

Prevalence of Hypertension among Companions of Patients Attending Out-patient Clinics in AL-Hussain Hospital, Karbala Holy City – IRAQ .

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Abstract

Background: Hypertension is a common chronic disease widely distributed all over the world. If remains untreated it may cause end – organ damage with consequent increased morbidity and mortality

Objective: The main aim of the study is to have an idea about the distribution of the disease among adult companions in Al-Hussein out patient clinics.

Methods: Adult companions of patients attending the outpatient clinics in AL-Hussein Hospital were studied randomly according to information available in the data sheet designed for this purpose. Persons with past history of hypertension or newly discovered were recorded.

Results : Out of the total number of persons studied (1590), (856) were males (53.8%) and (734) were females (46.2%), their ages range from 18 years to 82 years with a mean of (37.8). Persons who were in the age group (18-39) years were 866 (54.5%), 40 (less than 5%) of them were hypertensives. Those who were in the age group (40-59) were 559 (35.1%), with 171 (more than 30%) hypertensives.

The third group (60 years and older) were 165 (10.4%) persons, among them 92 (nearly 56%) were hypertensives.

Conclusion: Hypertension was found to be more prevalent in females than in males and the prevalent rate increases as the age advances ($p<0.001$).

The corrected ultimate prevalence rate for age and sex was found to be (30.22%).

The implication of these findings needs an active national strategy for hypertension control.

Keywords: Prevalence, Adult Companions, Out-patient Clinics, Isolated Hypertension, Karbala Holly city.

الخلاصة

تمهيد: ارتفاع ضغط الدم الشرياني هو مرض شائع ومزمن ومنتشر في كافة انحاء العالم . عند عدم علاجه قد يسبب تلفاً للأعضاء المستهدفة وبالنتيجة إلى زيادة المعاناة والوفيات .

الاهداف: الهدف الرئيسي من الدراسة هو اخذ فكره عن مدى انتشار المرض في صفوف البالغين من المرضى المرافقين في العيادة الخارجية في مستشفى الحسين (ع).

الطرق: تم دراسة البالغين من مرافقي المرضى المراجعين للعيادات الخارجية في مستشفى الحسين (ع) بصورة عشوائية وحسب معلومات ادرجت في جدول خاص اعد لهذا الغرض . تم تسجيل المرضى الذين تم اكتشاف المرض لديهم لأول مرة في العيادات الخارجية وكذلك المرضى المعروفين بإصابتهم وتحت العلاج .

النتائج : من ضمن العدد الاجمالي البالغ 1590 شخصاً (856) شخصاً هم ذكور (53.8٪) و (734) شخصاً كانوا اناثاً (46.2٪). تتراوح أعمارهم بين (18) الى (82) سنة وبمعدل (37.8) سنة.

الأشخاص الواقعون ضمن حدود الاعمار (18-39) كانوا 866 (54.5 ٪) بينهم (40) (>5٪) مصاباً بارتفاع ضغط الدم الشرياني . الأشخاص الواقعون ضمن حدود الاعمار (40-59) كانوا 559 (35.1٪) بينهم 171 (<30٪) مصاباً بارتفاع ضغط الدم الشرياني . أما الفريق الثالث الذين أعمارهم 60 فما فوق كانوا 165 (10.4٪) بينهم 92 (56٪) مصاباً بارتفاع ضغط الدم الشرياني .

الاستنتاج : وجد بان انتشار المرض في الاناث اكثر من الذكور ومدى انتشاره يزداد بزيادة العمر. الحصيلة النهائية : لمدى الانتشار فيما اذا صححت عن العمر والجنس بلغت نسبة (30.2%). هذه النتائج تستدعي الحاجة الوطنية لوضع استراتيجية فعالة للسيطرة على المرض .

Introduction

Hypertension (HT) is a major health problem world wide ⁽¹⁾, most commonly in western world ⁽²⁾. Approximately 20% of the world's adults are estimated to have hypertension. The prevalence dramatically increases with patients older than 60 years ⁽³⁾. Hence, it deserves early detection, evaluation and treatment. The average blood pressure (B.P) in young adults is (120/80 mmHg), although this variation is normal with many factors especially age, sex, race ,and weight from less then 120mmHg systolic and less than 80 mmHg diastolic to high normal at 130-139mmHg systolic or 85-89 diastolic ⁽⁴⁾.

