



PREVALENCE OF NON-COMMUNICABLE DISEASES IN A RURAL POPULATION OF SOUTH INDIA

Haseena T A

Professor & HOD, Medical Surgical Nursing Department, Sree Gokulam Nursing College, Trivandrum

Dr. Kochuthressiamma Thomas*

Emeritus scientist, Government Nursing College, Trivandrum *Corresponding Author

ABSTRACT

The purpose of this study was to assess the prevalence of non-communicable disease among rural population in south Kerala. The objective of the study was to assess the prevalence of non-communicable diseases among rural population. Methodology: Quantitative approach was used. Using convenient sampling technique, 2383 subjects who belonged to 778 households were surveyed and data were collected using questionnaire to assess socio personal data and prevalence of non-communicable diseases. The data were analysed using descriptive and inferential statistics. Results: The results revealed that 83.2% of them belongs to the age group of 20 to 60 years and remaining were (16.8%) above 60 years. Majority (85%) were hindus. 83.7% were from nuclear families. 5% had the habit of smoking, 1.8% had habit of chewing panparag 2.7% had betel chewing and 6% had the habit of alcoholism. The present study findings showed that 33.3 % had non communicable diseases. Out of these, 15% has diabetes mellitus, 17% has hypertension, 2.3% has cardiovascular disease, and 2.8% have a diagnosis of Chronic obstructive pulmonary disease. There were subjects with stroke (0.9 %) and cancer (0.5%). Among the subjects with non-communicable disease, 74.5% of the subjects were following regular treatment and 14.5% were irregular in complying with the treatment. 11.1% of the subjects with NCD were not following any kind of treatment for the disease.

KEYWORDS : Prevalence, non-communicable diseases, rural population

INTRODUCTION

Non-communicable diseases (NCDs) have replaced communicable diseases as the most common causes of morbidity and premature death worldwide. About 80% of the burden occurs in low or middle income countries, of which 25% is in individuals younger than 60 years. Demographic and epidemiological transitions taking place in the developing countries of Asia is shifting the disease burden from communicable towards non-communicable disease. India's poor are at heightened risk of acquiring NCDs owing to high rate of smoking and tobacco use. Kerala, a state in India, has health indicators at par with developed countries like life expectancy, literacy rate, fertility rates, maternal and child health indicators. But determinants like rapid urbanization, increasing affluence, international migration, changing age structure and changing lifestyle have results in an ever increasing burden of Non-communicable diseases.

Kerala is in the third stage of epidemiologic and demographic transition offered by low fertility rate and high life expectancy. The state is facing highest prevalence of noncommunicable diseases including cardiac disease, diabetes, cancer, chronic pulmonary disorders and their risk factors (Thankappan et al. 2010, Shah, 2010). As on 2005, among the 35 years plus population in the State, the prevalence of diabetes ranged from 21 per cent in the rural areas to 28 per cent in the urban areas, while the prevalence of hypertension was 34 to 43 per cent in the same age group. About 38 to 54 per cent in the age group was overweight, while the average cholesterol levels in any segment of the State's population was 225 mg⁵.

A recent survey led by Sebastian et al, 2016, among 820 adults in a rural Panachayth in northern Kerala reported the prevalence of high blood pressure as 25.7%, diabetes 21.3% (already diagnosed) and 10.3% of cases had both. 5.7% of subjects had chronic kidney disease already diagnosed, indicating inadequate control of diabetes and high blood pressure. Regarding NCD risk factors, smoking was reported by 37.2% of men, regular alcohol consumption by 2.5% men and low level of physical activity by 17.7% of all (Sebastian et al, 2016).

A recent study in Thiruvananthapuram district, Kerala that shows an uptick in the number of patients suffering from heart diseases, cancer and hypertension in the coastal belt. According to the survey, more than a fourth (25.9 percent) were considered to be

hypertensive and one-fifth (20.4 per cent) reported to suffer diabetes. It was also found that more than 50 per cent of the people above 65 were hypertensive (Malayala Manorama daily, report, 2016)

Kerala is currently witnessing a surge in the number of cancer cases and currently the prevalence is around 1 %.(22) The number of cancer cases undergoing treatment in regional cancer center in Thiruvananthapuram has quadrupled in last 3 decade (14995 in 2012-13 vs 3696 in 1982). The cancer registry data shows that the number new cases detected annually had increased by as much as 50 % among males (Age adjusted rate-87.8/1lakh in 1992-97 and 132/ 1 lakh in 2009- 11) and 34% among females (AAR-81.1/ 1 lakh in 1992-97 and 123.2/1 lakh in 2009-11) in the past 2 decade.

