REVIEW PAPER

Volume - 13 | Issue - 08 | August - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

REVIEW OF RESEARCH ACTIVITY ON NON COMMUNICABLE DISEASES IN THE UNION TERRITORY OF ANDAMAN & NICOBAR ISLANDS: A REVIEW TO EVALUATE THE NON-COMMUNICABLE DISEASES STATUS IN THE ISLANDS.

Public Health

Dr. Subhajit Shyam*

Senior Ncd Consultant, Kolkata, West Bengal *Corresponding Author

ABSTRACT

Background: India is experiencing an epidemiological transition and the burden of NCDs is rising. NCDs are estimated to account for 63% of all deaths. The major NCDs share four behavioral risk factors- unhealthy diet, lack of physical activity, and use of tobacco and alcohol. Factors contributing to the rise of NCDs also include ageing, rapid unplanned urbanization and globalization. Non-communicable diseases (NCDs) are a group of diseases that affect individuals over an extended period of time causing socio-economic burden to the nation. Thus, observing these factors, there is a need to conduct a review on research activity on NCD . **Objectives:** (a) To review research activity in Non communicable Diseases in the Islands of Andaman & Nicobar (b) To evaluate the modifiable risk factors of NCD presented in the studies. Methods: A mapping of NCD papers produced between December 2014 to December 2024 was done online in the Medline Data base, Google. The papers were defined according to study design, sampling technique, methodology and risk factors examined. **Results:** It was found among the studies included shows the behavioral risk factors of the NCDs, 11.5% Smokeless tobacco consumption is found to be high (40.3%) .22% were using alcohol **Conclusion:** The importance of society to understand the effects of NCD on the individual are crucial so that those who are not personally affected by NCD appreciate the consequences of it on the individual level.

KEYWORDS

Study Design, NCD, Urbanization, Smokeless Tobacco

INTRODUCTION

Non-communicable diseases (NCDs) accounted for 61.8 per cent of the deaths in India in 2016.The proportion of deaths due to NCDs was 55.1 per cent in the relatively less developed States (Empowered Action Group) compared to 68.5 per cent in the other States in 2016[1]

As per the Government of India, there is a list of indige.nous groups classified as Scheduled tribes (STs)[2]. India had 104 million (8.6%) population of STs as per the census of 2011, and nearly 45.3 per cent lived below the poverty line in rural areas[2-4]. The health system is not fully equipped in the tribal regions to address the population's health care needs. The health facilities in tribal areas had many vacancies for doctors, nurses and health workers, according to the rural health statistics in 2017[4]. Poor socio-economic development and lack of adequate medical infrastructure and human resources make the tribal population vulnerable to poor health outcomes.

With increase in risk factors and increased burden of NCDs, people are facing double burden of both Communicable and Non-Communicable diseases[5]. Very few studies have been undertaken in India on estimations and surveillance of NCD risk factors, with most of the studies being conducted in main land of India, evidences from Andaman and Nicobar Islands are not much available [6]. These Islands are union territory of India consisting of 836 Islands/Islets/ Rocky Outcrops, of which 38 are inhabited; these Islands are unique as they are situated in the South-Eastern part of Bay of Bengal and around 1200 km away in the ocean from the mainland of India[7]

Hence the review was conducted to understand the conditions of the patients suffering from chronic diseases or co morbid health conditions in the Island. The number of patients with chronic diseases is globally increasing every year and it positively correlates with the study area. It is an initiative to present an assessment of the health care services in the Islands. The review with the following Objectives: (a) To review research activity in Non communicable Diseases in the Islands of Andaman & Nicobar (b) To evaluate the modifiable risk factors of NCD presented in the studies, will help in achieving the desired goal.

METHODS

Searching technique and Inclusion Criteria

To find the research paper, Arksey and O'Malley framework [8]was used. An online search was done in the pub med Medline database, typing terms words were NCD , Diabetes, Cancer, Hypertension and NCD.

The studies which showed the result of prevalence of cardiovascular disease , cancer, diabetes mellitus and chronic respiratory diseases or NCD risk factors were included .The study had to include study population from Andaman & Nicobar Islands. Title and abstract screening were also done. There was total of 10 publication; out of that 5 publication had no specific information, finally 5 publication which fulfilled the criteria for the objectives were selected.

The Information on research like the study population, study design, and study area was reviewed. The study area was segregated based on whether it was hospital/clinic-based, community/population-based. The study population was classified by age groups based on children, adolescence, adults & geriatric. Study type/design was classified into case reports, case series, cross-sectional studies, case-control studies, cohort studies, intervention studies, field trial, clinical trial, community trial, reviews and qualitative studies.

Analysis

Data were analyzed using appropriate statistical tests by Statistical Package for Social Sciences (SPSS) version 20 and Epi-info version 3.5.3.Risk factors were estimated, stratified by study focus.

