AWARENESS AND LIFE STYLE MODIFICATION AMONG PATIENTS OF HYPERTENSION GETTING HEALTH CARE FACILITIES AT LIAQUAT NATIONAL HOSPITAL KARACHI

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Abstract

The paper reports demographic profile, level of awareness and life style modification among patients of Hypertension who were seeking health care facilities at Liaquat National Hospital Karachi.There are an estimated 20 million hypertensive in the country. Over all urban Pakistani have higher prevalence of high blood pressure 21% than rural Pakistani 16%.Among all diagnosed patients with hypertension ,70% were unaware of their disease and less than 3% had their blood pressure controlled to recommended target of 140/90 mmHg. About 500000 people die of blood pressure complication annually in Pakistan.[1]Most researches focuses on medical causes and consequences of this disease, very few studies on the social, demographic and economic aspect of the issue have so far been done in our country. The findings of this study shows lack of awareness, failure to life style modification and impact of socio economic condition on health seeking behavior of patients.

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[1] National Health survey of Pakistan1990-94. Pakistan Medical and research Council Karachi, Pakistan (1998).

Statement of the Problem

Hypertension is one of the most common diseases afflicting humans worldwide. It was identified by the world health report 2002 as the third ranked factor for disability-adjusted life years and it is one of the most important risk factors for cardiovascular diseases and stroke, which are the leading causes of death around the globe. Hypertension has also been attributed as one of the leading causes of death and disability in the developing countries. It is estimated that by the year 2025, 1.56 billion of the world's population will be suffering from hypertension. Asia is no less with regards to the burden of this disease where the prevalence rates are as high as 35%.Neither is Pakistan; The NationalHealth Survey of Pakistan (NHSP) reported that 18% of adults >15years and 40% of adults >45years of age suffered from hypertension.[2] Age, occupation, education, economic conditions and Modern day lifestyle are some of the major factors of the disease.

Introduction
Hypertension:

Hypertension or high blood pressure is a chronic medical condition in which the systemic arterial blood pressure is elevated. It is the opposite of hypotension, which means low blood pressure. It is difficult to have a definite value that is classified as hypertension but measurement above 140/90 is considered to be higher than normal.[3]

Dr. Muhammad Inam Danish defines as "sustained high blood pressure is called hypertension" blood pressure 140/90mmhg, at least two readings at separate occasions is considered hypertension.[4]

Nurses' dictionary defines hypertension as persistently highly blood pressure. In adults it is generally agreed that a blood pressure is abnormally high, when the resting, supine arterial Systolic pressure is equal to or greater than 140mm Hg and the diastolic pressure is equal toor greater than 90mm Hg.[5]

Blood pressure

Blood pressure is the force or pressure that the blood exerts on vessels in which it flows. Keeping blood pressure within normal range is very important. If it became too high, blood vessels can be damaged, causing clots or bleeding from site of blood vessel ruptured. If it fall too low then blood flow through tissue bed may be inadequate that is particularly dangerous for essential organs such as heart, brain or kidneys. The systemic

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[2] Ross and Willson(2006). Anatomy and Physiology, 10thedition: Waugh and grant Publication. Edinburgh, p.128.
[3] Danish, Muhammad Inam(2006).Medical Diagnosis and Management: 8th International Edition: Johar Publication, p.3.
[4] Ibid.
[5] Weller, F. Barbra (2007) Nurse Dictionary, 24th Edition: Ballier'sPublication, London.p.201.

arterial blood pressure usually simply called arterial blood pressure is the result of the discharge of blood from the left ventricle of the heart into the already full Aorta.

When the left ventricle of the heart contracts and pushes blood into the Aorta, the pressure produced within the arterial system is called the systolic blood pressure. In adult it is 120mm Hg.

When complete cardiac diastole occurs and the heart is resting following the ejection of blood, the pressure within the arties is much lower and is called diastolic blood pressure. In adults it is about 80mm Hg. So the normal blood pressure is 120/80mm Hg.

