

Article

Knowledge of Hypertension and Related Factors Among Hypertensive Patients

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Abstract: Hypertension is a prevalent non-communicable disease posing significant health risks, necessitating greater public awareness of its risk factors. This study assessed hypertension knowledge among hypertensive employees at the University of Baghdad to identify key knowledge gaps. Conducted as a descriptive cross-sectional study from July to October 2024, 74 participants referred to the university health center were selected through convenience sampling. Data collection included demographic and clinical characteristics and the Hypertension Knowledge-Level Scale (HK-LS). Analysis was conducted using SPSS Version 22.0, with t-tests and ANOVA employed to compare knowledge levels across demographic variables. Results revealed a mean HK-LS score of 13.8, or 62.7% of the total possible score, with the highest scores in lifestyle awareness and the lowest in the definition of hypertension. Educational level and duration since diagnosis were significantly associated with hypertension knowledge levels, with those of shorter diagnostic duration and lower education displaying lower awareness. Findings underscore the need to prioritize targeted education initiatives for newly diagnosed and less-educated patients to enhance prevention and effective management of hypertension.

Keywords: Level of Knowledge, Hypertensive Patients, Iraq, Non-communicable disease, Health education

1. Introduction

Hypertension (HT) is a major risk factor for cardiovascular and renal diseases, accounting for 51% of stroke and 45% of heart disease mortality globally. [1] An estimated 1.28 billion persons aged of 30 - 79 years globally have HT; the majority of these individuals—two thirds—live in low- and middle-income nations. Of these adults, 46% are ignorant that they have the disease. [2] According to the most recent WHO data published in 2020, HT deaths in Iraq reached 2,451, or 1.67% of all deaths. [3] HT is indicated by a systolic blood pressure of ≥ 140 mmHg and/or a diastolic blood pressure of ≥ 90 mmHg, following repeated measurement on 2-3 different clinic visits. [4] Diet, physical exercise, alcohol intake and tobacco smoking, and obesity or overweight are examples of modifiable risk factors for developing HT. Non-modifiable risk factors include a family history of HT, an age greater than 65, and the existence of additional comorbidities such as diabetes and chronic renal disease. [5]

In hypertensive patients, knowledge of these risk factors is positively correlated with a high level of adherence, which helps control blood pressure. [6, 7] hypertensive patients with low HT knowledge were less likely to decrease their salt intake and eat less to lose weight, compared to patients with high HT knowledge. [8] Blood pressure control rates among Iraqi adults are low due to medical and lifestyle management, and further

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assessment and improvement in clinical practice in HT care is advised. [9] As a result, there is a need to know the general and specific knowledge regarding hypertension in Iraq. As therefore, the aim of this study was to assess knowledge about hypertension.

2. Materials and Methods

Study design and participants: This descriptive cross-sectional study has been conducted to determine assess the knowledge level of knowledge about HT and associated factors among hypertensive patients was carried out with 74 employees in the University of Baghdad those who are referred to university health center for the purpose of seeking treatment between July and October 2024. Participants were chosen using a convenience sampling method. Study approval has been requested through the University of Baghdad. Take participants" consent to participate in the research after explaining: purpose of the study; privacy; emphasis on voluntary participation without force as well as the right of refusal or withdrawal.

Instruments: Two instruments are used to conduct this study; they are demographics and clinical characteristics comprised of (7) items including Sex, age, educational level, body mass index, family history of HT, duration since diagnosis, and smoking. The second part of the questionnaire consisted of the Hypertension Knowledge-Level Scale (HK-LS) developed by Erkoc, et al. [10] The HK-LS tool has 22 items divided into six sub-dimensions: definition, treatment, drug compliance, lifestyle, diet, and complications. Cronbach alpha coefficients for HK-LS were 0.82 for the entire scale and greater than 0.70 for all subdimensions except two (medical treatment and drug compliance), indicating that the scale is very reliable. The translation and cultural adaptation were conducted initially. The procedure adhered to rigorous standards that were approved by the author and was established upon the protocol recommended by Guillemin. [11]

Scoring system: The final scale contained 22 items and six sub-dimensions. The expression was incorrect for nine items. Each correct answer was awarded one point. Incorrect statements were encoded inversely to the other elements. The maximum score for the overall scale was 22, with two for "definition", four for "medical treatment", four for "drug compliance", five for "lifestyle", two for "diet", and five for "complications" sub-dimensions. The minimum score was zero on the entire scale and in all sub-dimensions.

