

A study to assess the risk factors of non-communicable disease among young adults in Puducherry

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Abstract: Non-communicable diseases have become the leading cause of death, representing 61% of all deaths in India. Our country is undergoing a rapid health transition caused by the burden of infectious diseases. NCD causes significant loss of productive years of life. Losses from premature deaths associated with heart disease, stroke, hypertension and diabetes are also expected to increase over time. The aim of the study was to assess the risk factors for non-communicable diseases among young adults in Puducherry. A descriptive cross-sectional study included 170 college students aged 20–25 years using a non-probability convenience sampling technique. A modified WHO STEPS questionnaire was used to assess behavioural and physiological parameters. The study revealed that 55.3% of the participants were aged between 20 and 21 years, and most of the participants (98.8%) did not use any tobacco products or consume alcohol. Regarding their diet, 45.9% didn't know how many days they had consumed fruit, and 98.2% were unaware of the number of servings of fruits and vegetables they ate in a typical week. The majority (92.9%) of them were not engaged in a vigorous-intensity activity. Only a few had hypertension (4.1%) and diabetes (2.1%). There was a significant relationship between young adults' age, monthly family income, and dietary patterns with tobacco and alcohol consumption. Diet is strongly related to the father, and mother's occupations, as well as the type of family. Physical activity was significantly associated with religion, the father's occupation, and family income monthly. The prevalence of NCDs was found to be very low among college students.

Key Words: Non- Communicable Disease, Risk Factors, Young Adults, Puducherry.

1. INTRODUCTION:

Non-communicable diseases (NCDs) account for a large and increasing burden of disease worldwide. NCDs are chronic diseases of long duration that generally slow progression and are the result of a combination of genetic, physiological, environmental and behavioural factors. NCDs are one of the major challenges for public health in the 21st century, not only in terms of the human suffering they cause, but also the harm they inflict on the socioeconomic development of the country.¹

According to the WHO (2021), NCDs kill 41 million people each year worldwide, equivalent to 71% of all deaths. In India, an estimated 5.8 million people die each year from NCDs (heart and lung disease, stroke, cancer, and diabetes). In other words, one in four Indians is at risk of dying of NCD before reaching the age of 70.¹

NCDs are the leading global causes of death, causing more deaths than all other causes combined, and they strike hardest at the world's low and middle-income population.² The greatest burden of NCDs is from cardiovascular diseases, diabetes, cancer, and chronic respiratory illnesses. According to WHO 2021, these four groups of diseases account for over 80% of all premature NCD deaths. 77% of all NCD deaths are in low-income countries. Each year, more than 15 million people die from a NCD between the ages of 30 and 69; 85% of these "premature" deaths occur in low- and middle-income countries. Tobacco use, unhealthy diets, harmful alcohol consumption, and physical inactivity all increase the risk of dying from a NCD.³

In South Asia, half of the disease burden is attributable to NCDs. 9.2 million productive years of life were lost in India due to CVD in 2000, with an expected increase to 17.9 million years in 2030. ⁽³⁾ Pondicherry had a higher middle rate of epidemiological transition, indicating a significant increase in the prevalence of various behavioural and biological risk factors for NCDs in comparison to other Indian states.⁴

NCDs are rapidly increasing globally and have reached epidemic proportions in many countries, largely due to globalization, industrialization, and rapid urbanization with accompanying demographic and lifestyle changes. Promoting healthy lifestyle changes and creating awareness about the prevention and control of NCDs, will reduce the major risk factors, thereby prevent deaths from NCDs. All people at different ages should join together to reduce premature deaths from NCDs. Addressing the risk factors will thus not only save lives, but also provide a significant boost to the country's economic development.

2. MATERIALS & METHODS:

Design: A descriptive, cross-sectional research design was adapted for the present study.

Sample Size: A sample of 170 nursing students who were aged 20 to 25 years

Sampling Technique: A non-probability convenience sampling technique was used to select the sample.

Data collection procedure: The formal written permission was obtained from Vinayaka Mission's College of Nursing, Puducherry. Ethics approval was obtained from the Institute Ethical Committee (IEC). The researcher established a good rapport with the study participants through informal talk. The purpose of the study was explained to them to ensure their cooperation. Written and informed consent was obtained before collecting the data. Then, researchers collected the data pertaining to demographic variables, and the modified WHO STEPS questionnaire was used to assess behavioural and physiological parameters. The data were analyzed using descriptive and inferential statistics.

3. RESULTS:

Demographic variables of young adults:

Half of the participants (55.3%) were aged between 20 and 21 years, 88.2% were female and 94.1% belonged to the Hindu religion. About 74.7% of the participants resided in rural areas, 50.6% of the participant fathers were self-employed and 41.8% of the participant mothers were unemployed. Regarding income, 27.6% had a monthly income of Rs. 8010–12019, and 64.1% of them belonged to joint families. Most of them were unmarried (95.9%), 70.6% got health information from health team members, and 92.9% were non-vegetarian.