Blood pressure varies according to the time of the day, the posture gender, Age, Race, Dietary Habits, Life Pattern and Socioeconomic Status.[6]

Types of Hypertension
Essential hypertension:

Essential hypertension is also called primary hypertension. Primary hypertension refers to high blood pressure for which medical cause cannot be found. 90-95% of the cases belong to this type of hypertension. The onset of essential hypertension is usually between age 25-55years.

Secondary hypertension

In about 5% of cases, cause of hypertension can be discovered. This form is called secondary hypertension, most of the patients are young, and cause of hypertension is usually renal failure, renal artery stenosis, endocrine diseases and heart diseases.

Causes:
Essential hypertension precipitating factors:

- Genetic factor: Children of hypertensive patients are more prone to develop hypertension.
- Obesity, lack of exercise
- Heavy alcohol intake
- Excessive salt intake
- Cigarette smoking
- Certain drugs
- Low potassium intake
- Sympathetic nervous system over activity
- Old Age
- Gender [7]

[6] Ross and Willson(2006). Anatomy and Physiology, 10th edition: Waugh and grant Publication. Edinburgh, p.89.

Cyril A. Keele and Eric Neil includes other factor as

- Sedentary life style
- Stress and anxieties
- Low socio economic status[8]

Complications of Hypertension:

Hypertension is the most important risk factor for death in industrialized countries. It increases hardening of the arteries, thus predisposes individual to heart diseases, peripheral vascular diseases and strokes. Types of heart diseases that may occur include myocardial infarction, heart failure and left ventricular hypertrophy. Other complications include Hypertensive retinopathy Hypertensive nephropathy. If blood pressure is very high hypertensive encephalopathy may result, the adverse effects of hypertension principally involve the ear, retina, heart and kidneys.[9]

Management of Hypertension
General Measures:

Weight reduction , Low fat diet, Low sodium diet (6gm Na Per / day), Avoiding alcohol consumption, Dynamic exercise (at least 30 mints walk per day),Increase fruit and vegetables consumption, Stop smoking, Regular B.P check-up and Avoid stress.[10]

Drug Therapy

Anti-hypertensive drugs are categorized as:Diuretics, Beta blocker, ACE inhibitor, Calcium channel blocker, Alpha blocker. Anti-hypertensive drugs therapy is usually started with single drug initially with small doses and then gradually to usual doses but if there is incomplete response a second drug is added that is called combination therapy.[11]

Objective of the Study

The aim of this study was to find out the socioeconomic and demographic characteristics of hypertensive patients, their level of awareness about the disease and how it affects their family, occupational and social relationships and life style modification,once they are diagnosed with hypertension.

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[7] Danish, Muhammad Inam (2006) Medical Diagnosis and Management, 8th International Edition ,Johar Publication, p.37.
[8] Keele, Cyril A. and Neil, Eric (2008)Internal Medicine, 19th Edition, Prentice Publication London, p.156.
[9] Ballinger, Anne.(2008) Clinical Medicine, 4th Edition Elsevier Corporation. U.K. p.480.
[10] Stephen, J. (2008) Current Medical Diagnosis and Management, 43rd edition, Longman Inc New York. p.40.
[11] Danish, Muhammad Inam (2006) Medical Diagnosis and Management, 8th International Edition, Johar Publication, p.39.

Variables of the Study

Independent variables		Dependent variables	
1	Family monthly income	1	Taking antihypertensive medication
2	Education	2	Knowledge(awareness) of hypertension
3	Duration of disease	3	Effects on Social Relationships
4	Awareness of complications of hypertension	4	Life style modification
5	Awareness of precautions of hypertension	5	Salt intake in food
6	Follow of religion	6	Fear of disease

Key Concepts

Family monthly income: In the present study the family monthly income has been classified into four categories these are: .Rs. 10000 or Less,Rs.10001 to 20000, Rs. 20001 to 40000, Rs.40000 and above.
Education: educational status is classified into the following two categories.
High educational status:
Those respondents who are H.S.C or higher degree are thought as being highly educated.
Low educational status: Those respondents who are matriculate or below are thought of as having low educational status.
Awareness of Complication: It means awareness of those difficult and life threatening situations to which hypertension can lead.
Life style Modification: In the present study, life style modification means changes in dietary habits and life pattern such as less salt intake, low fat intake, getting exercise, weight reduction, avoiding or stopping smoking and alcohol intake etc.
Following Religion: following religion means obeying or acting upon religious practices regularly.

