

KNOWLEDGE, ATTITUDE, AND PRACTICES REGARDING HYPERTENSION⁺

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Abstract

A descriptive-analytical study was carried out to determine the levels of hypertension awareness; prevention, treatment and control and to establish a baseline measures of awareness and its relation to many variables. Stratified random sample were chosen of 993 hypertensive patients all over Nineveh Governorate after division to 20 blocks; 10 blocks from inside the center of the governorate and 10 blocks outside that. Interview method was depended in data collection corresponding the three topics of hypertension awareness (Knowledge, Attitude, and Practice). It lasted the period from beginning of September 2005 to the end of June 2006.

The main results of the study are; presence of high significant differences between actual and theoretical means regarding awareness of hypertension, awareness level is moderate at all variables undertaken in the study and no low or high levels, middle age period (40-60y.), male, urban residence, jobless, married persons, illiterate, the period of 6-10y. of disease, presence of the disease in the family as heredity and be far away from smoking are of acceptable levels of awareness.

The researcher recommends to reinforce the real faith and spiritual health of the community, well-handled the unemployment problem, using mass media for health education and in-depth researches regarding awareness of hypertension.

المستخلص

دراسة وصفية تحليلية أجريت لتحديد مستوى (درجة) الوعي حول مرض ضغط الدم - الوقاية، المعالجة والسيطرة - وللتعرف على علاقة ذلك ببعض المتغيرات، تم اختيار عينة عشوائية طبقية من ٩٩٣ مريضاً مصاباً بارتفاع ضغط الدم من محافظة نينوى بعد تقسيم المحافظة إلى ٢٠ قطاعاً، ١٠ قطاعات من مركز المحافظة و ١٠ قطاعات خارج مركز المحافظة. تم اعتماد طريقة المقابلة في جمع المعلومات المتعلقة بثلاث مدارات حول الوعي بالمرض (المعارف، الاتجاهات، والممارسات). استغرقت الدراسة الفترة من بداية أيلول ٢٠٠٥ حتى نهاية حزيران ٢٠٠٦.

إن أهم النتائج التي توصلت إليها الدراسة؛ وجود فروقات ذات دلالة معنوية بين المتوسط الفعلي والنظري للوعي حول مرض ضغط الدم، وجود مستوى وعي متوسط حسب جميع متغيرات الدراسة وعدم

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وجود مستوى وعي واطيء أو عالي. إن العمر المتوسط (٤٠-٦٠ سنة)، الذكور، السكن الحضري، البطالة، الأشخاص المتزوجين، الأميين، فترة الإصابة بالمرض بين (٦-١٠ سنة)، وجود الإصابة بالمرض في العائلة كمرض وراثي، كذلك الابتعاد عن عادة التدخين جميعها كانت ذات مستوى مقبول من الوعي. يوصي الباحث بتعزيز الإيمان الحقيقي والصحة الروحية للمجتمع، معالجة مشكلة البطالة ببراعة، استخدام وسائل الإعلام للتثقيف الصحي وكذلك إجراء بحوث معمقة حول الوعي بمرض ضغط الدم.

Introduction

Cardiovascular disease (CVD) is the leading cause of mortality worldwide and is estimated to account for 14.3 million in 1990 [1]. The majority of these deaths occurred in economically developing countries [2]. Hypertension is a well established risk factor for these diseases which is the most common chronic disease worldwide [3]. It affects an estimated 50 million people in the United States alone [4,5]. One in four adults has high blood pressure [6].

Regardless of race, age, or gender, anyone can develop high blood pressure.. Once high blood pressure develops, it usually lasts a lifetime It is especially dangerous because it often has no warning signs or symptoms [7].

What happens when hypertension is untreated or not treated adequately, the risk of developing complications -disability or even death- increases dramatically. The most common complications from high blood pressure, resulting from damage to blood vessels, are heart failure, heart attack, stroke, kidney failure and eye damage or blindness. These complications occur in untreated high blood pressure of years duration[8]. Even modest elevation in blood pressure is associated with an increase in disease and morbidity. Results from large-scale trials show that a 5mm Hg reduction in diastolic blood pressure corresponds to a 21% reduction in heart disease risk [9,10].

Recent reports in the United States document a decline in public awareness of the dangers of hypertension and the importance of controlling its levels within the community is important in reducing the incidence of premature cardiovascular disease[11]. Despite the improvements made in the control of hypertension in the last twenty-five years, there is concern that the reduction in associated cardiovascular morbidity and mortality may have plateau or even reversed [12].

So because the consequences associated with high blood pressure are so serious, early detection, treatment, and control are important[13].

Objectives of the study

The objectives of this study are to determine the level of awareness, treatment, and control of hypertension, also to establish baseline measures of awareness of hypertension and its relationship to many variables.

