The Analysis of Hypertension Knowledge in Adults in Telafer City for Health Education and Intervention

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Abstract

Background: Hypertension is a serious condition known for causing severe heart and kidney problems, like strokes, vascular diseases, and kidney dysfunction. Understanding hypertension is crucial for preventing and managing it. Methods: A study was conducted in Telafar City from May 15, 2023, to August 1, 2023. 180 adult patients from Telafar General Hospital participated, chosen through convenience sampling. We used interviews and a hypertension knowledge test scale to collect data. Results: Most participants were middle-aged adults (25.6%), male (55.6%), graduates (31.1%), and unemployed (67.2%), with a family history of hypertension (61.7%). The study found that the majority had moderate to high knowledge about hypertension (95.6%). However, some lacked understanding in defining hypertension (18.3%), its medical treatment (12.2%), and complications (19.4%). There were significant links between participants' knowledge and demographic factors like education, employment, and family history (p < .05). Conclusion: Participants generally had good knowledge about hypertension, but certain areas need improvement, especially understanding its definition, medical treatment, and complications. The study emphasizes the need to tailor educational efforts on hypertension awareness and management considering demographic factors.

Keywords: Hypertension, Heart and kidney problems, Knowledge assessment, Demographic factors, Educational interventions

Introduction

Chronic diseases such as hypertension has a significant risk to human life globally. This risk is widespread and found with the physical, psychological, and social complications, which might result sudden deaths (Panca et al., 2018). Hypertension is a constant raise of blood pressure (BP). It is diagnosed when systolic blood pressure is equal to or greater than 140 mm Hg, and diastolic blood pressure is equal to or greater than 90 mm Hg over extended periods (Mills et al., 2022). It is divided into primary and secondary hypertension, with primary hypertension being more common and of unknown etiology, while secondary hypertension results from specific causes such as kidney disease or medication use (Danaei, 2014). Approximately 1.28 billion people are suffering from hypertension. Most of the majority of middle-aged adults are suffering from this disease in low and middle-income countries worldwide. The prevalence rate is 35.6% (WHO, 2021) in Iraq. The Global Burden of Disease (GBD) study determined it to be a leading cause of mortality and morbidity in the Eastern Mediterranean regions, including Iraq, with an 83.3% increase in incidence since

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1990 (AHA, 2020). The effect of hypertension ranges beyond mortality, quality of life, and complications such as stroke, ischemic heart disease, anxiety, depression, divorce, and job loss (Umemura et al., 2022). It is also a major risk factor for renal and cardiovascular disease, increasing the chances of stroke, coronary heart disease, heart failure, renal impairment, and renal hemorrhage (Muna et al., 2022). However, hypertension is controllable and preventable through various lifestyle changes, such as quitting smoking and adopting a healthy diet with reduced salt intake (WHO, 2021). Despite efforts to promote such changes, behavior modification remains challenging due to individual perceptions of disease susceptibility, the seriousness of the disease, and the perceived benefits of behavioral changes (Oliveros et al., 2022).

This study aimed to assess the adults' knowledge of hypertension disease in Telafer City. Understanding hypertension, raising awareness, and implementing blood pressure education programs are crucial for controlling hypertension, as highlighted in knowledge, attitude, and patient surveys (WHO, 2021). Educating high-risk populations about hypertension and monitoring their health early is essential for promoting awareness and improving adherence to treatment upon diagnosis (Raghdaa, 2017). Numerous studies show that a strong understanding of hypertension is linked to improved drug adherence (Moser & Franklin, 2016). Individual knowledge plays a pivotal role in disease control and prevention. Therefore, assessing and understanding the knowledge levels of adults in Telafer City regarding hypertension is vital. This new knowledge will address existing gaps in the scientific understanding of hypertension, assist healthcare professionals in identifying the disease's prevalence in patients, and guide effective educational strategies. Several scientific theories, such as the theory of health beliefs, emphasize the critical role of a person's knowledge about a disease in motivating them to adopt a healthy lifestyle (Raghdaa, 2017).

Materials and Methods

A descriptive study using a cross-sectional design is conducted to assess the adults' knowledge of hypertension disease in Telafer City. The study is conducted in Iraq, Nineveh Governorate, Telafer City, from 15th May 2023 to 1st August 2023. The target population for this study is adults living in Telafer City. One hundred eighty adult individuals attending Telafer General Hospital were conveniently selected and participated in the study. The University approved the study protocol, and written informed consent was obtained from all subjects.