Related Theories
Max Weber's Life Style:

Max Weber is a German Sociologist. He gave the concept of life styles in his classical work economy and society (1978), originally published in 1922. According to Max Weber"Status Group, refers to people who share similar material circumstance, Prestige, income, education and political influence." Moreover member of the same group shows similar life styles.Weber says that Socio economic status is important for a particular life style. People with different Socio economic have different life styles, those with high status, have high access to healthy life styles because they have the best resources to support their life style, in comparison to those with low socio economic status having no resources.[12]

Sick Role Theory

Another theory given by Talcott Parsons (1951) is the theory of sick role. According to Talcott Parsons, "Being Sick is not the deliberate and knowing choice of the sick person." A major expectation concerning the sick is that they are unable to take care of themselves, it thus become necessary for the sick to seek medical advice and cooperate with medical experts. The specific aspects of Parsons' concept of sick role can be classified in four basic categories.

- The Sick person is exempt from normal social roles. An individual illness is ground for his or her exemption from normal role performance and social responsibilities. The exemption, however, is relative of the illness. The more severs the illness the greater the exemptions.
- The Sick Person is not responsible for his or her condition." An individual's illness is usually thought to be beyond his or her own control. A morbid condition of the body needs to be changed and some curative process apart from personal will power or motivation is needed to get well.
- The Sick Person should try to get well." The first two aspects of the Sick role are conditional on the third aspect, which is the recognition by the Sick Person that being Sick is undesirable. Exempt from normal responsibilities is temporary and conditional upon the desire to get well. Thus the Sick Person has an obligation to get well.
- The Sick Person should seek medical advice and cooper with Physician. The obligation to get well involves a further obligation on the part of the Sick Person to seek medical advice usually from a Physician. The Sick Person is also expected to cooperate with the Physician in the Process of trying to get well.[13]

[12] Watson, Jonathon(2009) , Researching Health Promotion, 2nd edition : Rutledge Publication .London p.60.
[13] CokerHam, William.(1998) Medical Sociology, 7th edition, Prentice Hall Publication, London p.150-151.

Preventive Care Theory

Another theory given in the book of William Coekerham "Medical Sociology" supported by various sociologists Diana Dutton (1998), Johonner Siegrist(1988-89), Wikinson (1996) is the theory of Preventative Care. Preventive care refers to routine Physical examination, immunizations, prenatal care, screening for heart disease and cancer and other services intended to ensure good health and prevent disease, or minimize the effects of disease if it occurs. According to preventative care theory "Preventive Care is common among higher socio economic status while it is likely to be less or nonexistent for the poor especially for the poor of rural areas.[14]

Partnership Care Theory

This theory suggests that hypertension gets worse and remains uncontrolled due to noncompliance to medication, life pattern and dietary habits. The second reason is lack of knowledge of hypertension. Lack of effective caring relationship is the third factor that leads to hypertension and make it difficult to control. This theory suggest that if patients compliance to medication, life style modification, change in dietary habit through the active participation of family of patients, nurses and physicians, hypertension can be controlled to a certain extent. Nurses and physicians can play their role in the awareness of the disease.[15]

Health Belief Model

According to Health belief model, people suffering from various diseases interpret their disease symptom on their own way. Some people when come to know that they have some kind of health problem, they seek medical advice, although the symptoms may not be too obvious at that time. On the other hand there are people who ignore the symptoms of their disease and delay in seeking medical advice until the condition gets worse and the symptoms become life threatening. This trend varies from culture to culture and society to society.

