

# Life style modification in the management of hypertension in a sample of hypertensive patients attending Primary Health Care centers at Baghdad city

Maral F Thabit \*, Samir K Al-Janabi \*\*

## ABSTRACT

**Background:** Modifications of life style are often critically important to adequately control existing hypertension.

**Objective:** to determine the source of information regarding hypertension and lifestyle modification practices in the management of hypertension in a sample of Iraqi hypertensive patients.

**Type of the study:** Across-sectional study.

**Methods:** The study was conducted over a period of two months during November and December 2015 at Primary Health Care center of Baghdad Al-GidedaAwaland Bab Al Mudhum primary health care centers. The sample included 219 hypertensive patients (102 females and 117males). They were subjected to a structured questionnaire consist of socio-demographic characteristics, duration of disease and source of information and different questions related to life style modification practices in the management of hypertension, also all participants were subjected to height and weight and blood pressure measurement. Data analysis by using SPSS programme version 18. Frequency, percentage for each question responses was calculated and percent score was measured .

**Results:**The main source of information regarding lifestyle modifications was the health workers (37.8%). The included patients were in the 5<sup>th</sup> decade, mean duration of disease

was 5.55±5.12year, with mean systolic/diastolic blood pressure 142.6/ 89.3mmHg, obese with mean BMI 32.14±5.19 kg/m<sup>2</sup>.The dietary and drug intake lifestyle modification practices of patients were with higher percent score (90% , 88% and 84%) regarding decrease alcohol intake ,intake of healthy oils,stop smoking and intake of fresh fruits and vegetables respectively while the lower percent score 56% for intake of folic acid .

**Conclusions:** The lifestyle modification practices regarding body fitness was highest 82% for enough rest while for regular physical exercise was 68%.

**Key words:** life style modification, hypertensive patient, Baghdad.

*Al-Kindy College Medical Journal 2018: Vol. 14 No. 1  
Page: 13-17*

- professor(FICMS/FM)/ Institute of Medical Technology/Baghdad
- assistant lecturer( DOM)/Institute of Medical Technology/Baghdad.

*Received 20<sup>th</sup> Oct 2016, accepted in final 31<sup>th</sup> Jan 2017*

*Corresponding to : Maral F Thabit, email: maral.fthabit@yahoo.com.*

Hypertension or high blood pressure is known as the silent killer because it insidiously affects the body and leads to disability and premature death from stroke, heart disease, heart failure and kidney failure<sup>(1)</sup>. The prevalence of hypertension varies among countries and among subpopulations within a country. It has been estimated that hypertension accounts for 6% of deaths world-wide. In industrialized societies, blood pressure increases steadily during the first two decades<sup>(2)</sup>. Hypertension is a modern days epidemic and it is becoming a public emergency world-wide, especially in the developing countries<sup>(3,4)</sup> and it is predicted by 2025, the number of adults with hypertension will increase to 1.56 billion<sup>(5)</sup>. Most of this increase is due to epidemiological transition, recent changes in diet and social environment resembling that of developed societies<sup>(6)</sup>. In developing countries, life style related chronic disease nearly burden the health related system<sup>(7)</sup>. Hypertension is considered the most common disease prevalent world-wide and according to the Iraqi national survey of non-communicable disease risk factor, 40.4% of Iraqi population are hypertensive<sup>(8)</sup>. A vast epidemiological study describes an apparent association between hypertension and life style choices<sup>(9)</sup>. Life style factors such as weight reduction,

physical activity and reduction in salt and alcohol intake have long been regarded as a means to prevent and control the occurrence of elevated blood pressure<sup>(10)</sup>. Modifications of life style are even more important to a much larger population of patients, those who are genetically predisposed to develop hypertension if exposed to adverse environmental factors<sup>(11)</sup>. Adopting life style modification components not only reduces blood pressure but can delay the incidence of hypertension, enhance antihypertensive drug efficacy, and decrease cardio-vascular risk independent of changes in blood pressure readings<sup>(12)</sup>. Life style modification is indicated for all patients, with hypertension regardless of drug therapy, because it may reduce or even abolish the need for antihypertensive drugs<sup>(13, 14)</sup>. Aims of the study: to determine the main source of information regarding hypertension among the studied sample and to determine lifestyle modification in the management of hypertension in a sample of Iraqi patients attending two primary health care centers, Baghdad.

