

Determination of Factors Affecting Treatment Compliance among Hypertension Patients in Baghdad Teaching Hospital

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Abstract: Hypertension is one of the most important preventable causes of premature morbidity and mortality in the world. **Objectives:** To determine factors affecting treatment compliance with hypertension patient. **Methodology:** The study was conducted at the medical outpatients' clinic in the period of 1st June 2016 to 15th December 2016. Collecting data from simple random sampling total of (100) hypertensive patients who are using antihypertensive treatment that attended the medical outpatients' clinic at Baghdad Teaching Hospital in Baghdad. **Results:** The majority of the study participants were female who accounted for (56%) of the total participants while male constituted (44%) making a female male ratio of 1.5:1. Most of the study participants (47%) were between ages 60 and 65 years old. Sixty eight percent of the patients were married and the remainder was single, divorced, and separate. Forty-three percent (43%) of the participants had primary school education. Majority of the respondents, namely 46 (46%) were housewife. majority (63%) lived in urban areas while the rest (37%) lived in rural areas. Most of the respondents, namely 63 (63%) were diagnosed more than five years ago. **Conclusions:** The study revealed that docility antihypertensive therapy was moderate (67%) between population, women being more adherence to treatment than men, other social demographic factors were not significant.

Keywords: Factors affecting, Treatment compliance, Hypertension patients

1. Introduction

Hypertension is a significant problem around the world. As indicated by World Health Organization, hypertension influences 970 million individual and approximately 68 million adults have hypertension. Globally the overall propagation of hypertension in population between age 25 and more was about 40% in 2008^[1]. According to Delacroix who stated that around 66.9 million of united state population have blood pressure, 36% of inhabitants who ridden from uncontrolled high blood pressure.. Hypertension is constitutes a predisposed factor for heart and vascular diseases which results precocious death^[2] Hypertension is known as abnormally high systolic or diastolic blood pressure levels. It means continual systolic blood pressure (SBP) equal to or greater than 140 mmHg and/or continual diastolic blood pressure (DBP) equal to or greater than 90 mmHg. This increasing of (SBP) and (DBP) is well distinguished as an important risk factor for brain stroke coronary heart disease (CHD), (ESKD) and surprising dying^[3]. Hypertension is categories according to its cause as primary hypertension (essential or idiopathic) and secondary hypertension. Secondary hypertension accounts about 5-10% of all cases of hypertension and results from an underlying, identifiable cause. In the remaining 95% of the cases, no known cause is being recognized despite of the extensive medical examination^[3, 4]. High blood pressure is a most inveterate disease amenable to monitor by suitable treatment or coping with lifestyle modifications.^[5, 6] According to the American Heart Association, (2013) there are several factors influences compliance medication regimen to hypertensive: knowledge of treatment, long period going treatment, level of education, unread and write, and bad association with health care services, attitudes toward medication and adverse effects, psycho social factors, economics status, getting to health care, absence of health insurance, disease without symptoms and inconvenience. Usually treatment

non-adherence is linked with progress age, males, poorness, obesity, cigarette smoking, disease embattle, and lower social support^[7, 8]. Nurse, can play an essential role in facilitating patient adherence to the prescribed treatment regimen. As they responsible to help patients acquire knowledge, skills and change attitude necessary to maintain compliance, they plays an important role on helping the people learn to live with and control his hypertension, to encourage compliance with antihypertensive therapy^[9].

