



# Hypertensive Patients' Knowledge and Attitude in Kasr al Ainy Hospitals

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## To cite this article:

Muhammed H. Meslam, Marwa Abdel Rahman Amer, Lubna Muhammad Bekhiet, Mohamed A.K., Galal Eldin A. Abdelazim, Doaa M. Hassan, Haytham Soliman Ghareeb, Soliman Ghareeb. Hypertensive Patients' Knowledge and Attitude in Kasr al Ainy Hospitals. *Central African Journal of Public Health*. Vol. 2, No. 2, 2016, pp. 66-70. doi: 10.11648/j.cajph.20160202.14

**Received:** July 16, 2016; **Accepted:** October 18, 2016; **Published:** November 3, 2016

**Abstract:** *Introduction:* Hypertension is a major public health problem affecting 26.3% of Egyptians. In Egypt, there was no data yield yet showing the effect of awareness about hypertension on hypertensive patients. So we evoked a question: does being hypertensive affect knowledge about hypertension or not? *Methods:* The study is a comparative cross-sectional descriptive study. A convenient sample of 500 subjects was selected. The questionnaire was intended to evaluate hypertension knowledge regarding symptoms, risk factors, complications and general knowledge. *Results:* There was no significant difference ( $p > 0.05$ ) between both groups. 25% of the subjects were unaware whether hypertension is contagious or not; 45% of the subjects confirmed the hereditary factors owing to hypertension, 60% of the subjects said that hypertension could lead to arthritis. Excess salt consumption was the most recognized risk factor (84%). 60% stated that a hypertensive patient always suffers from symptoms. 39% thought treatment should be started after more than one blood pressure reading. *Conclusion:* It is essential to perform further screening on hypertension awareness levels on a larger scale of population.

**Keywords:** Hypertension, Cardiovascular Diseases, Awareness, Developing Countries, Blood Pressure

## 1. Introduction

We live in a rapidly changing environment. Throughout the world, human health is being shaped by the same powerful forces: demographic ageing, rapid urbanization, and the globalization of unhealthy lifestyle [1]. One of the key risk factors for cardiovascular disease is hypertension, which already affects one billion people worldwide, leading to heart attacks and stroke [1].

Hypertension is a major public health problem affecting 26.3% of the Egyptians, and only 37.5% of hypertensive individuals are aware that they have hypertension [1]. Also Studies showed that only 8% of Egyptian hypertensive patients are controlled [1].

In Egypt, there was no data yield yet showing the effect of awareness and education on hypertensive patients. Supported by the fact that 28% of the adult Egyptian

population is illiterate [2], a large part of the population is not having the privilege of accessing the different awareness channels. Thus despite its importance, little or no data concerning the awareness channels of hypertensive patients is available. The diversity of all the previous factors made us evoke a question concerning hypertensive patients: does being hypertensive affect knowledge about hypertension or not?

## 2. Methods

### 2.1. Study Design and Study Setting

A comparative cross-sectional descriptive study carried out in Kasr Alainy teaching hospitals (the largest hospital in

Egypt. They contain nearly 2000 beds and different classes of Egyptian population are admitted to them) between two groups (hypertensive and non-hypertensive subjects) during the period of August and December 2014.

## 2.2. Sample Technique and Sample Size

Our target population was the patients of Kasr Alainy hospitals specifically the wards in the different departments.

The population that is accessible to this study consists of all patients who were admitted to the hospital. Simple random sample was chosen for inclusion in the study, this resulted in a sample size of 500 patients.

The team took oral consent before the start of the interview.

The following criteria were considered:

- a The patient's age of  $\geq 40$  years and above.
- b The patient not in pain during the interview.
- c patient is not terminally ill

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## 2.3. Study Tools

A validated questionnaire was used to collect data by the field team, to evaluate hypertension knowledge regarding the following sections: Symptoms, Risk factors, Complications and General knowledge.

The questionnaire was initially designed in English based on 'Check Your High Blood Pressure Prevention' IQ questionnaires, National Heart, Lung, and Blood Institute [4] and previous studies [5]. Items were added based on our experience in public awareness regarding hypertension. The questionnaire was translated to Arabic language in order to match the subjects' native language.

The questionnaire was tested by pilot study on 100 subjects and based on data analysis; the questions were edited before the start of the study.

Subjects were interviewed by accredited team from the Egyptian Hypertension Society and MYTH (Medical Youth Treat Hypertension) association.

After interviewing the patients, their blood pressure was measured according to the recommendations of the Egyptian Society of Hypertension.