**Methods:** A cross-sectional study by convenient sampling was conducted over a period of two months during October and November 2015 at the Primary

Health care centers of Baghdad Al GididaAwal and Bab Al Mudham. The sample included 219 hypertensive patients (102females and 117males) with more than 1 year duration of disease with or without concurrent disease who were participated in the study after clarifying the purpose of the study and assuring high confidentiality and having verbal consents. Illiterates, diabetics, pregnant sand mentally handicapped patients were not taken into account. All willing participants were subjected to a structured close ended questionnaire that consist of socio-demographic characteristics, duration of disease and source of information and different questions related to life style modification practices in the management of hypertension, also all participants were subjected to height and weight measurements and body mass index was calculated by using Quetlet Index.<sup>(15)</sup> Body mass index=weight (kg)/height<sup>2</sup> and then classified according to recommended cut-off points in to normal (18.5-24.9), overweight (25-29.9), obese(30-39.9). Blood pressure measurement also was done by using properly calibrated sphygmomanometer. Data analysis by using SPSS programme version 18. Frequency, percentage for each question responses were calculated. Each question was scored as 3 for always answer, 2 for answering as sometimes and 1 for never answer and percent score was measured using the following formula: Total score for all participants in the same item where total scores for all participants in the item = never x 1+2x no of 1 sometimes + no of always x3 divided by the maximum possible score for all participants in the same item= no of total mothers x3 based on Triple likert score<sup>(16)</sup>

**Results;** Table (1) shows that the studied sample

included 219 hypertensive patients as 117 (53.4%) males , 102 (46.6%) females . 80 (36.5%) with no occupation , 49(22.3%) with governmental jobs , 127 (58%) were married , 85 (39%) had more than secondary level education , only 52 (24%) were smokers while the majority 212 (96.8%) were not alcoholic , nearly half of the cases 108 (49.3%) had family history of hypertension and 123 (56%) had previous hospitalization due to hypertension . Table 2 shows that the source of information regarding hypertension was highest 83 (37.8%) for health workers followed by 73(33.4) for relatives. Table 3 shows that the disease related variables for the studied patients were in the 5<sup>th</sup> decade, mean duration of disease 5.55±5.12year, uncontrolled B.P with mean systolic/diastolic pressure 142.6/89.33 mm Hg , obese with mean BMI 32.14±5.19 kg/m<sup>2</sup> Table 4 shows the dietary and drug intake changes for the included patients , the highest proportion of patients that always decrease alcohol intake , intake of unsaturated oils and stop smoking (82%,68.5%,67%) with percent score (90%,88%,84%) respectively while the lowest proportion for always intake of folic acid , excessive intake of onion and garlic , decrease tea and coffee (14.3%,24.2%,27%) with percent score (56%,66%,71%) respectively Table 5 shows life style changes related to body fitness and to have enough rest of the included patients with highly always proportion for enough rest , weight balance for normal body weight patient (51.5% , 47.5) with percent score 82% , 78% respectively while the lowest proportion (27.3% , 43-3%) with percent score (68% and 75%) for regular physical exercise and decrease weight for obese and over - weight patients .

**Table (1): Distribution of the studied sample regarding socio-demographic characteristics.(N=219)**

Socio-demographic characteristics	No	%
<b>Gender</b>		
Male	117	53.4
Female	102	46.6
<b>Occupation</b>		
Governmental jobs	49	22.3
Non-Governmental jobs	46	21
Retired	29	13.2
No job	80	36.5
Daily payment Jobs	15	7
<b>Marital status</b>		
Married	127	58
Single	61	28
Widow	22	10
Separated / divorced	9	4
<b>Educational level</b>		
Read and write	41	18.7
Primary education	44	20
Secondary education	49	22.3
More than secondary education	85	39
<b>Smoking history</b>		

Current smoker	52	24
Not smoker	139	63
Ex-smoker	28	13
Alcohol intake		
Yes	7	3.2
No	212	96.8
Family history of Hyper tension		
Yes	108	49.3
No	111	50.7
Previous hospitalization Due to hypertension		
Yes	123	56
No	96	44

Table 2 : The distribution of the studied sample according to the source of information (N=219) .

Source information	N	%
Friends	40	18.3
Relatives	73	33.4
TV/Radio/Internet	17	7.8
Journals and Magazines	6	2.7
Health workers	83	37.8

Table 3 Distribution of the studied sample regarding the mean  $\pm$  SD of continuous variables.

Variable	Mean $\pm$ SD
Mean age of males (year)	59.31 $\pm$ 13.87
Mean age of females (year)	51 $\pm$ 10.34
Mean duration of disease (year)	5.55 $\pm$ 5.12
Mean systolic blood pressure (mm Hg)	142.6 $\pm$ 15.69
Mean diastolic blood pressure (mm Hg)	.33 $\pm$ 10.66
Mean body mass index (kg/m <sup>2</sup> )	32.14 $\pm$ 5.19

Table 4: Dietary and drug intake life style modification of the studied hypertensive patients (N=219).

