Determination of Quality of Life for Patients with Essential Hypertension: A Comparative Study

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الخلاصـــة:

الهـدف: تحديد نوعية حياة مرضى فرط ضغط الدم الأساسي في مدينة بغداد.

المنهجيـة: أجريت دراسة وصفية باستخدام أسلوب المقارنة، ابتدأت الدراسة من كانون الأول 2007 ولغاية آب 2008.

استخدمت عينة عشوائية متعددة المراحل (عينة طبقية) لاختيار أماكن العينة (العيادات الطبية الشعبية في مدينة بغداد) واختيار عينـة غرضـية (غير احتمالية) مكونة من (400) مشارك نصفهم مشخصين كمرضى فرط ضغط الدم الأساسي والنصف الآخر أشخاص لـديهم ضـغط الـدم طبيعي. تمّ جمع البيانات خلال المقابلة المبنية للمجموعتين بنفس الطريقة، في نفس المكان وباستخدام نفس الاستبانة.

تمّ تبني وتطوير استمارة الاستبانة من مقياس نوعية الحياة الخاص بمنظمة الصحة العالمية (1998 م). احتوت استمارة الاستبيان ثلاثة أجـزاء: الخصائص الديموغرافية والاجتماعية، البيانات الطبية والجزء الثالث يحتوي ستة جوانب من نوعية الحياة.

تمّ تحديد مصداقية استمارة الاستبانة من خلال عرضها على (15) خبير من ذوي الاختصاص، كما تمّ تحديد الثبات لاستمارة الاسـتبانة مـن خلال الدراسة التجريبية التي أجريت خلال المدة من 24- شباط 2008 ولغاية 10- آذار 2008.

تمّ تحليل البيانات من خلال أسلوب تحليل البيانات الوصفي (التكرارات، النسب المئوية، الوسط الحسابي، الانحراف المعياري) وأسلوب تحليـل البيانات الاستنتاجي (الانحدار الخطي المتعدد، اختبار- ك-، اختبار- ز- ، اختبار مان وتني، معامل التوافق، ارتباط سبيرمان).

النتائـج: أظهرت النتائج إنّ معظم المجموعتين كان ضمن الفئة العمرية (60-69) سنة، متزوجين، لا يقرؤون ولا يكتبون ولا يعملون.

معظم مرضى فرط ضغط الدم الأساسي كانت مدة تشخيص المرض لديهم (6-10) سنوات، يعانون من زيادة الوزن، غيـر مـسيطرين علـى مستوى ضغط الدم لديهم، يعانون من ضعف في نوعية الحياة في الجانب البدني والنفسي.

أوجزت الدراسة إن مرضى فرط ضغط الدم الأساسي يعانون تدهوراً أكبر في معظم جوانب نوعية الحياة والصحة العامة من الأشـخاص ذوي ضغط الدم الطبيعي.

التوصـيات: أوصت الدراسة بضرورة تصميم برنامج تعليمي وكتيبات توزع إلى مرضى فرط ضغط الدم الأساسي لزيادة معلومـاتهم حـول المرض لتحسين نوعية حياتهم.

Abstract:

Objectives: To determine the quality of life for patients with essential hypertension in Baghdad city.

Methodology: A descriptive study was carried out by using a comparative design. The study was initiated from December 2007 through August 2008. A multi-stage probability sampling (Stratified sampling) was used for selecting the sample settings (public medical clinics in Baghdad city). A purposive "non-probability" sample of (400) participants; half of them were diagnosed as having essential hypertension and the other half was normotensive individuals. Data were obtained through structured interview for both groups in a similar way, in the same place and by the same questionnaire.

A questionnaire was adopted and developed from the World Health Organization Quality of Life Scale (1998) and consists of three parts: Sociodemographic characteristics, Medical data, and the third part that consist of six domains of quality of life. Validity of questionnaire was determined through presenting the questionnaire to (15) specialist experts and reliability of the questionnaire was determined through the pilot study which was carried out from the period of February 24th 2008 through March 10th 2008.

Data were analyzed through descriptive data analysis approach (Frequency, Percentage, Arithmetic mean, Standard deviation) and the inferential data analysis approach (Multiple Linear Regressions, K–test, Z-test, Mann-Whitney test, Contingency Coefficient, Spearman correlation).

