Abstract:

Background:

Modifications of life style are often critically important to adequately control excising hypertension.

Aims of the study:

1-to determine lifestyle modification practices in the management of hypertension in a sample of Iraqi patients and to determine if there are gender differences.

Patients and methods:

 Cross-sectional study was conducted over a period of two months during October and November 2012 at the Public Health center of Al-Adil and Ghazaliya districts. The sample included 150 hypertensive patients (88 females and 62 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 by using SPSS programme vertion18.Frequeny, percentage for each question responses was calculated and Agreement Index was measured and categorized as excellent, very good,good,fair,acceptable and poor.

Results:

 The majority were married(83.2%) with university and post-graduate degree(57.4%),non-smokers 84%,governmental jobs(43.3%) .The main source of information regarding lifestyle modifications was the medical staff (54%) . The included patients were in the 5th decade, mean duration of disease5.55+\_5.12year, with mean systolic/diastolic blood pressure 142.6/ 89.3mmHg,obese with mean BMI 32.14\_+5.19 kg/m2 .

 The lifestyle modification practices of females were as excellent AI(99%) regarding trial to stop smoking, (90%) regarding trial to change contraceptive pills while it was poor regarding practicing physical exercise(37%),dietary monitoring(56.25%) and regular checking of blood pressure (.54.54%) .

 The lifestyle modification practices of males were very good regarding increase fresh vegetable and fruit consumption with Agreement Index (81%) and trial to reduce weight (80%) and use healthy oil in cooking(83%) while it was poor regarding practicing physical exercise(46%) and trial to stop smoking(19%) .

Introducton:

 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 hypertention vary 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).Hypertention is a modern days 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 hypertention will increase to1.56 billion(5).Most of this increase is due epidemiological transition, recent changes in diet and social environment resembling that of developed societies(6).In developing countries,life style related chronic disease nearly burden the health related system(7).Hypertention 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 hypertensives(8).

 The problem which lies with hypertention is that it cannot be cured completely and its management requires lifelong modifications (9).

 A vast epidemiological study describes an apparent association between hypertention and life style choices(10). 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 occurance of elevated blood pressure(11).Modifications of life style are even more important to a much larger population of patients,those who are genetically predisposed to develop hypertention if exposed to adverse environmental factors(12).

 Adopting life style modification components not only reduces blood pressure but can delay the incidence of hypertention, enhance antihypertensive drug efficacy, and decrease cardio-vascular risk independent of changes in blood pressure readings(13).

 In many cases,failure to achieve blood pressure goals may be attributable to the poverty of patients knowledge,perception,attitudes and life style practices(14).

 Life style modification is indicated for all patients,with hypertention regardless of drug therapy,because it may reduce or even abolish the need for antihypertensive drugs(15).

Aims of the study:

1-to determine lifestyle modification practices in the management of hypertention a sample of Iraqi patients.

2-to determine if there are any gender differences in these practices.

References:

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Patients and Methods:Cross-sectional study by convenient sampling was conducted over a period of two months during October and November 2012 at the Public Health center of Al-Adil and Ghazaliya districts. The sample included 150 hypertensive patients above the age of 25(88 females and 62 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 conscents.Illiterates ,diabetics, pregnan sand mentally handicapped patients were not taken into account.

 All willing participants were subjected to a structured close ended 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 measurement according to WHO, 1995(16) guidlines.Body mass index was calculated by using Quetlet Index.(17)

 Body mass index=weight (kg)/height2 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 vertion18.Frequeny, percentage for each question response was calculated . Each question was scored as 2 for correct answer, one for answering as do not know and zero for incorrect answer and Agreement Index (18) was measured using the following formula:

AI=2(yes)+1(don’t know)+0(no)/2\*total number.

 AIwas considered acceptable if less than60.60-69as fair,70-79 as good ,80-89 as very good and more than 90 as excellent.

