MAPPING OF HEALTH PROFILE OF HYPERTENSION PATIENTS IN CHERLAPALLY VILLAGE, NALGONDA, TELANGANA, INDIA

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ABSTRACT: *A community pharmacy, often referred to as retail pharmacy or retail drug outlets, is places where medicines are stored and dispensed, supplied or sold. As a part of community pharmacy interaction with people plays a key role in bringing awareness about chronic diseases in the rural areas. Hypertension is a cardiovascular disease, affecting people of both genders and across 30- 60 and above groups and is currently considered a major public health change globally. This study aims to assess the public knowledge, awareness and health profile. A cross-sectional survey was carried out for 4 months from February 2023 to May 2023 using a survey, offline questionnaire. Data were descriptively analyzed. A total of 100 families surveyed, the major participants were hypertension patients. The male hypertension patients bear 43 %, the female hypertension patients bear 57%. Hypertension is a silent killer with preventing complications it can be avoided. Three major complications are swollen ankles, severe headache and confusion, redness skin, related to blindness, kidney damage and heart attack. Researchers now look for alternative methods for hypertension treatment. The goal of this project is to give a general idea of current status of hypertension research on charlapally village.*
Keywords: Community pharmacy, survey, essential hypertension, community people, environmental factors, anti-hypertensive drugs, silent disease, cardiovascular disease.

I. INTRODUCTION

The main responsibilities of a community pharmacy include compounding, counselling, and dispensing of drugs to the patients with care, accuracy, and legality along with the proper procurement, storage, dispensing and documentation of medicines. The community pharmacist must be a qualified and pertinent with sound education, skills and competence to deliver the professional service to the community.

A community pharmacist should;

(i) have a sound background of pharmaceutical care, pharmacotherapy, and health promotion.
(ii) have good communication skills with patients and other healthcare providers.
(iii) maintain a high degree of standard in products, services, and communication.
(iv) record and maintain his documents in order.

"In short community pharmacy is the drug use, control and effective application of knowledge of ethics, that assures optimal drug safety in the distribution and use of medicines and hence, it ensures maximum well-being of patients while they are on drug therapy."

Community Pharmacy is defined broadly to include all those establishment that are privately owned and whose function, in varying degrees is to serve societies needs for both drug product and pharmaceutical service. It is the branch of pharmacy that deals with different aspects of patient care, dispensing of drugs and advising patient on the safe and rational drug use.[1]

Community-based pharmacy practice is evolving from a focus on product preparation and dispensing to becoming a health care destination within the four walls of the traditional community-based pharmacy. Furthermore, community-based pharmacy practice is expanding beyond the four walls of the traditional community-based pharmacy to provide care to patients where they need it.

Scope of Community Pharmacy:

Community Pharmacy has a large number of scopes or approaches, which are related to patient counselling and patient drug control. Drug information about their action Besides proper understanding of the biological and physical science, community pharmacy also provides grasp on chemistry, pharmacology, toxicology, routes of administration, stability and other information regarding drugs. The community pharmacy is an excellent institute and an educational laboratory for physician and pharmacist carrying out an obligation to provide necessary and fully authoritative information on drug. Community pharmacy acquires the knowledge by personal and individual contacts with the physician but also from the pharmacy and therapeutic committee. Community pharmacy also ensures the pharmaceutical quality of drugs and dispensing of drugs and

also responsible in selection of a suitable product in the market.[2]

II. HYPERTENSION

Hypertension is the force that a person's blood exerts against the walls of their blood vessels. This pressure depends on the resistance of the blood vessels and how hard the heart has to work. Certain conditions, medications, and health factors can increase this pressure. Hypertension is blood pressure that is consistently higher than 140 over 90 milli meters trusted Source of mercury (mm Hg).

The American College of Cardiology and the American Heart Association (AHA) define blood pressure ranges as;

CATEGORY	SYSTOLIC (mmHg)	DIASTOLIC (mmHg)
Optimal	<120	<80
Normal	120 - 129	80 - 84
High normal	130 - 139	85 - 89
Grade 1 hypertension (mild)	140 - 159	90 - 99
Grade 2 hypertension (moderate)	160 - 179	100 – 109
Grade 3 hypertension (severe)	Less than (or) equal to 180	Less than (or) equal to 110
Isolated systolic hypertension	Less than (or) equal to 140	< 90

Table-1. Types of Hypertension (blood pressure)