Results: The results revealed that the majority of both groups was of (60-69) years old age, married, do not read and write, and unemployed. Most of those who diagnosed as essential hypertensive patients having disease for (6–10) years, suffering from overweight (41%), non controlling their blood pressure level (71%), having poor quality of life in physical domain ($P<0.001$), and psychological domain ($P< 0.05$).

The study concluded that essential hypertensive patients had more deterioration in most quality of life domains and general health than normotensive individuals.

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Recommendations: The study recommended that an education program should be designed and manuals should be distributed to essential hypertensive patients to increase their information about the disease to improve their quality of life.

Keywords: Quality of Life, Essential Hypertension, Comparative Study.

Introduction:

Hypertension is the most prevalent health problem among primary care patients, but its recognition and treatment are suboptimal. Although awareness about the disease has improved in the past two decades, the reality is that many people remain untreated or not adequately controlled. The treatment of hypertension is usually long–term and its success will depend on the effects of the drug regimen and on the patients' quality of life [1].

Hypertension affects about 50 million individuals in the United States and about 1 billion worldwide through progress in prevention, treatment and control of high blood pressure has been made [2,3,4].

High blood pressure can be viewed in three ways: as a sign, a risk factor for atherosclerotic cardiovascular disease, or a disease. As a sign, nurses and other health care professionals use blood pressure to monitor a patient's clinical status. Elevated blood pressure may indicate an excessive dose of vasoconstrictive medication or other problems. As a risk factor, hypertension contributes to the rate at which atherosclerotic plaque accumulates within arterial walls. As a disease, hypertension is a major contributor to death from cardiac, renal, and peripheral vascular disease [5].

During the past decade, there has been increased focus internationally on measuring the patient's perspective when evaluating the burden of diseases and the benefit of treatment, self–assessment of quality of life estimate what people are able to do and how they feel [6]. Currently, one of the methods of comprehensive evaluation of patient's health status is quality of life assessment. In the management of hypertension; quality of life helps in evaluation of patient's therapy and improves its efficiency [7].

There has been a recent concern about chronic diseases. Iraq is undergoing an epidemiological transition with an increasing burden of chronic diseases such as hypertension which may constitute threats to health in terms of mortality and the disability adjusted life years (DALYs) [8].

Objective of this study was to determine the quality of life for patients with essential hypertension in Baghdad city.

Methodology:

The study was initiated from 2nd of December 2007 through 26th of August 2008 by using descriptive (comparative) design.

The study was conducted at public medical clinics in Baghdad city. A multistage random sampling technique was used to select six public medical clinics, Baghdad city was divided according to the geographical areas into two stratified sectors (AL-Rusafa and AL-Karkh).

First of all, the researcher divided each sector into three zones, each geographical zone was considered to allow the representative of the patients from different socioeconomic backgrounds, from each zone the researcher selected one clinic randomly by using (simple random sampling procedure) to make the selected setting representative of the population under the study.

A purposive "non-probability" sample of (400) subjects was selected, half of them were diagnosed as having essential hypertension and the other half is normotensive individuals. The sample was selected based on the following criteria:

Criteria for patient with Essential Hypertension: 1- Patients who were diagnosed with essential hypertension for at least one year ago.

2- Patients who are (30) years of age and older. 3- Free from complications and target organ damage. 4- Free from other chronic illnesses including psychiatric problems.

Criteria for Normotensive Individuals: Criteria of normotensive individuals are the same criteria of patients with essential hypertension in all items, except item no. (1) and equal in gender and age groups for essential hypertensive groups.

A questionnaire was designed and constructed by the researcher to measure the variables underlying the present study which was consisted of three parts.

Part I: Sociodemographic Characteristics: This part was designed to measure the sample demographic characteristics which include: age, gender, marital status, level of education, occupational status, and the socioeconomic status scale [9], scale was utilized to measure socioeconomic status for the subjects.

Part II: Clinical Data: a- Clinical data in term of onset of disease diagnosis, cost of medications, number of drugs use, regularity of drug taking, control of blood pressure, and heredity. b- Body Mass Index: This was calculated according to the formula: $BMI = \frac{\text{Body weight (KG)}}{\text{Height (M)}^2}$ and classified as: {< 18.5 underweight; 18.5–24.9 normal; 25.0–29.9 overweight; 30.0–39.9 obese; >40.0 extreme obesity} [10].

