RELATIONSHIP BETWEEN LIFE HABITS AND NONCOMMUNICABLE DISEASES

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Abstract

India gets first place in some non-communicable diseases. These are the main silent killers of humankind throughout its history. It is the principal cause of death in rural India. Considering other states of India our small state Kerala, is considered as the capital of Non-communicable diseases. Here the Researcher considered the two main Non-communicable diseases- Hypertension and Diabetes Mellitus. In the beginning stage of these diseases, they can be controlled by food and medicine. But in a later stage, it becomes uncontrollable. Normally this disease does not consider the age, social status, gender, or any other qualities of a man. Scientific studies show that Non communicable diseases are related to genetic factors, diet, stress, Body Mass Index, exercise of the body...etc so it is also known as Life Style Diseases. This article explores the influence of life habits like chewing, smoking, and drinking in affecting non-Communicable diseases like Hypertension and Diabetes Mellitus with male patients who are 60 years and above registered in the Non-Communicable Clinic under the areas of Kolachery Primary Health Centre in Kannur district.

Key Words: Non-communicable diseases, silent killers, Hypertension, Diabetes Mellitus, Life Style Diseases

In the world, India got first place in the occurrence of some non-communicable diseases. These are the main silent killers of humankind throughout its history. The overall prevalence of diabetes, hypertension, Ischemic Heart disease (IHD), and stroke in India is 62.47, 159.46, 37.00, and 1.54 respectively per 1000 population (Indian Council for Medical Research, 2006). It is the principal cause of death in rural India.

Considering other states of India our small state Kerala, is considered as the capital of these diseases. In Kerala 19.4% of the population is affected by Diabetes Mellitus(Times of India 08-12-2017) and 31.4% of the population is affected by Hyper Tension(The Hindu 06-10-2017). It will cause the death of the affected persons gradually by affecting all body parts of the body and causes the loss of all wealth of the affected person's family.

Here the Researcher considered the two main Non-communicable diseases Hypertension and Diabetes Mellitus. The normal Blood Pressure of a person is 80/120mm of Hg, when the Blood Pressure of a person is above 90/130mm of Hg, it is considered as Hypertension. The normal Blood sugar level of a person is 80-120mg/dl in

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a fasting condition, when the Blood Sugar level of a person is above 120 mg/dl in a fasting condition; it is considered a Diabetes Mellitus condition. In the beginning stage of these diseases, they can be controlled by food and medicine. But in a later stage, it becomes uncontrollable. Normally this disease does not consider the age, social status, gender, or any other qualities of a man.

Scientific studies show that Non communicable diseases are related to genetic factors, diet, stress, Body Mass Index, exercise of the body...etc so it is also known as Life Style Diseases.

A study conducted by Soman (2000) showed that disease prevalence like Hypertension and Diabetes Mellitus are higher in alcohol drinkers and smokers. In Kerala, the percentage of alcohol use males are24.7 and the percentage of smoking males are 25.5. The disease prevalence in Diabetes Mellitus is 10.8% and the disease prevalence in Hypertension is 15.4% (Janakeeyarogyam K S S P 2005).

This paper aims to present a study of any relationship between the life habits like chewing, smoking, and drinking in the lifetime that can make any influence in affecting patients with Non-communicable diseases like Hypertension and Diabetes Mellitus. The paper is based on the study of 100 patients selected from Kolachery Panchayath in the Kannur District of Kerala. This Panchayath includes mainly two communities, Hindus and Muslims.

Objectives

Comparative study of the influence of life habits like chewing, smoking, and drinking in affecting non-Communicable diseases like Hypertension and Diabetes Mellitus with patients who have 60 years above males who registered in the Non-Communicable Clinic under the areas of Kolachery Primary Health Centre in Kannur district.

Methodology

A household survey of the patients was conducted to collect statistical data. Interview – structured and unstructured – was used. Secondary data was collected from Kolachery Panchayath and Health Department as well as from online sources and books on health and medicine.

The problem

Hypertension and Diabetes Mellitus are worldwide Chronic Non-communicable diseases. Chronic Non-communicable disease can be defined as "an impairment of bodily structure and function that necessitates a modification of the patient's normal life, and has persisted over an extended period" (EURO symposium 1957).

Non-communicable diseases (NCDs) are the leading cause of adult mortality and morbidity all over the world. Non-communicable diseases are increasing rapidly in all over the world and now it become as an epidemic in many countries like our country, India. The main causes for it are Rapid industrialization, development in the socio-economic sectors, urbanization, and changes in demographic and daily life of people are the identified as the main causes. These diseases are fast spreading and create a major public health challenge that decreases the rate of social and economic development, and place a large demand on health systems and social welfare throughout the world, especially in developing and underdeveloped countries. In the modern world, the most common reason for mortality and morbidity is identified as non-communicable diseases like high blood pressure and diabetes mellitus.

