

ROLE OF HEALTH CHECK-UPS IN THE EARLY DETECTION OF NON-COMMUNICABLE DISEASES

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INTRODUCTION

NON-COMMUNICABLE DISEASES (NCDs)

- Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental, and behavioral factors.
- Main types of NCDs -
 - Cardiovascular diseases (heart attacks & stroke)
 - Chronic respiratory diseases (COPD & Asthma)
 - Diabetes
 - Cancers
- Children, adults and the elderly are all vulnerable to the risk factors contributing to NCDs, whether from unhealthy diets, physical inactivity, exposure to tobacco smoke or the harmful use of alcohol.

RISK FACTORS OF NCDs

An aspect of personal behavior/ lifestyle, an environmental exposure, or a hereditary characteristic that is associated with an increase in the occurrence of a particular disease, injury, or other health condition.

MODIFIABLE RISK FACTORS

Can be reduced or controlled by intervention, thereby reducing the probability of disease.

- Physical inactivity
- Tobacco use
- Alcohol use
- Unhealthy diets

NON - MODIFIABLE RISK FACTORS

Cannot be reduced or controlled by intervention

- Age
- Gender
- Race
- Family history (genetics)

KEY FACTS

As per WHO in April 2021 :-

- ✓ NCDs kill 41 million people each year, equivalent to 71% of all deaths globally.
- ✓ Each year, more than 15 million people die from a NCD between the ages 30 & 69 years; 85% of these “premature” deaths occur in low – and middle – income countries.
- ✓ 77% of all NCD deaths are in low – and middle – income countries.
- ✓ Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.3 million), respiratory disease (4.1 million), and diabetes (1.5 million).
- ✓ These four groups of diseases account for over 80% of all premature NCD deaths.
- ✓ Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying from NCD.

LITERATURE REVIEW

TITLE	AUTHOR/S	YEAR	FEATURES
Non-Communicable diseases and their risk factors in India	Suzanne Nethan, Dhirendra Sinha and Ravi Mehrotra	2017	1. To gather baseline data on various NCD risk factors' coverage and determine trends in India. 2. Overweight and obesity were found to be on the rise, whereas cigarette and alcohol usage were on the fall throughout the same time period.
National representative surveys show recent increases in the prevalence of overweight and obesity among women of reproductive age in Bangladesh, Nepal and India	Yarlini Balarajan , Eduardo Villamor	2009	1. Overweight obesity was positively related to age, higher socioeconomic status, and urban residence in all countries. 2. While the prevalence of underweight in Bangladesh, Nepal, and India has remained high, the prevalence of overweight obesity in women of reproductive age has increased between 1996 and 2006.
A survey of non-communicable diseases and their risk factors among university employees	Agaba Emmanuel	2017	1. This study evaluated the prevalence of NCDs and their risk factors among members of a university community. 2. This study identified that NCDs and their modifiable risk factors are highly prevalent in this community. Workplace policy to support the adoption of healthy living is needed.

TITLE	AUTHOR/S	YEAR	FEATURES
Prevalence of and risk factors for hypertension in urban and rural India	A Bhansali	2015	1. Age, male gender, urban location, generalized obesity, diabetes, physical inactivity, and alcohol intake were all found to be strongly linked to hypertension in the study. 2. In India, the frequency of undetected hypertension is significant, necessitating regular screening.
A study on the utility of the preventive health checkups in early detection of disease states	Ramesh R., Yuri Gagarin P., Senthil Murugan R., Rizwan S. A., Virgin Joena M., Aravind A.	2016	1. The findings of the study are encouraging in terms of educating the public about the need of using preventive health services, as a large percentage of disease states were discovered for the first time during the preventive health check-up.
Effect of preventive health screening on long-term primary health care utilization. A randomized controlled trail	Janus Laust Thomsen	2005	1. The rate ratios for daytime consultations had a strong pattern, with an initial increase followed by a gradual drop. More research is needed to validate and investigate the causes of this tendency.

RESEARCH QUESTION

How are health checkups helping in overcoming the burden of non-Communicable diseases in India with such modernization and changing lifestyle?