The other reason that people don't seek medical advice suffering from various diseases is the fear of confirmation of a specific or dangerous disease, to which they are not ready to Accept.[16]

Education and Hypertension

Studies have shown that there is inverse relationship between Education and hypertension. The more advance degrees a person has, the lower their blood pressure is. An analysis of some 4000 patient's records from the 30 years Framingham offspring, study found that, controlling only for age. Women with 17 years or more of education, a master's degree or doctorate- had systolic blood pressure readings 3.26 millimeter of

[14] Ibid., p.71.
[15] Watson, Jonathon (2009), Researching Health Promotion, 2nd edition: Rutledge Publication London. p.54.
[16] Edlin, Gardon(2010) Health and Wellness, 10th Edition: Bartlett Publication. p.17.

mercury lower than female high school drop outs, Men who went to graduate school had systolic blood pressure readings that were 2.26 millimeter of mercury (mm Hg), lower than their counterparts who did not finish their high school.[17]

Hypertension and Socio Economic Status

Studies have shown that there is association between socio economic status and hypertension. The pathogenesis involved in this association including occupation, education and social environment. Additional socio economic status markers such as urban and rural dwelling, local or national condition are also associated with hypertension prevention and control and better accessibility and adherence to medical treatment among higher socio economic status groups, as well as low birth weight and higher job strains among lower socio economic status group.[18]

Religion and Hypertension

Studies have shown that religious people have lower blood pressure. By studying over 5000 African Americans, they found that female gender; lower socio economic status, increasing age and lower levels of cortical were associated with more religious activities. Those with more religious activities and participation had significantly lower diastolic blood pressure, and significantly lower systolic blood pressure. High levels of cortical are markers for stress. Being religious one feel relax that reduce cortical hormone in blood which increases blood pressure. The implication is that religion gets as a buffer against stress and thus elevated level of blood pressure. Simply religious people have better ways to deal with stress than those who are not religious.[19]

Hypertension and Exercise

Studies have shown that there is relationship between exercise and hypertension. Exercise is life style modification and is beneficial to a variety of health condition. Specific to hypertension, the benefits of exercise have been promoted by a number of organizations and agencies including the American heart association, the American college of sports medicine, The National Institute of Health and the center for diseases control. Ideally hypertension patients should exercise five to six times per week depending on their fitness level. Improvements can be achieved with as little as three sessions per week. The total exercise duration should be in the range of 30-60 minutes per session. People with lower level of fitness should keep their duration from 10-15 minutes. . The mechanism involved in lowering blood pressure is weight loss and reduction of fats levels, exercise is a preventive measure as well as having some physiological mechanism.[20]

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[17] The Daily time 01 May, 2011
[18] Leenen.H, FransH(2008) Current opinion in Cardiology: McGraw-Hill Book Co, p.335.
[19] Muhammad, Eisa (2006), p.18.
[20] Hillman, Gavin C. and Len Kravitz (2004) Exercise Hypertension: Longman Inc.: New York. p.18.

Salt Intake and Hypertension

There is significant relationship between salt intake and hypertension. Essential hypertension is seen primarily in societies with average sodium intakes above 100 mg/day (2.3 g sodium); however, it is rare in societies with average sodium intakes of less than 50 mg/day (1.2 g sodium). These observations suggest that the development of hypertension requires a threshold level of sodium intake. This effect appears to be independent of other risk factors for hypertension, such as obesity.

Reducing salt intake from 170 to 100 meq/day lowers the mean blood pressure (BP) in normotensive adults by approximately 2/1 mmHg and in hypertensive adults by 5/3 mmHg. However, over the course of 30 years, the fall in BP may be greater, in part because salt restriction minimizes the normal rise in BP associated with aging.[21]

Family History, Hypertension and Lifestyle

Genes are not responsible for all family histories of high blood pressure. Families tend to share the same lifestyle choices and behavior patterns. A family that leans towards sedentary activities, eats an unhealthy diet, or has many members who smoke will have higher rates of hypertension than a family that engages in healthy activities and eats sensibly. People with family histories of hypertension should examine their family closely for lifestyle choices that may increase the risk of high blood pressure, and then make changes to their own lifestyle to help lower their risk of hypertension. A person with a family health history of high blood pressure should take the following precautions:

- Eat a diet high in fruits, vegetables and whole grains
- Exercise regularly· Limit alcohol consumption
- Maintain a healthy weight
- Manage stress levels
- Periodically check blood pressure levels.

