

Non-communicable Diseases, Rising Morbidity Rates and Risk Factors: The Kerala Experience

Bittu Ann Chacko* & Roy Scaria**

*Assistant Professor, St. Aloysius College, Edathua, Kerala.

**Assistant Professor of Economics, T.M Jacob Memorial Government College Manimalakunnu, Koothattukulam, Kerala and Research Guide, Government College, Kottayam

Received: May 15, 2018

Accepted: June 27, 2018

ABSTRACT

In Kerala, the prevalence of non-communicable diseases has been rising. Changing consumption pattern coupled with the lack of physical activity especially among the school going children is adding fuel to this alarming situation. If this trend continues, the state would have to face a health disaster in the nearby future. A lifelong approach involving the active participation of the government, policy makers, and the general public is needed.

Keywords: Non-communicable diseases, Risk factors, Physical inactivity, Kerala

Introduction

Kerala's achievement in education and health has been remarkable and commendable. Health standard indices like life expectancy, maternal and infant mortality rates, and total fertility rate are at par with that of the developed nations such as the U.S and Canada. However, Kerala is reported to have the highest Non-communicable Diseases contributed morbidity prevalence rates; 188 per 1000 in rural areas and 218 per 1000 in urban areas. This amounts twice the all India figures. (NSSO, 2014). Now, the so called 'illness of affluence' can be seen even among people of lower income strata. WHO studies show that the lifestyle diseases are on the rise even in economically poor African countries. High morbidity rate arising from non-communicable diseases is a matter of serious concern to health professionals, policy makers, governments and also to the general public.

Objectives

- i. To examine the prevalence of non-communicable diseases in Kerala and its risk factors.
- ii. To assess the progress of government Programmes to contain the incidence of NCDs.

Methodology

The study is descriptive in nature based on secondary information. Reports and publications of various governmental agencies, research papers and online data sources have been used.

Prevalence of Non-communicable Diseases in Kerala

A quite disturbing aspect visible in Kerala is the shifting pattern of diseases from communicable to non-communicable such as CVD, diabetes, cancer and hypertension. NCDs and their risk factors are becoming increasingly prevalent throughout all strata of the society, even among the low and middle income groups. These diseases which require long term care and huge resources have greater impact on the poorer households making them vulnerable to poverty (McMurry et.al, 2017 and GoK, 2014). The remittances of NRIs contributed much to poverty reduction in the state. Ironically, the prevalence of NCDs such as hypertension, obesity and diabetes, and their risk factors is significantly higher among gulf migrants (Shamim, 2013).

Kerala is the diabetes capital of India the diabetes prevalence is high as 32.9% compared to the national average of 20.3 % (NFHS 4, 2016). About 11% of people were affected with high diabetes and the incidence is more among men and in urban areas. According to a report of Kerala health services, one in three is becoming diabetic in Kerala and 33.39% of the total population is suffering from diabetes.

One of the keys to the effective management of individuals with diabetes is the treatment of associated cardiovascular risk (Gakidou, et al., 2010). But the burden of cardiovascular disease is also high in Kerala (Kutty et. al, 1993). Government of Kerala has recently observed that, in urban areas the prevalence of heart diseases is as high as 12 percent, while in rural areas it is slightly less at 7.5 per cent. Heart problems continue to be the biggest challenge as far as lifestyle diseases are concerned. The cardiac related mortality rate among 1 lakh population is 380 for men and 128 for women. Also about 60 percent of cardiac deaths in men and 40 per cent in women occur before 65 years (Deccan Chronicle, 2018).

As per Cancer Registry 2014, in Kerala 974 female and 913 male per million people, are cancer patients. In one year, roughly 35,000 new cases register. Breast cancer which account for about 30% to 35% is the most common malignancy among the women. According to the Thiruvananthapuram Cancer Registry, the prevalence rate of cancer in rural and urban areas is 19.8 and 30.5 respectively per lakh persons. The incidence of chronic non-communicable diseases reported in Kerala during the year 2016-17 can be read in table.1.

Table 1: Reported cases of chronic diseases in Kerala

Indicators	2016-17
No. of patients screened	402917
No of new Diabetic Mellitus cases detected	5275
No of new Hyper Tension cases detected	7011
No of new Cancer cases detected	45
No. of new Cardiovascular cases detected	58
No of persons given tobacco cessation counseling	12525

Source: Directorate of Health Services, Government of Kerala

The information given in table 1 is quite incomplete as it does not contain cases registered in private hospitals. Thus, the NCD figures and its incidence are gravely underestimated.

Risk Factors

Changing consumption pattern, growing physical inactivity, rising alcohol and tobacco consumption/use are the major factors attributed to the high prevalence of NCDs. Many of these are the after effects of a rising per capita income. A large community based study by revealed that the prevalence of all NCD risk factors increases with age (Thankappan 2010).