Part III: Quality of Life Instruments: a- General Health Questionnaire: It was adopted from (SF-36) scale and consisted of two items to determine the general health of the sample and rated as (good, fair, poor) and calculated according to quartile ranging which reported in data analysis. The higher score of the questionnaire it means the poor quality of life for both groups.

b- Quality of Life Scale: The researcher adopted and developed quality of life scale from the World Health Organization scale [30] to measure the variables underlying the present study and based on (6) domains which were described as following: 1- Physical Domain: This domain was measured through (4) sub-domains of headache and discomfort (4) items; energy and fatigue (6) items; sleep (3) items; and symptoms-related disease (11) items. 2- The Psychological Domain: This domain was measured through (4) sub-domains of negative feelings (6) items; self-esteem (3) items; thinking (4) items; and memory and concentration (4) items. 3- The Level of Independence Domain: This domain was measured through (4) sub-domains of mobility (3) items; activity of daily living (6) items; dependence on medication and treatment (4) items; and work achievement (3) items. 4-The Social Relationship Domain: This domain was measured through (3) sub-domains of personal relationship (4) items; social support (3) items; and sexual activity (3) items. 5-The Environment Domain: This domain was measured through (2) sub-domains of physical safety and security (3) items; and home environment (3) items. 6-The Spiritual/Personal Beliefs Domain: This domain was measured through (2) sub-domains of positive believes (3) items and negative believes (4) items.

The items of quality of life questionnaire were rated and scored according to the following:

a- Three point Lickert scale is used for rating the items as always, sometimes, never [11]. The three point type Lickert scale is scored as (3) for always, (2) for sometimes, (1) for never in all items, except the sub-domain of positive belief in spiritual domain was scored as (1) for always, (2) for sometimes, (3) for never, the higher score of the questionnaire means the poor quality of life.

b- Quartile, after arranging the sum of quality of life ascending for both groups (essential hypertensive patients and normotensive individuals) to determine the quality of life levels (low, moderate, high).Quartile of QoL was calculated as following [12]:

(Q1=1/4n Q2=2/4n Q3=3/4n)

The validity of the instrument was achieved through a panel of experts, the developed questionnaire was designed and presented to (15) experts.

Reliability:

Determination of the reliability of the questionnaire was based on the test-retest method. The Reliability coefficient for QoL domains for essential hypertension patients were (r=0.94) for physical domain, (r=0.92) for psychological domain, (r=0.91) for level of independence domain, (r=0.91) for social relationship domain, (r=0.92) for spiritual domain, (r=0.90) for the environmental domains, and (r=0.916) for total QoL domains for patients with essential hypertension.

Data collection:

The subjects were individually interviewed in the public medical clinics by using the Arabic version of the questionnaire and they were interviewed in a similar way, in the same place, by the same questionnaire for both groups, the data collection was performed from March 15th 2008 through June 20th 2008).

Statistical analysis:

Data were analyzed through a-Descriptive data analysis approach (Frequency, Percentage, Arithmetic mean, Standard deviation). b- Inferential data analysis approach (Multiple Linear Regressions, K–test, Z-test, Mann-Whitney test, Contingency Coefficient, Spearman correlation).

Results:

Table 1. Distribution of the Sample by Demographic Characteristics

List	Demographic Characteristics	Essential Hypertensive Patients Group (EHP-G) N=200		Normotensive Individuals Group (NI-G) N=200	
		F	%	F	%
1-	Gender	K=0.000		P. =1.000 (NS)	
	Male	108	54	108	54
	Female	92	46	92	46
2-	Age	K=0.000		P. =1.000 (NS)	
	30–39 years	10	5	10	5
	40–49 years	16	8	16	8
	50–59 years	53	26.5	53	26.5
	60–69 years	63	31.5	63	31.5
	70–79 years	48	24	48	24
	≥ 80 years	10	5	10	5
	Mean	61.89		59.44	
	SD	10.15		11.36	

Table 1. (continued)