Age and Hypertension

Studies have shown that as the individual gets old his risk of hypertension increases. Reasons why age increase high blood pressure are, arteries become hardened, less active, kidney function decreases, body does not process salt as well and body becomes more sensitive to salt and other factors. Blood pressure often increases in stages. A person in their 30s may some elevated readings that return to normal. As this person ages, the readings increase. If a person develops high blood pressure before the age of 50, he or she risk of heart attack or stroke is greatly increased. If untreated, high blood pressure can reduce life expectancy by 10 or more years. Men often develop high blood pressure between the ages of 35 and 55 women often develop high blood pressure after menopause.[22]

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[21] Kaplan, M.Norman (2007) A perspective study of smoking and Hypertension McGraw Hill Publication. New York. p.72.

[22] www.longivity.com, retrieved May 20th, 2011

Smoking and Hypertension

Studies have shown that there is a positive relationship between smoking and hypertension. Tobacco use is the most common cause of avoidable cardiovascular mortality worldwide. There are now 1.3 billion cigarette smokers, and if current practice continues, there will be an estimated one billion tobacco related deaths during the 21st century.The immediate noxious effects of smoking are related to symptomatic nervous over activity, which increases myocardial oxygen consumption through increase in blood pressure, heart rate, and myocardial contractility. Chronically, cigarette smoking induces arterial stiffness which may persist for a decade after smoking cessation.

The incidence of hypertension is increased among those who smoke 15 or more cigarette per day. And the coexistence of smoking and hypertension decrease left ventricular function in asymptomatic people. With each cigarette, the blood pressure rises transiently. The transit rise in blood pressure may be most prominent with the first cigarette of the days even in habitual smoker. In one study of normotensive smokers, there was an average elevation in blood pressure of 20 mm Hg after the first cigarette.[23]

Sleeping and Hypertension

One study has shown that there is inverse relationship between sleeping and hypertension. Significant decrease in blood pressure were reported in hypertensive patients who when underwent continuous sleeping. A data of 275 respondents was taken in which duration of sleep and Average number of blood pressure was asked. As a result it was found that respondents with less sleep duration had high number of blood pressure and those with the longer sleep duration had low number of average blood pressure.[24]

Hypertension and Stress

Research has shown that every day stress of modern life and work can definitely increase blood pressure by accelerating heart beats. But this is a temporary, non-permanent rising of blood pressure. This is not correct to say that every day stress causes permanently raise blood pressure. Stress can cause high blood pressure but it will revert to its normal values once the source of the stress is removed. Another research has shown that long term stress play role in increased risk for primary hypertension, but numerous other factors must also be considered among them obesity exercise, smoking and psychological concerns like depression and anxiety level. Regular stress of extended period of time can cause hypertension through the repeated raising of blood pressure levels as well as stimulation on the nervous system to produce large amount of vasoconstriction (artery tightening) hormones that increase blood pressure. Factors affecting blood pressure through long form stress include job strains, race, socioeconomic status, social environment and emotional distress.[25]

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[23] Kaplan, M.Norman (2007) A Perspective study of smoking and Hypertension McGraw Hill Publication. New York. p.25.
[24] http//www.sciencedaily.com, retrieved on May 18, 2011
[25] www.tensoval.com, retrieval date is May 12, 2011

Hypertension and the Family

Research has shown that family of hypertensive patients can play a vital role in the control of hypertension. Good blood pressure control involves life style modification and drug therapy. However failure to adhere to therapy is most often present in chronic asymptomatic condition like hypertension which requires long term treatment. It is also documented that despite the proven benefits of life style modification; these measures are not usually prescribed by physicians and are not being practiced by all patients with hypertension.

The patients need motivation for effective therapy, such motivation includes social support from family members. It is most often the family not the individual or health professional who decide whether the individual should seek or use health care services or not, hence the world health organization characterized the family as the primary social agent in the promotion of health and wellbeing. The family plays a major role in various aspects of hypertension management including adherence to medication, life style modification and follow up, hence the need to employ a family oriented approach in the management of this disease. Studies from various part of the world have proven that availability of family support especially involving the spouse is known to improve drug adherence resulting in significant reduction in blood pressure and overall mortality amongst hypertensive.