Hypertension is a primary risk factor for cardiovascular disease, including stroke, heart attack, heart failure, and aneurysm. Managing blood pressure is vital for preserving health and reducing the risk of these dangerous conditions. Almost half of all adults trusted Source in the United States have high blood pressure, but many may not know they have it. Hypertension is a major cause of premature death worldwide.[3]

An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries. An estimated 46% of adults with hypertension are unaware that they have the condition. Less than half of adults (42%) with hypertension are diagnosed and treated. Approximately 1 in 5 adults (21%) with hypertension have it under control. One of the global targets for noncommunicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030. [4]

Hypertension is the leading preventable risk factor for cardiovascular disease (CVD) and all-cause mortality worldwide. In 2010, 31.1% of the global adult population (1.39 billion people) had hypertension, defined as systolic BP ≥140 mmHg and/or diastolic BP ≥90 mmHg.

The prevalence of hypertension is rising globally owing to ageing of the population and increases in exposure to lifestyle risk factors including unhealthy diets (i.e., high sodium and low potassium intake and lack of physical activity.3 However, changes in hypertension prevalence are not uniform worldwide. In the past two decades, high-income countries (HICs) experienced a modest decrease in hypertension prevalence, while low and middle-income countries (LMICs) experienced significant increases. These disparities in hypertension prevalence trends suggest that health care systems in LMICs could be facing a rapidly increasing burden of hypertension and BP-related cardiovascular diseases, in some cases in addition to a substantial burden of infectious diseases.[5] The important role that increased levels of blood pressure have as one of the principal risk factors to myocardial infarction (MI) and stroke, made this mater one of special interest that need be very well supported and universally accepted in perspective of improve the lowers levels of hypertensive control reported worldwide. Recently, the Prospective Urban Rural Epidemiology (PURE) study demonstrated the high prevalence of hypertension and the very low awareness, treatment and control of hypertension worldwide. This community-based study included 153,996 adults (35–70 years) from 628 rural and urban communities from three high- income countries (HICs), 10 upper middle and low middle income (UMIC and LMIC) and four low-income countries (LIC) in various parts of the world. Hypertension was defined when individuals reported treatment for hypertension or had an average blood pressure (BP) greater than 140/90 mmHg from two measures of resting sitting BP using an automated digital device. Overall, 40.7% of participants were found to have hypertension, with 13.3% having a BP of at least 160/100 mmHg and 4.4% a BP of at least 180/110 mmHg. Of those with hypertension, 46.4% were aware of this condition, 40.6% were on pharmacological treatment, but only 13.1% had BP controlled (<140/90 mmHg). Overall, 12.5% of treated hypertensive patients received two or more BP lowering medications, with a decreasing trend from wealthier to poorer countries (HIC, 18.1%, UMIC 14.5%, LMIC 14.1%, LIC 1.6%; P < 0.0001). Hypertension prevalence was highest in participants with diabetes (63%), and even though awareness was 74.4%, and the percentage of those who received treatment 69.3%, the control rate was only 23.3%. So, it is crucial to improve the control of blood pressure in a group of high risk, as is the diabetic population.[6]

Elevated blood pressure (BP) affects over 1 billion people globally and is known to be highly age-dependent. The patterns of BP progression over age in the general population are well-documented. On average, systolic BP (SBP) rises throughout life in most individuals and finally reaches a plateau in late life. However, BP trajectories over age can vary and are likely related to different levels of cardiovascular risk. Particularly, younger hypertensive individuals, who are more likely to be undiagnosed and undertreated than older patients, are at high risk of lifetime cardiovascular disease. Despite chronological age being the strongest risk factor for both hypertension and cardiovascular disease, limited focus has been given until recently to age of hypertension onset as a potential risk factor in patients.

Several prior studies have examined age of disease onset and its impact on adverse outcomes in the context of chronic diseases, such as diabetes and obesity. These studies have concluded that early disease onset usually results in a considerably

poorer prognosis than late onset. Despite the similarities between hypertension, diabetes, and obesity as chronic disease states, the prognosis and clinical relevance of hypertension that begins in early versus late life have remained mainly unknown. Previous studies have introduced several indices for assessing an individual's long-term BP exposure, such as time-averaged BP, cumulative BP, and BP trajectory patterns. In all of these studies, long-term BP exposure was more closely associated with adverse outcomes than single BP measurements. However, these indices usually require complex calculations and availability of a large number of historical BP recordings, limiting their implementation into everyday clinical practice. Thus, more feasible risk stratification methods are called for to better estimate the long-term lifetime exposure to high BP in hypertensive patients.[7]

III. METHODOLOGY

Study design:
[1] This study is a prospective observational study.