3-	Marital Status	K=0.450		P. =0.987 (NS)	
	Single	8	4	13	6.5
	Married	128	64	132	66
	Widow / Widowed	50	25	39	19.5
	Divorced	14	7	12	6
	Separated	0	0	4	2
4-	Educational Level	K=0.900		P. = 0.393 (NS)	
	Not read and write	72	36	54	27
	Read and write	24	12	28	14
	Primary school	25	12.5	27	13.5
	Intermediate school	58	29	53	26.5
	Preparatory School	14	7	27	13.5
	Institute/College	7	3.5	11	5.5
5-	Occupation	K =1.950		P. =0.001 (S)	
	Governmental	23	11.5	38	19
	Self-employed	29	14.5	26	13
	Retired	21	10.5	39	19.5
	Housewife	51	25.5	60	30
	Unemployed	76	38	37	18.5
6-	Type of family	K = 0.400		P. =0.997 (NS)	
	Nuclear	74	37	82	41
	Extended	126	63	118	59
7-	Socioeconomic Status	K =0.600		P. =0.864 (NS)	
	Low	93	46.5	97	48.5
	Moderate	84	42	68	34
	High	23	11.5	35	17.5

F=frequency, K=Kolmogrov–Smirnov, NS=Non Significant, P.=probability value=<0.05, S= Significant, %=percentage

Table (1) shows that the majority of both groups (54%) was male, and according to age group, the majority (31.5%) of essential hypertensive patients group and normotensive individuals group was of (60-69) years old age and the mean age of essential hypertensive patients was (61.8 years ± (10.15), while the mean age of normotensive individuals group was (59.44 years ± 11.36).

Regarding marital status, the highest percentage of EHP-G (64%) and NI-G (66 %) were married. Regarding level of education, the data shows that the highest percentage of the EHP-G (36%) and NI-G (27%) was do not reading and writing. Regarding to the occupation status, the table presents that the highest percentage (38%) of EHP-G was unemployed and (30%) of NI-G was housewife. Table (5) also depicts that the highest percentage of EHP-G (63%), and NI-G (59%) of extended families and the lowest percentage of EHP-G (37%), and NI-G (41%) were living with nuclear families. Regarding to the socioeconomic status, the data shows that the highest percentage of EHP-G (46.5%), and NI-G (48.5%) having low socioeconomic status.

Table (1) also depicts that non-statistical significant differences between EHP-G and NI-G were observed concerning all demographic characteristics, except the occupational status.

Table 2. Distribution of the Essential Hypertension patients by their Clinical Characteristics

List	Characteristics of sample	Frequency	Percentage
1-	Drugs received from		
	Public clinic	49	24.5
	Private pharmacy	19	9.5
	Public clinic and Private pharmacy	132	66
	Total	200	100
2-	Cost of drugs payment		
	Costly	139	69.5
	Not costly	61	30.5
	Total	200	100
3-	Period of disease diagnosis		
	1–5 years ago	48	24
	6-10 years ago	72	36
	11-15 years ago	48	24
	16-20 years ago	32	16
	Total	200	100
	Mean = 9.33 years	SD= 5.38	
4-	No. of drugs taken		
	1 drug	36	18
	2 drugs	93	46.5
	≥ 3 drugs	71	35.5
	Total	200	100
5-	Regularity of drugs taking		
	Yes	137	68.5
	No	63	31.5
	Total	200	100
6-	Controlling of blood pressure level		
	Yes	58	29
	No	142	71
	Total	200	100
7-	Heredity		
	Yes	131	65.5
	No	69	34.5
	Total	200	100
	If yes who was?		
	Father/Mother	111	84.7
	Brother/Sister	18	13.7
	Uncle	2	1.6
	Total	131	100
8-	Body mass index		
	Under weight	11	5.5
	Normal weight	48	24
	Over weight	82	41
	Obese	40	20
	Extreme Obese	19	9.5
	Total	200	100

SD= standard deviation

This table indicates that the highest percentage (66%) of the essential hypertensive patients receive their drugs from both public clinic and private pharmacy, while only (9.5%) of them receives their medications from private clinics and the majority of essential hypertensive patients (69.5%) think that drugs they were taking are costly. Regarding the period of disease diagnosis, result shows that the highest percentage (36%) of patients having essential hypertension in (6–10) years ago and the mean of diagnosis period was (9.3 years ± 5.38). Regarding to the number of drugs taken by essential hypertensive patients, this table reveals that the highest percentage (46.5%) of essential hypertensive patients taking two drugs, while the lowest percentage (18%) of them taking one drug, this table also shows that the highest percentage (68.5%) of them was taking drugs regularly, in spite of that, the highest percentage (71%) of essential hypertensive patients was non controlling their blood pressure level. Concerning the heredity causes, the results show that the majority (65.5%) of essential hypertensive patients had inherited hypertension and the parents had the highest percentage (84.7%) of them. Regarding body mass index, the highest percentage (41%) of essential hypertensive patients suffering from overweight.

