Volume : 3 | Issue : 8 | Aug 2014 • ISSN No 2277 - 8179

Research Paper

Antihypertensive Treatment, Medication Non-Adherence and Factors Leading to Non-Adherence Among Elderly

Medical Science

KEYWORDS : Non-adherence, antihypertensive therapy, elderly,proportion,factors.

Mrs. Melita Sheilini	Department of Medical Surgical Nursing, Manipal College of Nursing Manipal, Manipal University, Manipal-576104.
Dr. ManjunathaHande	Unit Head,Department of Medicine,KasturbaHospital,Manipal.
Dr. Anice George	Director of Nursing Education and Dean, Manipal College of Nursing Manipal, Manipal University, Manipal.
Dr. Mukhyaprana Prabhu	Unit Head, Department of Medicine, Kasturba Hospital, Manipal.
Dr. Mamatha S Pai	Professor,Department of Child Health Nursing,Manipal College of Nursing Manipal,Manipal University, Manipal.
Dr. Elsa Sanatombi Devi	Professor, Department of Medical Surgical Nursing, Manipal College of Nursing Manipal, Manipal University, Manipal.

ABSTRACT

Background: Hypertension is a common chronic health condition among older people and is the most important risk factor for all subtypes of vascular disease and death. According WHO (2003), the hypertension afflicts approximately 600 million people around the world, including the majority of elderly, and imposes enormous burdens through associated cardiovascular diseases.

Objectives of the study: are tofind out the proportion of non-adherents to anti-hypertensives, to compare the adherence between the hypertensives without comorbidities and with comorbidities and to explore the key factors leading to non-adherence.

Methods: Cross sectional survey design with quota sampling technique was used to collect data from120 elderly hypertensives attending Medicine OPDs of Kasturba Hospital, Manipal. Results:The study findings revealed that only 50.8% were adherent to antihypertensives.It was also

found that the adherence level among hypertensives without comorbidities (56.25%) was bettercomparing to the adherence level among hypertensives with comorbidities(48.86%). All of the non-adherents expressed that forgetting to take the medications as the major factor for their non-adherence.

Conclusion: Poor adherence to anti-hypertensive therapy is one of the biggest obstacles in therapeutic control of high blood pressure. The present study finding also stresses the importance of interventions to the non-adherents.

Introduction

A medication's success in producing the desired benefit depends on a person's adherence with the therapeutic regimen.[1] India's older adult population is greater than the total population of many developed and developing countries. According to World Health Organization statistics 2011,83 million persons in India are 60 years of age and older; representing over 7% of the nations' total population.[2]

In the elderly, failure to adhere to medical recommendations and treatment has been found to increase the likelihood of therapeutic failure and to be responsible for unnecessary complications, leading to increased spending on health care, as well as to disability and early death.[4]

The World Health Organization (WHO) describes poor adherence as the most important cause of uncontrolled blood pressure and estimates that 50–70% of people do not take their antihypertensive medication as prescribed. For individuals aged 40 to 70 years, each increment of 20mmHg in systolic BP or 10mmHg in diastolic BP doubles the risk of cardiovascular disease.[4]

Uncontrolled blood pressure increases the risk of ischemic heart disease 3-to 4-fold and the overall cardiovascular risk by 2-to 3-fold. The incidence of stroke increases approximately 3-fold in patients with borderline hypertension and approximately 8-fold in those with definite hypertension.[4]

Methods:

Elderly patients with stage I and stage II hypertension attending outpatient department of Medicine, Kasturba Hospital,Manipal were surveyed using quota sampling technique with the objectives of finding out the proportion of non-adherents to anti-hypertensives, to compare the adherence between the hypertensives without comorbidities and with comorbidities and to explore the key factors leading to non-adherence.

The tools used for data collection were: Tool on background information with two subscales (**Part A:** Demographic proforma, **Part B**:Clinicalproforma) and Morisky Medication Adherence Scale (MMAS-8)(r=0.83) which is a standardised scale and was obtained from the author with the due norms. Tool has 8 items focussing on the drug taking behaviour of the individual.The adherence level was categorized as Low adherence(<6),Medium adherence(6-<8) and High adherence(=8).Factors leading to non-adherence was assessed using the scale on factors influencing adherence (r=0.98).The tool had 30 items and was prepared by the researcher categorised under five major factors such as socio economic related, physician related, beliefs and attitude related, therapy related and patient related factors.

Calibrated sphygmomanometer and weighing machine was used which is purchased by the author and not shared for any other purpose.The ethical clearance was obtained from the Institutional Ethical Committee(IEC) before proceeding for data collection.

Thedata were collected from120 patients of age 60 years and above, with stage I and stage II hypertension with or without

Volume : 3 | Issue : 8 | Aug 2014 • ISSN No 2277 - 8179

comorbidities like Diabetes Mellitus,chronic Ischemic Heart Disease,dyslipidemias,chronic rheumatism and any other chronic conditions,pateints who are able to manage taking medications and able to read, write, and converse in English/ Kannada.Informed consent was taken from the patients.