It is therefore very important for hypertensive patients to be aware of the importance of family involvement in blood pressure control and to make such support available.[26]

Related Studies

1-A study was conducted in Karachi in 2008 to find out the level of awareness of risk factors, presenting features and complications of hypertension. The study was conducted from those patients who were suffering from hypertension and those who were likely to develop hypertension. The study was conducted in a random sample of 440 patients and attendant visiting to national institute of cardio vascular disease (NICVD) in Karachi. There were 220 participant in each group (Hypertensive) and non-hypertensivegroup.It was found that participants were well aware of stress, excessive salt intake and obesity as risk factors of hypertension but there was unawareness regarding diabetes mellitus, excessive alcohol intake, smoking and sedentary life style. Participants were aware that hypertension can lead to stroke and heart disease but many were not aware that hypertension can lead to eye disease, renal problems and atherosclerosis.

2-A cross sectional survey of randomly selected 1000 general practitioners from urban areas of Pakistan was conducted in 2002. The survey aimed to find out type of practice,

[26] www.tree.com, retrieved on June 2, 2011

detection, evaluation and treatment of hypertension prescribed by the general practitioner.[27]

Methodology

Purposive sampling" technique was used in this study as the researchers were interested in only those patients who had problem of hypertension and seeking health care facilities in Liaquat National Hospital.120 respondents who were suffering from hypertension were interviewed out of which 60 were male and 60 respondents were female.

Table – 01
Frequency and Percentage Distribution of Respondents According To Their Educational Qualification

S. No.	Educational Qualification	Frequency	Percentage
a.	Illiterate	42	35%
b.	Primary – Middle	24	20%
c.	Matriculation	32	26.66%
d.	H.S.C and Higher	22	18.33%
	Total	**120**	**100%**

TABLE – 02
Frequency and Percentage Distribution of Respondents According To Their Family Monthly Income

S. No.	Family Monthly Income	Frequency	Percentage
a.	Rs. 10000 or less	41	34.16%
b.	Rs. 10001 – 20000	48	40%
c.	Rs. 20001 – 40000	16	13.33%
d.	Rs. 40001 and above	15	12.5%
	Total	**120**	**100%**

TABLE – 03
Frequency and Percentage Distribution of Respondents According To Their Age Group

S. No.	Age Group	Frequency	Percentage
a.	20 – 30 years	7	5.83%
b.	30 – 40 years	12	10%
c.	41 – 50 years	39	32.5%
d.	51 and above	62	51.66%
	Total	**120**	**100%**

[27] Zafar, Sayed Nabeel Saqib Ali, Faria Amber Irani "Awareness of the risk factor, presenting features and complications of hypertension among hypertensive and normotensive", Journal of Pakistan Medical Association,(2008), pp.58,711.

TABLE – 04
Frequency and Percentage Distribution of Respondents According To Their Mother Tongue.

S. No.	**Mother Tongue**	**Frequency**	**Percentage**
a.	Urdu	58	48.33%
b.	Punjabi	5	4.16%
c.	Sindhi	33	27.5%
d.	Pashto	18	15%
e.	Any Other	6	5%
	Total	**120**	**100%**

TABLE – 05
Frequency and Percentage Distribution of Respondents According To Size of Family

S. No.	**No. of Family Members**	**Frequency**	**Percentage**
a.	1 – 5	22	18.33%
b.	6 – 10	67	55.83%
c.	11 or More	31	25.83%
	Total	**120**	**100%**

TABLE – 06
Frequency and Percentage Distribution of Respondents According To Their Employment Status

S. No.	**Employment**	**Frequency**	**Percentage**
a.	Yes	47	39.16%
b.	No	73	60.83%
	Total	**120**	**100%**

TABLE – 07
Frequency and Percentage Distribution of Respondents According To Their Occupation

S. No.	**Occupation**	**Frequency**	**Percentage**
a.	Labor	19	40.42%
b.	Govt. Job	16	34.04%
c.	Own Business	8	17.02%
d.	Any Other	4	8.51%
	Total	**47**	**100%**

TABLE – 08
Frequency and Percentage Distribution of Respondents According To Their Regularity Following Religious Practices.