Dietary and drug intake changes	Always		Sometimes		Never		Percent score
	no	%	no	%	no	%	
Decrease salt intake	98	45	107	49	14	6	79
Decrease tea and coffee intake	60	27	125	57	34	16	71
Excessive intake of onion and garlic	53	24.2	108	49.3	58	26.5	66
Intake of un saturated oils in	150	68.5	59	27	10	4.5	88
Increase fluid intake	103	47	109	50	7	3	81
Increase intake fiber diet	63	28.7	142	65	14	6.3	74
Increase intake of fresh fruits and vegetables	118	54	98	44.7	3	1.3	84
Decrease alcohol intake	180	82	13	6	26	12	90
Stop smoking	196	67	72	19	31	14	84
Intake of folic acid and preventive measure	31	14.3	86	39.2	102	46.5	56
Stop intake of NSAID	80	36.5	112	51.2	27	12.3	74

Table 5: Life style change related to body fitness and enough rest (N=219)

Body fitness changes	Always		Some times		Never		Percent score
Decrease weight for obese and over - weight patients	95	43.3	84	38.3	40	18.4	
Weight balance for normal body weight	104	47.5	88	40.2	27	12.3	78

patients							
Enough rest	113	51.5	93	42.5	13	6	82
Regular physical exercise 15-30 min/day	60	27.3	108	49.4	51	23.3	68

**Discussion:** The role of lifestyle modifications as both preventive and adjunctive means to lower blood pressure has been reaffirmed by many investigations<sup>(17, 18,19)</sup>. Life style modifications to introduce healthy behaviors are important in the primary prevention of high blood pressure, and are on imperative part of the management of the patient with established hypertension.<sup>(20)</sup> The main source of information regarding lifestyle modification practices in the present study was the health workers of in about one third patients 37.8%, while more than 50% of the respondents of Ike So et al knew about the life style measures through health personnel and adopted these measures once they became aware of their effects.<sup>(21)</sup> The included hypertensive patients had uncontrolled hypertension with mean BP 142.6/89.3 mmHg, this finding in agreement with Aubert L et al<sup>(6)</sup> respondents with mean BP (153/98) mmHg. Trial to stop smoking was practiced by more than half of patients 67% while the findings of Zungo and Djumbe<sup>(22)</sup> revealed that in 96% gave correct responses for practices related to prohibiting or preventing smoking. Although garlic and its preparations have been widely recognized as agents for prevention and treatment of cardio-vascular and other metabolic disease<sup>(23)</sup> yet it was always practiced by 24.2% of the patients. More than half of the respondents 54% increased fresh fruits and vegetables consumption in comparison only 21.3% regularly took plenty of vegetables and 22.2% took plenty of fruits by<sup>(23)</sup> respondents. Guddad S et al<sup>(24)</sup> in his study revealed that 78% of patients were consuming vegetarian diet, this due that it contains less cholesterol and saturated fats. Nearly two thirds of respondents 68.5% preferred using healthy oil in cooking and 45% decrease salt intake. The result of Ashfaq T et al at Karachi revealed that 91% used oil for cooking<sup>(25)</sup> also results of Ozdemir L and Sumer RH<sup>(26)</sup> revealed that 51.9% preferred poly unsaturated fats as dietary habits, 32.8% had high density salt intake while 81.5% of suburban Nigerian community took much table salt but 18.5% did not<sup>(21)</sup>. Salt intake was restricted by 34.7% while 20% avoided it.<sup>(27)</sup> also Rao and Easwaran found that hypertensive patients consumed salty foods like pickle and bakery items less frequently.<sup>(28)</sup> Although physical activity is a primary lifestyle measure required to lower blood pressure in hypertensive patients.<sup>(1)</sup> Yet it was practiced always by 27.3% of the included patients, while only 9.3% of suburban Nigerian community did regular exercise<sup>(21)</sup>. While Ozdemir L and Sumer RH found that 91% of the cases had moderate level of physical activity.<sup>(26)</sup> also 35% of patients of Tbbin G and Aberg H<sup>(27)</sup> responders increased their physical activity. Exercise in the form of walking was practiced also by 63% of the patients.<sup>(24)</sup>

**Conclusions:** The main source of information regarding hypertension among the studied sample was health workers.

- The highest proportion of always dietary intake modification practices were for decrease alcohol intake, consume unsaturated oils and stop smoking.
- Sleeping enough time was the main practice while physical exercise was the less practice among the life style modification practices.

