hypertension is deemed as the tip of the iceberg due to the mortality and morbidity associated with it.[1] It is important risk factor for cardiovascular diseases and accounts 4% of the global burden of disease. It is ranked 3rd as a cause of disability adjusted life years.[2] It has been well documented that uncontrolled blood pressure increases the risk of ischemic heart disease 3-to 4-fold[3] and the overall cardiovascular risk by 2-to 3-fold.[4] The incidence of stroke increases approximately 3-fold in patients with borderline hypertension and approximately 8-fold in those with definite hypertension.[5] Poor compliance severely compromises population health both from the perspective of quality of life and of health economics.[6]

The management of hypertension is still far from optimal, especially in the developing countries.[7] A major factor accounting for inadequate treatment of hypertension is poor compliance. The asymptomatic status increases problem of non-adherence in hypertension.[8] Term compliance is defined as the extent to which the patient's behaviour coincides with the clinical prescription, implying that the patient defaults by not following the advice of the health care provider.[9]

With the above background this study was planned for drug compliance among diagnosed hypertensive individuals.

METHODS

This is a questionnaire based (Morisky 8-Item Medication Adherence Questionnaire) cross-sectional study conducted among 108 men and women who were diagnosed with hypertension, aged above 30 years and receiving antihypertensive medication for at least 1 year,

attending Medicine out- patient department of JSS Medical College Hospital, Mysore during 20th Dec 2013-20th Jan 2014. Patients without a written record of the hypertension status or a doctor's prescription containing the antihypertensive medication, those bed ridden, those seriously ill, and those who did not give consent were excluded from the study.

Data collection

All the participants were interviewed using Morisky 8-Item Medication Adherence Questionnaire. Socio-demographic details and variables related to disease and treatment were collected.

Statistical analysis

The data was entered in trial version SPSS 20.0 software. Chi-square test and other relevant non-parametric tests of significance were applied.

Informed consent and patient privacy

Patients who agreed to participate were explained the nature and the objectives of the study, and informed consent was formally obtained. The information about patient's identity was not included with the other data and only the principal investigator had access to this information.

RESULTS

There were54 males and 54 females participants. Mean age of the participants was 59.2years (S.D 10.37yrs). 52.8% had one or two other ailments (diabetes, asthma etc.). 88.9% did not have insurance coverage. 44.4% were illiterate and rest had formal eduction.89.8% were diagnosed as hypertensive at private hospital and mean duration of medication was 7.23yrs. Participants were divided into 3 categories viz. good, medium and poor compliant based on the scores obtained in Morisky 8-Item Medication Adherence Questionnaire and comparison was made with other variables to find out the factors affecting compliance. Compliance was found to be good 71.3% of respondents, medium in 20.4% and poor in 8.3%.

Table 1: Level of compliance.

Status	Frequency	Percentage
Good	77	71.3
Medium	22	20.4
Poor	9	8.3
Total	108	100

Mean age of participants with good compliance was 58.94yrs whereas for medium and poor compliant participants it was found to be 60.68yrs and 61.67yrs respectively. It shows compliance gradually decresing with increase in age. Mean duration for which the participant had been under medication was found to be 7.06yrs, 8.09yrs and 6.6yrs in good, medium and poorly compliant participants respectively.

When it comes to frequency of check up,good compliant people had one check up in 6 weeks approximately(0.83 times in a month),medium compliant had one visit a month and poorly compliant people had almost 2 visits a month(1.89 times a month) .It was observed that people with poor compliance were more frequent visitor to physician .

Table 2: Level of compliance in relation to age and treatment.

Status		Age	Duration of drugs taking	Frequency of check up
Good	N	77	77	77
	Mean	58.94	7.06	0.83
	Std.Deviation	10.53	5.158	1.534
Medium	N	22	22	22
	Mean	60.68	8.09	1.0
	Std.Deviation	10.125	5.013	1.512
Poor	N	9	9	9
	Mean	61.67	6.61	1.89
	Std.Deviation	12.767	7.132	2.028

Compliance was further examined for its relation with gender, education, insurance and presence of other ailments. Females were found slightly more compliant (75.9%) than males (66.7%). both uneducated and professionally educated participants were found to be highly compliant 75% and 71.4% respectively.

Participants with poor compliance had no insurance whereas 71.9% of participants with good compliance were having insurance.74.5% of participants who were under medication for other ailments like diabetes and asthma were found to be good compliant and 17% of were found to be poorly compliant.

Table 3: Level of compliance in relation to variables.

Variable	Good	Medium	Poor
1) Sex (54)			
Male (54)	36 (66.7%)	14 (25.9%)	4 (7.4%)
Female	41 (75.9%)	8 (14.8%)	5 (9.3%)
2) Education			
Uneducated (48)	36 (75%)	7 (14.6%)	5 (10.4%)
Till 10th(45)	31 (67.4%)	12 (26.1%)	3 (6.5%)
PUC &above(16)	10 (71.4%)	3 (21.4%)	1 (7.1%)
3) Insurance			
Yes (96)	69 (71.9%)	18 (18.8%)	9 (9.4%)
No (8)	8 (66.7%)	4 (33.3%)	0 (0%)
Other ailments			
Yes (38)	38 (74.5)	8 (15.7%)	5 (9.8%)
No (57)	39 (68.4%)	14 (24.6%)	4 (17%)

Non-good compliers were divided into two groups namely intentional and unintentional non-adherents. It was found that 83.3% of uneducated people were intentionally non-adherent whereas only 25% of people highly educated people were in same category. This analysis pointed out the fact that education may have a role to play in non-adherence (p-value 0.067).

Insurance had the reverse effect as 63% of people who had insurance were intentional non adherent. Females were slightly more (61.5%) intentional non-adherent as compared to males (55.6%).

Table 4: Comparison of intentional & unintentional non-compliant patients.

Variable	Intentional non adherent	Unintentional non adherent	p-value
1) Sex			
Male	10 (55.6%)	8 (44.4%)	0.739
Female	8 (61.5%)	5 (38.5%)	
2) Education			
Uneducated	10 (83.3%)	2 (16.7%)	
Till 10th	7 (46.7%)	8 (53.3%)	0.067
PUC &above	1 (25%)	3 (75%)	
3) Insurance			
Yes	17 (63%)	10 (37%)	
No	1 (25%)	3 (75%)	0.289
Other ailments			
Yes	7 (53.8%)	6 (46.2%)	
No	11 (61.1%)	7 (38.9%)	0.689

DISCUSSION

The rate of medication adherence in hypertension treatment could differ from study to study based on the study methods employed, the population under study, and the definition of adherence itself. Using self-reporting questionnaires to measure adherence is simple and economical but known to overestimate adherence, because patients tend to give socially acceptable responses. Even then the compliance in our study was found to be good in 71.3%, medium in 20.4% and poor in 8.4% which is in line with the studies conducted in Nigeria[10] and Pakistan.[11]

There was no significant association discovered between drug compliance and factors age, sex, years of schooling, presence of other co-morbidities, socioeconomic status, occupation, cost of drugs, insurance ,frequency of check-up and number of years under medication. This is in line with the studies conducted by Khalil in Saudi Arabia[12] and Blackwell in Amsterdam.[13] The variability of the factors could not be explained statistically owing to the equal distribution of the factors among good, medium and poorly compliant participants.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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