

# Barriers of Compliance to Treatment Regimen among Egyptian Hypertensive Patients

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## Introduction

Egypt has a highest prevalence rate of hypertension in the world, and Egyptian patients have a highest non-compliance rate to hypertensive regimen, as well as few studies have discussed compliance in developing countries and little work is done to assess patient compliance.

Compliance to hypertension treatment is a critical factor conditioning the success of therapy. However, non-compliance is the main contributor to un-controlled blood pressure. The aim of this review is to help investigators from the developing countries, to assess compliance and its barriers as well as institute measures that directly improve compliance to a higher rate & manage risk factors and consequently decrease complications of hypertension. It is also hoped that this effort will generate attention and motivation for further study into this topic. The information is mostly based on Egyptian National Hypertension Project and Hanan Soliman doctorate thesis. The review addresses a number of important themes: (1) Problem of Hypertension in Egypt. (2) Barriers of compliance to therapeutic regimen in Egyptian hypertensive patients

**Keywords:** Hypertension, compliance, treatment regimen, Egypt

## Problem of Hypertension in Egypt

Data from the Egyptian National Hypertension Project (NHP) [1-7] showed that hypertension is common among Egyptians. In the years (1991-1993), 26.3% of adult Egyptians have high blood pressure. More than 50% of individuals older than 60 years suffered from hypertension. At present, if the same prevalence rates did not change, it is predicted that with an Egyptian population of more than 80 millions, there are approximately 15 millions with hypertension and about 7 millions will be in need of lifelong drug treatment and regular follow-up. The problem is complicated by the low awareness rates, only 38% of hypertensive Egyptians were aware of having high blood pressure, only 24% were receiving treatment, whereas control rates ( $<140/90$ mmHg) were 8%. Other cardiovascular risk factors namely hypercholesterolemia, increased LDL-cholesterol, low HDL-cholesterol, Hypertriglyceridemia, diabetes, impaired glucose tolerance and obesity were present in 60% of hypertensive patients [8]. Target organ damage was present in patients with more than stage I hypertension (P160/100mmHg), e.g., ECG-LVH in 20%, coronary artery disease (CAD) 16%, systolic heart failure in 5% and renal failure in 3.2% [9]. Egyptians have one of the highest mortality rates secondary to CAD worldwide [10,11]. Hypertension is an established major risk factor for CAD

In view of Egypt's limited financial resources and the limited government spending on health which equals annually 42 USD per capita (year 2008), while total annual/capita expenditure on health is 124 USD compared with 3925 USD in USA [12]. guidelines should give priority to cost of care. Furthermore, more than 58% of spending in Egypt on health care is out of pocket [12]. Choices must be made as to how limited budget is spent. Therefore, countries with limited resources can not treat everyone with BP beyond the defined threshold stated in the international guidelines. A higher threshold of >150/95mmHg for initiation of therapy might be considered and priority should be given to high risk patients. On the other hand, drugs of first choice should be the least expensive such as thiazide diuretics, beta adrenergic blockers and generic forms. Patients will not adhere to drugs that they cannot afford.

### Barriers of Compliance to Egyptian Hypertensive Treatment

The commonest reasons reported by respondents for non-compliance to medication taking were forgetting their medication (about one third of patients), followed by long duration of therapy and the cost of medication as well as side effects of drugs. Forgetting medication may be due to lack of reminder and side effects are unexpected situation because of the availability of modern medications currently on the market with a low profile of adverse side effects this might be attributed to the difficulty in accessing the new medications due to economical reasons [12]. As regards health care system, another major barrier to compliance to regular follow up is related to ineffective and/or inconvenient health care system for management of hypertension.

Barriers of compliance to follow up were markedly due to improper health care provided at outpatient clinic. More than two thirds of patients were not satisfied by the care provided at the outpatient clinic. Improper place for waiting was reported by one quarter of patients, followed by inequality in dealing with patients, doctors does not care to the patients' complain and difficult transportation facilities were considered another reason for not attending outpatient clinics. As regards inappropriate care given in outpatient clinics, patients were increasingly requesting more complete information about their disease. This need is seldom satisfied by doctors or nurses mainly due to lack of time during the visit. An alternative is a teaching approach in which questions and answers are proposed to groups of patients.

The highest percentage for non-compliance to low dietary salt was that, patients did not know the allowed quantity of salt to be

added to their food, accounting for third of patients. This percentage changed to be a minority (four percent) post program. As regards barrier to smoking cessation, more than half of smokers reported inability to quit. This remained unchanged post program because it was not based on the lack of knowledge but on the reluctance and inability to modify lifestyle. Knowledge is not a magic stick that changes unhealthy behavior upside down [12].

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