Hypertension was cleared as: systolic blood pressure above 140 mmHg and/or diastolic blood pressure above 90 mmHg according to the guidelines of the Egyptian Hypertension Society (EHS).

Hypertension treatment, awareness and control rates were cleared as the number of hypertensives aware of their hypertension disease, under anti-hypertensive medication, and with controlled hypertension below 140/90, divided by the total number of hypertensive patients in that order.

Finally, an educational health message about hypertension was given to the patients.

## 2.4. Data Management and Statistical Analysis

The data were entered on an excel file using an IBM compatible computer. The data were analyzed using the appropriate descriptive statistics as indicated.

Statistical analysis was performed using SPSS version 14.0. A P value  $< 0.05$  was considered significant. Means were compared with t-tests and incidence was compared with chi-squared tests.

Numerical variables were divided by 1 SDs for standardization.

## 2.5. Blood Pressure Measurement

The blood pressure was measured according to Egyptian hypertension guidelines which state the following approach [6]:

1. The manual, non-invasive auscultatory measurement was used, using mercury sphygmomanometer with suitable cuff size and stethoscope.
2. subject was sitting in comfortable position with exposed arm.
3. The cuff wrapped around bare upper arm (one inch above the elbow bend) and the diaphragm of the stethoscope was placed free below the cuff.
4. The cuff was inflated above anticipated systolic pressure, by palpating the radial pulse, at a rate of 2-3 mmHg / second.
5. The Systolic pressure was the pressure reading at the onset of the sounds described by Korotkoff (phase one) (K1).
6. Diastolic pressure was then recorded as the pressure at which the sound disappeared (K5).
7. Two measurements in each arm were done at least 5 minutes apart, and the average reading was recorded.

## 3. Results

Systolic blood pressure (SBP) Mean $\pm$ SD was 142 $\pm$ 11.34mmHg, diastolic blood pressure (DBP) was 95 $\pm$ 10.72mmHg, and pulse rate (PR) was 80.77 $\pm$ 8.73 beats/min among hypertensive group while among non-hypertensives (SBP) was 120.93 $\pm$ 5.83 mmHg, (DBP) was 80.84 $\pm$ 8.46 mmHg and (PR) was 77.27 $\pm$ 5.23 beats/min.

25% of the subjects reported were unaware whether hypertension is contagious or not, moreover 9.7% of the subjects confirmed that hypertension is a contagious disease ( $P=0.452$ ). This means that more than one third of the subjects were oblivious to the basic question when it comes to hypertension knowledge (table 2).

33% of patients stated that diagnosis of hypertension is made after multiple blood pressure measurements taken at different times, while 40% weren't able to answer the question.

**Table 1.** Epidemiological data of the study.

	Percentage
Rural	28%
Urban	72%
Hypertensive	42.5
Non-Hypertensives	54.7%
Unknown	2.8%
Males	45.5%
Females	54.5%
+ve family history	9.4%
-ve family history	57.8%
Unknown family history	32.8%
1ry Education	15%
Middle education	8%
University education	15%
No education	62%

When asked about the initiation of treatment, 38% thought it should start after more than one blood pressure reading compared to 47% who disagreed. 50% of the patients thought that one should not stop his medication if he felt better compared to 40% who thought otherwise.

85% of the patients agreed that changing the daily habits can affect one's blood pressure.

52% of the patients didn't know when a person is diagnosed as hypertensive.

70% knew that hypertension can affect youth as disease can affect any age group according to their opinions. Excess salt consumption was the most recognized risk factor (84%).

60% of the patients stated that a hypertensive patient always suffers from symptoms and they measure blood pressure only after headaches, unlike 23% of the subjects who disagreed ( $p=0.687$ ).

There was no significant difference ( $p>0.05$ ) between both groups reflecting that being hypertensive doesn't improve the patients knowledge regarding the basic knowledge of hypertension.

**Table 2.** Symptomatic Hypertension.

Question	Yes	No	I don't know
Is hypertension contagious	9.7%	64.3%	26%
Are there symptoms accompanying hypertension	60.3%	22.7%	17%
Should Blood pressure be measured after headaches only	28.8%	64.4%	6.8%
Does treatment start after one blood pressure reading only	38.8%	47.3%	14.4%
Can we stop medication when blood pressure returns to normal levels or improves	48.4%	50.6%	11%
Is hypertension a life long disease	50.2%	29.6%	20.2%
Should blood pressure be measured regularly	71.6%	22.6%	5.8%
Does hypertension drugs have side effects	40.7%	28.3%	31%

The difference of knowledge between the two groups is shown in (table 3) comparing only the right answers.