One of the major Non-communicable diseases is cardiovascular disease including heart disease which leads to stroke and heart attack and the other Non-communicable diseases are diabetes, chronic respiratory diseases and cancer. The major risk factors leads to these Non-communicable diseases are physical inactivity, tobacco, alcohol, high salt intake, , unhealthy diet use of trans-fats, obesity and high blood pressure. So, an immediate action is needed at all the levels of community that is in global, regional and national levels to face the challenges of non-communicable diseases and to prevent the increasing inequalities between populations and countries due to these diseases.

The government of India initiated a National Programme for Prevention and Control of Diabetes, and Stroke during 2010-11 like the National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases and Stroke (NPDCS). The focus of NPCDCS is on the promotion of healthy lifestyles, early diagnosis, and management of diabetes, hypertension, etc.

The Chronic Non-communicable disease like Hypertension and Diabetes Mellitus has the following characteristics.

- Are permanent
- Leave residual disability
- Are caused by non-reversible pathological alteration
- Require special training of the patient for rehabilitation
- May be expected to require a long period of supervision, observation or care.
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The risk factors of Chronic Non-communicable diseases like Hypertension and Diabetes Mellitus is increasing all among the adult population worldwide without considering the economic condition of the countries of the world. The prevalence of the Non-communicable diseases is showing a very fast upward trend in all over the world. This upward movement depends on so many factors. The increase in life expectancy

caused a greater number of people living to older age and has a great risk of Hypertension and Diabetes Mellitus. The change in lifestyle and behavioral patterns of people causes to rapid onset of these diseases.

The impact of Chronic Non-communicable diseases like Hypertension and Diabetes Mellitus in our society is immeasurable. It may cause loss of life, disablement, change in family relationships, and poverty. It also causes economic loss in the country. Therefore, developing countries take appropriate steps to avoid the 'epidemics 'of Chronic Non-communicable diseases like Hypertension and Diabetes Mellitus.

The absence of a known agent, multiple causes for these diseases, the long incubation period for the onset of diseases, slow onset and development, and the distinction between diseased and non-diseased states may be difficult to establish in the diseases. Hypertension and Diabetes Mellitus may cause delays in starting treatment.

Hypertension

Hypertension becomes a chronic condition of concern because of its role in the causation of coronary heart disease, stroke, and other vascular complications. It is one of the major public health issues when considering its socioeconomic and epidemiological transition. In world the 20-25% of all death is due to cardiovascular disease, and Hypertension is the major risk factor for it.

Hypertension is classified into two types-essential and secondary (Park 2005). 90% of Hypertension Case is laid down in the essential type category. In this type the original cause of Hypertension is unknown. The cause of the secondary type of Hypertension is some other disease process or abnormality of any body part. The main causes behind Hypertension are the increase in blood pressure due to high cholesterol levels in the blood, mental stress in the speedy life, intake of high-level salt in food…etc.

Hypertension is a major risk for stroke, coronary heart disease, and heart or kidney failure. The higher the Blood Pressure, the greater the risk and lower the expectation of life. The rate of affecting the disease is similar in both males and females but the death rate due to this disease is higher in females. The use of effective drugs during the past 25-30 years helps to control Hypertension.

Diabetes mellitus

Diabetes Mellitus becomes a chronic condition of concern because of its role in the causation of heterogeneous group diseases, characterized by a state of chronic hyperglycemia and it was a result of diversity of etiologies, environmental and genetic

acting jointly. The main cause of this disease is the defective production or action of insulin in the human body. It is one of the major public health issues when considering its socioeconomic and epidemiological transition.

Diabetes Mellitus is classified into three types (Park 2005).

1. Diabetes Mellitus

a. Insulin-dependent Diabetes Mellitus (IDDM, Type 1)

b. non-insulin-dependent Diabetes Mellitus (NIDDM, Type 2)

c. Malnutrition–related Diabetes Mellitus

d. Other types (secondary to pancreatic, hormonal, drug-induced, genetic, and other abnormalities)

2. Impaired Glucose Tolerance (IGT)

3. Gestational Diabetes Mellitus (GST)

90% of Diabetes Mellitus Case is laid down in the Non–insulin–dependent Diabetes Mellitus (NIDDM, Type 2) type category. In this type, the original cause of Diabetes Mellitus is the defective production or action of insulin. Diabetes Mellitus is a major risk for impairment of all body parts, coronary heart disease and heart or kidney failure…etc. The higher the Blood Sugar level, the greater the risk and lower the expectation of life.

Age structure, population growth, and urbanization are the main cause to increase the rate of the affected persons. The rate of affecting the disease is similar in both males and females but the death rate due to this disease is higher in females. The use of effective drugs during the past 25-30 years helps to control Diabetes Mellitus, especially by injecting insulin.