Table 3. Multiple Linear Regression Model of QoL Domains among (200) patients with Essential Hypertension

List	Independent Variable (Domain)	General Health				r	R2
		beta	t	P. value	Sig.		
1	Physical	0.072	5.3979	<0.001	(HS)	0.80	0.645
2	Psychological	0.057	2.5979	0.02	(S)		
3	Level of Independence	0.021	-0.142	0.255	(NS)		
4	Social	0.054	1.4999	0.136	(NS)		
5	Environment	-0.381	-0.043	0.966	(NS)		
6	Spiritual	0.029	0.9256	0.356	(NS)		

Beta=regression coefficient, p=probability value, r=pearson correlation, R2=determination coefficient, Sig.=significant at probability , t=T-test, t, , S=Significant, HS=Highly Significant, NS= Non Significant.

Table (3) illustrates the results of multiple linear regression analysis for quality of life domains as an independent variable with general health as dependent variable. The results show the determination coefficient (0.645) for quality of life domains with general health, the higher regression coefficient means the greater effect on quality of life domains, and the regression model shows a strong positive correlation (r=0.80) between variables. This table reveals that there was significant relationship in two domains of quality of life: physical domain, psychological domain, and non-significant relationship in four domains: social domain, level of independence, spiritual domain, and environmental domain.

Table 4. General Health of the Study Sample

Parameter	Essential Hypertensive Patients Group (EHP-G) N=200						Normotensive Individuals Group (NI-G) N=200					
	Good		Fair		Poor		Good		Fair		Poor	
	F	%	F	%	F	%	F	%	F	%	F	%
General	56	28	85	42.5	59	29.5	62	31	94	47	44	22
Mean	6.7800						5.62					
SD	1.98						2.10					
Z-Test	4.887											
P.	<0.001											
Sig.	(HS)											

HS=Highly Significant, , P.=probability Value, Sig=significant at probability value, Z-test=Wilcoxon Signed-Rank test.

Table (4) reveals that the highest percentage of general health in the study sample (EHP-G 42.5%, NI-G 47%) was rated as having fair health, and this table also shows that there is highly significant differences between both groups (essential hypertensive patients group and normotensive individuals group.

Table 5. Comparison Quality of life Domains Effect between Essential Hypertension Patients and Normotensive Individuals

Quality of Life Domains	Essential Hypertensive Patients Group (EHP-G) N=200		Normotensive Individuals Group (NI-G) N=200		Mann-Whitney (U) test	
	Mean	SD.	Mean	SD.	P. value	Sig.
Physical	52.41	12.786	34.41	2.7163	<0.001	(HS)
Psychological	34.67	9.070	30.04	1.2170	<0.001	(HS)
Level of Independence	33.18	8.581	25.32	1.3478	<0.001	(HS)
Social	20.49	5.989	15.07	0.9354	<0.001	(HS)
Environment	12.32	4.184	11.34	0.8878	0.343	(NS)
Spiritual	12.37	3.288	10.32	0.7212	<0.001	(HS)
Total Quality of Life	165.44	38.932	126.50	4.3224	<0.001	(HS)

HS=highly Significant, NS=Non Significant, P value=probability value, Sig=significant at probability value (p<0.05),

Table (5) shows comparison of quality of life domains effect between essential hypertensive patients and normotensive individuals. This table shows that there is highly significant differences (P.≤ 0.01) in mean of quality life between essential hypertensive patients and normotensive individuals in all domains of quality life except environment domain, and the essential hypertensive patients had higher mean (more affect) than normotensive individuals in all quality life domains.

Table 6. Association and Correlation between Quality of Life Effects of Essential Hypertensive Patients with their Demographical Variables

Variables	QoL Domains	Physical	Psychological	Level of Independence	Social	Environment	Spiritual
Gender	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01
	rho	0.33	0.34	0.40	0.25	0.33	0.30
Age	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01
	rho	0 .46	0. 52	0. 47	0.58	0.03	0.06
Marital Status	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01
	rho	− 0.07	−0.03	0.10	−0.02	0.12	−0.17
Level of Education	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01
	rho	−0.14	− 0 .11	−0.15	−0.21	0.21	−0.05
Occupation Status	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01
	rho	0.49	0.43	0.44	0.55	0.39	0.17
Socioeconomic Status	C.C. by	<0.01	<0.001	<0.01	<0.01	<0.01	0.09
	rho	− 0.08	−0.14	−0.17	−0.16	0.001	−0.04

NS=Non-Significant, P.=Value of Contingency Coefficient, QoL=quality of Life, rho=Spearman Correlation

Table (6) shows a significant association between sociodemographic data and most domains of quality of life. This table also presents a moderate correlation between age, occupational status and most of quality of life domains, and a weak correlation between gender, marital status, level of education, and socioeconomic status with most of quality of life domains.