The patient is considered hypertensive when systolic B.P is 140mmHg or more or diastolic reading of 90mmHg or more or both reading ^(5, 6). Home measurement of (B.P) compared to office measurement can avoid white- coat (HT). On the other hand adjustment of anti hypertensive treatment based on home B.P measurement by the patient leads to less intensive control ⁽⁷⁾. Hypertension may be either essential (primary) or secondary. Essential (HT) is diagnosed in the absence of identifiable secondary cause such as renal, adrenal disease, endocrine causes etc....Essential (HT) accounts for about 95% of cases of (HT), its etiology is multifactorial ⁽⁸⁾, involving genetic, environmental, and behavioural factors such as diet and lack of exercise. Excessive noise exposure ⁽⁹⁾, psychological factors such as type (A) behaviour, depression and anxiety which are supported by many epidemiological investigations to have a role in the etiology ⁽¹⁰⁾. Tawfeek's study which was done in Baghdad showed a positive correlation between an increasing waist circumference and increased (B.P) ⁽¹¹⁾, another study, which was done by Aziz et al, showed correlation between B.M.I & lipid profile with (B.P) ⁽¹²⁾. Hypertension normally

produces no symptoms and it may remain undiagnosed until discovered on routine examination or during pre-operative evaluation of patients ⁽¹³⁾. Sustained (HT) is associated with a significantly increasing risk of morbidity and mortality ⁽¹⁴⁾, due to the end organ damage such as coronary heart disease (CHD) heart failure, hypertensive retinopathy, stroke, and end-stage renal failure.

Prevention and management of (HT) need: lifestyle modification such as losing weight for obese people, increasing physical activity, reducing salt and fat intake, limiting alcohol consumption, stop smoking, maintaining adequate potassium, dietary calcium and magnesium ⁽¹⁵⁾.

Hypertension control is defined as treatment with antihypertensive medication and a measured (B.P) of less than (140/90) mmHg ⁽¹⁶⁾, and to less than 130/80 mmHg ⁽¹⁷⁾ in diabetes. In cases of diabetes mellitus (D.M), intensive control of (HT) is necessary to avoid or decrease complications ⁽¹⁷⁾.

Adequate control by one or by combination of drugs is frequently essential ⁽¹⁸⁾, and taking into consideration the guidelines of the British (HT) society ⁽¹⁹⁾. Current guidelines recommend that therapy should be given to elderly patients with isolated systolic hypertension (ISH) to reduce the risks of cardio vascular diseases ^(20, 21).

Aim of the presented work is to have an idea about the distribution of the disease among adult companions in Al-Hussein out patient clinics.

Methods

The recorded individuals were persons whom are randomly taken in the outpatient clinics of AL-Hussein Hospital the main city hospital which receives patients of both sexes, different ages,

from rural and urban areas also visitors from different Iraqi cities. The study was conducted on adult companions of patients attending out-patient clinics from first September 2005 to the end of March 2007.

All studied persons were asked to provide answers according to a data sheet especially designed for this study. The disease mostly concerned in the study was hypertension (HT) either alone (Isolated) or associated with diabetes mellitus (D.M+HT), besides other relevant related data. Patients who were surely hypertensive (with or with out DM) and on treatment, were recorded, the others were subjected to blood pressure (B.P) measurement and then blood sugar tests.

Measurement of (B.P) was done by mercurial sphygmomanometer after 10 rest minutes in the sitting position at three occasions 10-15 minutes apart. This procedure was repeated one week later and the average reading of BP was recorded.

Values at or more than 140mmHg systolic & at or more than 90 mmHg diastolic were recorded

and considered as high then, the patient was regarded as hypertensive.

Results

One thousand five hundreds ninety persons were included in the study. The age ranged from (18-82) years with a mean of (37. 8).

Males were (856) i.e. (53.8%) of the sample, and females (734) i.e. (46.2%).

Those who were in the age group (18-39) years were 866 (>54%) of the total sample, of them (548) were males (63%) and (318) were females (37%). Among them (35) had been isolated (HT) i.e. (HT alone), included (13 males and 22 females). The total number of (HT) i.e. isolated and combined with (D.M) in this age group were 40 (17 males and 23 females).