Methodology

A descriptive-comparative design was carried out to explore the awareness regarding hypertension. Nineveh Governorate was divided into 20 blocks; 10 blocks inside the governorate center and 10 blocks outside the governorate center, 50 hypertensive patients were selected randomly from each block, so the total study sample may be 1000 hypertensive patients, but 7 hypertensive patients were dropped out from the study.

Interview method was employed to fulfill the formula structured for the study which was composed of two parts, one of them for demographic characteristics and the other for items which were related to Knowledge, Attitudes and Practices about hypertension(8 items/ Knowledge, 6 items/Attitudes and 8 items/Practices).

The period of the study was from the beginning of September 2005 to the end of June 2006. Descriptive statistical methods(Mean, Standard Deviation, Frequency and Percentage) and (t-test) as Inferential statistical method were used to analyze the results of the study.

Results

Table-1 presents the distribution of the sample according to the demographic characteristics of them. The highest percentages are as: 29.7% for age group 51-60 y., 54.2% were males, 59% were from urban residence, 36.7% were haven't any work, 81.7% were married, 35.9% were illiterate, 37.5% have a disease for 6-10 years ago, 71.9% have a disease in the family as a heredity and 70.9% weren't smoke .

Table-1- Demographic Characteristics of the sample

Variable	Frequency	%
Age:		
Below 40 y.	120	12.1
41-50 y.	254	25.6
51-60 y.	295	29.7
61-70 y.	155	15.6
71-80 y.	114	5.5
More than 80 y.	55	
Total	993	100
Sex		
Male	538	54.2
Female	455	45.8
Total	993	100
Residence		
Urban	586	59
Rural	407	41
Total	993	100
Occupation		
Jobless	364	36.7
Employee	321	32.3
Winner	190	19.1
Retired	79	8
Disabled	39	3.9
Total	993	100
Marital Status	50	5

Single	811	81.7
Married	132	13.3
Widowed	993	100
Total		
Educational level		
Illiterate	356	35.9
Read & Write	120	12.1
Primary school graduate	194	19.5
Secondary school graduate	149	15
University or Institute graduate	164	16.5
Higher education graduate	10	1
Total	993	100
Period of Disease		
1-5 y.	305	30.7
6-10 y.	372	37.5
11-15 y.	176	17.7
16-20 y.	106	10.7
More than 20 y.	34	3.4
Total	993	100
Disease as Heredity		
Presence	714	71.9
Absence	279	28.1
Total	993	100
Smoking habit		
Smoke	289	29.1
Don't smoke	704	70.9
Total	993	100

Table-2- Comparison between Actual & Theoretical public awareness means regarding hypertension

Awareness Topics	Mean	Std. Deviation	t-test	df.	Sig.
Knowledge	— 1.6898	1.08252	— 49.191	992	0.001
Practices	— 3.4965	1.26293	— 87.242	992	0.001
Attitudes	— 3.1047	1.32406	— 73.891	992	0.001

The table presents the results of comparison between the actual & theoretical public awareness means. It reflects that there are high significant differences at 0.001 for the three topics of awareness.

Table-3- Public awareness of hypertension according the demographic characteristics of the sample

Characteristics		Awareness levels					
		Low		Moderate		High	
		F.	%	F.	%	F.	%
Age	Less than 40 y.	—	—	94	9.5	26	2.6
	41-50 y.	—	—	184	18.5	70	7
	51-60 y.	—	—	228	22.9	67	6.7
	61-70 y.	—	—	114	11.5	41	4.1
	71-80 y.	—	—	79	7.9	35	3.5
	More than 80 y.	—	—	46	4.6	9	0.9
Sex	Male	—	—	403	40.6	135	13.5
	Female	—	—	342	34.4	113	11.3
Residence	Urban	—	—	425	42.7	161	16.2
	rural	—	—	320	32.2	87	8.7
Occupation	Jobless	—	—	285	28.7	79	7.9
	Employee	—	—	227	22.8	94	9.4
	Winner	—	—	149	15	41	4.1
	Retired	—	—	50	5	29	2.9
	Disabled	—	—	34	3.4	5	0.5
Marital Status	Single	—	—	26	2.6	24	2.4
	Married	—	—	613	61.7	198	19.9
	Widowed	—	—	106	10.6	26	2.6
Education	Illiterate	—	—	268	26.9	88	8.8
	Read & Write	—	—	110	11	10	1
	Primary school graduate	—	—	143	14.4	51	5.1
	Secondary school graduate	—	—	106	10.6	43	4.3
	College or Institute graduate	—	—	111	11.1	53	5.3
	Higher Education graduate	—	—	7	0.7	3	0.3
Period of Disease	1-5 y.	—	—	223	22.4	82	8.2
	6-10 y.	—	—	258	25.9	114	11.4
	11-15 y.	—	—	140	14	326	32.8
	16-20 y.	—	—	97	9.7	9	0.9
	More than 20 y.	—	—	27	2.7	7	0.7
Heredity Disease	Presence	—	—	553	55.6	161	16.2
	Absence	—	—	192	19.3	87	8.7
Smoking habit	Presence	—	—	211	21.2	78	7.8
	Absence	—	—	534	53.7	170	17.1