S. No.	Following Religious Practices	Frequency	Percentage
a.	Yes	93	77.5%
b.	No	15	12.5%
c.	To some extent	12	10%
	Total	**120**	**100%**

TABLE – 09
Frequency and Percentage Distribution of Respondents According To Their Knowledge of Causes of Hypertension.

S. No.	Knowledge of causes of Hypertension	Frequency	Percentage
a.	Yes	21	17.5%
b.	No	65	54.16%
c.	To Some Extent	34	28.33%
	Total	**120**	**100%**

TABLE – 10
Frequency and Percentage Distribution of Respondents According To Their Knowledge of Precautions Of Hypertension.

S. No.	Knowledge of precautions of Hypertension	Frequency	Percentage
a.	Yes	37	30.83
b.	No	55	45.83
c.	To some extent	28	23.33
	Total	**120**	**100%**

TABLE – 11
Frequency and Percentage Distribution of Respondents According To Their Knowledge of Complications of Hypertension.

S. No.	Knowledge of Complications of Hypertension	Frequency	Percentage
a.	Yes	28	23.33
b.	No	53	44.16
c.	To some extent	39	32.5
	Total	**120**	**100%**

TABLE – 12
Frequency and Percentage Distribution of Respondents According To Their Affordability of Anti Hypertensive Medicines.

S. No.	Affordability of medicines	Frequency	Percentage
A.	Yes	71	59.16%
B.	No	49	40.83%
	Total	120	100%

TABLE – 13
Frequency and Percentage Distribution of Respondents According To Their Life Pattern

S. No.	**Life Pattern.**	**Frequency**	**Percentage**
a.	Active	53	44.16%
b.	Sedentary	67	55.83%
	Total	**120**	**100%**

TABLE – 14
Frequency and Percentage Distribution of Respondents According To Having Daily Exercise.

S. No.	**Getting Daily Exercise.**	**Frequency**	**Percentage**
a.	Yes	23	19.16%
b.	No	97	80.83%
	Total	**120**	**100%**

TABLE – 15
Frequency and Percentage Distribution of Respondents According To Their Dietary Habit

S. No.	**Dietary Habits**	**Frequency**	**Percentage**
a.	Eating Fish, Chicken & Meat	17	14.16%
b.	Vegetables	33	27.5%
c.	Pulses	31	25.83%
d.	All of the above	39	32.5%
	Total	**120**	**100%**

TABLE – 16
Frequency and Percentage Distribution of Respondents According To the Amount Of Salt Intake In Their Food.

S. No.	Amount of salt intake	Frequency	Percentage
a.	Less	71	59.16%
b.	Normal	31	25.83%
c.	Do not use	18	15%
	Total	**120**	**100%**

TABLE – 17
Frequency and Percentage Distribution of Respondents According To Their Family History of Hypertension.

S. No.	Family History of Hypertension	Frequency	Percentage
a.	Yes	92	76.66%
b.	No	28	23.33%
	Total	**120**	**100%**

TABLE – 18
Frequency and Percentage Distribution of Respondents According To Checking Their Blood Pressure Regularly

S. No.	Checking blood pressure regularly	Frequency	Percentage
a.	Yes	37	30.83%
b.	No	83	69.16%
	Total	**120**	**100%**

TABLE – 19
Frequency and Percentage Distribution of Respondents According To the Effects of Disease On Their Family Life.

S. No.	Effects of disease on their family life.	Frequency	Percentage
a.	Yes	58	48.33%
b.	No	44	36.66%
c.	To some extent	18	15%
	Total	**120**	**100%**

TABLE – 20
Frequency and Percentage Distribution of Respondents According To the Effects of Disease on Their Occupational Life.

S. No.	Effects of disease on their occupational life.	Frequency	Percentage
a.	Yes	17	36.17%
b.	No	25	53.19%
c.	To some extent	5	10.63%
	Total	**47**	**100%**

TABLE – 21
Frequency and Percentage Distribution of Respondents According To the Effects of Their Disease on Their Social Relationships.