Data Analysis: SPSS Version 22.0 was used, and the level of significance was set at 0.05 for all tests. Descriptive statistics, independent t test and ANOVA test is used to compare the means between two related groups, and Shapiro-Wilk test of normality to assessment of the normality of data.

3. Results

Characteristics of participants

Results the (table .1.) showed there were, 42(56.8%) was male; the mean age of patients in this study is (50.473). Concerning age group, the majority in seventeen (43. 2%) within the age group were (46 – 53). The most common educational level is doctorate of 27(36.5%). Regarding to body mass index most participants 33(44.6%) having overweight. In relation to family history of hypertension, that is 35(74.3%). Concerning to smoking: the most common are non- smoking which are 46(62.2%).

Table 1. Sample demographic and clinical characteristics (N = 74)

Variables	Groups	No	%
Sex	Male	42	56.8
	Female	32	43.2
Age Groups	≤ 45	19	25.7
	46 - 53	27	36.5
	54 – 60	25	33.8
	> 60	3	4.1
	$\bar{x} \pm S.D.$	51.108 + 5.897	
Educational level	Diploma	8	10.8
	Bachelors	16	21.6
	Master	23	31.1
	Doctor	27	36.5
Body Mass Index	Underweight	0	0
	Ideal Weight	32	43.2
	Overweight	33	44.6
	Obese	9	12.2
family history of hypertension	Yes	35	47.3
	No	39	52.7
Duration since diagnosis	Since less than 1 years	3	4.1
	Since 1–5 years	35	47.3
	Since 6 – 9 years	29	39.2
	Since more than 9 years	7	9.4
Smoking	Yes	28	38.8
	No	46	62.2

No= number of patients , %= Percentages, ≤ = less than or equal, > = more Than

Table (2) presents the participants' HK-LS. The total mean was 13.797 which was equivalent to 62.7% of the maximum score (possible range 0 –22). In the HK-LS subscales, The overall mean scores across the different subscale were 0.702 for disease definition, 2.41 for medical treatment, 2.202 for drug compliance, 3.756 for lifestyle, 1.540 for diet, and 3.135 for complications. The lifestyle subscale got the greatest mean score, whilst the definition subscale had the lowest.

Table 2. Hypertension Knowledge-Level Scale score (HK-LS). (N=74)

HK-LS score and sub-scale	M	SD	Min.	Max.	Possible range
Definition	0.702	0.590	0	2	0 – 2
Medical treatment	2.418	0.702	1	4	0 – 4
Drug compliance	2.202	0.661	1	3	0 - 4
Lifestyle	3.756	0.736	2	5	0 - 5
Diet	1.540	0.501	1	2	0 – 2
Complications	3.135	0.941	1	5	0 – 5
Total HK-LS	13.797	2.145	9	19	0 – 22

HK-LS = Hypertension Knowledge-Level Scale, M = Mean, SD = Standard Deviation, Min = minimum, Max= Maximum.

As shown in Table 3, there was no significant difference between sex, age, body mass index, family history of hypertension, and smoking with patient's knowledge about hypertension ($p > 0.05$). There was a statistically significant relationship between education level ($P = 0.045$), and duration since diagnosis ($P = 0.045$) with patient's knowledge about hypertension.

Table 3. Overall mean HK-LS scores according to characteristics of patients' hypertensive

Variables	Overall HK-LS score (Mean \pm SD)	P value
Sex		
Male	13.833 + 2.174	0.870 ^b
Female	13.750 + 2.140	
Age group		
≤ 45	14.210 + 1.988	0.180 ^a
46 – 53	14.222 + 1.671	
54 – 60	13.040 + 2.621	
> 60	13.666 + 1.527	
Educational level		
Diploma	14.500 + 1.069	0.045 ^{a *}
Bachelors	13.437 + 1.631	
Master	12.956 + 2.010	
Doctor	14.518 + 2.501	
Body Mass Index		
Underweight	0	0.686 ^a