The prevalence rate for (males: 3.1%) and for (females 7.2%)

The uncorrected prevalence in this age group (4.6%) and if it was corrected for sex, it would be (5.2%), details in tables -1- and -2-

Table -1- Cases of Isolated HT (HT alone) in the three age groups

Age group in years	No. of People studied	No. of males	No. of females	No. of hypertensive males	No. of hypertensive females	Total No. of HT
18-39	866	548	318	13	22	35
40-59	559	231	328	47	81	128
60 & older	165	77	88	27	35	62

Table -2- Cases of all hypertensives (isolated & associated with D.M) in the three age groups

Age group in years	Total no. of persons studied	No. of males	No. of females	No. of hypertensive males	No. of hypertensive females	Total	Preval. In males %	Preval. In females %	Total preval. uncorrected for sex %	Total preval. Corrected for sex %
18-39	866	548	318	17	23	40	3.1	7.2	4.6	5.2
40-59	559	231	328	63	108	171	27	33	30.6	30
60&older	165	77	88	39	53	92	51	60	55.7	55.5

In the age group (40-59) years, the number of persons were (559) (nearly 35.2%) of the total sample (231 males& 328 females), among them 128 (nearly 23%) had been isolated hypertension (HT) (47males& 81 females). The total number of hypertensives in this age group was 171 (> 30%), included (63 males and 108 females). The

prevalence rate in males was: (27%) and in females was: (33%). Uncorrected prevalence rate for sex (30.6%) and it would be (30%) if it was corrected for sex. In the age group 60 and older, the number of persons was 165, nearly (10.4%) of the total sample (77 males and 88 females). The number of isolated (HT) was (62) included

(27 males & 35 females). The total number of (HT) in this age group was 92 (nearly 56%), included (39 males & 53 females). The prevalent rate in males (51%) and in females (60%). Prevalent uncorrected rate for sex was (55.7%) and if it was corrected for sex (55.5 %). The

average value for prevalent rate for the whole sample was: uncorrected (19%) and if it was corrected for age and sex would be (30.22%), table -3-. Fig -1- shows the prevalence of HT in different countries.

Table -3- Prevalence of hypertension in the total sample n =1590

Hypertensive cases	Total number	Uncorrected prevalence %	Corrected prevalence for age and sex %
Isolated in both sexes and all age groups	225	14.1	21.55
Total cases in both sexes and age groups	303	19	30.22