S. No.	Effects of disease on social relationships.	Frequency	Percentage
a.	Yes	46	38.33%
b.	No	47	39.16%
c.	To some extent	27	22.5%
	Total	**120**	**100%**

TABLE – 22
Frequency and Percentage Distribution of Respondents According To the Effects of Their Lifestyle Modification After Being Diagnosed Patient of Hypertension.

S. No.	lifestyle modification	Frequency	Percentage
a.	Yes	43	35.83%
b.	No	56	46.66%
c.	To some extent	21	17.5%
	Total	**120**	**100%**

TABLE – 23
Frequency and Percentage Distribution of Respondents According To Any Other Disease They Had.

S. No.	other disease	Frequency	Percentage
a.	Diabetes Mellitus	27	25.96%
b.	Kidney disease	46	44.23%
c.	Heart disease	22	21.15%
d.	Other disease	9	8.65%
	Total	**104**	**100%**

Contingency table 01

Showing relationship between education and knowledge(awareness) of hypertension.

Educational Qualification	Knowledge of hypertension			
	No Knowledge	Less Knowledge	More Knowledge	Total
Illiterate	23	14	5	42
Primary – Middle	10	8	6	24
Matriculation	13	11	8	32
H.S.C & Higher	7	5	10	22
Total	53	38	29	120

The calculated value of x2 = 25.61
Degree of freedom = 6
Table value of x2 at 0.05 level of significance and 6 degree of freedom is = 12.592
C = 0.439

Contingency and 02

Showing relationship between awareness of complication of hypertension and life style modification.

Knowledge of Complication	Life Style modification			
	Yes	No	To Some Extent	Total
Yes	12	10	6	28
No	15	29	9	53
To Some Extent	16	17	6	39
Total	43	56	21	120

The calculation value of x2 is 11.44
Degree of freedom is = 4
The value of x2 at 0.05 level of significance and 4 degree of freedom is = 9.488
C = 0.29

Contingency table 03

Duration of Hypertension	Effect of hypertension on Relationship			
	Yes	No	To Some extant	Total
Six Month or Less	6	9	6	21
1 – 2 year	8	9	7	24
4 – 6 years	9	19	8	36
10 years and above	23	10	6	39
Total	46	47	27	120

The calculated value of x2 = 13.16
Degree of freedom = 6
Table value of x2 at 0.05 level of significance and 6 degree of freedom = 12.592
C = 0.315

Contingency table 04

Awareness of Precaution of hypertension	Salt intake in food			
	Less	Normal	Don't Use	Total
Yes	17	13	7	37
No	39	11	5	55
To Some Extent	15	7	6	28
Total	71	31	18	120

The calculated value of x2 = 14.2
Degree of freedom = 4
Table value of x2 at 0.05 level of significance and 40 degree of freedom is = 9.488
C = 0.331

Contingency table 05

Showing relationship between religion and fear of disease (Hypertension)

Following religion	Fear of disease (Hypertension)		
	Less worried	More Worried	Total
Yes	66	27	93
No	6	9	15
To Some Extent	5	7	12
Total	77	43	120

The calculated value of x2 = 8.3
Degree of freedom = 2
Table value of x2 at 0.05 level of significance and 2 degree of freedom is = 5.991
C = 0.256

Conclusion

This study was conducted among patients who were admitted to Liaquat National Hospital Karachi. Most patients were from lower or middle class / income group. They were either jobless at the time of treatment, or had very little income. Lack of awareness of hypertension among patients was observed. Educational status of patient is also related to awareness of this disease. Hypertension is most common in old age people or in middle age people. This study reveals that even after diagnosis, there is lack of life style modification and lack of physical activities such as daily exerciseetc. among patients so there was a weak relationship found between these two variables. Salt intake in food is related to awareness of precaution of hypertension but very small percentage of respondents completely gave up the use of salt. Social life of patients and duration of the period of their disease were variables that showed positive relationship when tested.

It was also observed in this study that very small percentage of respondents was taking good protein diet. Family history of disease is also common among most patients. Smoking is also common among male hypertensive patients that lead to uncontrolled hypertension.

Stress and anxieties of the present daily life have made it difficult to control hypertension to a target level. It was also observed that patients who practice religion have less fear of the disease , although social relationships of patients does gets negatively affected by the disease.