Variables	Overall HK-LS score (Mean ± SD)	P value
Ideal Weight	13.656 + 2.057	
Overweight	14.030 + 2.128	
Obese	13.444 + 2.651	
family history of hypertension		
Yes	14.114 + 2.348	0.231 ^b
No	13.512 + 1.931	
Duration since diagnosis		
Since less than 1 years	11.000 + 2.000	0.00 ^{a *}
Since 1–5 years	12.971 + 1.740	
Since 6 – 9 years	14.793 + 1.820	
Since more than 9 years	15.000 + 2.768	
Smoking		
Yes	13.571 + 2.316	0.484 ^b
No	13.934 + 2.048	

SD: Standard deviation, a one way ANOVA test, b independent t test * p value < 0.05 = significant .

4. Discussion

Patients with HT need to be knowledgeable of a number aspects of HT, this study was assess of knowledge about HT and related factors among hypertensive patients at university of Baghdad. The study's main finding was that, although working in the university community, the majority of participants had moderate knowledge about HT diseases, the mean HK-LS total score was 13.797 which was equivalent to 62.7% of the maximum score (maximum possible score = 22) of which 17.6% have good knowledge (score more than 15) while 73 % have moderate knowledge (score between 11 and 15) and 9.4% have low knowledge (score less than 11) This study is in line with studies found the level of knowledge about HT is moderate in hypertensive patients. [12-15]

However, study found that there was a higher level of knowledge regarding HT than the current study. [16] On the contrary, other studies revealed that there was low level of knowledge about HT than the current study. [17-21] The difference between the current study and previous research could be explained by differences in study setting, sample size, and study time. The difference could be attributed to socioeconomic variations, differences in knowledge measurement tools, or the inclusion criteria used to choose individuals. A further reason to why that the majority of participants in this study were moderate about HT was working in the university community.

Regarding to related domains, patients indicate reasonably knowledge in the lifestyle and diet domains, as the mean was approximately 77.0% and 75.1% of the maximum score respectively. The mean knowledge scores in other domain were equivalent to 62.7% for complications, 60.4% for medical treatment, 55% for drug compliance, and 35.1% for definition which got the lowest score; these results are still inadequate; especially considering that the subjects are hypertensive patients. Study by Abualnaja, [22] show that the lowest percentage was for definition domain.

Related lifestyle domains; the majority agreed that reducing red meals helps reduce blood pressure, similar numbers as those found in the literature. Regarding to diet domain; the majority agreed that increasing the consumption of fruits and vegetables and reducing red meals helps reduce blood pressure. However, the study able recognized areas of insufficient HT knowledge-level domains, including the definition domain and the drug compliance domain, medical treatment and complication domains. With these results in together, healthcare providers can develop unique instructional program to fill HT knowledge gaps in areas where they scored low. No associated was found between demographics characteristic (sex, age, family history about hypertension, body mass index or smoking) with the knowledge about HT; however, in different studies, the sex and age have been associated with better knowledge about hypertension. [23, 24] BMI was also not associated with a higher level of knowledge.

However, it also shows relationship was found between educational level and level of knowledge; was significantly higher in the groups with a higher educational level. [25, 26] It also shows relationship was found between duration since diagnosis with level of knowledge; was significantly higher in the groups with a higher duration diagnosis. This study is consistent with studies found patients who were on treatment for longer years duration a higher level of knowledge as compared to patients with less than two years of treatment. [27] The current study's findings could be explained by the fact that patients with a longer duration of diagnosis have a higher opportunity of obtaining various information and receiving recommendations from healthcare specialists. Also, attend more health education courses regarding their disease than individuals who were diagnosed in recent years. Thus, exposure to a variety of useful information may lead to increased knowledge of their condition.

5. Conclusion

These patients have moderate HT knowledge. People with shorter diagnostic durations and lower education levels had less HT knowledge, indicating that they are priority groups to health education. Increasing the knowledge of HT and how to manage it will help with prevention and treatment. As a result, we recommend adopting health-related activities at the community level and enhancing health-related teaching at the primary care level. To effectively reduce the burden of HT, synergies between community activities and primary care should be established.

Limitations

The current research was limited to clinic patients and done in a single facility at university of Baghdad. Given that the factors related to HT assessed in this study may differ demographically in other parts of Iraq, significant generalizations of the findings without a multicenter studies

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