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Research articles

Medication non-adherence in hypertensive patients understanding the mire

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ABSTRACT

Hypertension is considered one of the leading global health concerns that require a lifelong treatment. High Blood Pressure or Hypertension is found to be the chief cause of adult mortality across the whole world and is estimated to cause more than 13% of deaths on a yearly basis. Poor rate of adherence to the described medication plan is found to be a major public health challenge in different age groups of individuals suffering with hypertension. This study is carried out to spread knowledge about the concept of adherence, various causes and consequence of non-adherence. The present study was conducted in 320 individuals. Out of 320 individuals 20 individuals were such who did not completely fill the form. After analysing the result 58% of the subjects were found to be non-adherent to anti-hypertensive medications. Men were found to be more non- adherent as compared to women. The main reason of being non-adherent was found to be the complexity of drug regimen. If the theory of medication adherence is made known to the public there can be an improvement in the adherence rate.

Keywords: Hypertension, Non-adherence, Anti-hypertensive drugs, Drug regimen, Measuring adherence

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INTRODUCTION

Hypertension ranks third in the world and it is a primary reason for worldwide burden of disease [1]. There are around one billion hypertensive individuals worldwide, of which, two-thirds are in developing countries states the Seventh Report of the JNC (Joint National Committee) on Hypertension [2]. Indians who have high blood pressure (hypertension) are expected to reach 214 million in 2025, which is up nearly 100 million since the year 2000 [3].

It is usually reported that not accurately treated or untreated hypertension usually leads to an elevated risk of mortality and morbidity. Higher risks are due to various renal diseases and cardiovascular diseases associated with them [4].

Hypertension is the most important cause of deaths these days and it affects around one billion population throughout the world. According to the report of CURES cohort study every fifth person is found to be hypertensive in India [5].

Hypertension is found to be a foremost reason of adult mortality across the whole world and is estimated to cause more than 13% of deaths on a yearly basis [6, 7].

It was reported by the WHO (World Health Organization) that 49% of ischemic heart diseases and 62% of the various cardiovascular diseases are caused due to suboptimal blood pressure meaning that systolic BP is around 115 mmHg [8].

Blood pressure management can be measured through many different parameters. The success of a drug therapy depends on the health care provider's role in optimizing the doses of the prescribed medicines and taking appropriate treatment choices for an individual. In addition, medication adherence behaviour of a patient to the prescribed antihypertensive medication plan also plays a vital role in achieving blood pressure targets. Therefore, there is a need for the health professionals to work in partnership with their patients and guide them to adhere to their medication regimen in order to achieve treatment goals [9].

Therefore, blood pressure control is the need of the hour and is paramount in the prevention of primary and secondary cardiovascular disease [10].

Hypertension must be successfully treated in order to lower mortality and morbidity rates, and keep health-care costs under control, which are all linked to untreated hypertension. Unfortunately, many researchers have reported a very poor control of blood pressure, mainly in those patients who have chronic conditions like hypertension.

Hypertension is a condition which cannot be cured but it can certainly be controlled with a large number of methods which are available. To control the state of hypertension in adults,

antihypertensive medication therapy in addition to lifestyle changes should be implemented [11].

Most of the times, hypertension is controlled through both pharmacological along with non-pharmacological methods. Pharmacological methods are the methods which include taking antihypertensive medications on a regular basis and with the help of these medications an individual's BP is kept under control [12-14].

Non pharmacological methods include exercise, weight loss, restricting sodium (table salt) ingestion to 80–100 mmol/day and other dietary changes [15]. It also includes reduction of stress through different relaxation methods such as yoga and other techniques. [16, 17]

Reducing cardiovascular and renal mortality and morbidity by reducing blood pressure is the most important goal of hypertension treatment using antihypertensive drugs (BP). To accomplish this goal, we should encourage the patients to stick to the pharmacologic and non-pharmacologic management remedies that have been prescribed. [18]

Medication non adherence is regarded as failure to stick to the prescribed medications either willingly or unwillingly. Medication non adherence instance can include taking fewer or more doses than prescribed, failing to initially fill a prescription and taking medications that have been prescribed for someone else [19].

WHO had also reported that the most significant factor which leads to uncontrolled BP is poor adherence to medication? In addition, it is also found that around 50-70% of individuals are not seen taking their antihypertensive drugs as prescribed by the doctor [20].

Poor adherence to the described medication plan is found to be a major public health challenge in different age groups of individuals suffering with hypertension.

Measuring adherence is of prime importance because the measurement will help us get an insight about the levels of adherence. This in turn will help us find out the solutions to the problems faced by the society which makes them non adherent to a drug regime. The steps toward guiding the individuals to be more adherent to the medications are only possible when we have a true picture about the level and reason of non-adherence.

