



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3549919>Available online at: <http://www.iajps.com>

Review Article

**REVIEW OF THE PREVALENCE AND AWARENESS
REGARDING HYPERTENSION IN SAUDI ARABIA****Bassam Sami Tayeb¹, Abdulmalik Marwan Alahmadi², Ahmed Mouffaq Dawoud²,
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Shoog Fahad Alfadhel³, Abdullah Harb Hommadi³, Ahmed Hassan Saeed Alzahrani⁴**¹Cardiology consultant, GNP hospital, Jeddah, Saudi Arabia.²Medical intern, Batterjee medical college, Jeddah, Saudi Arabia.³Medical Intern, King Saud bin Abdulaziz University for Health Science, Riyadh,
Saudi Arabia.⁴MBBS, Al-Baha, Saudi Arabia.**Abstract:**

Hypertension is a controllable factor which contributes to the burden of many common non-communicable diseases globally. This study provides a general view on hypertension prevalence and awareness among Saudis. Prevalences have ranged from (15.2%) to (54.9%) in multiple studies. The variation is mainly due to the studied age group, cutoff measures, and methods of detecting the prevalence. Awareness was investigated as well to know the other factors contributing to the high prevalence rates. Adherence was addressed as the major issue in controlling hypertension in Saudi Arabia. However, while awareness is considered to be satisfactory, more attention should be paid towards adherence to medication to achieve a better control over hypertension.

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Please cite this article in press Abdulmalik Marwan Alahmadi ., *Review of the prevalence and awareness Regarding hypertension in Saudi Arabia.*, Indo Am. J. P. Sci, 2019; 06(11).

INTRODUCTION:

Hypertension is a controllable factor which contributes to the burden of many common non-communicable diseases globally. Hypertension has an insidious onset of disease that has the ability to damage the fragile capillary beds in different organs such as kidney or may cause a rapid rupture of blood vessels causing hemorrhage in other organs such as the brain. It is considered a main risk factor for cardiovascular diseases and may result in death, predisposing to obesity, diabetes mellitus, and smoking [1]. Hypertension is known to be a major predictor of premature death, mainly due to cardiovascular disability that poses a huge economic burden to the medical system and human lives' losses [2-3].

Around the world, more than one tenth (13.5%) of premature deaths (7.6 million), were attributed to hypertension alone. They are indirectly caused by diseases that have been predisposed by hypertension. For example, (54%) of stroke, and (47%) of ischemic heart disease [4]. In the Kingdom of Saudi Arabia, levels of hypertension in the previous reports ranged from (26.1%) in the period of (1995–2000) [5] to (25.5%) in 2005 [6]. The variation is dependent upon the studied age group and other related factors. However, in 2010, hypertension was classified as the first leading risk factor for death in Saudi Arabia. While the latest report about cardiovascular risk factors among the Saudis reported a prevalence of (31.4%) for hypertension [7].

The awareness regarding hypertension is an important factor helping the health system to reach a better control of hypertension. In Saudi Arabia, reports have varied regarding the knowledge. One report suggested a better awareness among the hypertensive patients reaching (87.5%) [8]. Patients with HTN can face a failure to follow their prescribed medications, because of a the symptomless nature of their condition, the long duration of therapy, different side effects, or multiple medications [9].

This study aimed to describe the reported prevalence rates in Saudi Arabia and the awareness studied among hypertensive patients.

METHODS:

All the studies reporting prevalences were included in the primary literature search. The search was done among the major database libraries (Pubmed, Embase, and Web of sciences). All studies in Saudi Arabia regarding prevalence or awareness were selected to for a primary review. Studies published before the year of (2000) or lacking clear method explanation about the measurements limit were excluded. Cutoff measurements and reported percentage and age groups included in the studies were detected and described in tables, while major findings will be mentioned in the paper. Along with the included studies in the review, some references were used to discuss the findings and conclusions of the previous papers.

Papers were sorted to three categories; prevalence-related papers, awareness-related papers and other papers to enrich the gathered information and to be used as references in the issues of concern.

Different methodologies used in the included studies were considered to provide a comprehensive review over age groups and geographical regions around Saudi Arabia.