RESULT

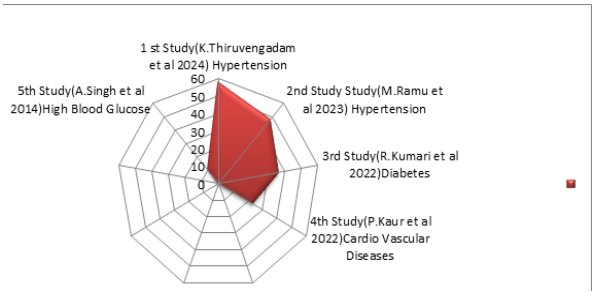

Figure 1: Distribution of studies according to Dependent variable and type of study Design

Table 1: Distribution of studies according to Dependent variable and type of study Design

SlNo.	Types of Study Design	Dependent Variables	Percentage
1st Study (K.Thiruvengadam et al 2024)	Cross Sectional	Hypertension	57.9
2nd Study Study(M.Ramu et al 2023)	Cross Sectional	Hypertension	47.8
3rd Study(R.Kumari et al 2022)	Cross Sectional	Diabetes	36
4th Study(P.Kaur et al 2022)	Cross Sectional	Cancer	10
		CVD	23
		COPD	18
		Chronic Kidney Disease	3

		Chronic Liver Diseases	7
5th Study(A.Singh et al 2014)	Review	Very High Blood Glucose	10

The studies that were included for the review showed variety of results of NCD from 2014 to 2024. A large proportion of the publications focused on Hypertension and Diabetes studies K.Thiruvengada et al (2024) found Hypertension to be 57.9 % in its study population. This was followed by CVD studies (23%) and chronic respiratory diseases (18%).More than half were based on descriptive study designs with the majority using cross-sectional study designs. Review articles dealt with Blood glucose, Hypertension & its risk factors A.Sing et al (2014) reviewed High Blood Glucose as 10% among the reviewed documents.

Table 2: Distribution of Modifiable Risk factors included in the research papers

Sl No.	Modifiable Risk factors	Percentage
1	Ever Smoker	11.5
2	Smoke Less Tobacco	40.3
3	Alcohol Consumption	22
4	Exercise Regularly	27.1
5	High Intake of salt(more than 5 gm/day)	19.7
6	Fruits less than 2 times/week	43.4

It was found among the studies included shows the behavioral risk factors of the NCDs, 11.5% Smokeless tobacco consumption is found to be high (40.3%) .22% were ever users of alcoholic beverages. Only 27.1% reported that they exercise regularly for health reasons which included even walking for health reasons. 19.7% of the respondents self-reported that they consume an excess amount of salt in their diet. 43.4% reported that they consume fruits less than 02 times per week[9]

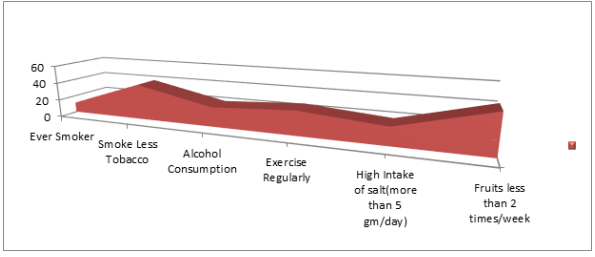

Figure 2: Distribution of Modifiable Risk factors included in the research papers

DISCUSSION

There is a need for studies which shows evidence how to reduce the disease burden of NCD in the country. It is crucial that data produced from research paper provides the exact scenario of the disease burden so that policy makers can make correct decision in formulation of the health policy and for monitoring and evaluation. There was a slight drop in the burden of disease around 2022 as observed in the review which might have happened due to political will power in the Islands and health department working to its potential. The rise in prevalence rate over time is higher than the trend in other states or Union Territory but remains lower than other states or union territory.[10]

It is worth noting that Andaman & Nicobar Islands have conducted good quality studies so far but the output from this effort is limited publication report only.

It will be necessary in future that research done in the Islands are appraised at individual level, Institutional level and at the policy maker's level for better conduction of research in the Islands.

These studies that were included for the review showed variety of results of NCD from 2014 to 2024. A large proportion of the publications focused on Hypertension and Diabetes studies K.Thiruvengada et al (2024) found Hypertension to be 57.9 % in its study population. This was followed by CVD studies (23%) and chronic respiratory diseases (18%).More than half were based on descriptive study designs with the majority using cross-sectional study designs. Review articles dealt with Blood glucose, Hypertension & its risk factors A.Sing et al (2014) reviewed High Blood Glucose as 10% among the reviewed documents.

Whereas it was found among the studies included shows the behavioral risk factors of the NCDs, 11.5% Smokeless tobacco consumption is found to be high (40.3%) .22% were ever users of alcoholic beverages. Only 27.1% reported that they exercise regularly for health reasons which included even walking for health reasons. 19.7% of the respondents self-reported that they consume an excess amount of salt in their diet. 43.4% reported that they consume fruits less than 02 times per week. The studies that was included showed that Andaman and Nicobar Islands has been overall increasingly the burden of NCD as the years has gone by, with more than a two-fold increase in burden from 2014 until 2024.