There are chiefly three methods by which we can measure medication adherence. The first method is the indirect method. The indirect is one which deals with the patient in an indirect manner. The examples of indirect method to measure adherence to medication includes self-reports, pill counts, pharmacy refill rates and electronic medication monitors. [21] Self interviewing the patient with questionnaire also comes under the indirect method of measuring drug adherence. Self-interviewing and self-reports are simple and usually inexpensive, which is their key advantage over other methods. There are several questionnaires which have been reported for the purpose of self-reporting so as to measure the degree of adherence of an individual towards prescribed medicines. MMAS which is commonly known as Morisky Medication Adherence Scale is one of the most widely used scales for measuring adherence [22].

Many individuals suffer from mortality and morbidity related to antihypertensive medication non adherence.

It is therefore rightly quoted that "medication adherence is the next frontier in quality improvement and it hence a vital part of the research on cardiovascular system" [23].

MATERIALS AND METHODS

The research was conducted in Dehradun, Uttarakhand. People suffering from hypertension and taking anti-hypertensive drugs from the past 6 months were included in the study. People not willing to take part in the study and pregnant women were excluded from the study. Individuals were chosen at random.

The data was gathered using two questionnaires. The Morisky medication adherence scale was used to determine the level of adherence and the second was a self-designed validated questionnaire which included questions regarding the socio demographic characteristics, the reasons for medication non-adherence and the elements that influence adherence.

STATISTICAL ANALYSIS

The data collected by administering the two questionnaires was analysed with the aid of SPSS software and the results were further calculated.

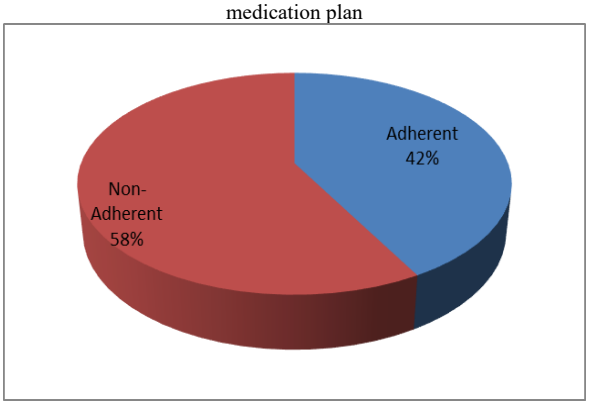
The complete data set was analysed using descriptive statistics.

RESULT AND DISCUSSION

320 individuals were included in the research. Out of 320 individuals, 20 individuals were such who did not completely fill the form. So, the final result calculation was done taking the 300 individuals in consideration, leaving the 20 whose forms were incomplete.

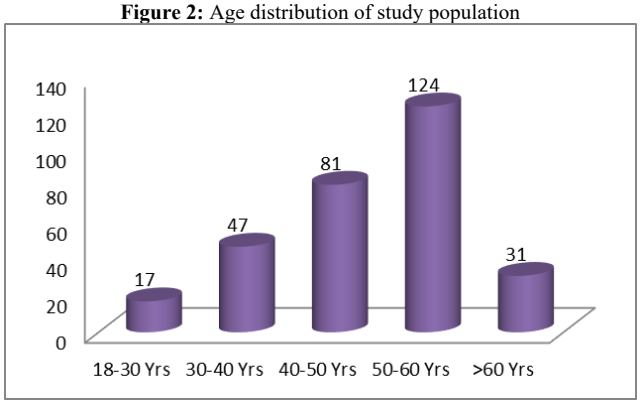
After analysing the result 58% of the individuals were reported to be non-adherent to anti-hypertensive medications as shown in Figure 1.

Figure 1: Distribution of individuals adherent and non-adherent to their medication plan



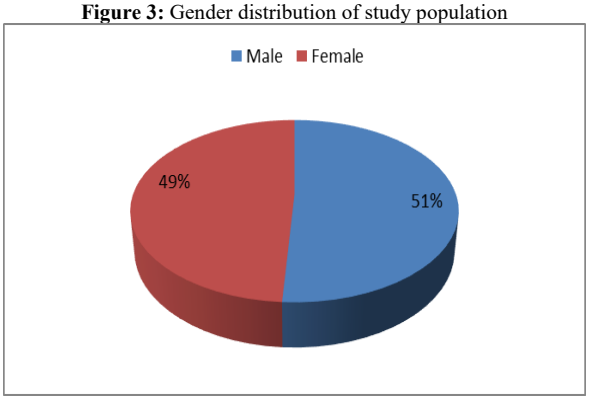
In the target population 51% of the individuals were male while 49% were female as depicted in Figure 2.