In the OPD,the patients records were checked for identifying patients who meet the inclusion criteria. After obtaining the written consent from the participants,the data was collected. Demographic details were obtained through interview and the clinical proforma details were obtained by interviewing,and through the case records. Baseline BP was assessed with the prerequisite that the patients have not taken coffee one hour before.The repeat measurement of the BP was obtained after 1 minute and the average BP reading was considered.Weight and height was checked separately and BMI was calculated. Thepatientswere surveyed for their adherence level using MMAS-8 tool and factors were assessed using scale on factors influencing adherence.

Results

The data presented in Table 1 show that majority (75%) were between the age group of ≥60-70 years,56.7% were males,33.3% were with the educational qualification of < 7th standard, 46.7% were not working. Majority 80.8% are living with spouse, 86.7% belongs to the nuclear family,50.8% were having the annual income of 12000-1 lakh. Majority 64.2% were having the insurance facility. In that 25.8% were insured with ManipalArogya Card. Majority (56.7%) expressed that their treatment cost is taken care by their children and all 100% expressed that they are not using any alternative medicines for hypertension.

The data presented in Table 2 show that majority (73.3%) were on treatment for hypertension since > 1 year,89.16% were categorized as having stage I hypertension and 44.2% were having normal BMI. Majority (50.8%) were having associated Diabetes Mellitus and 27.5% were taking 2 medications daily including the antihypertensives. Majority 55.83% were on β blockers for hypertension.

The data presented in Table 3 show that only 50.8% were highly adherent and 26.7% and 22.5% belong to the category of medium and low adherence respectively.

It was clear from Table 4 that the adherence level among hypertensives without comorbidities (56.25%) was better comparing to the adherence level among hypertensives with comorbidities(48.86%).

The data presented in Table 5 show that all of the non-adherents expressed that forgetting to take the medications as the major factor (100%) for their non-adherence. Other factors mentioned were not able to afford for the medications(8.47%), Medications are not easily available in the pharmacies, thinking that hypertension is not a serious problem (6.77%), inconvenient work timings, no nearby medical shops, stressful to take medications daily, too many medications to take and not regular for follow up (5.08%),insufficient information by the doctor, not having any symptoms of hypertension to continue the medications (3.38%) and the least influencing factors as nottoldto continue medications after initial prescription, long waiting time in OPD, fear of adverse effects of antihypertensives, using BP wristlet to control BP, frequent change in medications making it difficult to remember, no proper containers to place the drugs and no reminders to take medications(1.69%).

Conclusion: Based on the present findings it was evident that there are only 50.8% of elderly who are highly adherent to their antihypertensive medications.This finding alarms the need for further interventions to target the non-adherents and continuous motivation of adherents by the health care team members.

Table 1: Demographic characteristics of sample in frequency and percentage (n=120)

Variables	f	%
Age in years		
≥60-70	90	75
>70	30	25
Gender		
Male	68	56.7
Female	52	43.3
Education		
Illiterate	31	25.8
< 7th standard	40	33.3
>7th standard-PUC	29	24.2
Degree	20	16.7
Occupation		
Professional	04	03.3
Non professional	35	29.2
Business	02	1.70
Retired	22	18.3
Cooli	01	0.80
Not working	56	46.7
Living with spouse		
Yes	97	80.8
No	23	19.2
Type of family		
Nuclear	104	86.7
Joint	16	13.3
Annual income of the family		
<12000	31	25.8
12000-1 lakh	61	50.8
>1 lakh-2.5 lakhs	21	17.5
>2.5 lakhs	07	5.80
Health insurance facility		
Yes	77	64.2
No	43	35.8
Insurance facility		
Medicare	14	11.7
ESI	12	10.0
ManipalArogya card	31	25.8
ManipalArogyaSuraksha	04	3.30
SampoornaSuraksha	05	4.20
Other facilities	11	9.20
Finance for the treatment		
Children	68	56.7
Own	52	43.3
Use of alternative medicines		
Yes	0	0
No	120	100

Table 2: Clinical proforma of sample in frequency and percentage. (n=120)

Variables	f	%
Duration of treatment		
< 6 months	27	22.5
6-12 months	5	4.20
> 1 year	88	73.3
Hypertension		
Stage I	107	89.16
Stage II	13	10.83