Table 7. Association and Correlation between Quality of Life Effects of Essential Hypertensive Patients with their Clinical Data

Clinical Data	QoL Domains	Physical	Psychological	Level of Independence	Social	Environment	Spiritual
Body Mass Index	C.C by P. value	<0.01 (s)	<0.01 (s)	<0.01 (s)	<0.01 (s)	<0.01 (s)	<0.01 (s)
	rho	0.45	0.20	0.26	0.28	0.32	0.21
Period of Disease Diagnosis	C.C by	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	rho	0.73	0.74	0.67	0.72	0.46	0.41
No. of Drugs Taken	C.C by	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	rho	0.34	0.16	0.11	0.27	0.33	0.12
Regularity of Drugs Taking	C.C by	<0.01 (S)	0.029 (S)	0.164 (NS)	0.127 (NS)	0.018 (S)	<0.01 (S)
	rho	−0.20	−0.18	− 0.4	−0.11	− 0.08	−0.44
Control of Blood Pressure Level	C.C by	−0.20	−0.18	− 0.4	−0.11	− 0.08	−0.44
	rho	0.55	0.42	0.50	0.50	0.36	0.40

C.C.= Contingency Coefficient, QoL=quality of life, rho = Spearman Correlation

Table (7) shows a significant association between clinical data and most domains of quality of life, this table also presents a strong correlation between period of disease diagnosis and most domains of quality of life, and a moderate correlation between control of blood pressure and most domains of quality of life.

This table also shows a weak correlation between body mass index, number of drug taken and most of quality of life domains.

Discussion:

The findings of the present study showed that the majority (31.5%) of essential hypertensive patients group and normotensive individuals group of (60-69) years old, in spite of adjusting the age group in both groups (Table 1). The previous study [3] reported that the hypertensive patients were older age than normotensive individuals and the mean age of their study was (64.2) years for hypertensive patients, while the mean age of normotensive individuals was (44.9) years. It was reported in their study that the age of hypertensive patients was older than normotensive participant, and the mean age among hypertensive persons was (61) years [13].

Even adjusting for the sample gender in both groups, the results showed that more than half (54%) of essential hypertensive patients group and normotensive individuals group was male (table 1). This result is agreed with one study which stated that the majority (60%) of his study was male and the remaining (40%) was female [14].

Regarding level of education, results showed that the highest percentage (36%) of

the EHP-G was do not reading and writing, while (29%) of the NI-G was intermediate school graduate. It was reported that there is a strong relationship between short duration of schooling and the hypertension incidence [13,15,16].

According to the occupational status, the findings of the present study showed that the highest percentage (38%) of EHP-G was unemployed and (30%) of NI-G was housewife. It was reported that there were statistical significant differences in the occupational status between hypertensive patients and normotensive individuals (P. =0.0001), also they reported that half of both groups was housewife [17].

The result of present study showed that the majority of EHP-G (63%) and NI-G (59%) with extended families, it was reported that the living in the crowding houses and large family size considering the incidences of hypertension disease [18].

According to the socioeconomic status, the results showed that the highest percentage of EHP-G (46.5%) and NI-G (48.5%) living with low level of socioeconomic status. It was reported that (68%) of the essential hypertensive patients had insufficient monthly income [14]. Hashmi et al. reported that most of the hypertension cases had lower monthly income [2].

The present study showed that two-thirds (66%) of the essential hypertensive patients received their medications from both public clinics and private pharmacies, while only (9.5%) of them received their medications from private clinics (Table 2).

Finding of the study revealed that two-third (69.5%) of the essential hypertensive patients think that the drugs they take are costly. This finding was supported by Delgado who stated that the drugs taken by hypertensive patient considered costly and may lead to noncompliance for treatment [19].

The finding of the clinical characteristics for the essential hypertensive patients showed that the highest percentage (36%) of patients having hypertension during (6-10 years) and the mean of diagnosis period was (9.3) years. It was reported that one-third (33%) of hypertensive patients had the onset of the disease diagnosis during (6-10) years [14].