One of the reasons of cardiovascular diseases, type 2 diabetes and some type of cancer is the lack of physical activity and it contributes to the occurrence of nearly three million deaths in a year globally (WHO, 2009). Healthier physical activity is recommended and it is often argued that people commuting by bicycle will have a high life expectancy and low risk for CVDs than people travelling by motor vehicles (WHO, 2004). Increased use of private vehicles has reduced walking and cycling while the modern technologies at the home and workplace have dramatically reduced the energy to be expended for daily activities. Parents are prompted to restrict children's independent travel for safety reasons. This reduces the levels of physical activity at a time when the habits of regular exercise are to be most readily instilled.

In India also, less physical activity and greater consumption of energy-dense food is observed. Growth in the number of motor vehicles accelerated the problem of obesity, diabetes, heart disease and other similar types of diseases. 'Active travel' — walking, cycling or the use of public transport — is one of the measures that the World Health Organisation recommends to address the growing burden of non-communicable diseases. An Indian Migration Study covering 4000 participants, both from urban areas and rural areas found that those who walked or bicycled to work were less likely to be overweight than those who relied on private vehicles. Those using bicycles also had a lower likelihood of diabetes or high blood pressure. And it has also shown that migrants from villages quickly adopted an urban lifestyle and had associated health problems (The Hindu Daily, 2013).

Decline in physical activity is observed in Kerala as well. Increase in the number of motor vehicles over the years itself is a good indicator of and proxy for the changing pattern of lifestyle and inactivity. Now about 2,360 motor vehicles are added daily to the vehicle population. In 2011, number of vehicles exceeded the number of households. The proliferation of vehicle population can be shown in table 2.

Table 2: Vehicle proliferations in Kerala

Year	Number of vehicles in lakh
1960	0.24
1970	0.86
1980	1.75
1990	5.81
2000	19.1
2010	53.98
2015	94.21
2017	111.114

Source: The Hindu daily, 2017

In Kerala, one among every three persons owns a vehicle. The vehicle per 1000 population for the state is high as 305 near to the U.S (507) whereas it is only 18 in all India and 47 in China (The Hindu Daily, 2017).

In Kerala, the NCD risk factor survey monitored by WHO and ICMR conducted in 2003-04 and 2007-08 reported that the level of physical inactivity rose from 5.9% to 74.5%. By checking the consistency of the 2008 results,(Aslesh 2012)) found that nearly 66 percent of people are inactive. The decrease in the work related physical activity needs to be compensated with recreation level physical activity. Government of Kerala conducted a Total Physical Fitness Programme for school children covering around 73 percent of state schools and measured the fitness aspects. In the first round only 9 percent of students have completed the test and only 4 percent got selection to the second round.

The report highlights that the physical fitness is becoming lesser and lesser when students reach higher classes. The issue, unless properly attended, will bring forth a 'health disaster' (The Hindu Daily, 2009).

Another risk factor is alcohol, which contribute revenue to the state in value terms rocketed from 41 crore in 1987-88 to 7511 crore in 2013-14. As a paradox, the government has to spend almost double the amount towards health, police, jail, judiciary, motor vehicles and social justice associated with health and social issues of using alcohol. The rising number of young alcohol users, the entry of women and young girls in the picture are too alarming. If not intervened, it may give rise to a huge psychological, physical, financial and social burden on individuals and the society (Johnson, 2014).

In Kerala, the prevalence of current smoking among men in the age group of ≥ 15 years is estimated to be around 36% compared to 33% in India as a whole (NFHS-3, 2005-06). The association between NCDs complications and smoking is well established (Thankappan &Thresia, 2007). Cigarette smoking increases the risk of coronary heart disease, stroke and peripheral vascular disease in type 2 diabetes patients (Eliasson, 2003). Smoking and diabetes interact to increase the risk of cardiovascular disease nearly 14 times more than that if either smoking or diabetes alone contribute (Tibbs &Haire, 2002).

Similarly, the traditional diets of people, especially in the South East Asian regions have been replaced by diets which are high in fats, animal products and salts. At the same time fast food culture is common in urban areas (Hazra, 2010; Soon & Tee, 2014). Kerala is in no way an exception.

Government Initiatives to tackle lifestyle diseases

The government programmes for combating NCDs and its incidence is at the infant stage and the budget allocation is rather small. Major programmes are listed.