2. Methodology and Materials

A descriptive cross-sectional design study to identify factors affecting treatment compliance for adult patients with hypertension that were on follow up as outpatients in clinic of Baghdad Teaching Hospital in Baghdad. The study was conducted from June to December, 2016 in Baghdad Teaching Hospital in Baghdad. The study population consisted of (100) adult hypertensive patients on treatment and attending outpatient clinics in the hospital. These patients are followed up in the hospital for regular treatment and checkups depending on high blood pressure control. A structured interview questionnaire that was developed by the researchers according to literature review. It contained 24 questions, divided into two parts. Part I: Demographic Information Sheet (7 questions). Part II: compliance with medication regimen (17 questions). All the items responses were noted on a 3-point Likert scale. The response options were: every daily (1), frequently (2), never (3), where participants were classified to be either adherent or non-adherent to hypertension medication which was dichotomized into two groups i.e. 1 = those who are non-treatment compliant and 2 = treatment compliant. Rating scale was used to rate the frequency and extension of help needed^[10]. The validity of the questionnaire was confirmed by (15) experts. A self-

administered structured questionnaire was used to collect information about the socio-demographic characteristics of patient's respondents, Factors that influence treatment compliance. Data collection from June to July 2016. The data were analysed through Statistical Analysis was done using Statistical Package for Social Sciences (SPSS V16.0).

3. Results

The majority of the study participants were female who accounted for (56%) of the total participants while male constituted (44%) making a female male ratio of 1.5:1. Most of the study participants (47%) were between ages 60 and 65 years old. Sixty eight percent of the patients were married and the remainder was single, divorced, and separate. Forty-three percent of the participants had primary school education. Majority of the respondents, namely 46 (46%) were housewife. majority (63%) lived in urban areas while the rest (37%) lived in rural areas [Table 1].

Table 1: Socio-demographic characteristics of respondents N=100.

No	Variables	Groups	Frequency	Percent
1	Age (Per years)	30-39years	11	11.0
		40-49years	18	18.0
		50-59years	24	24.0
		> 60 years	47	47.0
		Total	100	100.0
2	Gender	Male	44	44.0
		Female	56	56.0
		Total	100	100.0
3	Marital status	Married	68	68.0
		Widowed	29	29.0
		Separate	3	3.0
		Total	100	100.0
4	Level of Education	Illiterate	7	7.0
		Read & write	14	14.0
		Primary graduate	43	43.0
		Intermediate graduate	10	10.0
		Secondary graduate	9	9.0
		Diploma graduate	12	12.0
		College graduate	5	5.0
		Total	100	100.0
5	Occupation	Governmental employee	22	22.0
		Free job	9	9.0
		Retired	23	23.0
		Housewife	46	46.0
		Total	100	100.0
6	Residence	Urban	63	63.0
		Rural	37	37.0
		Total	100	100.0
7	Duration of diagnosis	≤One year	10	10.0
		1-5years	27	27.0
		>5years	63	63.0
		Total	100	100.0

This table revealed the majority of the study were female who accounted for (56%) of the total participants while male constituted (44%). Most of the study participants (47%) were between ages 60 and 65 years old. Sixty eight percent of the patients were married. Forty-three percent of the participants had primary school education. Majority of the

respondents, namely 46 (46%) were housewife. majority (63%) lived in urban areas. Most of the respondents 63 (63%) were diagnosed have hypertension more than five years ago.

Table2: Distribution of participant's demographic factors by treatment compliance

Variables	Treatment Compliance			
	Non Compliance n=33		Compliance n=67	
	Frequency	percent	Frequency	percent
Age (years)				
30-39years	4	4.0	10	10.0
40-49years	8	8.0	17	17.0
50-59years	7	7.0	33	33.0
≥ 60years	14	14.0	7	7.0
Gender				
Male	16	16.0	28	28.0
Female	17	17.0	39	39.0
Marital status				
Married	23	23.0	45	45.0
Widowed	9	9.0	20	20.0
Separate	1	1.0	2	2.0
Level of Education				
Illiterate	3	3.0	4	4.0
Read & write	3	3.0	11	11.0
Primary graduate	13	13.0	30	30.0
Intermediate graduate	3	3.0	7	7.0
Secondary graduate	3	3.0	6	3.0
Diploma graduate	6	6.0	6	6.0
College graduate	2	2.0	3	3.0
Occupation				
Governmental employee	9	9.0	13	13.0
Free job	3	3.0	6	6.0
Retired	9	9.0	14	14.0
Housewife	12	12.0	34	34.0
Residence				
Urban	20	20.0	43	43.0
Rural	13	13.0	24	24.0
Duration of treatment				
≤One year	5	5.0	5	5.0
1-5years	9	9.0	18	9.0
5years	19	19.0	44	44.0