Study location:
[2] Charlapally village

Study size:
[3] 509 cases

Study duration:
[4] 27 February 2023 – 27 March 2023.

Ethical consideration:
[5] The study protocol is accepted by the Nalanda College of Pharmacy. All the participants should be knowledgeable about study details and informed agreement was acquire before the initiation of the study.

Inclusion criteria:
TABLE I.   Both genders were taken into the age group of 2-70 years.
TABLE II.   Diagnosed patients and the subjects willing to perform in this study.

Exclusion criteria:
➢ We excluded critically ill patients.
➢ We excluded Patients, who are afraid to participate in the study.

Study procedure:
Fig. 1. Prospectively select the patients by simple random sampling.
Fig. 2. Patients further divided according to their age group, social status.
Fig. 3. Then the patients will categories according to their disease stage condition.
Fig. 4. Risk factors and complications of hypertension had identified.

Clinical outcomes:
➢ Assessment of risk and complications in the subjects.
➢ Lifestyle modifications for hypertension outcome.
➢ To enhance risk and complication of hypertension, use appropriate medications.

Statistical plan:
➢ The statistical analysis was carried by Microsoft Office (MS Word, MS Excel).
➢ Descriptive data analysis had performed in a percentage form of demographic variables

IV. RESULTS

A total number of 509 cases we included in our study, all these cases met the inclusion and exclusion criteria. Parameters we assessed in that study are - age, gender, risk factor, symptoms, diseases diagnosed, complication, category of drugs, drug name.

Disease Profile of Patients:
Among 509 cases we found that 59 patients suffering with hypertension, 48 patients with diabetes, 35 patients with combination of hypertension & diabetes, 10 patients with thyroid, 3 patients with combination of hypertension & diabetes & thyroid, 4 patients with paralysis, 7 patients with arthritis, 3 patients with heart problems, 2 patients with epilepsy, 30 patients with covid, 308 people are health persons.

The results are given in the table 01:

NAME OF THE DISEASE	NO. oF PATIENTS	PERCENTAGE
Hypertension	59	11.5913
Diabetes	48	9.43025
Hypertension & diabetes	35	6.8762
Thyroid	10	1.9646
Hypertension & diabetes & thyroid	3	0.5893
Paralysis	4	0.7858
Arthritis	7	1.3752
Heart problem	3	0.5893
Epilepsy	2	0.3929

Covid	30	5.8939
Healthy persons	308	60.5108
Total	509	100

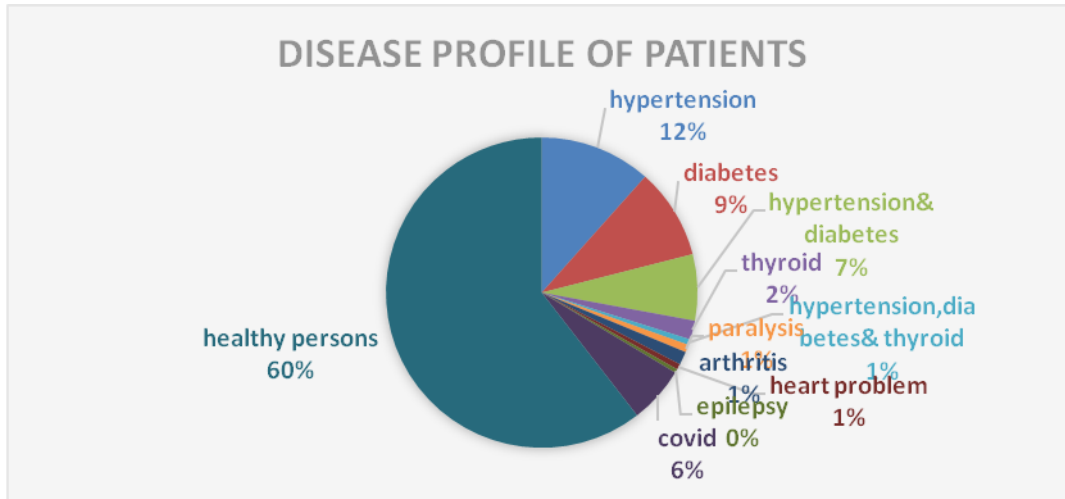**Table-2 . Disease profile of patients**

Fig .1. Disease profile of patients

GENDER WISE DISTRIBUTION OF HYPERTENSION PATIENTS:

Among 73 patients we found that 31 patients were male and 42 patients were female. In this study Female patients were more prone to develop hypertension than male.