**Table 3.** Risk factors and complications.

Risk Factors and complications	Yes	No	I don't know
Salt use	84%	5.4%	10.6%
Obesity	70.4%	9.6%	19.8%
Smoking	70.2%	7.2%	22.6%
Caffiene	69%	9%	22%
Low activity	59.5%	19.5%	21%
Decreased vegetable intake	50.8%	22%	27.2%
Genetics	44.8%	31.4%	27.8%
Vision complications	83.8%	3%	13.2%
Stroke	81.8%	2.6%	15.6%
Heart diseases	75.4%	4%	20.6%
Arthritis	60.4%	12%	27.6%
Renal affection	50.3%	12.4%	37.3%
Liver cirrhosis	36.6%	16%	47.4%

## 4. Discussion

There was no significant difference ( $p>0.05$ ) between both groups reflecting that being hypertensive doesn't improve the patients knowledge regarding the basic knowledge of hypertension.

Results showed some surprising findings regarding hypertensions risk factors, nearly only half of the subjects confirmed the hereditary factors owing to hypertension, while the other half disagreed or did not know the link. As for the 2 non established complications added in the questionnaire, around two thirds of the subjects said that hypertension can lead to arthritis and the remaining one-third said HTN can lead to liver cirrhosis (table 3).

Another shocking finding rather than surprising was the way hypertension affected our health, where the majority of subjects stated that hypertension affects our health by causing anxiety (table 4). This may be contributing to the patient's general psychological state when suffering from a disease.

This fact is supported after asking about the source of knowledge on blood pressure and hypertension, about 40% of them got their knowledge from personal experience with the disease "table 3".

Self monitoring of blood pressure is recommended for the management of hypertension in patients where measurement devices are affordable. As with other non-communicable diseases, self-care can facilitate early detection of hypertension, adherence to medication and healthy behaviors, better control and awareness of the importance of seeking medical advice when necessary. Self-care is important for all, but it is particularly so for people who have limited access to health services due to geographic, physical or economic reasons.

Government must ensure that all people have equitable access to the preventive, curative and rehabilitative health services they need to prevent them developing hypertension and its complications.

Table 4. General Knowledge.

Question	Percent
Patient is considered hypertensive when his Blood pressure is:	
Above 120/80	10%
Above 140/90	29%
Don't know	61%
Hypertension affects health in the following ways	
Vessels	53.5%
Diabetes	31.5%
Weight	18.6%
Anxiety	67.3%
Don't Know	21.6%
Source of your knowledge on blood pressure?	
Doctors	32.7%
Media	12.6%
Reading	5%
Community	17.6%
Relatives	12.8%
Self-knowledge	39.1%
Can hypertension affect the youth	
Yes	73.8%
No	11.1%
Don't know	15.1%
Is a hypertensive patient allowed to play sports?	
Yes	54.4%
No	22.6%
Don't Know	23%
When can we say a person is hypertensive?	
If blood pressure(Bp) is measured 3 times in different occasions and levels of Bp is higher than normal	33.40%
Constant headaches	26.10%
All answers wrong	2%
Don't know	38.50%

## 5. Conclusion

Owing to the fact that the general level of awareness in both groups can be considered moderate about hypertension, which is the major cause of lethal cardiovascular diseases, therefore, it is essential to perform further screening on hypertension awareness levels on a larger scale of population.

Consequently, this will help in improving public health by two ways; prevention and rehabilitation. Lastly, a wide-scale initiative should be done in medical institutions targeting medical personnel to direct more care towards blood pressure measurement as a part of the essential periodic examinations per visit.

The prevention and control of hypertension requires political will on the part of governments and policymakers. Health workers, the academic research community, civil society, the private sector and families and individuals all have a role to play. Only this concerted effort can harness the testing technology and treatments available to prevent and control hypertension and thereby delay or prevent its life-threatening complications.

## Limitations

One of the biggest limitations was the educational level of the patients, which presented an obstacle, in delivering the right meaning behind every question; in addition to

contributing in the low level of awareness about blood pressure and hypertension.

The old age of most of the patients and the difficulties in their hearing and speech sometimes possessed an obstacle.

A longer duration was needed during visit hours of the patients, which possessed a challenge for us to do our work.

## Competing Interests

The authors have no financial disclosures, and no conflict of interest.

## Authors' Contributions

All authors of this research paper have directly participated in the planning, execution, or analysis of this study.

## Acknowledgment

We appreciate the fieldwork of MYTH "Medical Youth Treating Hypertension" association members.

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