NCDs contribute to around 5.87 million deaths annually in India which account for around 60 % of all deaths in the Country. It is important to note that India shares more than two-third of the total deaths due to NCDs in the South-East Asia Region (SEAR) of WHO [11]. As measured through surveys of NFHS-4 (2015-16) and NFHS–5 (2019-20), data related to risk factors of NCDs is showing increase in trends of its risk factors in recent years, and same is the trend in Andaman and Nicobar Islands, which is still on a higher side especially in rural areas [12,13], and the data is worrisome while we compare it with National averages in India.

CONCLUSION

In the previous decades, the tribal population had a high burden of infectious diseases such as tuberculosis and malaria8. Several recent studies from various tribal regions in India suggest a high burden of NCD risk factors, potentially leading to a high proportion of deaths due to NCD.[14-19]

Due to demography limitation there will be always challenges in conducting research in the Islands .We need to understand the disease burden in the tribal districts for realigning resources and planning various public health programmes. This was a review done among the selected publication in the Islands where major finding were highlighted .The NCD can be controlled by administrative decisions such as providing necessary equipments & IEC materials. Using management techniques like log frame work and Gantt chart the monitoring and supervision indicators of Non-Communicable Diseases can be improved. The importance of society to understand the effects of NCD on the individual are crucial so that those who are not personally affected by NCD appreciate the consequences of it on the individual level.

REFERENCES

1. India State-Level Disease Burden Initiative Collaborators. Nations within a nation: Variations in epidemiologicaltransition across the states of India, 1990-2016 in the Global Burden of Disease Study. Lancet. 2017;390:2437–60.
2. Ministry of Tribal Affairs, Government of India. State/Union Territory-wise list of Scheduled Tribes in India. New Delhi:MoTA, GoI; 2021.
3. Registrar General and Census Commissioner India, Ministry of Tribal Affairs Government of India. Scheduled Tribes in India asrevealed in census 2011. New Delhi: MoTA, GoI; 2013.
4. Ministry of Tribal Affairs, Government of India. ST statistical profile at a glance. New Delhi: MoTA, GoI; 2021.
5. Mohan P, Mohan SB, Dutta M (2019) Communicable or Non communicable diseases? Building strong primary health care systems to address double burden of disease in India. J Family Med Prim Care 8: 326-329.
6. Ramu M (2022) A Letter on Evidences for Action on CVD Risk Factors in Andaman and Nicobar Islands, India. International Journal of Medical Science and Health Research 4: 83-88.
7. Available at :https://www.andaman.gov.in/about
8. Arksey H and O'Malley L. Scoping studies: Towards a methodological framework.International Journal of Social Research Methodology. 2005; 8(1): 19–32. DOI:https://doi.org/10.1080/1364557032000119616
9. Ramu M, Raising Burden of NCD Risk Factors in Rural and Remote areas of South Andaman Islands in India,J Community Med Public Health Care 2023, 10: 123 DOI: 10.24966/CMPH-1978/1000123
10. Sibai AM, Singh N, Jabbour S, et al. Does published research on non-communicabledisease (NCD) in Arab countries reflect NCD disease burden? PLOS ONE. 2017;12(6): e0178401
11. Available at :https://www.who.int/docs/default-source/searo/india/health-topic
12. Available at: https://dhsprogram.com/pubs/pdf/fr339/fr339.pdf
13. Available at: http://rchiips.org/nfhs/factsheet_NFHS-5.shtml.
14. Tushi A, Rao SR, Pattabi K, Kaur P. Prevalence of risk factors for non-communicable diseases in a rural tribal population of Mokokchung, Nagaland, India. Natl Med J India 2018; 31 : 11-4.
15. Rizwan SA, Kumar R, Singh AK, Kusuma YS, Yadav K, Pandav CS. Prevalence of hypertension in Indian tribes: A systematic review and meta-analysis of observational studies. PLoS One 2014; 9 : e95896.
16. Sajeev P, Soman B. Prevalence of noncommunicable disease risk factors among the Kani tribe in Thiruvananthapuram district, Kerala. Indian Heart J 2018; 70 : 598-603.
17. Negi PC, Chauhan R, Rana V, Vidyasagar, Lal K. Epidemiological study of non-communicable diseases (NCD) risk factors in tribal district of Kinnaur, HP: A cross-sectional study. Indian Heart J 2016; 68 : 655-62.
18. Bhar D, Bhattacherjee S, Das DK. Behavioral and biological risk factors of noncommunicable diseases among tribal adults of rural siliguri in Darjeeling District, West Bengal: A cross-sectional study. Indian J Public Health 2019; 63 : 119-27.
19. Christian Medical College. Prevalence of noncommunicable diseases and their risk factors in tribal south India: A community based cross-sectional study. Vellore: CMC; 2017.