This table showed the majority of the study (67%) were treatment compliance and (33%) of study were non-compliance the female were more compliant (39%) compared with male (28%). The most participants who were 50-59 years of were adherence treatment from others with 60 and above years. Most of the respondents, namely 30 that patients with primary school education level (30%) has high treatment compliance from those with different education. The most of them (34%) that patient with housewife occupation had high treatment compliance compared to those with different occupation. The majority (43%) of urban areas was had high treatment adherence than rural areas. High proportion of study population (44%) diagnostic had hypertensive more treatment compliance compared to those with different duration of diagnosis.

Table 3: Distribution of participants by reason of not complying with medication

Items	Treatment compliance N=100					
	Daily		Frequently		Never	
	No	%	No	%	No	%
Forget to take your medicine	13	13.0	33	33.0	54	54.0
Stop medicine when feeling well	15	15.0	32	32.0	53	53.0
Stop medicine when feeling worse	24	24.0	26	26.0	50	50.0
Believe that they are ineffective	21	21.0	32	32.0	47	47.0
Fear side effects	18	18.0	42	42.0	40	40.0
Avoid addiction	15	15.0	32	32.0	53	53.0
Cost of medication	27	27.0	37	37.0	36	36.0
Using traditional medicine	18	18.0	37	37.0	45	45.0
Doctor changes frequently	38	38.0	29	29.0	33	33.0
Hypertension under control, stop drug?	22	22.0	30	30.0	48	48.0
Medication associate with daily activities	22	22.0	24	24.0	54	54.0
Skip medicines over the last few days	20	20.0	30	30.0	50	50.0
Take medication only when feel ill	20	20.0	41	41.0	39	39.0
Travel home, forget to a bring medication	17	17.0	36	36.0	47	47.0
Take drug, because of pressure from other	38	38.0	33	33.0	29	29.0
Medication makes feel tired and sluggish	27	27.0	36	36.0	37	37.0
Taking medication is unpleasant	26	26.0	34	34.0	40	40.0

This table showed the causes of not adherence with anti-hypertension drugs treatment compliance was specified, most of them 54% told never forget to take drugs, 53% of them stated don't stop medication when feeling well, 50% of study population asked never stop take medication feeling worse, most of them about 40% of them no stop drugs due to fear from side effect, 53% told no stop take to avoid addiction, most of them about 45% use traditional medicine, high proportion of participation 48% told stop medication when under control, 54% take drugs no interference with daily activities, high percent 50% of them not skip medicines over the last few days and 47% told never forget when travel or leave home.

Table 4: Association between Adherence and various factors

Factors	Value	df	Asymp. Sig. (2-sided)
Age	4.710a	3	.194
Gender	31.270	99	.000**
Marital status	.848a	2	.655
Level of Education	17.625a	6	.007**
Occupation	5.598a	3	.133
Residence	.222a	1	.637
Duration of treatment	10.692a	2	.005**

*: $P \leq 0.05$; **: $P \leq 0.01$, χ^2 , t-test

The association between sociodemographic factors and treatment compliance was explored. There are high significant relationship between sex and therapy drugs submission women more obedient than the males (t-test = 31.270, p-value=.000**), level of education (Chi-square= 17.625a, p-value=.007**), duration of treatment (Chi-square =

10.692a, p-value=.000**) , no association between (age, marital status) with treatment compliance.

4. Discussion

The present study was carried out to determine the compliance of patients with hypertension with their treatment regime. The results of the study showed that the majority of the study participants were women who accounted for (56%) of the total participants while male constituted (44%) making a female male ratio of 1.5:1, the female were more compliant (39%) compared with male (28%). Most of the study participants (47%) were between ages 60 and above years old, the most participants who were 50-59 years of age had higher level of treatment compliance compared to those with 60 and above years of age. Sixty eight percent of the patients were married and the remainder was single, divorced, and separate, married has highest ratio of acquiescence toward therapy compliance. Forty-three percent (43%) of the participants had primary school education, Most of the respondents, namely 30 those patients with primary school graduate (30%).