Statement of the problem

A descriptive study to assess the prevalence non communicable diseases in a rural population in south Kerala.

OBJECTIVE OF THE STUDY

1. To assess the prevalence of non-communicable diseases among rural population in south Kerala

Operational definition

Prevalence: refers to total number of individuals with non-communicable disease in selected community of Kerala in a specified period of time which is represented by percentage.

Non communicable diseases: refers to chronic diseases including cancer, diabetes cardiovascular diseases and stroke which require long term care management.

MATERIAL AND METHODS

Research Approach: In the present study, quantitative approach is used

Research Design: The design selected for the present study is descriptive survey research design.

Setting of the study: The study was conducted at two wards from a panchayat in rural Thiruvananthapuram.

Population: In the present study, the population is general public who are above 20 years.

Inclusion criteria

The present study includes all individuals who are willing to participate in the study

Exclusion criteria

The study excludes individuals who are included in any other on-going research regarding non communicable diseases.

Sample: The sample constitutes general public who are above 20 years residing at two wards of nellanadu panchayat in Thiruvananthapuram.

Sample size: Sample for the present study consisted 2383 individuals who are above 20 years residing at two wards of nellanadu panchayat in Thiruvananthapuram.

Sampling technique: In this study the researcher had used convenient sampling to select subjects who fulfils the inclusion criteria .

TOOL/INSTRUMENTS OF THE STUDY

In the study the instruments used were socio personal Proforma and questionnaire to assess prevalence of non-communicable diseases.

Description of tool

The tool was developed by the investigator and used for the study.

Section A: Socio demographic data consist of variables such as age, sex, education, religion, profession, habits and type of family.

Section B: Questionnaire to assess the prevalence of non-communicable diseases like diabetes, cardiovascular diseases, cancer, and stroke.

Data collection procedure

The study was conducted to assess prevalence of non-communicable diseases. 2383 individuals who met the inclusion criteria were identified from two wards of nellanadu panchayat, Trivandrum district. The investigator introduced herself and explained regarding the study and assured confidentiality of the information provided by the study participants. Informed consent was obtained from each study participants to ensure their willingness to participate in the study. The data was collected using structured questionnaire regarding socio-personal variables, prevalence of non-communicable diseases (already diagnosed) and presence of risk factors like smoking, use of tobacco (panaparag/ betel chewing), regular consumption of alcohol and physical inactivity. Height and weight were measured to calculate body mass index.

RESULTS

Data were obtained from 2383 adults who were above 20 years.

Table 1: Frequency, distribution and percentage of subjects based on sociopersonal variables

Sno	Characteristics	Frequency	Percentage
1	Age	686	28.8
	21-30 years	476	20
	31-40 years	395	16.6
	41-50 years	425	17.8
	51-60 years	401	16.8
	>60 years		
2	Gender	1194	50.1
	Male	1189	49.9
	Female		

3	Religion	2026	85
	Hindu	310	13
	Muslim	47	2
	Christian		
4	Type of family	1994	83.7
	Nuclear	329	13.8
	Extended	60	0.5
	Joint		

Frequency and percentage distribution based on habits and physical activity

- It is observed that 5% of study population is smokers and 6 % consumes alcohol regularly. 1.8% had the habit of chewing panparag and 2.7% has betel chewing habits.
- 29.6% of the subjects were having sedentary or low activity level. More than half of the subjects (56.1%) were following moderate level of activity and only 14.3% were having high level of activity.