#### Recommendations:

- 1- There is a need for good hypertension education programs at the primary care level with emphasis on motivating poor life style modifications.
- 2- A well organized and structured education counseling programme should be established as quickly as possible for hypertensive patients about all aspects of hypertension.
- 3- Confirmation of the findings on larger multicenter population residing at Baghdad and other different Iraqi governorates

#### References:

- 1- ALLAT Officers and Coordinators for the ALLAT Collaborative Research Group. Major outcomes in high risk hypertensive patients randomized into angiotensin converting enzyme inhibitor or calcium channel blockers vs diuretics. JAMA, 2002, 288: 2981-2997.
- 2- Fauci HKB, Longo J. Principles of Internal Medicine, seventeenth edition, 2008.
- 3- Kearny PM, Whelton M, Reynold K, Whelton PK, He J. Worldwide prevalence of hypertension: a systematic review. Hypertension 2004, 22(1): 21-24. -7330.
- 4 P. He J, Chen J, Roccella FJ, Streiffetesr RH, Whelton PK. Factors associated with hypertension control in the general population of the United States. Arch Internal Med 2002; 162-ens051-1055
- 5- Carretero OA, Oprii S. Essential hypertension. part 1: definition and etiology. Circulation, 2000, 101: 329-335
- 6- Aubert L et al. knowledge, attitudes and practices on hypertension in a country in epidemiological transition. Am Heart Assoc 1998: 1136-1145.

- 7- Molunine M,WikaskK,Karishwor A.A study of the effect of lifestyle factors on the prevalence of hypertention among white collar job people of S-urat.TheInternet journal of occupational Health™ issn.215-7330.
- 8- Iraqi National Survey of non communicabledisease,risk factor. (2006)
- 9- Walker J,MacknzieAD,DunningJ.Does reducing your salt intake make you live longer?.InternetCardiovarcizescular Thoracic Surgery 2007;6(6):793-8.
- 10-Braith RW,StewartKJ.Resistaionceexecizetraining:its role in the prevention of cardio-vascular diseae.Circulation 2006;113(22):2642-50
- 11-Norman M,aKaplanMiontD.Life-style modifications for prevention and treatment of hypertention.The journal of clinical hypertension 2004,1(12)
- 12M,SvetkeyIP,VollinerWM,AppellJ,dtBrayGA,Harshare Dionetal.Effects on blood pressure of reduced dietary sodium and the dietadry approaches to stop hypertention (DASH) DASH-Sodium Collaborative Research Group..NEol j Med 2001, 4,344(1):3-10
- 13-Godfrey BS,Lyalomhel and Sarah I,IYalomhe 2e.Hypertention related knowleudedge,attitudes and life style practices among hypertensive patients in Sub-urban Nigerian Community j of public health and Epidemiology.2010,2(4):71-77
- 14-Ineke NeutelC,Campbell NRC changes in life style after hypertention in Canada.Cardiology,2008,24(3):199-204.
- 15- Mansour AA. and Al-Jazairi MI. Cut-offValues for Anthropometric variables That ConferIncreased Risk of Type 2 Diabetes Mellitus andHypertension in Iraq. Arch. Med. Res. (2007). 38(2): 253-258.
- 16- Harry N. Boone JR, Deborah A. Boone.Analyzsinglikert at data. Journal of Extention, 2012, vol.50, no2.,Tools of the Trade,2TOT2.
- 17-Appel LJ,ChampagreCM,HarshaDWetal.Effects of comprehensive life style modification on blood pressure control.JAMA,2003,289:2083-93.
- 18-Colin PR.Dietary modification and changes in blood pressure.CurrOpinnNephrolHypertens 2001;10:359-62.
- 19-Cakir H,PinarR.Randomized controlled trial on life style modification on hypertensive patients.West j Nurs Res,2006,vol:28,190-209.
- 20-Derman EW,WhitesmansS.Life style modifications for the prevention of hypertention:A clinical and cost-effective Review.2008.
- 21-Ike SO,Aniebue PN and AniebueUU.knowledge,perceptions and practices of life style modification measures among adult hypertensives in Nigeria.Oxfordjournals.Transactions of the Royal Society of Tropical Medicine and Hygiene,2009.vol:104.issue:1,55-
- 22-Zungo Li,DjumbeFR.Knowledge and life style practices of hypertensive patients attending a primary health clinic in Botswana.2004,1(12).
- 23-Banerjee SK and MaulikS.Effect of garlic on cardio-vascular disorders:areview.Nutrition J,2002,1,4.
- 24-Guddad S,MsabialagiU,Kasturiba and Hasabil.Knowledge and life style factors of hypertensive subjects.Karnataka j Agric.SCI,2012,25(3):373-376.
- 25-Ashfaq T,AnjumQ,SiddiquiH,ShAIKHF.Awareness of hypertention among patients attending primary health care center.JPMA,,2007,57(8):396-9.
- 26-Ozdemir L,Sumer H:The effect of educational intervention on blood pressure levels e among hypertensive female patients aged above 30 and living in Sirat.Cumburiyet Medical journal.2009,31:31-40.
- 27-Tibblin G and ABERG h.Non pharmacological treatment of hypertensive differences Between health centers in patients blood pressure and success at withdrawal from drugs:Family practice journal,1999,vol:7,issue:1.47-51.
- 28-Rao UM and EswaranP.Impact of high potassium intake of selected hypertensive patients.Indian J Nut.Dietet, 1990,27:67-76.