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

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ABSTRACT
Background: Modifications of life style are often critically important to adequately control excising 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-GiededaAwaland Bab Al Mudhum primary health care centers. The sample included 219 hypertensive patients (102 females and 117 males). 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 was done using SPSS programme version 18. Frequency, percentage for each question responses was calculated and percentage score was measured.
Results: The main source of information regarding lifestyle modifications was the health workers (37.8%). The included patients were in the 5th decade, mean duration of disease was 5.55±1.25year, with mean systolic/diastolic blood pressure 142.6/89.3 mmHg, obese with mean BMI 32.1±5.19 kg/m². The dietary and drug intake/lifestyle modification practices of patients were with higher percentage 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.

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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(1). 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(2). Hypertension is a modern day epidemic and it is becoming a public emergency world-wide, especially in the developing countries(3,4) and it is predicted by 2025, the number of adults with hypertension will increase to 1.56 billion(5). Most of this increase is due to epidemiological transition, recent changes in diet and social environment resembling that of developed societies(6). In developing countries, life style related chronic diseases nearly the health related system(7). 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(8). A vast epidemiological study describes an apparent association between hypertension and life style choices(9). 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(10). 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(11). 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(12). 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(13,14). 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 (102 females and 117 males) 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.\(^{(15)}\) Body mass index=weight (kg)/height\(^2\) 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:

\[
\text{Total score for all participants in the same item} = \frac{\text{never} \times 1 + \text{sometimes} \times 2 + \text{always} \times 3}{\text{Total mothers} \times 3}
\]

\(^{(16)}\) Table 1 shows 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 5th decade, mean duration of disease 5.55±5.12 year, uncontrolled B.P with mean systolic/diastolic pressure 142.6/89.33 mm Hg, obese with mean BMI 32.14±5.19 kg/m\(^2\). 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 | %  |
|-----------------------------------|----|----|
| Gender                            |    |    |
| Male                              | 117| 53.4|
| Female                            | 102| 46.6|
| Occupation                        |    |    |
| Governmental jobs                 | 49 | 22.3|
| Non-Governmental jobs             | 46 | 21  |
| Retired                           | 29 | 13.2|
| No job                            | 80 | 36.5|
| Daily payment Jobs                | 15 | 7   |
| Marital status                    |    |    |
| Married                           | 127| 58  |
| Single                            | 61 | 28  |
| Widow                             | 22 | 10  |
| Separated / divorced              | 9  | 4   |
| Educational level                 |    |    |
| Read and write                    | 41 | 18.7|
| Primary education                 | 44 | 20  |
| Secondary education               | 49 | 22.3|
| More than secondary education     | 85 | 39  |
| Smoking history                   |    |    |
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 ± SD of continuous variables.

| Variable | Mean ± SD |
|----------|-----------|
| Mean age of males (year) | 59.31± 13.87 |
| Mean age of females (year) | 51±10.34 |
| Mean duration of disease (year) | 5.55±5.12 |
| Mean systolic blood pressure (mm Hg) | 142.6±15.69 |
| Mean diastolic blood pressure (mm Hg) | .33±10.66 |
| Mean body mass index (kg/m²) | 32.14±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 |
|-------------------------------|--------|-----------|-------|---------------|
| 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 | 75 |
| Weight balance for normal body weight | 104 | 47.5 | 88 | 40.2 | 27 | 12.3 | 78 |
Discussion: The role of lifestyle modifications as both preventive and adjunctive means to lower blood pressure has been reaffirmed by many investigations (17, 18, 19). Lifestyle 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. (20) 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 like So et al knew about the life style measures through health personnel and adopted these measures once they became aware of their effects. (21) The included hypertensive patients had uncontrolled hypertension with mean BP 142.6/89.3 mmHg, this finding in agreement with Aubert L et al (22) respondents with mean BP (153/98) mmHg. Trial to stop smoking was practiced by more than half of patients 57% while the findings of Zungo and Djambe (23) 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 (23) 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 (23) respondents. Guddad S et al (24) 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 (25) also results of Ozdemir L and Sumer RH (26) revealed that 51.9% preferred polyunsaturated 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 (21). Salt intake was restricted by 34.7% while 20% avoided it. (27) also Rao and Easwaron found that hypertensive patients consumed salty foods like pickle apad and bakery items less frequently. (28) Although physical activity is a primary lifestyle measure required to lower blood pressure in hypertensive patients. (1) Yet it was practiced always by 27.3% of the included patients, while only 9.3% of suburban Nigerian community did regular exercise (21). While Ozdemir L and Sumer RH found that 91% of the cases had moderate level of physical activity. (26) also 35% of patients of Tblhin G and Aberg H (27) responders increased their physical activity. Exercise in the form of walking was practiced also by 63% of the patients. (24)

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.

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