Non-communicable Disease Clinic (NCD Clinic)

In India, Non-communicable Disease Clinic was initiated in the second half of 2010 with a focus on strengthening of infrastructure, human resource development, health promotion, early diagnosis, treatment, and referral. It was implemented in 100 backward and inaccessible districts across 21 States during 2010-12. To control Non-communicable Diseases, the clinic accepted certain activities and interventions and it is explained as follows (www.nrhmhp.gov.in).

1. Prevention through behavioral changes of the population: One of the important steps to control the Non-communicable diseases is done by behavioral changes of the population. unhealthy food habit, lack of physical exercise, mental stress, inadequate Body Mass Index, use of addictives are the major risk factors which leads to hypertension, obesity, diabetes and cardiovascular diseases. The preventive measures are

first taken by Government level by making special counseling centers at sub centre level of all Primary Health Centers and regular check up of all 30 years above populations regularly. Attempts are made to creating general awareness about Non-Communicable Diseases and its control in population by all communication medias like radio and television.

2. Early diagnosis Strategy: Early diagnosis of any disease helps to prevent the further complication of that disease. Interval screening of persons above the age of 30 years to find out diabetes and hypertension, at any health care facility help to detect the Non-communicable diseases. Financial and technical support by Government level by supplying a glucometer, glucose strips, lancets, sphygmomanometer at sub centre level and ultrasound scanner, X-ray, E C G machine at P H C level.etc.

3. Special clinics: Special clinics at Community health center level conducted by specialist doctors help to detect Non-Communicable Diseases like Cancer, Cardiovascular diseases and Strokes. A comprehensive check up of patients referred from the sub centre level by Health Workers also helps to avoid complications of common Non-Communicable Diseases. The key functions of the clinic should be Screening, diagnosis, and management.

In our state Kerala, the Non-communicable Disease Clinic was started in 2010 on April 7th (www.arogyakeralam.gov.in). Normally in all Primary Health Centers and Community Health Centers and in sub centers the Non-communicable Disease Clinic is conducted on all Wednesdays.

The study was conducted in Kolachery Gramapanchayath which has a good working Primary Health Centre. Kolachery is a grama panchayath in Kannur district with a total population of 34650 in a 20.72 km area. Here the male population is 17561 and the female population is 16999. The total population above 60 years is 5870. Here the male population is 2965 and the female population is 2905 (Primary Health Centre, Kolachery).

Kolachery Primary Health Centre has 4 sub-centers and every Tuesday afternoon the Non-communicable Disease Clinic is conducted here. More than 20 persons attended each clinic. The Blood Pressure level and Blood Sugar level are normally tested here and the suspected cases are referred to the next day Non-communicable Disease Clinic at Primary Health Centre. The health staff also gives health education to the attended persons.

The total number of patients registered in Kolachery Primary Health Centre Non-communicable Disease Clinic is 561. Here males are 258 and the females are 303. In out

of 561 members 118 numbers has both Hypertension and Diabetes Mellitus, 85 have only Diabetes Mellitus, and 358 have only Hypertension affected.

The number of persons who attended the Kolachery Primary Health Centre Non-Communicable Disease Clinic on January 2020 was depicted in the following table.

Table: 1. Attendance of persons in the NCD Clinic on January 2020

	Male	Female	Total
Attendance during the Month	195	358	553
Screened for Hyper Tension	54	118	232
Follow up for Hyper Tension	121	220	341
Screened for Diabetics Melitus	20	28	48
Follow up for Diabetics Melitus	32	52	84
Follow up for both DM&HT	50	66	116
New Hyper Tension cases	3	4	7
New Diabetics Melitus cases	2	1	3
New cases for both DM&HT	1	0	1

Source: Researcher's data

In the 551 total attendances on January 2020, the researcher directly interviewed 100 males above 60 years old who started to take medicines at least 2 years, to collect the information. In the questionnaire are included the age, occupation, the life habits-smoking, drinking, and chewing of the interviewer are included. Of the 100 patients, 67 are in the age group between 60-70 years and 33 have more than 70 years.

All of the interviewees are from middle or lower-class economic categories. The diet habits of these people are very normal. They all like to eat homely food and most of them do not eat junk food even in their lifetime. The service pensioners have not bothered about their future but others are highly bothered about the coming days because of the treatment expense, which may also cause to increase in their Blood Pressure and Blood Sugar level. The data on occupational status are tabled as follows.