**Results:**

 The sample included 150 hypertensive patients distributed as 88(58.6%)females and 62(41.4%) males. The majority were married(83.2%) with university and post-graduate degree(57.4%),non-smokers 84%,governmental jobs(43.3%) as shown in table 1:

**Table (1) Distribution of the studied sample regarding the socio-demographic characteristics (N = 150).**

|  |  |  |
| --- | --- | --- |
| **Socio-demographic characteristics** | **No** | **%** |
| Marital statusMarriedWidowSingleDivorced | 1251663 | 83.410.642 |
| **Educational level** Just can read and write/primaryIntermediate SecondaryUniversity degree/post graduate | 16173186 | 10.611.320.657.4 |
| **Smoking behavior**Current smokersEx-smokerNon-smoker | 816126 | 5.410.684 |
| **Occupation**Governmental workersHouse-wivesRetiredFree jobsDaily payment jobs | 65403195 | 43.326.620.663.3 |

**The main source of information regarding lifestyle modifications was the medical staff (54%) as shown in table 2:**

**Table (2) The distribution of the studied sample according to the source of information(N = 150).**

|  |  |  |
| --- | --- | --- |
| **Source of information** | N | Percentage |
| Medical staffRelativesTV/RadioOther sources | 815748 | 54382.65.3 |

Disease related variables for the included patients were in the 5th decade, mean duration of disease5.55+\_5.12year, uncontrolled B.p with mean systolic/diastolic blood pressure 142.6/ 89.33mmHg,obese with mean BMI 32.14\_+5.19 as shown in table 3:

**Table (3) Distribution of the studied sample regarding the continuous variables (N = 150)**

|  |  |
| --- | --- |
| **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 mmHg  | 142.6+\_15.69 |
| Mean diastolic blood pressure mmHg | 89.33+\_10.66 |
| Mean body mass index Kg\m2  | 32.14\_+5.19 |

The lifestyle modification practices of femaleswere as excellent AI(99%) regarding trial to stop smoking, (90%) regarding trial to change ccp very good regarding increase fresh vegetable and fruit consumption(86%) and increase fluid intake(83%) and use healthy oil in cooking while it was poor regarding practicing physical exercise(37%),dietary monitoring(56.25%) and regular checking of blood pressure (.54.54%) as shown in table 4:

 **Table (4) Distribution of the studied sample regarding life-style modification practices of females (N=88).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables**  | **Correct**  | **Don't know** | **Incorrect**  | **AI**% |
|  | **No**  | **%** | **No**  | **%** | **No**  | **%** |  |
| **1. Regular checking of blood pressure** | 27 | 30.6 | 42 | 47.72 | 19 | 21.59 | 54.54 |
| **2. keep food dietary monitor** | 32 | 36.36 | 35 | 39.72 | 21 | 23.86 | 56.25 |
| **3. decrease salt intake** | 46 | 52.27 | 33 | 37.5 | 9 | 10.22 | 71 |
| **4. try to stop smoking** | 8 | 9.09 | 0.00 | 0 | 0 | 0.00 | 99 |
| **5. try to reduce weight** | 51 | 57.95 | 27 | 80.68 | 10 | 11.36 | 73 |
| **6. increase fresh vegetable and fruit consumption** | 64 | 72.72 | 24 | 27.27 | 0 | 0.00 | 86 |
| **7. exercise regularly**  | 19 | 21.59 | 28 | 31.81 | 41 | 46.59 | 37 |
| **8. decrease saturated and total fat intake** | 49 | 55.68 | 22 | 25 | 17 | 19.3 | 68 |
| **9. relaxation method to decrease stress** | 56 | 63.63 | 9 | 10.22 | 23 | 26.13 | 68 |
| **10. increase fluid intake** | 67 | 76.13 | 12 | 13.63 | 9 | 10.22 | 82 |
| **11. try to change CCP** | 79 | 89.37 | 2  | 2.27 | 7 | 7.95 | 90 |
| **12. increase fiber diet** | 53 | 60.22 | 22 | 25 | 13 | 14.77 | 73 |
| **13.try to decrease NSAI drugs** | 56 | 63.63 | 25 | 20.40 | 7 | 7.95 | 90 |
| **14. decrease caffeine intake** | 23 | 26.13 | 43 | 48.86 | 22 | 25 | 50 |
| **15.use healthy oil in cooking** | 72 | 81.81 | 12 | 13.36 | 4 | 4.54 | 88 |

 The lifestyle modification practices were very good regarding increase fresh vegetable and fruit consumption(81%) and trial to reduce weight(80%) and use while it was poor regarding practicing physicalhealthy oil in cooking(83%) exercise(46%) and trial to stop smoking(19%) as shown in table 5:

 **Table (4) Distribution of the studied sample regarding self-care practices of males (N=62).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables**  | **Correct**  | **Don't know** | **Incorrect**  | **AI**% |
|  | **No**  | **%** | **No**  | **%** | **No**  | **%** |  |
| **1. Regular checking of blood pressure** | 20 | 32.25 | 35 | 56.45 | 7 | 11.29 | 60 |
| **2. keep food dietary monitor** | 27 | 43.54 | 22 | 35.48 | 13 | 20.96 | 61 |
| **3. decrease salt intake** | 40 | 64.51 | 17 | 27.41 | 5 | 8.06 | 78 |
| **4. try to stop smoking** | 8 | 12.90 | 8 | 12.90 | 0 | 0.00 | 19 |
| **5. try to reduce weight** | 44 | 70.96 | 12 | 19.35 | 6 | 9.67 | 80 |
| **6. increase fresh vegetable and fruit** **consumption** | 49 | 79.03 | 3 | 4.82 | 10 | 16.12 | 81 |
| **7. exercise regularly**  | 17 | 27.41 | 24 | 38.70 | 21 | 33.87 | 46 |
| **8. decrease saturated and total fat intake** | 33 | 53.22 | 15 | 24.19 | 14 | 22.58 | 65 |
| **9. relaxation method to decrease stress** | 42 | 67.74 | 11 | 17.74 | 9 | 14.51 | 76 |
| **10. increase fluid intake** | 39 | 67.90 | 20 | 32.25 | 3 | 4.33 | 79 |
| **11. increase fiber diet** | 37 | 59.63 | 19 | 30.64 | 6 | 9.62 | 75 |
| **12. decrease caffeine intake** | 20 | 32.25 | 17 | 27.41 | 25 | 40.33 | 45 |
| **13.decrease NSAID intake .** | 56 | 63.63 | 25 | 28.40 | 7 | 7.95 | 77 |
| **14.use healthy oil in cooking** | 44 | 70.96 | 16 | 25.80 | 2 | 3.22 | 83 |

 Discussion

The role of lifestyle modifications as both preventive and adjunctive means to lower blood pressure has been reaffirmed by many investigations (19-21).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.(22Derman)

The main source of information regarding lifestyle modification practices in the present study was the medical staff(54%),similarly more than50% of the respondents of Ike So etal knew about the life style measures through health personnel and adopted these measures once they became aware of their effects. .(23)

The included hypertensive patients had uncontrolled hypertention with mean BP 142.6/89.3 mmHg,this finding in agreement with Aubert L etal .(24)respondents with mean BP(153/98) mmHg.

 Trial to stop smoking was practiced by all females while in only 8% of males, while the findings of Zungo LI and Djumbe FR(25) revealed that in 96% gave a correct response for practices related to prohibiting or preventing smoking.

 Most of the respondents(males and females) 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 etal(26) in his study revealed that 78% of patients were consuming vegetarian diet ,this due that it contains less cholesterol and saturated fats(27) .

 Although physical activity is a primary lifestyle measure required to lower blood pressure in hypertensive patients. (28hALAN), yet it waspoorly practiced by the included patients in both gender, similarly only 9.3% of suburban Nigerian community did regular exercise(23). While Ozdemir L and Sumer RH found that 91% of the cases had moderate level of physical activity. (29)also 35% of patients of Tbblin G and Aberg H) (30) responders increased their physical activity.Exercise in the form of walking was practiced also by 63% of the patients. (26 Gu)

The majority of the respondents in both genders preferred using healthy oil in cooking and to decrease salt intake. The results of Ozdemir L and Sumer RH(29) revealed that51.9% 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(23).Salt intake was restricted by 34.7% while 20% avoided it. (26) also Rao and Easwaron found that hypertensive patients consumed salty foods like pickle,papad and bakery items less frequently. (31)

 Several explanations underlie low outcome expectation on chronic disease control and resistance to actually adopting healthy life styles.Firstly,hypertensive patients may underestimate the serious consequencies of hypertention because of its silent evolution,chronic nature,and delayed impact on health outcomes.Secondly,life style patterns prevailing in a society at a certain time are shaped by common attitudes,beliefs,behaviors, and social conditions and tend to be stable over time. Thirdly, individual indulgence in immediately pleasurable behaviors for example enjoying fatty and salty food, avoiding physical exercise and smoking is a powerful deterrent for adopting behaviors such as regular physical exercise, moderation in salt,alcohol and caloric intake,or abstinence from smoking.Finally, morst of hypertensive patients may perceive that they lack the skills to adopt healthy life styles or they can not afford them(24). Aubert

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