It is obvious from the table that the awareness of the sample for all demographic characteristics are distributed between moderate and high and there is no low awareness, but the present percentages of awareness for all characteristics are of moderate level. The highest percentages were as: 22.9% for age group 51-60 y., 40.6% were males, 42.7% were from urban residence, 28.7% were haven't any work, 61.7% were married, 26.9% were illiterate, 25.9% have a disease for 6-10 years ago, 55.6% have a disease in the family as a heredity and 53.7% weren't smoke.

Table-4- Causes of elevation the blood pressure degrees among the sample

<i>Causes</i>	<i>F.</i>	<i>%*</i>
Stress	602	60.6
Public security state	451	45.4
Increased salt in diet	437	44
Hearing bad news	341	34.3
Fatty food	324	32.6
Fatigue	207	20.8
Fear	179	18
Unbalanced diet habits	86	8.7
Other disease as Flu	86	8.7
Vigil	53	5.3
Irregular treatment	26	2.6

* Percentages are calculated as the result of division of each frequency on the total number of the sample, while it is not assumed that the total is 100% if they calculated at all.

The high effective cause is stress (60.6%), and the moderate effective causes are public security state, increased salt in diet, hearing bad news, and fatty foods as (45.4%, 44%, 34.3%, 32.6%) respectively, while the other causes has low effective cause.

Table-5- Measures may be undertaken by the sample to lower elevated blood pressure

<i>Measures</i>	<i>F.</i>	<i>%</i>
Taking medication	593	54.7
Traditional foods eating (Lemon lime, Apple vinegar, Citrus aurantifolia, Garlic)	391	39.8
Physical rest	384	38.7
Avoid salt & fatty foods	205	20.6
Physician visit	179	18
Relaxation	93	9.4
Recreation	53	5.3
Bathing	40	4
Balanced diet	40	4

* Percentages are calculated as the result of division of each frequency on the total number of the sample, while it is not assumed that the total is 100% if they calculated at all.

Taking medication is the main measure of high percentage to lower high blood pressure (54.7%), and traditional foods eating, physical rest, and avoidance of salt & fatty foods are of moderate importance measures in lowering elevated blood pressure as (39.8%, 38.7%, 20.6%) respectively.

Discussion

Due to the risk of developing complications from hypertension as myocardial infarction, stroke, kidney failure, blindness and so on, awareness of early detection, treatment and control are critical [9].

All the study sample were diagnosed previously as hypertensive patients and they have **the chronic diseases card** which is depended by the Ministry of Health to distribute the prescribed drugs for those patients. When their blood pressure were checked by the researcher, it's mean degrees was 165/98 mmHg. CDC affirms that high blood pressure for adult is defined as a systolic pressure of 140 mmHg or higher, or a diastolic pressure of 90 mmHg or higher[14].

Table [1] demonstrates the demographic characteristics of the sample, the highest percentages of the variables undertaken by the study were (29.7% for age group 51-60 y., 54.2% were males, 59% were from urban residence, 36.7% were haven't any work, 81.9% have a disease as a heredity in their families, 35.9% were illiterate, 37.5% have a disease for 6-10 years ago, 71.9% have a disease in the family as a heredity and 70.9% were't smoke).

As a comparison between actual and theoretical means of awareness regarding hypertension for the three main topics of it (Knowledge, Attitude, and Practice) it is so obvious from Table [2] that there are significant differences at ($P < 0.001$) for the three topics when comparison was carried out which means that the awareness of the subjects were insufficient to prevent or eliminate the probable complications of the disease, this can be due to the shortage or insufficient health education regarding the disease especially how to prevent or control it in the mass media.

Awareness and Variables:

Table [3] demonstrates the levels of awareness according to the variables undertaken in the study (the study doesn't find any low level at all variables).

Age: 51-60 y. group has the highest percentage of awareness (22.9%). This age group considers the critical age period due to the appearance of such chronic diseases which are life-threatening, from there and the anxiety about the future of their families awareness may be needed hardly. Paul and others referred that hypertension awareness was more common among participants 50 years old and older[15].