BMI		
Underweight(<18.5)	3	2.50
Normal (18.5-24.9)	53	44.2
Overweight(25-29.9)	51	42.5
Obese(>30)	13	10.8
Co morbidities		
Diabetes Mellitus	61	50.8
Chronic Ischemic Heart Disease	25	20.8
Dyslipidemia	02	1.70
No comorbidities	32	26.7
More than one comorbidities	16	13.3
Number of medications		
1	11	9.20
2	33	27.5
3	24	20.0
4	23	19.2
5	13	10.8
6	3	2.50
7	6	5.00
8	1	0.80
9	2	1.70
10	1	0.80
11	2	1.70
12	1	0.80
Class of antihypertensives		
ACE inhibitors	12	10.00
Angiotensin II antagonists	13	10.83
ACE inhibitors+ Diuretics	2	1.66
Angiotensin II antagonists+ calcium antagonists	2	1.66
Angiotensin II antaginists+β blocker+diuretic	2	1.66
B blockers	67	55.83
B blocker+ACE inhibitors	3	2.50
B blocker+ diuretic	2	1.66
B blocker+ angiotensin II anatagonists	5	4.16
B blocker+ diuretic+ ACE inhibitors	2	1.66
Calcium antagonists	7	5.83
Calcium anatgonists+ ACE inhibitors	3	2.50

Table 3: Adherence to anti-hypertensives in frequency and percentage. (n=120)

Level of adherence	f	%
Low adherence(<6)	27	22.5
Medium adherence(6-<8)	32	26.7
High adherence(=8)	61	50.8

Table 4: Adherence between the hypertensives without comorbidities and with comorbidities. (n=120)

Categories	Level of adherence					
	Low		Medium		High	
	f	%	f	%	f	%
HTN with Comorbidities(n=88)	18	20.4	27	30.6	43	48.8
HTN without Comorbidities(n=32)	7	21.8	7	21.8	18	56.2

Table 5: Self expressed factors leading to non-adherence in frequency and percentage (n=59)

Factors	Yes		No	
	f	%	f	%
A. Socio economic related factors: 1.Cannot afford to buy medicines.	5	8.4	54	91.5
2. Medications are not easily available in the pharmacies.	4	6.7	55	93.2
3.Hesitant to go to medical shop	0	0	59	100
4.Work timings does not allow me to take medications on time.	3	5.0	56	94.9

Factors	Yes		No	
	f	%	f	%
5.No nearby medical shops	3	5.0	56	94.9
B. Physician related factors: 6.Insufficient information provided by the doctor	2	3.3	57	96.6
7. Not told to continue medications after initial prescription.	1	1.6	58	98.3
8. Not satisfied with the health care provider.	0	0	59	100
9. Waiting for a long time in the OPD for consultation	1	1.6	58	98.3
10. Inadequate time for consultation with the physician	0	0	59	100
11. Difficult to understand the physician's language.	0	0	59	100
C. Beliefs and attitude related factors: 13. Hypertension is not a serious problem.	4	6.7	55	93.2
14.Don't have any symptoms of hypertension	2	3.3	57	96.6
15.It is stressful to take medication daily.	3	5.0	56	94.9
16.I don't believe that medications help in controlling my hypertension.	0	0	59	100
17.Antihypertensives have got adverse effects when taken for life long.	1	1.6	58	98.3
18.Herbal or natural remedies are effective for controlling high BP.	0	0	59	100
19.Since BP has come to normal range, I need not take any more drugs.	0	0	59	100
20. Started using the BP wristlet to control my BP	1	1.6	58	98.3

Factors	Yes		No	
	f	%	f	%
D. Therapy related factors: 21. Too many medications	3	5.0	56	94.9
22. Cannot remember my drugs due to frequency of change in drug regimen by my physician.	1	1.6	58	98.3
23.Antihypertensives have got unpleasant smell	0	0	59	100
24. Antihypertensives have got unpleasant taste.	0	0	59	100
25. Taking antihypertensives since so long.	0	0	59	100
E. Patient related factors: 26. Forget to take the medications.	59	100	0	0
27. Don't have proper containers to place the drugs.	1	1.6	58	98.3
28. Not regular for follow up.	3	5.0	56	94.9

29. I have the fear of getting isolated from family/friends if I am taking medications.	0	0	59	100
30.No reminders to help me to take medications.	1	1.6	58	98.3

REFERENCE

1. Gonzalez J,Noga M.(2008) Medication Therapy Management.JMCP.Vol14(6):8-11. | 2. Evans MJ,KiraRP,Bhattacharya OK.(2011) Activating the knowledge-to action-cycle for | geriatriccare in India.Health Research Policy and Systems.Vol42(9):1-10. | 3. Júnior DP, MarcelliniPS,Pelá IR.(2008) Effect of pharmaceutical care intervention on blood | pressure of elderly outpatients with hypertension.Brazilian Journal of Pharmaceutical | Sciences.Vol44(3):451-457. | 4.Adherence to long term therapies:evidence for action.2003.Available from | http://whqlibdoc.who.int/publications/2003/9241545992.pdf. | 5. Testman J.(2010) Invisible epidemic.Agingwell.Vol3(2):24. |