1. National Programme for the Prevention of diabetes, cardio vascular diseases and stroke (2004) has been launched for promoting public healthcare activities, disease prevention of the high risk group and an assessment of the risk factor prevalence.
2. The Health Department has chalked out the 'Perspective Plan 2030 - Model NCD Control Programme' (2016 for streamlining the current NCD control programmes and strengthening secondary care services). The object was to reduce the burden of lifestyle disease morbidity in the next ten to fifteen years.
3. Under the *Amrutham Arogyam Programme*, the state has offered facilities for the screening and treatment of NCDs in all districts. The programme is being implemented by Health Department in association with WHO, ICMR and Resolve to Save Lives organisation. (Deccan Chronicle, 2018)
4. The state government of Kerala has recently launched a comprehensive Programme for identifying the prevalence of life style diseases among people above 30 years of age in six districts through a population-based survey.
5. Life Style Disease Education and Awareness Programme (LEAP) for school children and India Hypertension Management Initiative (IHMI) by ICMR are joint initiatives of the Union and Kerala government to tackle the occurrence and treatment of NCDs.
6. The central government has stepped up the allocation for combating NCDs Rs. 555 crore in 2016-17 to Rs 955 crore in 2017-18
7. The cardiovascular disease component of the government's National Program for Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) has been in 25 high burden districts.

Summary & Conclusion

The foregoing analysis shows that the prevalence of major non-communicable diseases and its catastrophic effects are rising in the state. High prevalence and associated risk factors imply that the NCD burden would continue to rise in the coming years. What is required is to have programmes with long term perspective

which would build a strong and healthy younger generation starting from the root by instilling due values in the students so as to reverse the current trend. The students must get developed in them the attitude for a sustainable living. Rectification measures are rather urgent.

References

1. Aslesh, O. P., Mayamol, P., Suma, R. K., Usha, K., Sheeba, G., & Jayasree, A. K. (2015). Level of physical activity in population aged 16 to 65 years in rural Kerala, India. *Asia Pacific Journal of Public Health*, 28(1), 53-61.
2. Deccan Chronicle (2018, April 5). Life Style Disease Survey in six districts of Kerala. Retrieved from <https://www.deccanchronicle.com>
3. Eliasson, B. (2003) Cigarette smoking and diabetes. *Progress in Cardiovascular Diseases*, 45:405-13. [PubMed].
4. Gakidou, E., Mallinger, L., Abbot- Klawter, J., Guerrero, R., Villalpando, s., Ridaura, R. L., et al. (2010). Management of diabetes and associated cardiovascular risk factors in seven countries: A comparison of data from national health examination surveys. *World Health Organization Bulletin* , 172-183.
5. Government of Kerala (2014). Report of the expert committee on health. Thiruvananthapuram: State Planning Board.
6. Hazra, A. (2010). State of health in India: An analysis. *Kuruksheetra*, 58(4), 6.
7. Kutty, V. R., Balakrishnan, K. G., Jayasree, A. K., & Thomas, J. (1993). Prevalence of coronary heart disease in the rural population of Thiruvananthapuram district, Kerala, India. *International Journal of Cardiology*, 39(1), 59-70.
8. Mcmurry, H. S., Shivashankar, R., Mendenhall, E., & Prabhakaran, D. (2017). Insights on Overweight and Obesity. *Economic and Political weekly* , LII No 49, 84-87.
9. National Family Health Survey (NFHS-3 2005-06) Report. Mumbai: International Institution for Population Sciences.
10. National Family Health Survey (NFHS-4 2015-16) Report. Mumbai: International Institution for Population Sciences.
11. National Sample Survey Organisation (NSSO 71st Round, 2014). Report on Health in Kerala. Thiruvananthapuram: Department of Economics and Statistics.
12. Shamim, N. B. (2013). A comparative study of NCD risk factors among gulf migrant workers and non migrant workers of Malappuram district, Kerala, Published MPH thesis. Thiruvananthapuram. Achutha Menon Centre for Health Science Studies.
13. Soon, J.M., & Tee, E.S. (2014). Changing trends in dietary pattern and implications to food and nutrition security in Association of Southeast Asian Nations (ASEAN). *International Journal of Nutrition and Food Sciences*, 3(4), 259-269.
14. Thankappan, K.R., & Thresia, C.U., (2007). Tobacco use & social status in Kerala. *Indian Journal of Medical Research*, 126, 300-8. [PubMed].
15. Physical fitness of students poor (2009, September 22). *The Hindu*. Retrieved from <https://www.thehindu.com>
16. Raj, N.G. (2013, June 13). For better health, walk or cycle. *The Hindu*. Retrieved from <https://www.thehindu.com>
17. Johnson, E., (2014, August 28). Towards an alcohol free Kerala. *The Hindu*. Retrieved from <http://iogt.org/blog/2014/08/28/towards-an-alcohol-free-kerala/>
18. Radhakrishnan, S.A., (2017, May 17). One in 3 Keralites has a vehicle. Retrieved from <https://www.thehindu.com>
19. Tibbs, T.L., & Haire, J. D (2002). Avoiding high-risk behaviors: Smoking prevention and cessation in diabetes care. *Diabetes Spectr*, 15, 164-9.
20. World Health Organisation (2009) *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks*, Geneva, WHO.