Sex: Male's awareness is the highest percentages (40.6%). Many reasons can be the cause of elevating blood pressure if they are obvious or hidden; close contact with the life events, considering the bread-winner for their families, low economic status or unemployment, responsibility of the family and the public insecure state. These causes can be a heavy burden and increase the complications of hypertension, therefore the hypertensive patients may be so aware of the adverse consequences of the disease to be more endurance. Paul and others contradict this result, he referred that women were more aware^[15].

Residence: Interrelation with all social levels, contact communication with all mass media, moderate and high educational levels in the urban areas versus rural areas perhaps can be the cause of high awareness of the disease (42.8%). Previous reports from Inter ASIA indicated that hypertension awareness, treatment, and control are higher in urban versus rural areas [16].

Occupation: Jobless; which leads to deteriorate the economic status of any individual and family, and to make the person unable to ensure the daily needs of the family; may make the hypertensive patient more stressful and elevate his/her blood pressure. So to eliminate or prevent it's adverse consequences the patient may be so aware of the disease (28.7%).

Social status: Our tradition and religions put the married person in the responsibility for him/her-self and for the family. So this responsibility may make him/her if they are hypertensive more frightening about the future of him/her-self and especially the family. So as much as possible they may be aware of the disease (61.7%). Roccella and Bowler referred that married persons were more likely to be aware of the disease[17].

Educational level: Illiteracy has terrible consequences, but sometimes it make the person of so endurance, and always he/she may be manually employed which reduce or eliminate the psychological burden of work. So differentiation between the terrible signs and symptoms if they are from elevating blood pressure (as in illiterate persons) or resulted from distress of work can be difficult (as in literate persons whose work can't be manually). As another word distress can be resulted from elevating blood pressure mainly (in illiterate persons), while the exhaustion from work can overlap the distress resulted from elevating blood pressure (in literate persons). Therefore, illiterate person is likely to be aware of the disease especially control and treatment (26.9%). In contradiction to that He and others indicated that persons with high level of education were more aware[18].

Period of disease: As the period of disease increased, the awareness of disease increased, but whenever it is far in time the awareness will be routine. So the period (6-10 y.) has the highest awareness (25.9%).

Heredity: Presence of a disease previously in the family or among friends will increase the awareness of the new patient (55.6%). Whenever a hypertensive patient presents in the family, all the family members will share the patient his/her preventive, control and therapeutic behaviors or lifestyle changes somewhat.

Smoking: Knowing the hazards or adverse effects of this habit make the patient aware of the disease (53.7%).

As an attempt to identify the causes of elevating the blood pressure and the measures which may be taken or as advice to lower it from the subject's point of view. Table [4] demonstrates the important causes as stress (60.6%), public insecure state (45.4%), salt diet (44%), terrible news (34.3%), and fatty food (32.6%) and so on. This can be a reflection of the emotional state the individual suffer from, also the life-style of him/her.

As measures which may be taken to allay on this condition, Table [5], control over taking medication (45.7%), traditional food eating; as Apple vinegar, Citrus Aurantiifolia, Garlic; (39.8%), physical rest (38.7%), and avoidance of salt and fatty food (20.6%) are the important measures to reduce blood pressure and so on. So, as emotional state of the individual and his/her life-style can be the causes of elevating the blood pressure, they may be the measures to lower it, in another word, emotional status and life-style consider the cornerstone in the awareness of the disease. Anyone can take steps to prevent or control high pressure by adopting a healthy life-style. These include reduce overweight, increase physical activity, following a healthy eating plan, that emphasizes fruits, vegetables, and low fat foods, choosing and preparing foods with less salt and sodium, and if life-style changes alone are not effective in keeping the blood pressure controlled, there are many blood pressure medications to help the patient [9,19,20,21,22, 23, 24,25,26,27].

Conclusions

1. The middle age 40-60 yrs. is considered the critical age period.
2. The morbidity of hypertension is nearly equal between the different sex and residence.
3. Insufficient awareness among participants was identified.
4. Fear from the future, the unknown and the low economic status or unemployment, responsibility of the family, illiteracy are the cornerstones of elevating blood pressure and can be the impulses of awareness.
5. Presence of the disease in the family as heredity affects the awareness of the community.
6. Awareness of the adverse effects of smoking increases the awareness of hypertension.
7. Life-style modification is necessary to be increase awareness of hypertension.
8. Traditional foods play good role in controlling the disease.

Recommendations

1. Reinforcement of real faith and spiritual health is necessary to prevent or consent any disease if occurred.
2. Unemployment can be well handled to enhance the economic status of the individual and family.
3. Counseling the community about the consequences of consanguineous marriage is necessary..
3. Exploitation of the mass media for health education against hypertension and to increase the public awareness of it.
4. Research regarding the traditional prevention, treatment and control of hypertension can be conducted.

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