Figure 2: Age distribution of study population



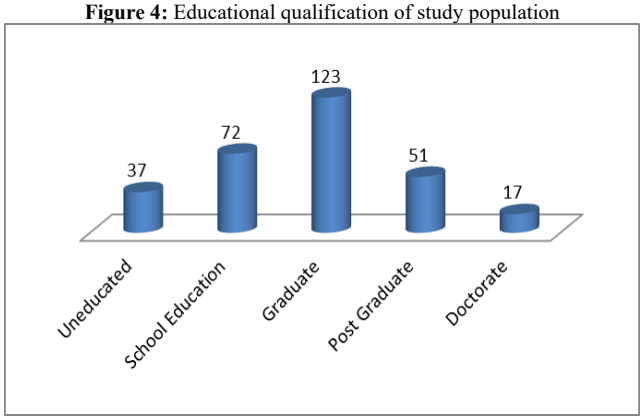
Women (59%) were shown to be more compliant with anti-hypertensive medications than men (41%). Maximum number of individuals who were part of the study belonged to the age group of 50-60 years (41%) followed by 40-50 years (27%), 30-40 years (16%), above 60 years (10%) and 18-30 years (6%) as shown in Figure 3.

Figure 3: Gender distribution of study population



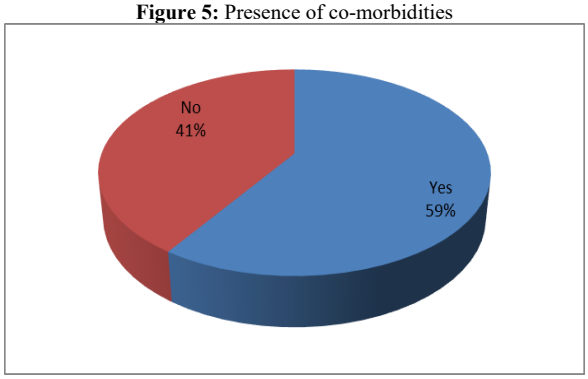
The educational qualification of individuals who took part in the present study was recorded. Maximum number of individuals was Graduate (41%), followed by people those participants who have completed school education (24%), Post graduate (17%), Uneducated (12%) and Doctorate (6%) as stated in Figure 4.

Figure 4: Educational qualification of study population



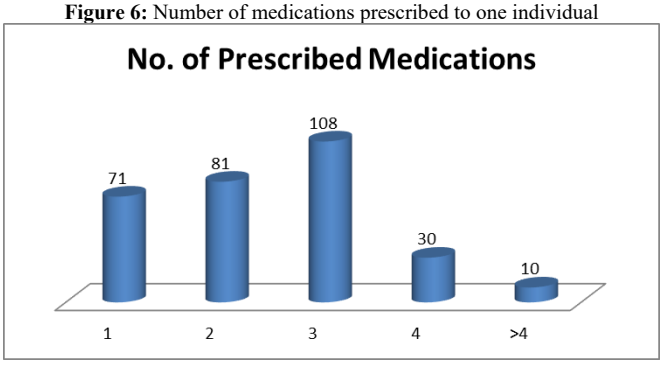
Majority number of individuals (59%) reported having co-morbidities while 41% reported that they suffer from only Hypertension as depicted in Figure 5.

Figure 5: Presence of co-morbidities



The total number of drugs an individual is taking was also recorded. Maximum number of study population reported taking 3 medicines (36%), followed by 2 medicines (29%), 1 medicine (24%), 4 medicines (10%) and more than 4 medicines (3%) as shown in Figure 6.

Figure 6: Number of medications prescribed to one individual



The reason of being non-adherent was also recorded from the individuals. Intricacy of medication regimen (31%) was the major cause for being non- adherent. The result is shown in

Table 1: Reason of non-adherence

Reason of Non-adherence	No. of Individuals	Percentage
Cost of Medicine	21	12%
Complexity of drug regimen	53	31%
Side effects	23	13%
Lack of knowledge about the disease	14	8%
Inadequate knowledge regarding therapy	20	11%
Forgetfulness	43	25%

CONCLUSION

Not adhering to medication is without any doubt a very complex phenomenon. Adhering to the medication regimen is vital in improving any medical condition and curing a particular disease. Moreover, it is very clear and of uttermost importance that non-adherence to medication can be easily classified as a very serious public health issue whose prevalence and consequence is widening throughout the globe at a very high pace. Our research also indicated that more than half of the participants did not follow their drug routine. And therefore, it is very important to make the people understand about the significance of adhering to the treatment plan as prescribed to them by their doctor.

It is the responsibility of each healthcare provider to

properly counsel the patient's and explain it to them to entire concept and as to why they need to take a particular medication for a defined period of time and what will be the consequence of not following the drug regimen.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interests.

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