The data were collected from patients with hypertension who came to the emergency unit, those who were admitted in the wards, and those who attended healthcare centers. Inclusion criteria include patients with hypertension older than 18 years; exclusion criteria include patients who refuse to participate in answering the

questionnaire and who are younger than 18 years. A pilot study was performed for two days. Overall, 30 patients were taken and excluded from the study to assess their understanding of the questionnaire and the time needed for data collection. A designed questionnaire was used to collect the data through an interview method. The first part of the questionnaire is about sociodemographic information, which includes age, sex, marital status, educational level, employment status, residence, socioeconomic level, family history of hypertension, any associated diseases, the duration of hypertension, and the blood pressure reading. The second part of the questionnaire is about the knowledge of hypertension among patients with hypertension, which includes asking the patients the following answers (Yes, No, I don't know). The sample size is calculated using a cross-sectional study sample formula. The Hypertension Knowledge Scale (HK-LS) is used to collect participant data. This scale is developed by Erkoc et al, (2012)

A descriptive study using a cross-sectional design was conducted to assess adults' knowledge of hypertension disease in Telafer City, Iraq. The study was carried out in Nineveh Governorate, Telafer City, from May 15, 2023, to August 1, 2023. This study's target population was comprised of adult residents of Telafer City. A convenient sample of 180 adults attending Telafer General Hospital participated in the study. Participants were selected from individuals presenting at the emergency unit, those admitted to the wards, and those attending healthcare centers. Inclusion criteria involved individuals with hypertension aged 18 and above, while exclusion criteria included patients refusing to participate in the questionnaire and those younger than 18.

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The first part of the questionnaire gathered sociodemographic information, including age, sex, marital status, educational level, employment status, residence, socioeconomic level, family history of hypertension, presence of any associated diseases, duration of hypertension, and blood pressure readings. The second part focused on assessing the knowledge of hypertension among the participants, with questions answered as "Yes," "No," or "I don't know".

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Table 1. Demographical Characteristics of the Study Participants (n=180)

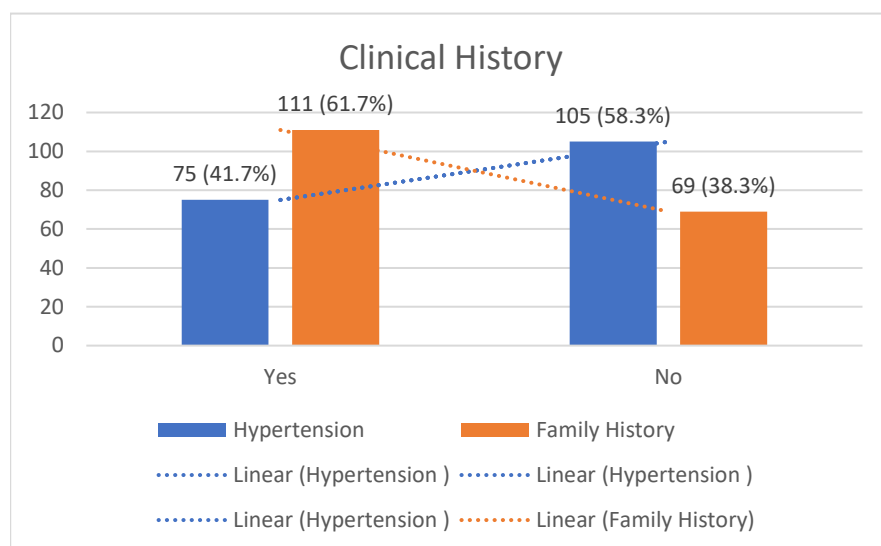| Characteristics	Items	F	%
Age	18-28	41	22.8
	29-38	33	18.3
	39-48	46	25.6
	49-58	35	19.4
	59-68	19	10.6
	≥ 69	6	3.3
	Mean (SD)	42.09	(13.83)
Gender	Male	100	55.6
	Female	80	44.4
Educational background	illiterate	25	13.9
	Elementary school	47	26.1
	Intermediate school	16	8.9
	High school	36	20.0
	Graduated	56	31.1
Occupation	Employed	59	32.8
	Unemployed	121	67.2

F: Frequency; %: percentage

Figure 1. The Clinical History of Study Participants (n=180)

Table 2. Level of Knowledge About Hypertension Disease Among Study Participant (n=180)

Domain	Level of Knowledge					
	Low		Moderate		High	
	F	%	F	%	F	%
Definition	33	18.3	41	22.8	106	58.9
Medical Treatment	22	12.2	65	36.1	93	51.7
Medication compliance	17	9.4	90	50.0	73	40.6
Lifestyle	12	6.7	63	35.0	105	58.3
Dietary habit	20	11.1	44	24.4	116	64.4
Complication	35	19.4	54	30.0	91	50.6
Total	8	4.4	77	42.8	95	52.8

F: Frequency, %: percentage
Level of knowledge cut-off points:

cut-off points	Definition	Medical Treatment	Medication compliance	Lifestyle	Dietary habit	Complication	Total
1. low	(0)	(0)	(0)	(0-1)	(0)	(0-1)	(0-6)
2. moderate	(1)	(1-2)	(1-2)	(2-3)	(1)	(2-3)	(7-14)
3. high	(2)	(3-4)	(3-4)	(4-5)	(2)	(4-5)	(15-22)

Table 3. Association Between Participants Sociodemographic Characteristics, and Hypertension Disease Knowledge (n= 180)

