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A Letter on Evidences for Action on CVD Risk Factors in Andaman and Nicobar Islands, India

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Abstract

Globally, cardiovascular diseases (CVD's) are the number one cause of mortality, and low- and middle-income Countries are largely affected. Health System in Indian sub-continent is experiencing double burden of both Communicable and Non-Communicable diseases, same is the situation in Islands of Andaman and Nicobar, which is a Union Territory of India, and located in the South-Eastern part of the Bay of Bengal, around 1200 km away from the main land of India, Government led large scale surveys have shown that the proportion of population experiencing risk factors of CVD's like Hypertension, Blood sugar levels, Body Mass Index (BMI), Harmful use of Tobacco, Harmful use of alcohol consumption, etc are increasing in the archipelago. Data calls for urgent action on mitigation of such risk factors, and efforts for reducing risk factors for CVDs need to be undertaken in an operational research mode, both estimations and interventions aimed at reducing risk factors must go hand in hand to reduce the burden on the community as well as on the Health System. This letter identifies the current scenario, and trends of CVD risk factors from various surveys and there are ample of scientific methods available for prediction of CVDs, and to control such risk factors among populations.

Keywords: Cardiovascular, Risk, Hypertension, Diabetes, Andaman

Introduction

Globally, cardiovascular diseases (CVD's) are the number one cause of mortality, and low- and middle-income Countries are largely affected. Overburdening of the public health system due to this, leads to increased health care needs, suffering; catastrophic expenditures, escalating direct/indirect healthcare costs throughout then world[1]. Study of CVD risk factors and mitigation of such risk factors helps us to reduce morbidity and mortality from such preventable causes.

Objectives

Objective of this communication is to review the status of CVD risk factors among people of Archipelagos of Andaman and Nicobar, and to study available Scientific methods to estimate CVD risk factors along with its control. This letter brings in data published by the Government led Surveys and published literature evidences on CVD risk factors among people in Andaman and Nicobar Islands

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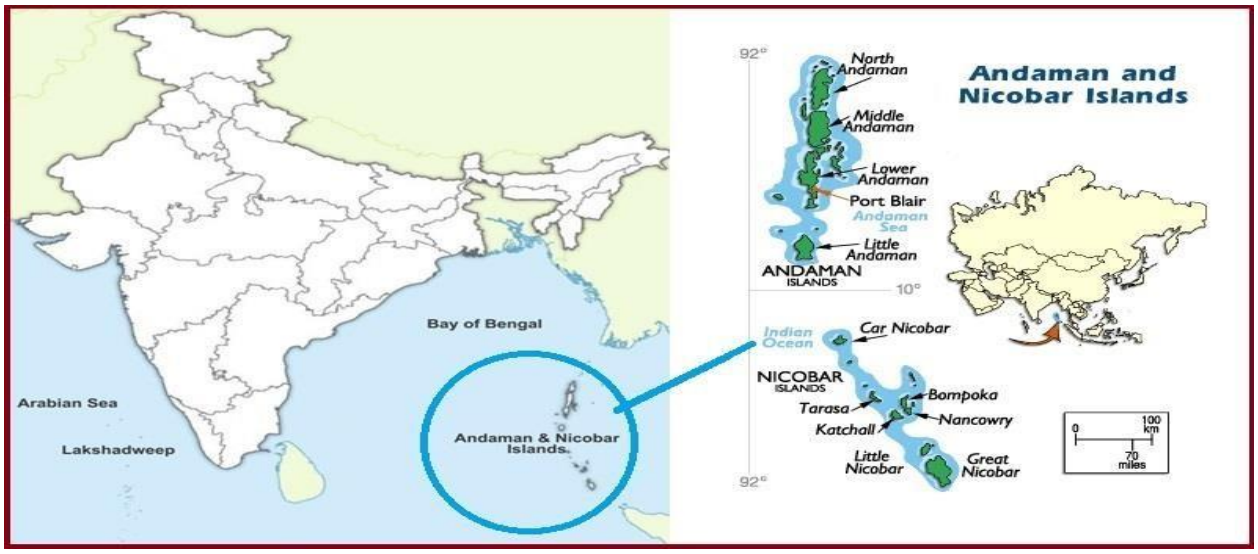
Discussion

In Indian sub-continent, as measured through surveys of NFHS-4 (2015-16) and NFHS–5 (2019-20), data related to risk factors of CVDs is showing increase in trends of CVD risk factors in recent years, and same is the trend in Andaman and Nicobar Islands, which is still on a higher side[2, 3,] and the data is worrisome while we compare it with National averages in India. With increase in risk factors and increased burden of NCDs, Country is facing double burden of both Communicable and Non – Communicable diseases[4], and same is the situation in Archipelagos of Andaman and Nicobar.