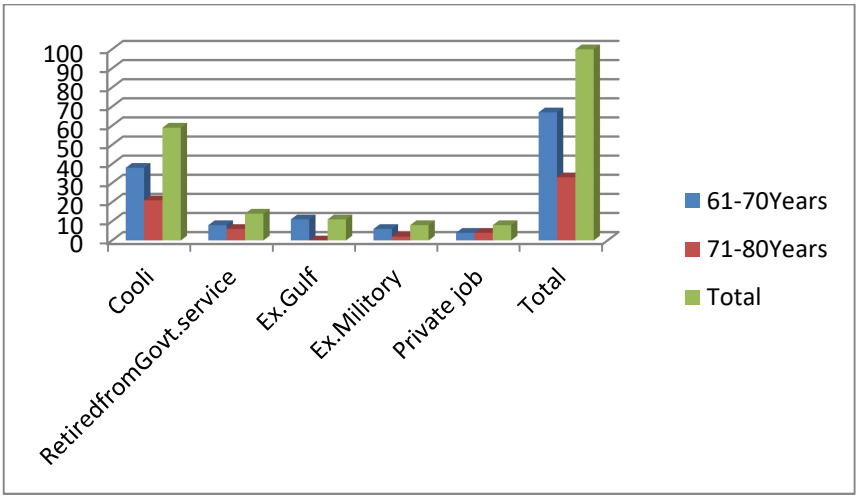
Here out of 100, 59(59%) had occupied with coolie (some are now going to coolie jobs), 14(14%) numbers retired from government service, 11(11%) are returned from Gulf, 8(8%) are retired from military service and 8 (8%) were occupied with private jobs, that means they were business or private company job.

Table: 2. Occupational status of the patients

Occupation Done	61-70Years	71-80Years	Total
Cooli	38	21	59
RetiredfromGovt.service	8	6	14
Ex.Gulf	11	0	11
Ex.Military	6	2	8
Private job	4	4	8
Total	67	33	100

Source: Researcher's data

The coolie workers and returns from military service are hard working and their bodies got enough exercise even though they are affected by Hypertension and Diabetes Mellitus. The graphical representation of the above table is given below.



The life habits- smoking, drinking, and chewing act as activators for Non-communicable Diseases like Hypertension and Diabetes Mellitus. The content of cigarettes and tobacco like nicotine cause to increases Blood Pressure levels and the intake of high-level alcohol also cause to increase the Blood Pressure level and Blood Sugar level of the drinker.

Now all of the patients mostly left their life habits like smoking, drinking, and chewing because they knew the side effects of the life habits. Some of them said that if they got a chance to drink or got an offer to free drinking, they use the chance but the amount of intake is very low. The Life Habits status of the patients in have 60-70 years age group are given in the below table.

Table: 2. Life Habits status of the patients has 60-70 years age group

Occupation Done	Life Habits					
	Smoking	Drinking	Chewing	Smoking& Drinking	No Life Habits	Total
Coolie	6	17	4	4	7	38
Govt.service (Rtd)	1	3	0	1	3	8
Ex.Gulf	2	4	0	3	2	11
Ex.Militory	1	2	0	2	1	6
Private job	1	1	1	0	1	4
Total	11	27	5	10	14	67

Source: Researcher's data

Out of the 67 persons, 14 have no life habits, 7(50%) of them from coolie workers 3 (21%) from government service, 2(14%) from Gulf returns, 1(7%) from military service and 1 (7%) from private jobs.

Out of the 67 persons have 60-70 years age 11 (16%) have smoking habits, 27(40%) have drinking habits, 5(7%) have chewing habits and 10 (15%) have both smoking and Drinking habits.

Table: 3. Life Habits status of the patient's above70 years age group

Occupation Done	Life Habits					
	Smoking	Drinking	Chewing	Smoking& Drinking	No Life Habits	Total
Cooli	4	8	2	3	4	21
Retiredfrom Govt.service	0	2	0	0	4	6
Ex.Gulf	0	0	0	0	0	0
Ex.Militory	0	0	0	1	1	2
Private job	1	1	2	0	0	4
Total	5	11	4	4	9	33

Source: Researcher's data

Out of the 33 persons, 9 (27%) have no life habits, and 4(44%) of them are from coolie workers 4 (44%) from government service, and 1(11%) from military service. Out

of the 33 persons have above70 years of age 5(15%) have smoking habits, 11(33%) have drinking habits, 4(12%) have chewing habits and 4 (12%) have both smoking and Drinking habits. From the above data, it can find out that the life habits like smoking, drinking, and chewing may cause to develop the Non-communicable Diseases like Hypertension and Diabetes Mellitus, but it also related to life activities and mental stress of the persons.

Conclusion

The early detection of Non-communicable Diseases is very important so ensure the check-up of all 30 years above persons in the society. Health promotes by counseling which causes behavioral changes in the person and their family thus leading a healthy life. Refer to the suspected case as early as possible. Ensure the medicine stock in the hospitals by the responsive authority. Make awareness about the need of celebrating World Diabetic Day (14th November) and World Hyper Tension Day (17th May). Ensure awareness programs at the school level and Ward level. Ensure health insurance cards for all patients.

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