Table 2: Frequency distribution and percentage of subjects based on prevalence of non communicable diseases

(N=2383)

Sno	Characteristics	Frequency	Percentage
1	Overall prevalence	844	35.5
2	Specific	354	14.9
	Diabetes mellitus	402	16.9
	Hypertension	55	2.3
	Heart disease	12	0.5
	Cancer	21	0.9
	Stroke		
3	Compliance with treatment (N=844)	621	73.6
	Regular	125	14.8
	Irregular	98	11.6
	No treatment		

- The present study findings showed that 35.4 % had non communicable diseases. Out of these, 15% has diabetes mellitus, 17% has hypertension and 2.3% has cardiovascular disease. There were subjects with stroke (0.9 %) and cancer (0.5%).
- Among the subjects with non-communicable disease, 73.6 % of the subjects were following regular treatment and 14.8% were irregular in complying with the treatment. 11.6% % of the subjects with NCD were not following any kind of treatment for the disease.

DISCUSSION

One of the major challenges that we are faced with in the international public health arena is the recent increase in non-communicable diseases (NCDs) in developing as well as industrialized countries. However, chronic diseases account for about 60% of the 565 million total deaths in the world. The share of the burden of NCDs in these deaths is about 46% of the global burden of these diseases in developing countries.

In the present study, it was revealed that 83.2% belonged to the age group of 21-60 years and 16.8 % subjects belonged to more than 60 years. Males were little more than half the population (50.1%). Hindu religion was more predominant (85%) among the population. Among the subjects majority (83.7%) belongs to nuclear family, 13.8% were from extended family and only 0.5% belongs to joint family. Nearly half of the subjects (48.5%) had higher secondary education. Most of the subjects (29.6%) were self-employed and 13.9 % were coolie workers. 95.6 % of the study population were non-vegetarians. These findings are consistent with the findings from executive project report by Sreechithra Institute (SCTIMST). More than half (53.2%) were in the age group of 18-44 years and 48.5% had higher secondary education.

It is observed that 5% of study population is smokers and 6 %

consumes alcohol regularly. 1.8% had the habit of chewing panparag and 2.7% has betel chewing habits. 29.6% of the subjects were having sedentary or low activity level. More than half of the subjects (56.1%) were following moderate level of activity and only 14.3% were having high level of activity. These findings are consistent with the findings of study conducted by Sanjay Chaudhary et al on profile of Physical Inactivity as a risk factor for Non-Communicable Diseases in a rural population which revealed that the prevalence of physical inactivity was 26.88% in all, 18.75% in male and 35.44% in female; more in 15-24 years and 55-64 years, more in female than male in each age group.

The present study findings showed that 35.4 % had non communicable diseases. Out of these, 15% has diabetes mellitus, 17% has hypertension and 2.3% has cardiovascular disease. There was subjects with stroke (0.9 %) and cancer (0.5%). These findings are consistent with the study findings of Nandya et al on prevalence of lifestyle diseases: comparison with respect to gender, locale, age and lifestyle which revealed that in rural area 33.85% of the total sample is suffering from various lifestyle diseases and 66.2% without any lifestyle diseases.

Among the subjects with non-communicable disease, 73.6 % of the subjects were following regular treatment and 14.8% were irregular in complying with the treatment. 11.6% % of the subjects with NCD were not following any kind of treatment for the disease.

CONCLUSION

This study highlights the huge gap that exists between existing prevalence of non-communicable diseases and the ever increase in these diseases and lifestyle practices adopted by people. There are many studies which reveal the lack of awareness regarding these diseases among general public. Creating awareness regarding non-communicable diseases, devising different strategies for different groups and providing enabling environment to motivate them to adopt healthy dietary and exercise related behaviors has to be taken on a war footing to reap the benefits in the future. The challenge for the nurse is especially to rope in laggards to adopt healthy behaviour patterns. Patient Education needs to be an integral component in the treatment of NCDs and it is crucial for the nurses to involve in this. The prevalence of NCDs especially cardiac problems, diabetes all forms of cancers and chronic respiratory diseases are significantly high in Kerala. An integrated and comprehensive approach is needed that gives emphasis on health promotion, early detection, population-based interventions, prevention of exposure to risk factors, and strengthening of health system towards universal access to health services. The high prevalence of risk factors points to the fact that NCD burden would continue to rise in the coming years. The problem with non-communicable diseases are that they tend to be chronic and can only be controlled but not cured, except a few like cancer. Hence the burden or prevalence would continue to increase each year with the addition of new cases (incident cases). As more and more of these diseases are affecting the younger population, the numbers of life year spend in sickness or disability increases which may pose a huge economic burden to the state in two ways.

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