The Andaman and Nicobar (A&N) group of Islands is a 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 from the mainland of India [5]. Healthcare delivery for these islands is of challenging nature because of the rural and remote nature of the geographical locations of the Islands.

The original population of the Islands consists of tribes of Great Andamanese, the Onge, the Jarawa, the Shompens and the Sentinelese, some of them maintaining steadfast independence and refusing most attempts of contact from general population [5.] With enculturation with people from various areas, particularly from mainland of India, indigenous populations of Andaman and Nicobar Islands are witnessing life style changes.

In recent years, data on risk factors for CVDs among people of Andaman and Nicobar Islands shows that risk factors are increasing while compared with previous surveys.[2, 3.] NFHS-5 data on hypertension and elevated Blood sugar levels shows that large proportion of population are suffering from hypertension (Women = 25.3%, and men = 30.2%), and high blood sugar levels (Women = 17.5% and men = 17.9%). Nutritional status of adults (15–49 years) shows that

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77.3% of women have high risk waist to hip ratio and 56.6 % of men have high risk waist to hip ratio. 38.1% of women are overweight or obese, and 45.3% of men are overweight or obese [2, 3]. Further, data suggests that rural population in Andaman and Nicobar Islands are having higher proportion of CVD risk factors, which is shown in the below mentioned table no.01.

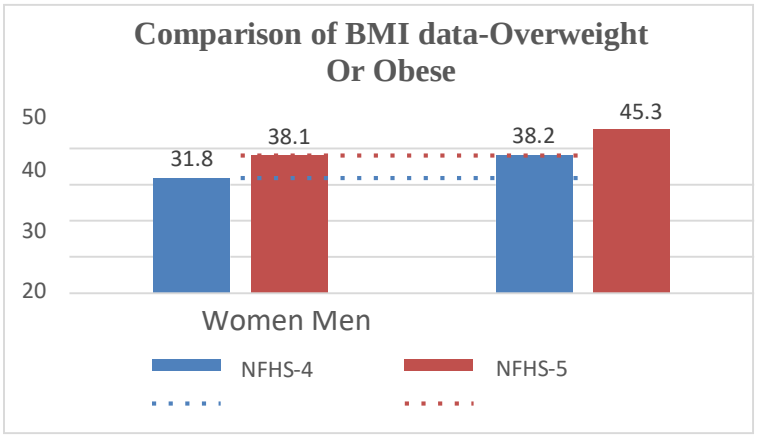
Table01: Rural and Urban comparison of risk factors of CVDs in Andaman and Nicobar Islands

Indicators	Urban	Rural
Women having high risk waist-to-hip ratio	72.2%	80.7%
Men having high risk waist-to-hip ratio	61.3%	53.7%
Women overweight or obese	41.7%	35.7%
Men overweight or obese	37%	50.6%
Women with Elevated blood pressure(systolic≥140& diastolic≥90) or taking medicines to control the BP	23.4%	26.4%
Men with Elevated blood pressure(systolic≥140& diastolic ≥90) or taking medicines to control the BP	28.2%	31.2%
Women age 15 years and above who use any kind of tobacco	15%	41.1%
Men age 15 years and above who use any kind of tobacco	44.7%	66.4%
Men age 15 years and above who consume alcohol	33.8%	41.9%

(Source: NFHS –5 data)

Proportion of people having overweight and obesity is increasing in recent years, Graph no. 01 shows that there is increase of these risk factors in Andaman and Nicobar Islands. Very high proportion of men and women, particularly from rural areas are involved in harmful usage of tobacco and alcoholism [2, 3.]