Prevalence of hypertension

The prevalence rates in the Arab countries in general were found to be high, with the overall prevalence (29.5%) [10]. In Saudi Arabia, the prevalence rates ranged from (15.2%) [11] to (54.9%) [12] in the included studies. Various studies have been discussing the variety of prevalence between both genders. However, it is thought that males are more prone to be hypertensive than females [11]. While in some studies the prevalence was equal in both genders [13]. The differences between reported percentages are shown in (Table 1). Some studies counted the prevalence upon participants reporting of diagnosis or using the medications of hypertension.

The difference in the reported percentages as regard to hypertension can be due to multiple factors, inaccurate measurement in data collection, the difference in cutoff measurements, age groups included in each study, and the sample size.

Table 1: Demonstrate the reported prevalences in the included studies.

Study	Age group	Cutoff measurement	Percentages
Mansour M et al. [5]	30 – 70	As reported	26.1%
Aldiab A et al. [12]	18 – 67	140/90	54.9%
Elkhalifa A et al. [13]	30 – 50	140/90	22.6%
El Bcheraoui C et al. [11]	> 15	140/90	15.2%
Wahid A [14]	15 – 64	140/90	9.0%
Bandy A et al. [15]	15 – 17	Percentile \geq 95	17.1%
Shaea A et al. [16]	20 – 64	140/90	34.0%
Gutierrez J et al. [17]	> 30	140/90	11.1%

It is important to note that hypertension is usually associated with other comorbidities such as diabetes, obesity and cardiovascular diseases. Which in turn can lead to mortality from the first risk factor contributing to death in Saudi Arabia [18]. As regards to obesity, according to a study on third of the hypertensive patients are obese in Saudi Arabia [19]. In another report about hypertension and comorbid diabetes, it was found that type 2 diabetes and hypertension were in (56.4%) of cases [20]. Ischemic heart diseases and stroke are known to be the leading causes of death globally, accounting for about 14.6 million, or one in four deaths in 2013 [21]. Without changing intervention, the burden of hypertension will continue to increase and exacerbate the persistent global epidemic of cardiovascular and kidney diseases.

Awareness regarding hypertension

Educational level is attributed to hypertension. It was found that educated people significantly have less prevalence rates than other population [12]. Therefore, the education of the population can influence the knowledge regarding hypertension, which eventually will lead to a better prevention and control if the educated person is affected. The control of hypertension relies mainly upon the level of awareness which will lead to early detection of the disease and self-adherence to the prescribed medications. In Al-Ahsa, Saudi Arabia, only (23%) were having a good adherence to hypertension medications [22]. This can be due to inappropriate counselling presented by the physicians. In the same city, a study has reported a poor counselling, where only one quarter (25%) of the patients has received counselling [23].

This issue is of concern due to the portion of cases found to be uncontrolled in Saudi Arabia. For increased systolic blood pressure, (41.4%) and (34.8%) for high diastolic blood pressure cases were not controlled [24]. Uncontrolled cases can be due to multiple factors, underdiagnosed cases, absence of symptoms, side effects of the medications, multidrug if the patient has comorbidities, and loss of follow up with the treating physician.

On the other hand, some reports have suggested a good level of awareness in the hypertensive population of Saudi Arabia. Where (87.5%) of the participants in one study had efficient information about hypertension [25]. In another study, the awareness level was high in most of the cases (72.6%). However, same study suggested that poor knowledge is correlated with advanced age (> 50 years) [26].

As health professionals are the ones who shall educate the patients, a study has been conducted to assess the awareness of health care professionals about hypertension. The study targeted health care workers in two tertiary hospitals in Saudi Arabia. The results showed that (22.3%) were irregular for their follow up, and (12.2%) were not adherent to the treatment [27]. As this is noted among health care practitioners, the population would lack the enthusiasm among health care professionals and thus can lead to a poor counselling and education as health care workers are considered a major source of information for the patients especially those with newly discovered hypertension.

CONCLUSION:

The prevalence of hypertension in Saudi Arabia is raising, studies reported the prevalence by age group, or by classification as systolic, diastolic or both. Studies including all age groups with a clear definition of measures are needed. Awareness is considered to be satisfactory, while more attention should be paid towards adherence to medication to achieve a better control over hypertension.

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