These result are in accordance with the findings obtained from other study, who state that high proportion of clients with whole medication adherence corresponded to the female (66.7%), The participated sample were age from 40 and 80 years ,approximately two-third of patients (68.12%) that ages over 60 years , and residual of them 24.63% age between 50 and 59 years ^[11,12,13].

These results are better agree with other study who stated findings consisted of 95 men (38%) and 155 women (62%). The mean age of participants was 50.6 ± 9.7 . 87.6% of the patients were married. The mean (ISD) years of schooling was $9.96 (\pm 4.84)$. 39.6% of the patients were compliant (compliance score > 0.9). More than 90% of the patient's had good access to their drugs.

The findings of study is the same line with other researcher ^[14].

This finding was similar to a study conducted by other researcher stated that medication adherence rates were also significantly higher between ages 45-64 than younger or older age groups ^[15].

The majority (63%) lived in urban areas while the rest (37%) lived in rural areas. Majority of them 63 (63%) were diagnosed more than five years ago.

Our findings about residence are disagree to those reported that majority (77.10%) lived in rural areas while the rest (22.90%) lived in urban areas ^[16].

The result was good agreement with result obtained from other researcher who stated that the majority of studied individuals were women (59.48%), (70.14%), was married (68.96%), high percentage of them with primary level of education (63.51%), less than 10 years from the hypertension diagnosis (56.16%) ^[17].

The reasons were stopping medication due to; cost of the drugs, without symptoms), fear of the adverse effect, and utilizing of classical medical, stop because believe

ineffective, doctor changes frequently, stop when blood pressure under control, take medication only when feels ill, forget to bring medication when travel home, taking medication is unpleasant and that take drug, due to pressure from other.

These findings were in good agreement with Study done by other researchers that support the most point above^[18].

This result of study are good agreements with other studies done by other researchers whose reported many factor affect the patients drugs treatment compliance were determined, as I mentioned above^[21].

The association between sociodemographic factors and treatment compliance was explored. Table 4 there are high significant relationship between sex and treatment adherence with women more obedient than the men (t-test = 31.270, p-value=.000**), level of education (Chi-square = 17.625a, p-value=.007**), duration of treatment (Chi-square = 10.692a, p-value=.000**)

The findings agree with other researcher who stated that association significant between sex and treatment adherence with women more compliant than the male (p-value=0.043). Regarding who were hypertension more five years those patients were more abidance with treatment from those have diagnosis less than five years ago (p-value = 0.0001). From these (Chi-square tests) results, showed there are significant associations between adherence and gender (p=0.023),^[14,15,16,22,23]

5. Conclusions

The study indicated that treatment compliance was moderate (67%) among involvement, study shows that population 50-59 years of had better therapy deference treatment those with 60 and above years of age. Around (33%) of study population counterclaim presented with an insufficient level of treatment adherence. There is no significant relationship between social demographic factors. These outcomes of study required to development studies focused on the identification of these factors between hypertensive people with different ages, gender, and educational levels, in request to make planning programs health educational systems and implementation of that allow awareness of healthcare professionals to improvement knowledge, attitude and adaptation of the patient as to their own disease.

6. Recommendations

- 1) Patient education and counselling about the use of their medication should be done diligently, primarily by the prescriber then health care professional, Avoid high risk complication that threatening life result from poor treatment compliance.
- 2) Health education programs about hypertension should be campaigns state through the mass media as radio and television, social media, illustrated booklet, and pictures. It is important to engagement patients and large population in community, especially patients family of hypertensive patients, to promote patients medication adherence, and message transported to people who

developed complications as due to of no-adherence and those who lost a loved one as result poor treatment compliance hypertension.

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