Graph01: Comparison of BMI data – Overweight and Obesity in Andaman and Nicobar Islands through NFHS-4 and NFHS-5 surveys



(Source: NFHS – 4 & 5)

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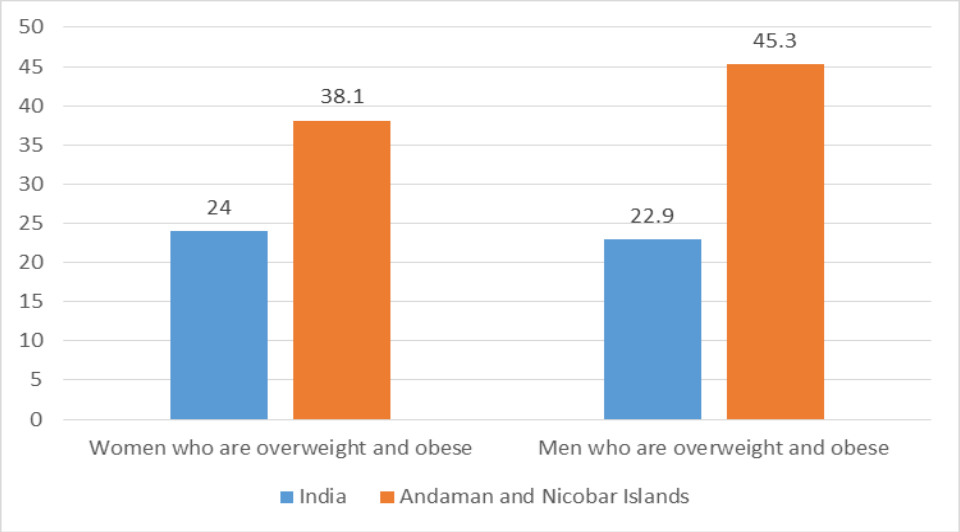
Proportion of people having overweight and obesity in Andaman and Nicobar Islands is high while compared with other States and National average[11], and this data for the Islands is showing an increasing trend while we track it to NFHS-5, which is shown in Graph no. 01 and 02.

Graph 02: Comparison of data on overweight and obesity between Andaman and Nicobar Islands with National average



(Source: NFHS – 5)

WHO /ISH, 10-year risk prediction charts for people ≥ 40 years:

WHO/ISH (International Society for Hypertension) [6], have formulated 10 – year CVD risk prediction charts for use in WHO epidemiological sub-regions of the Globe using the best available mortality and data on CVD risk factors [6.] Few studies on predictions of CVD risk among various locations of India with these methods are available [7, 8, 9.]

WHO has revised these WHO/ISH charts naming it as **HEARTS CVD risk management tools** [13] for conducting the community based risk assessments (revised in the year 2020) [13]. The new charts produce estimates for 21 regions of WHO with the help of Institute for Health Metrics and Evaluation (IHME), Global Burden of Disease (GBD) compared to the 14 WHO regions in the old charts.

It is a useful and cost-effective tool to study the entire population using a risk score and it provides a 10- year risk of cardiovascular diseases and would be a useful tool to take appropriate actions by respective Health authorities, and will be helpful to counsel patients to modify their lifestyles, modify risk factors and comply with their medical advices [6]. Few studies have been undertaken in India on estimation of common CVD risk factors using these methods, but most of the studies being conducted in main land of India [7, 8, 9], availability of such evidences from Andaman and Nicobar Islands need to be constructed, especially in the rural areas, which are

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remote, difficult to access islands, consisting of tribal populations and where healthcare facilities are sparse.

WHOs STEP wise approach:

WHOs STEP wise approach [10], is an established tool which helps us to understand the risk factors for NCD's using scientifically validated tools for Verbal screening/ Physical measurements/ Biochemical methods to study the NCD risk factors. There is an acute need to move forward in operational research mode, along with identification of risk in population in these Islands, along with unmasking the underlying risk factors, and burden of CVDs. Scientific organizations which are working in the Archipelago need to employ pro-active methods for screening of populations, linking them with necessary care, support and management, and bringing awareness among public for mitigating such risk factors is required. Directorate of Health services, Andaman and Nicobar Administration is providing necessary health services to the population, recently a National Program for Prevention and Control of Cancer, Diabetes, CVDs and Stroke (NPCDCS) is started in the Islands, under which, programs for early detection of Diabetes, Hypertension, and common cancers are going on. Population Based Screening (PBS), being conducted with the help of frontline health workers and followed by diagnosis and treatment by the Healthcare functionaries [12]. NCD screening is a regular activity in these Health facilities, the impact of these interventions on reducing risk factors need to be studied.

Conclusions

To conclude this letter, it is evident to note that, in recent years, the CVD risk factors are increasing in Andaman and Nicobar Islands, with higher burden in rural areas. There are ample of scientific methods available for prediction of CVDs, to undertake surveillance, and to control such risk factors among populations; moving forwards with both operational researches along with timely interventions on CVD risk factors are the need of the hour in these Islands.

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