Risk factors for non-communicable diseases among young adults:

i) Tobacco use

Most of the young adults (98.8%) were not smokers, had not used any smokeless tobacco such as snuff, chewing tobacco, or betel in the past, and also didn't know how many days someone smoked in their presence in the past seven days. Only two adults (1.2%) smoked manufactured cigarettes every day. None of them knows for how many days someone smoked in closed areas of your workplace when you were present in the past seven days.

ii) Alcohol consumption

Most of them did not consume alcohol, and only three (1.8%) had consumed an alcoholic beverage, such as beer, wine, spirits, or fermented cider, within the past 12 months. Two (1.2%) had consumed at least one alcoholic drink in the past 30 days that was not with meals.

iii) Dietary pattern

Nearly half of the participants (45.9%) didn't know how many days they had consumed fruit in a typical week, and 98.2% were unaware of the number of servings of fruits and vegetables they ate in a typical week. About 56.5% had used vegetable oil for meal preparation in their household, 23 (13.5%) had used lard or suet, 8 (4.7%) had used butter or ghee, 7 (4.1%) had used margarine, 4 (2.4%) had not used any of them, and 1 (0.6%) had not used anything in particular.

iv) Physical Activity

Most of them (92.9%) were not involved in vigorous-intensity activity, and only 7.1% did vigorous-intensity activity for two days in a typical week. About 54.7% of participants reported that their employment required moderate activity, and only 8.8%, 5.7%, 2.3%, and 2.3% had worked for 1, 2, 3, or more days. Around 41.2% had neither walked nor bicycled, and 11 (6.5%) had walked or bicycled for a minimum of 10 minutes continuously. About 6.5% had participated in vigorous sports, physical and recreational activities for at least 10 minutes on an ongoing basis.

v) History of high blood pressure

Most of the participants (95.9%) never had blood pressure, 7 (4.1%) had blood pressure, 5.9% were advised to cut back on salt, 5.9% saw a traditional healer for high blood pressure or hypertension, and 7.1% were advised to lose weight.

vi) History of diabetes

The majority of the participants (94.1%) had not been measured for blood sugar by a doctor or other health worker, and 4.9% had been measured for blood sugar by a doctor or other health worker. 5.3% were informed of raised blood sugar or diabetes, and 4.1% were informed of raised blood sugar or diabetes in the past 12 months. Also, 5 (2.9%) were on insulin, and a special diet was advised for treatment to lose weight.

vii) Physical measurements

The mean height was 153.90 ± 9.95 , weight was 51.55 ± 9.06 and the mean waist circumference was 33.58 ± 4.90 . Only one (0.6%) was pregnant in the study.

viii) Blood pressure

The mean scores for systolic blood pressure (115.88 ± 11.17 , 117.33 ± 8.51 and 119.07 ± 8.46) and diastolic blood pressure (81.57 ± 9.69 , 81.92 ± 10.56 and 81.26 ± 12.22). Only one participant (0.6%) had been treated for raised blood pressure with drugs prescribed by a doctor or other health worker in the past two weeks.

ix) Waist circumference and heart rate

The mean score of waist circumference was 34.0 ± 3.35 and the mean scores of heart rate were 84.60 ± 5.29 , 84.42 ± 5.36 and 85.16 ± 5.17 .

Association between NCDs risk factors and selected demographic variables:

Tobacco consumption had a statistically significant association with gender, family type ($p < 0.001$), mother's occupation ($p < 0.01$) and monthly family income ($p < 0.05$). Similarly, gender, monthly family income, the father's occupation, family type, and marital status all had a statistically significant relationship to smoking.

Alcohol use was significantly associated with monthly income. Similarly, the number of standard alcoholic beverages consumed during the last seven days was statistically significant with the family's monthly income, dietary habits ($p < 0.01$), type of family ($p < 0.01$), and sources of getting health information ($p < 0.05$).

4. Discussion :

The first objective of the study was to assess the risk factors for non-communicable diseases among young adults:

A majority of young adults (98.8%) did not use any tobacco products or alcohol. In terms of their diet, 45.9% did not know how many days they ate fruit, and 98.2% did not know how many servings they ate of the fruit in a typical week. 99.4% said they didn't know how many vegetables they ate in a week, while 97.1% said they didn't know how many vegetable servings they ate. About 56.5% of these participants used vegetable oil to prepare their meals.

Most respondents (92.9%) indicated that their work did not involve vigorous activity. Only a few (4.1%) had high blood pressure, and 5.9% were advised to reduce their sodium intake. Another 5.9% consulted a traditional healer for high blood pressure, and 7.1% were given weight loss tips. The study found that 5.9% had their blood sugar tested by a physician, 5.3% became aware of an increase in blood sugar or diabetes, and 2.9% received insulin and followed a diabetes diet.

A study supported by Fahim Nowsheen et al (2021) shows that 89.7% consumed inadequate fruits and vegetables. About 11.3% of them were smokers, and 3.1% were alcoholics. Self-reported hypertension was 7.5%, while diabetes was 2.3%.⁵

Another study supported by Rahamathulla MP and Mohemmed Sha M (2020) found that the average age of participants was 20.6 years. The results showed that 64.7% of students were physically inactive, while 52.4% spent over two hours watching TV. There was very little consumption of fruits (14%) and vegetables (6.8%). Blood glucose testing found that 1.1% had pre-diabetes and 0.8% had diabetes.⁶

The second objective of the study was to associate the risk factors of non-communicable disease with selected demographic variables:

There was a significant relationship between tobacco usage and age, as well as the monthly income of the participants. Similarly, alcohol consumption is linked to monthly family income and eating habits. Diet is strongly

related to the father and mother's occupations, as well as the type of family. Physical activity was significantly associated with religion, the father's occupation, family income monthly, and sources of health information.

5. CONCLUSION:

The study concluded that the majority of young adults did not use tobacco, alcohol, or fruits and vegetables; the majority of them did not engage in intense activity. Only a few had high blood pressure (4.1%) and diabetes (2.1%). A very low prevalence of NCDs was observed among college students.

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