The outcome of this study revealed that the most of essential hypertensive patients (46.5 %) take two drugs, while the lowest (18%) of them taking one drug (table 2). This result is inconsistent with one study which stated that three quarters (75%) of patients were managed by a single drug, while the others who were receiving a combination of two drugs were (23.4%) or receiving a combination of three drugs were (1.6%) [20].

The findings of the study revealed that approximately two-third (68.5%) of the essential hypertensive patients were taking drugs regularly (table 6). It was reported that the hypertensive patients had a different pattern; the majority (95.5%) of them had compliance with the therapeutic regimen of antihypertensive medication [1].

The present study showed that the highest percentage (71%) of patients was not controlling their blood pressure level (Table 2). This result is supported by Brady and Petrie, where they stated that individual over (65) years have almost (80%) uncontrolled blood pressure [21].

The result of present study indicates that the majority (65.5%) of patients had heredity of essential hypertension and the parents had highest percentage (84.7%) of essential hypertension patients (Table 2). This result is supported by a study which reported that the most of his study sample had heredity of essential hypertension and most of them had heredity from their fathers [14]. It was reported that the genetic alteration is responsible for inherited essential hypertension more likely from father [22].

The finding of the study reveals that the highest percentage (41%) of patients suffering from overweight, while the lowest percentage (5.5%) of them is underweight (Table 2). It was reported that there is a strong relationship between body mass index and the incidence of hypertension disease [15].

The results of linear regression analysis and determination coefficient showed that all six domains have a strong positive correlation (r=0.80) between quality of life domains and general health of patients, and the model revealed that there is a significant correlation in two domains of quality of life: physical domain, psychological domain, and non-significant correlation in four quality of life domains: social domain, level of independence, spiritual domain, and environmental domain (Table 3). It was reported that the hypertensive patients suffer from sadness (13%), anxiety (15%), and nervousness (34%) [23]. It was found that increased blood pressure results in a decline in cognitive functions and the presence of an association between systolic blood pressure and short-term memory, and an association between diastolic blood pressure and immediate memory, concentration, executive functions and logical memory [24]. It was stated that the hypertensive patients had a high effect in emotions dimension [20].

The present study revealed that the highest percentage for EHP-G (42.5%) and NI-G (47%) were rated at fair general health, and also the finding showed statistically significant differences between EHP-G and NI-G (table 4). It was stated that the hypertensive patients reported lower scores (worse function) than the normal control group, and statistically significant differences between both groups were seen in the general health [25].

It was stated that the general health of patients with known hypertension presented lower scores than non–hypertensive individuals [13,26,27].

The results showed that there were significant differences in quality life score between essential hypertensive patients and normotensive individuals in general health and all domains of quality life except environment domain. The essential hypertensive patients had higher score (poor quality of life) than normotensive individuals in all domains of quality life (Table 5). Li et al., reported that the hypertensive patients scored lower (poor QoL) in the multiple linear regression analysis in most of quality of life than those without hypertension [28]. It was reported that the hypertensive patients group had poor quality of life than those of the control group [29].

The present study revealed that most sociodemographic data had a significant association and a weak correlation with most of quality of life domains (Table 6).

It was reported that the socioeconomic status such as gender, age, low level of education, employment were statistically significantly associated with poor quality of life for hypertensive patients [20,7,17].

The present study revealed that most of clinical data had significant association and correlation (weak and moderate) with most of quality of life domains (Table 7).

This result is supported by a study which reported that the body mass index, controlled blood pressure level had a statistically significant association with quality of life for hypertensive patients [28].

This result is consistent with a study which reported that the drug compliance in hypertensive patients seems to be associated with good quality of life [1].

It was reported that the clinical data such as period of disease diagnosis were statistically significantly associated with poor quality of life for hypertensive patients [20].

Conclusion from our study reveals that the most of essential hypertensive patients have

poor quality of life than normotensive individuals and the study presented that the poor quality of life in the overweight patients, patients with non-control level of blood pressure, patients with long period of disease diagnosis.

Recommendations:

According to the results of the study, the researcher recommends that:

1. An educational program should be designed to increase peoples' information about hypertension and to improve their quality of life.

2. Pamphlets or manuals should be distributed to hypertensive patients that include information regarding disease, diet, optimal weight, life style changes, treatment, side effect of treatment, and sign and symptoms of complications.

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