The results are given in table 03:

GENDER	NO. OF PATIENTS	PERCENTAGE
MALE	31	43
FEMALE	42	57
TOTAL	73	100

Table-03. Gender wise distribution of hypertension patients
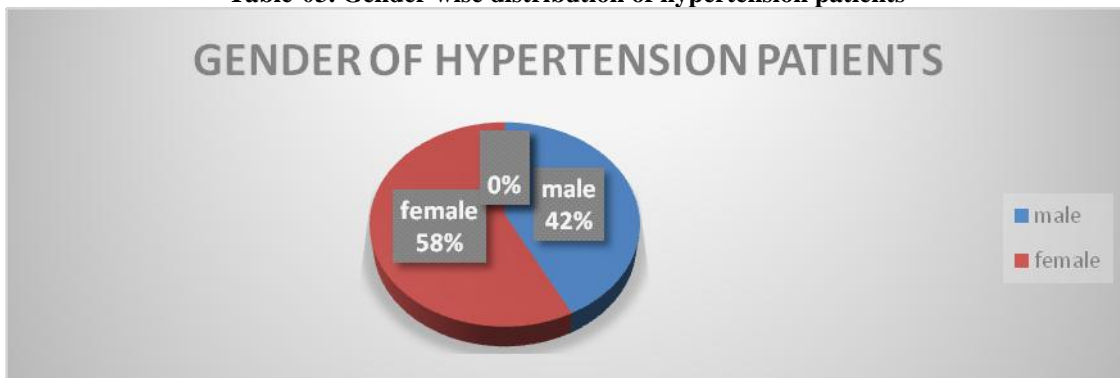

Fig.2. Gender of Hypertension patients

Educational status of overall patients:

In our study says that illiterate patients were found to be suffering from hypertension. 308 patients were found to be literate and 201 patients were found to be illiterate.

The results are given in below table 04:

S.NO	EDUCATIONAL STATUS	NO. OF PATIENTS	PERCENTAGE
1.	Literate	308	60.51%
2.	Illiterate	201	39.48%
	Total	509	100

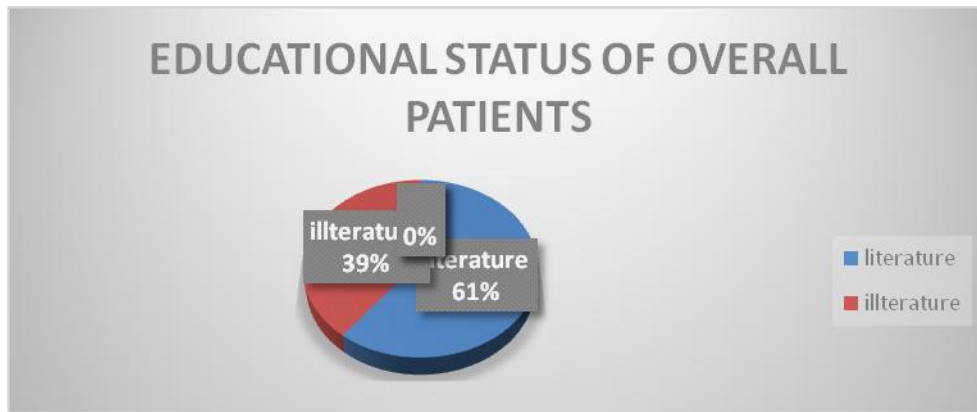**Table-04. Educational status of overall patients**

Fig.3. Educational status of overall patients

Category of hypertension drugs:

Out of 73 patients, maximum number of patients prescribed the category of drugs like angiotensin receptor blocker, calcium channel blocker, beta blocker, anti-histamines, nutritional supplements, alpha & beta blockers.The results are given in table 05:

S.NO	CATEGORY	NUMBER	PERCENTAGE
1.	Angiotensin receptor blocker	3	23.0769
2.	Calcium channel blocker	3	23.0769
3.	Beta – blocker	4	30.7692
4.	Anti histamines	1	7.6923
5.	Nutritional supplements	1	7.6923
6.	Alpha & beta blocker	1	7.6923
	Total	13	100