OBJECTIVES OF THE STUDY

1. To understand the current scenario of Non-Communicable diseases in the residents of the residential societies of Delhi, Mumbai, Pune, Bengaluru and Hyderabad.
2. To assess the most common factors leading to NCD's of those individuals.
3. To understand how lifestyle and diet changes are affecting overall general health of those individuals.



METHODOLOGY

STUDY DESIGN

Cross-sectional survey based Descriptive study design

STUDY POPULATION

In this study, health checkup camps were organized in various residential societies in five metropolitan cities – Delhi NCR, Hyderabad, Pune, Bengaluru, and Mumbai.

- **Inclusion criteria**

The study population consists of individuals living in those societies who participated in the camps, it included – kids, adults, elderly people.

- **Exclusion criteria**

The individuals who were not living in those societies were excluded from the study.

STUDY DURATION



The study was done from March 21st till June 19th, 2022 (90 days).

SAMPLE SIZE

184 participants (Using Cochran Formula)

DATA COLLECTION TOOLS

Primary data was collected through the online questionnaire from individuals who attended the health check-up camps.

DATA ANALYSIS

All the categorical variables were reported in counts and percentages, continuous variables were reported in mean & SD.

RESULTS

Q1. Age

184 responses

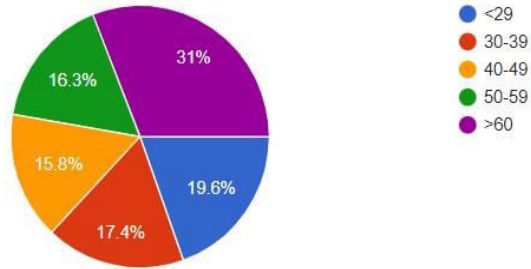


Figure – Age distribution

Q2. Gender

184 responses

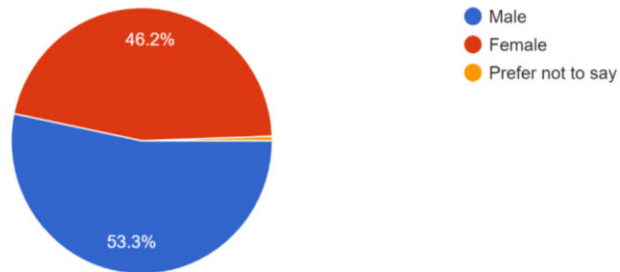


Figure – Gender distribution

During Camp and Before Camp

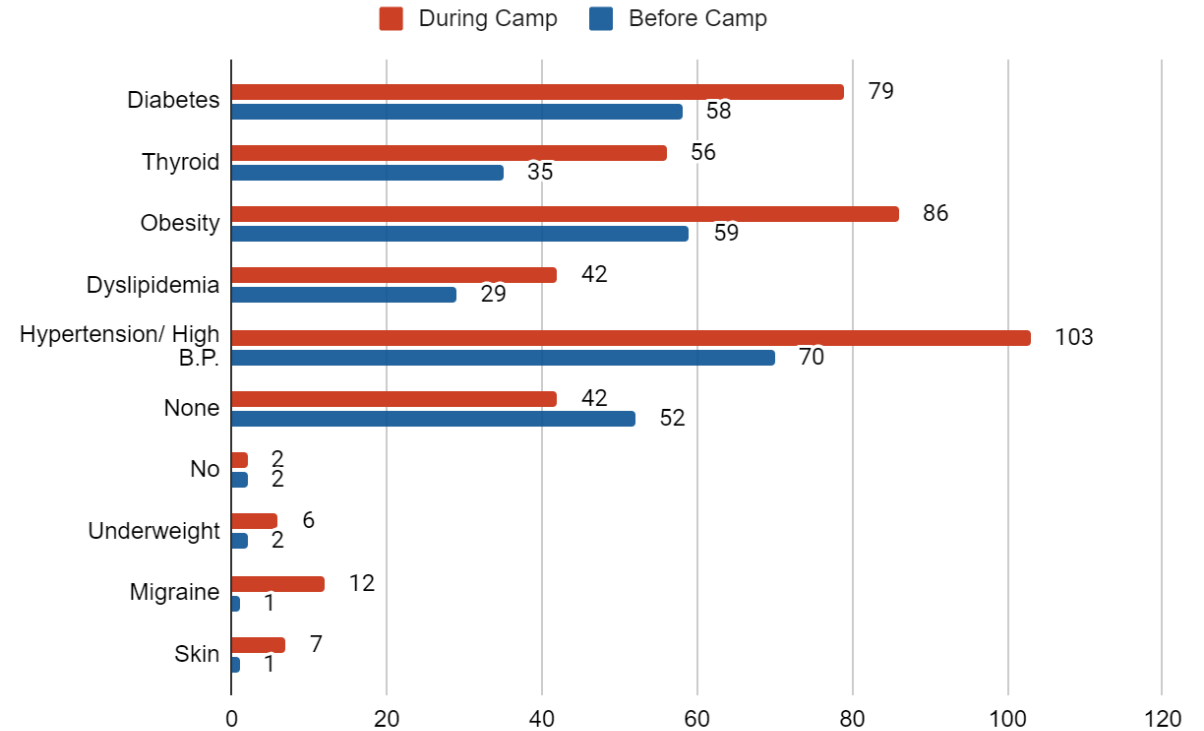


Figure – The distribution of study participants with NCD before the camp and during the camp

Q4. Did anyone in your family have any long term health problems - diabetes, High BP, Heart disease?

184 responses

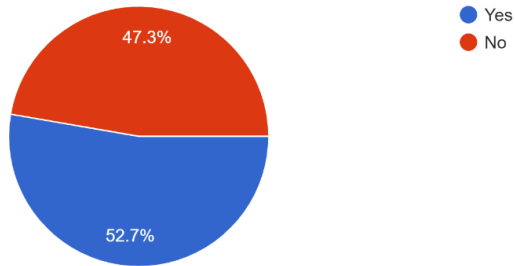


Figure – Family history of NCD

Q5. Daily walking: Walking (or an equivalent amount of physical activity) for more than one hour a day

184 responses

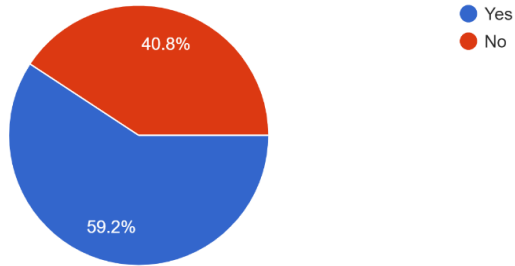


Figure – Physical Inactivity in the participants

Q10. Current smoker: Smoked over 100 cigarettes or have smoked over 6 months, and have been smoking over a month