Characteristics	Items	Hypertension Knowledge						χ^2	P
		Low		Moderate		High			
		F	%	F	%	F	%		
Age	18-28	0	0	16	8.9	25	13.9	17.582	.062
	29-38	1	0.6	14	7.8	18	10.0		
	39-48	5	2.8	16	8.9	25	13.9		
	49-58	2	1.1	13	7.2	20	11.1		
	59-68	0	0	13	7.2	6	3.3		
	≥ 69	0	0	5	2.8	1	0.6		
Gender	Male	5	2.8	44	24.4	51	28.3	.370	.831
	Female	3	1.7	33	18.3	44	24.4		
Educational background	Illiterate	1	0.6	16	8.9	8	4.4	**36.566**	**.000**
	Elementary school	1	0.6	27	15.0	19	10.6		
	Intermediate school	3	1.7	9	5.0	4	2.2		
	High school	2	1.1	15	8.3	19	10.6		
	Graduated	1	0.6	10	5.6	45	25.0		
Occupational status	employed	1	0.6	12	6.7	46	25.6	**22.374**	**.000**
	unemployed	7	3.9	65	36.1	49	27.2		
Hypertension	Yes	1	0.6	34	18.9	40	22.2	3.004	.223
	No	7	3.9	43	23.9	55	30.6		
Family History	Yes	2	1.1	42	23.3	67	37.2	**9.356**	**.009**
	No	6	3.3	35	19.4	28	15.6		

F= Frequency; %= Percentage; χ2= Pearson Chi-Square

Results

The mean age of participants was 42.09 years (±13.83) (Table 1). The majority of participants (25.6%) fell into the age group of 39-48 years old. Regarding other demographic characteristics, the table showed that most participants were male (55.6%), had graduated (31.1%), and were unemployed (67.2%).

41.7% of study participants suffered from hypertension, and over 61.7% of them had a family history of the disease (Figure 1).

Study participants' knowledge of hypertension disease was examined (Table 2). The table indicated that the level of knowledge was low in the study domains of Definition, Medical Treatment, Medication Compliance, Lifestyle, Dietary Habits, and Complications among 18.3%, 12.2%, 9.4%, 6.7%, 11.1%, and 19.4% of participants, respectively. Overall, total knowledge was low among 4.4% of participants.

A highly significant correlation was found between participants' knowledge of hypertension disease and their educational background, occupational status, and family history of hypertension disease (Table 3). These results implied that the level of knowledge about HT disease was increased among those who had experienced higher educational levels, were employed, and had a family history of hypertension disease.

Discussion

This study is the first of its kind in Telafer city, and it aims to evaluate adults' understanding of hypertension. The sociodemographic data from Table (1) indicates that most participants were middle-aged males, graduates, and without employment. Figure (1) illustrates that around half of them suffer from hypertension, with many having a family history of the condition.

Comparisons with a study conducted on hypertensive patients in Al-Hilla City (Helen A & Ameer K, 2021) reveal similarities in age, gender distribution, education, marital status, and family history of hypertension. This alignment emphasizes the relevance and representativeness of the study's sample.

Table (2) presents the participants' level of knowledge about hypertension, showing that the majority have a moderate to high level of knowledge. However, areas of weakness are identified in understanding the definition, medical treatment, and complications of hypertension. This underscores the necessity for targeted health education programs focusing on these aspects for adults in Telafer city.

Comparisons with studies in Iraq and Zambia show variations in knowledge levels among hypertensive patients. In Iraq, one study reported a significant percentage with average knowledge (Tesfaye F., 2017), while Zambia showed a higher proportion with average knowledge (Kasaya, 2018). Nonetheless, the current study aligns with several others, indicating a majority with a moderate to high level of knowledge (Eshah & Al-Daken, 2016; Oliveria et al., 2015; Malik et al., 2014).

Table (3) demonstrates a notable difference in knowledge about hypertension among participants based on educational level, employment status, and family history. Those with higher educational levels, employment, and a family history of hypertension showed greater knowledge. This is consistent with findings from studies conducted in Baghdad, Iraq (Mahmut et al., 2015), and Turkey (Beata, 2019), which also found associations between knowledge and family history, marital status, and educational level.

However, the results differ from a study (Buang et al., 2019) that associated hypertension knowledge with the age of participants. These variations highlight the complex factors influencing knowledge levels and stress the importance of tailoring educational interventions based on specific demographic characteristics.

Conclusion

In conclusion, this study provides insights into adults' knowledge of hypertension in Telafer City, emphasizing the need for targeted health education programs. These findings are valuable for healthcare professionals and policymakers aiming to improve regional hypertension awareness and management. In Telafer City, a majority of adults are unemployed and have a family history of hypertension. Among them, knowledge about hypertension disease varies from moderate to high levels. The most common areas of low knowledge are found in three domains: Definition, medical treatment, and complications.

Additionally, there is a positive association between individuals' knowledge about hypertension disease and their educational background, occupational status, and family history of hypertension. Further studies are needed to assess knowledge on other diseases in Telafer City. Create a tailored educational plan focusing on hypertension, especially its definition, treatment, and complications, for Iraqi residents.

Competing financial interests

The authors have no conflict of interest.

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