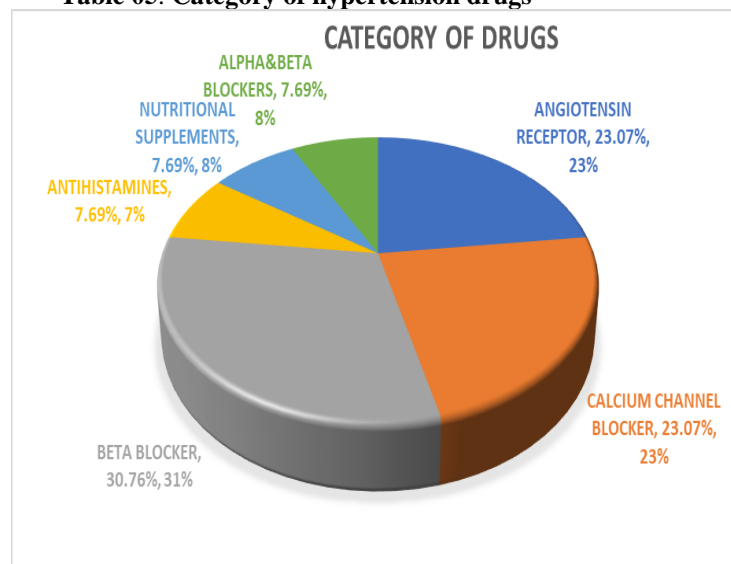**Table 05**. **Category of hypertension drugs**

Fig.4. Category of hypertension drugs

Drugs prescribed for Hypertension patients:

In this study, out of 73 patients the drugs prescribed for hypertension includes Telmisartan, amlodipine, metoprolol succinate, bisoprolol, telmisartan + hydrochlothazide, labetalol, carvedilol phosphate, cilnidipine, Atenolol, calcium + vitamin D3, sodium + levocetirizine, Olmesartan medoxomil.
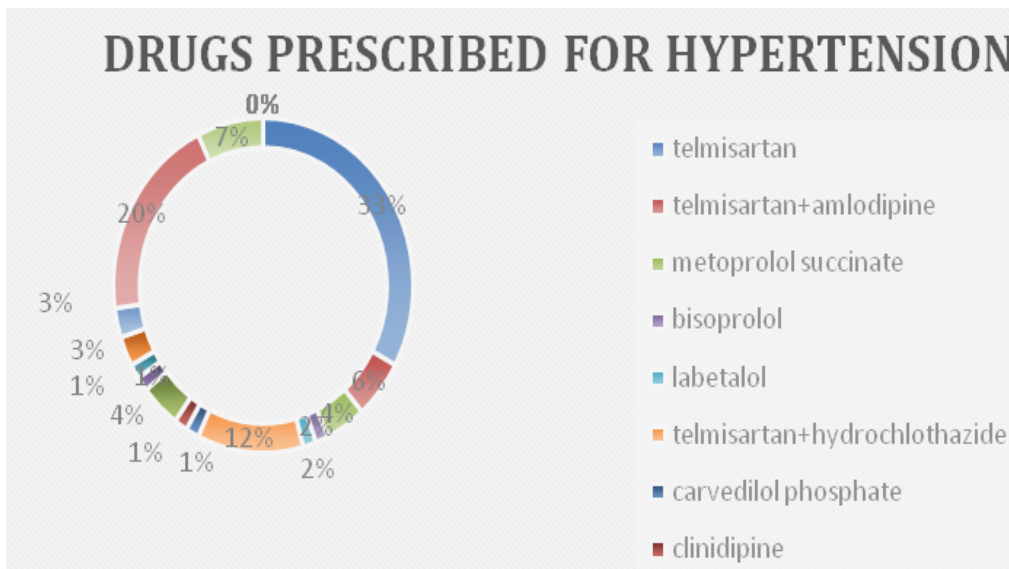
Fig.5. Drugs prescribed for hypertension patients

SYMPTOMS OF HYPERTENSION PATIENTS:

In this study, among 73 patients, 3 patients had Dizziness, 1 patient had back pain, 1 patient had a pounding of heart beat, 1 patient had bradycardia, 1 patient had increased blood potassium level, 1 patient had chest pain, 1 patient had feeling sick, 1 patients tired ness, 1 stomach pain, 1 patient had irregular heart beat.