182 responses

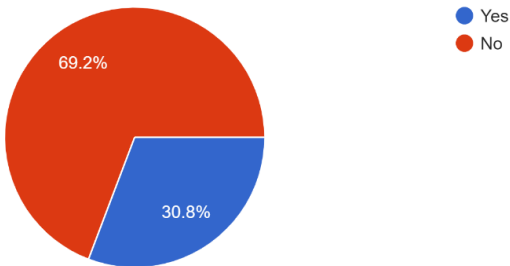


Figure 4.9 – Tobacco use

Q11. Frequency of alcohol consumption

183 responses

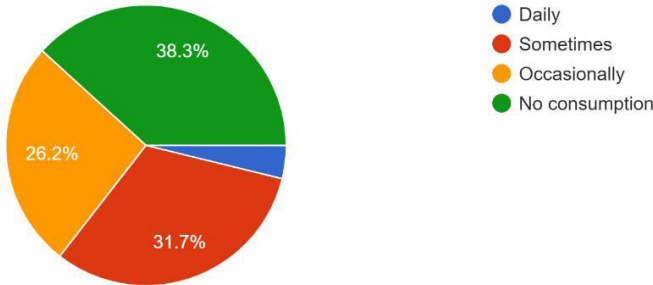


Figure 4.10 – Alcohol Consumption

Q13. Junk habits: Eating frequency
184 responses

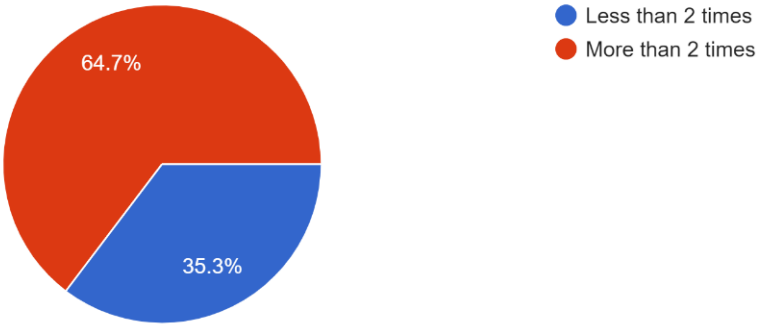


Figure – Junk eating frequency

Q14. Do you have any kind of work/ academic stress?
183 responses

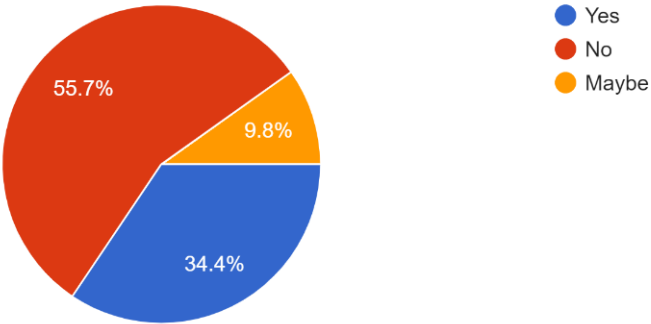


Figure – Mental Health of participants

DISCUSSION

- 77 participants of age above 50 years were suffering from one or more than one NCDs i.e., nearly 45% which is a significant number and among 98 males, 67 were suffering from NCDs whereas out of 85 females, 56 were suffering from NCDs. The percentage of males suffering from NCDs was 68% and females was 65%. Calculated values of χ^2 comes to 47.19, higher than 18.47, hence the association it is highly significant at 0.1% level. It proves that age and NCD has a significant association.
- Out of total 184 participants, 84 of them had a family history of NCD i.e., 46% of total participants and only 41 of them were those who did not had any family history of NCD i.e., only 23% of total participants.
- 71 were those who did not had any routine for physical activity and were suffering from NCD whereas 56 were those who had a routine for physical activity and were suffering from NCD. Calculated values of χ^2 comes to 40, higher than 10.83, hence the association it is highly significant at 0.1% level.

CONTD.

- Out of 184 participants 57 were the smokers who had the NCD and 72 were those who were not a smoker but were suffering from NCD.
- 85 participants consumes alcohol either occasionally or sometimes or daily and were suffering from NCD and only 38 were those who did not consume alcohol but were suffering from the non-communicable diseases. Calculated values of χ^2 comes to 8.06, higher than 6.64, hence the association it is highly significant at 1% level.
- Diabetes, respiratory disorders, cardiovascular and other NCDs are all linked to mental health. 61 participants i.e., 33% of total participants were suffering from some sort of either academic stress or work stress that may have a contribution in their NCD.

CONCLUSION

The findings of the study highlighted high prevalence of modifiable and non-modifiable risk factors of the non-communicable diseases both in males and females and it demands a sound public-health approach and more of a change in a lifestyle of an individual. The modifiable risk factors such as physical inactivity, tobacco use, harmful alcohol consumption, and unhealthy eating habits can be avoided by implementing a slight change in our daily lives. Below mentioned are some of the recommendations to manage these risk factors and prevent the risk of NCDs.

RECOMMENDATIONS

- Being more physically active
- Choosing healthy diets over avoiding junk food
- Saying no to tobacco
- Reducing harmful use of alcohol
- Have adequate amount of sleep every day
- At least 2 hours of gap between dinner and sleeping
- Avoiding any kind of academic, work or personal stress
- Promoting cleaner cities through universal health coverage schemes.

THANK - YOU