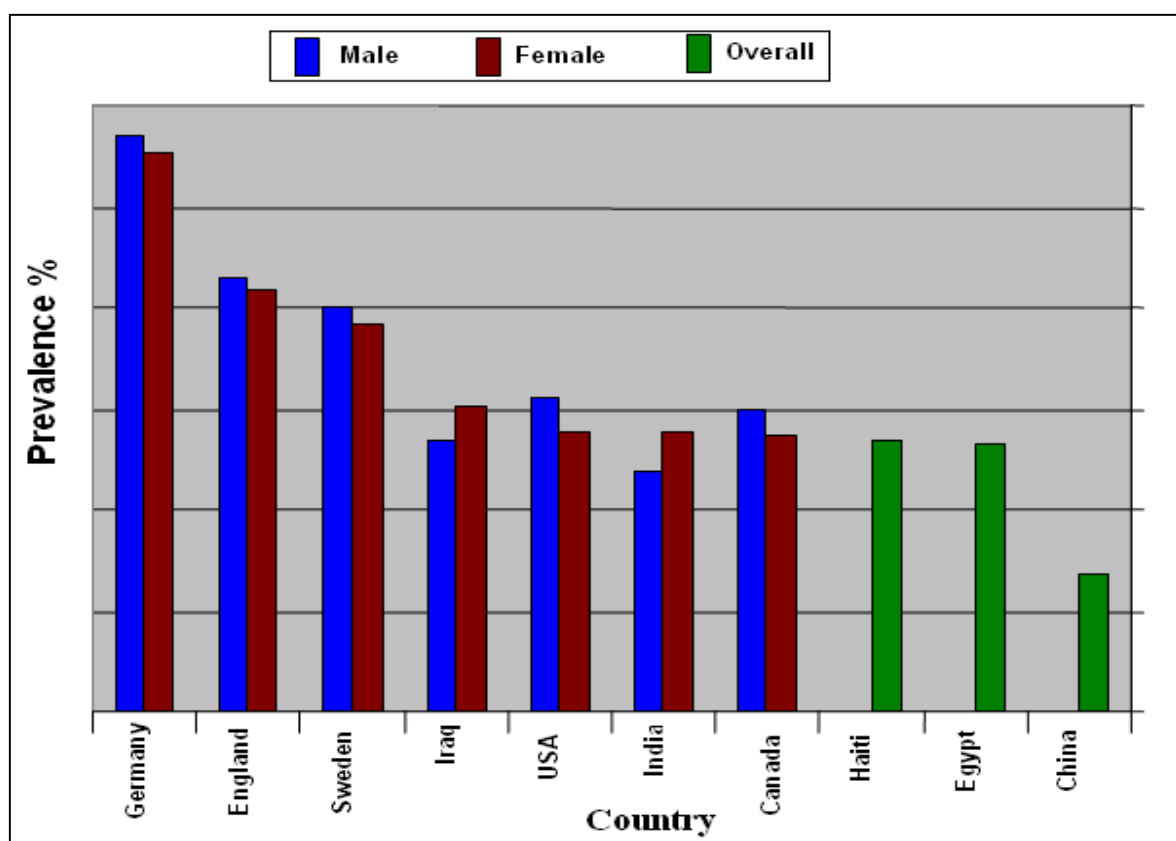


Fig -1- shows the prevalence of HT in different countries

Discussion

Three main findings have been set the result of this study and it will be discussed and compared with other international studies:

1. Low prevalent rate of (HT) in young aged persons and as the age advances the prevalent rate increases ^(3,10,13,16). As it is seen in the present study, (table-2-), the prevalent rate in the age group (18-39) years is

(5.2 %) corrected for sex , while in the age group (40-59) the corresponding figure is (30%) and increased in to (55.5%) in the age group 60 and older. Comparing with an American study published in IMJ Feb-2004 showed that the prevalent rate among the age group (18-24) years was approximately (3%),while increased in to 13% among (35-44) years and to 70% among those aged 75 years & older ⁽¹⁰⁾. Other international studies confirmed the above findings ^(3, 13, 16).

2. Hypertension affects females more than males: As seen in table II, the prevalent rate among males (3.1%) compared with (7.2%) in females in the age group (18-39) years, while in the age group (40-59) the corresponding figures (27%) for males and (33%) for females, and in the age group 60 years and older the figures are (51%) for males & (60%) for females. In Asia and Africa similar studies showed that females are affected more than males. A study was done in India in the year 2000 showed that urban men from (26-65) years had a prevalence rate of (26.78%) and urban females at the same age had (27.65%). In rural areas in India 1999 a study showed (3%) in men and (5.8%) in women aged (16-70) years ⁽²²⁾. Another study conducted in Africa (Ghana) in 2007(26th Feb.) showed that women suffered from (HT) more than men ⁽²³⁾, while in Europe ,USA and Canada a study was published by wolf-maier Katharina et al , showed male preponderance over females ⁽²⁴⁾, so males predominate in the west while females predominate in the East. The exact etiology of the sex differences and the difference between west and east in the prevalence of HT is unknown, but many hypotheses were put forward to explain them e.g. geographical, racial, environmental, genetic, physical activity, cigarette smoking and dietary (the role of fat, salt and alcohol consumption in the west versus high vegetable diet in the east) ⁽²⁴⁾.

3. The average prevalence rate shown in the study table III corrected for age and sex was (30.22). If this figure is compared with other international figures it shows an intermediate position. In Africa (Ghana) the study done there

showed that one third of adults were hypertensive ⁽²³⁾. According to a recent data from the National Health Examination surveys, Dr. Sharma reported that the prevalence of (HT) in USA (18-32%), Canada (22%), China (13.6%), Egypt (26.3%) ⁽³⁾. Dr. Sharma concluded that over all: approximately 20% of the world adults are estimated to have (HT). Another study published in JAMA 2003 (May) showed that the prevalence of (HT) in people aged (35-64) years: in USA (27.8%), Canada (27.4%), Germany (55.3%), England (41.7%) and Sweden (38.4%) ⁽²⁴⁾. fig (I). In Latin America (Haiti) a study was conducted in 2000, in rural areas of Haiti showed a prevalence rate of (27%) in adults ⁽²⁵⁾.

4. It is worthy to mention that HT maybe found alone without DM, i.e. isolated or found associated with DM. The value of this is to have an idea about the prevalence of HT associated with DM and without DM.

Recommendations

1- Because HT is a common disease, and causes a high morbidity and mortality, there should be a serious and effective national health strategies and programs aimed at detection, evaluation and treatment of the disease.

2- Health education programs either public-wise, through all ways of education aids e.g. radio, television and newspapers, or localized through joined co-operation of ministry of health and civil society organizations.

3- The main advice conducted to people as preventive measures include: Regular health checkups to discover HT early, regular physical activity, changing life style, prevention and treatment of obesity, avoidance of salty and fatty diet (especially animal fat), prevention of alcohol consumption and tobacco smoking, and encouraging vegetable and fruit diet.

4- Discovered cases of HT should be perfectly treated with regular medical checkup visits, encouraging patient compliance and insuring availability of drugs and with a low costs.

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