The results had given in table 06:

SYMPTOMS	NO. OF PATIENTS	PERCENTAGE
Dizziness	3	25
Back pain	1	8.333
Pounding of heart beat	1	8.333
Bradycardia	1	8.333
Increased blood potassium level	1	8.333
Chest pain	1	8.333
Feeling sick	2	17
Tired ness	1	8.333
Stomach pain	1	8.333
Irregular heart beat	1	8.333
Total	12	100

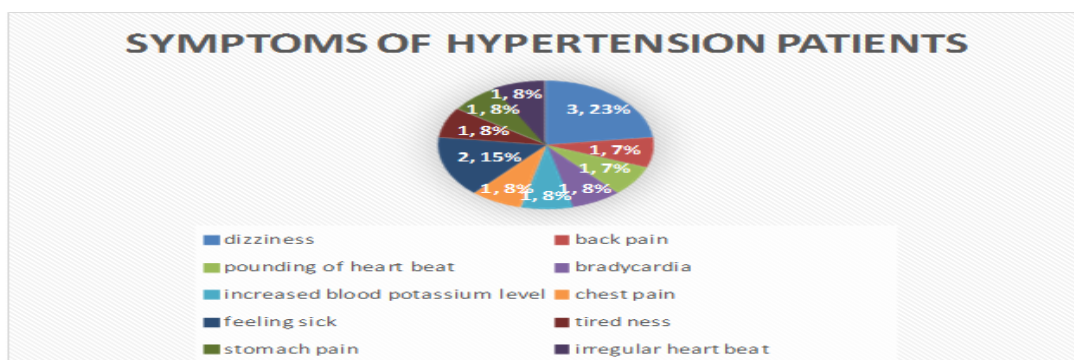**Table 06**. SYMPTOMS OF HYPERTENSION PATIENTS

Fig .6. symptoms of hypertension

COMPLICATIONS OF HYPERTENSION:

In this study, among 73 patients only 01 patient had complication that is Swollen ankles, 01 patient had complication of severe headaches & confusion, 01 patient had decreased urine, 01 patient had redness of skin, and remaining 69 patients doesn't have any complications.

The results are given in table 07:

COMPLICATION	NO.OF PATIENTS	PERCENTAGE
Swollen ankles	1	1.4
Severe headaches&confusion	1	1.4
Decreased urine	1	1.4
Redness skin	1	1.4
No	69	94.52
Total	73	100

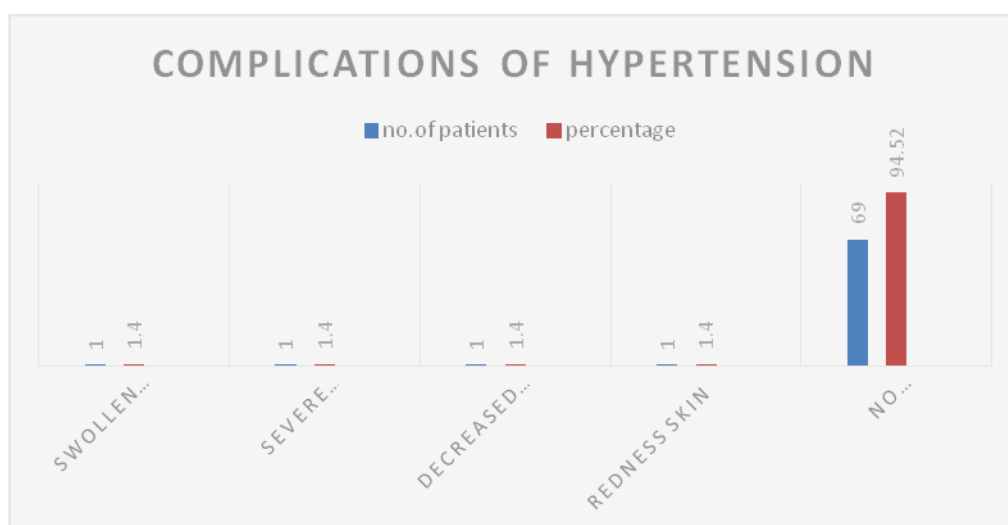**Table 07. Complications of Hypertension**

Fig.7. Complications of Hypertension

V. CONCLUSION

- According to our study, Hypertension occurs mainly due to unhealthy lifestyle choices, a low vitamin-D levels, irregular physical activity, and family history.
- 30-60 & above years of age group individuals are more prone to develop to hypertension. Females are greater risk than males in developing hypertension majority of patients showed symptoms like dizziness, back pain, angina, feeling sick, nausea, irregular heart beat, stomach pain.
- Complications had great impact in hypertension, also the organisms like firmicutes and bacteroidetes(abundance of the gut microbes) is associated with increased blood presssure in several models of hypertension. Angiotensin receptor blockers, calcium channel blockers, beta-blockers, antihistamines, and nutritional supplements are commonly prescribed medications for patients.
- As we know prevention is better than cure, so we should take a healthy diet, should be physically active & keep our self at a healthy weight.

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