Research Paper

A Descriptive Study To Assess The Risk Factors Of Non-Communicable Diseases Among People Residing In Selected Areas Of Pune District

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ABSTRACT

Introduction

Non-Communicable diseases such as heart disease, stroke, cancer, diabetes and chronic lung disease, altogether contributing 74% deaths in the whole world. It is because of these diseases people are facing many health issues and also affects the economic status of various countries. Contributing factor include rapid urbanization, inactive lifestyles, poor nutrition behaviours, tobacco and alcohol intake and increasing psycho-social stress.

Methodology

Descriptive survey research design and non-probability convenient sampling technique was used. A sample size of 500 people with age above 18 years was selected for the study. The tool consist of two sections Section I (Demographic data) and Section II (PART A- Risk Assessment, PART B- Self Reported Questions, PART C- Clinical Assessment). The reliability was done by Test-Retest Method and Inter-Rater Reliability techniques, and the data was analyzed using Karl Pearson's correlation co-efficient and Cohen's Kappa, respectively. The findings indicated that the tool was reliable and demonstrated consistency in measuring the study variables. Data was analysed and interpreted by descriptive and inferential analysis. The findings indicate that urban population are at more risk of ncd and is rising challenges faced by people regarding Non-communicable-Diseases.

Result

64% of participants are using tobacco having high percentage of this risk determinants. 48.6% consumed alcohol showing noticeable lifestyle related risk. 46.4% showed low physical activity. Poor diet habits were very common. A considerable proportion of participants were found to be overweight or obese. More than half of the participants (52.6%) reported a positive family history of NCDs raising their chances of NCD. Most of the participants came under moderate level of risk suggesting early detection and prevention.

Conclusion

Investigation concludes that adults residing in selected areas of Pune district are exposed to a marked level of influenceable variables. Factors like useage of tobacco & alcohol, minimal-activity, harmful eating habits, family history impacts NCD risk.

Key Words: Descriptive study, Assess, Risk-Factors, Non-Communicable Disease, People.
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INTRODUCTION

Non-communicable diseases (NCDs) have become a significant global public health concern as a result of growing urbanization, changing lifestyles, and longer life expectancy. Contributing factor include rapid urbanization, inactive lifestyles, poor nutrition behaviors, tobacco and alcohol intake and increasing psycho-social stress. Identifying how Non- Communicable Diseases (NCD) risk factor is distributed within communities is essential for developing effective prevention strategies. Common and adjustable risk factor are responsible for major NCDs[1]. A study was conducted in Gujarat which used WHO STEPS framework concluded that use of tobacco and cigarette was more seen in rural men while determinants such as obesity and increased blood pressure & low physical activity was seen in urban population. The findings suggested that there are different factors influencing Noncommunicable Diseases in rural & urban population and there should be different preventive measures in both areas[2].

Another comparative study done in Sangli-Miraj-Kupwad found that 85% of the healthy adults have at least one risk determinant of NCD's in which increased blood pressure and blood sugar was mostly common. Study suggested that age, obesity and daily habits are responsible for NCD's & early detection and prevention in healthy adults should be done[3].

In India, NCD are causing more than 60% deaths & in Maharashtra the rate of NCD is increasing day by day. Conducting a descriptive study in Pune District will generate crucial insights to support local health planning, strengthen preventive efforts, and ultimately help reduce the growing impact of NCDs in the future. Non-Communicable Diseases are rising as main issue in community due to rapid lifestyle changes, urbanization, and increased exposure to modifiable risk factors. Identifying these determinants early can help in prevention & control. Assessment of behavioral and predisposing components and their relationship with demographical elements will guide in preventive strategies and health promotion[1].

NEED OF STUDY

Noncommunicable diseases (NCDs) are accountable for the 41 million of deaths each year that equals 71% fatality that occur in the world. Over 15 million people have lose their life to NCDs within the ages of 30 and 70 years. Adjustable lifestyle risk behavior including the use of tobacco and alcohol, poor diet and low physical activity contributes to NCDs. The behavioural and ecological contributors result in obesity, hypertension and increased levels of cholesterol which will lead to increased incidence of heart diseases, cancer, diabetes and lung diseases. The NCDs considered global pandemic as a real hindrance and threat to Sustainable Development4. According to the WHO India country profile, noncommunicable diseases account for about 66% of total deaths in the country, with the probability of dying between 30–70 years from major NCDs at 22%. The age-standardized prevalence of the hypertension is around one in three adults, while diabetes affects more than 11% of adults, and cancers continue to show a rising incidence.

Cardiovascular diseases remain the leading cause of NCD deaths, subsequently cancers, chronic pulmonary diseases, and diabetes1. The rising occurrence of non-communicable diseases (NCDs) is now a prominent community health challenge within India, contributing to increased disability, premature mortality, and a growing economic burden on families as well as the healthcare system. Pune District has diverse population & different lifestyle and health habits. This makes it essential to assess the distribution of common risk determinants in community to understand local burden of NCDs. This study helps to understand the distribution of common risk factors of NCD and the findings from such an assessment will provide the valuable evidence for health professionals, policymakers, and community health workers to design targeted health promotion activities and preventive strategies. By strengthening prevention and health education, the study has the potential to contribute to reducing the impact of NCDs in the region.

AIM OF THE STUDY

The aim of study is to assess the level of risk of NCDs among people in selected areas of Pune District and to find an association between socio-demographic factors and level of risk of NCDs.

RESEARCH METHODOLOGY:

Research Type: The study is a Quantitative Research

Research Design: A Descriptive survey design is used

Sample: The samples are the people residing in selected areas of Pune district.

Sample Size: The study's sample consist of 500 people

Sampling Technique: Non-Probability Convenient Sampling Technique

Tool Discription:

Self - Structured Questionnaire

1. Section-I: Demographic Data
2. Section-II: Part A- Risk Assessment
   - Part B- Self Reported Questions
   - Part C- Clinical Assessment

Reliability:

The reliability was done by Test-Retest Method and Inter-Rater Reliability techniques, and the data was analyzed using Karl Pearson' s correlation co-efficient and Cohen's Kappa, respectively the findings indicated that the tool was reliable "r" is 1, perfect positive correlation & $\kappa = 1.00$, indicating excellent inter-rater reliability.

Pilot Study:

The pilot study done and the results were found to be consistent.

RESULTS

Section I: Demographic Data

Table no.1: Analysis of Demographical Characteristics of Samples

n =500

Variables	**f**	**%**
1. Gender		
a) Male	282	56.4
b) Female	218	43.6
c) Transgender	0	0
2. Age in years		
a) 18-25	106	21.2
b) 26-35	89	17.8
c) 36-45	105	21.0
d) 46-55	106	21.2
e) 55 and above	94	18.8
3. Area of residence		
a) Urban	500	100
b) Rural	0	0
4. Education		
a) Primary	128	25.6
b) Secondary	132	26.4
c) Graduate	119	23.8
d) Post-graduate and above	121	24.2
5. Occupation		
a) Student	85	17.0
b) Housemaker	78	15.6
c) Daily wage earner	115	23.0
d) Service	123	24.6
e) Retired	99	19.8
6. Visible defect		
a) No	500	100
b) Yes	0	0

Table No.01: shows a male predominance, with 56.4% (282) males and 43.6% (218) females. The sample demonstrates a well-balanced age distribution, with each age category contributing approximately 18–21% of whole samples. 18-25 & 46-55 showed 21.2% (106). All participants are from urban settings. Education levels were equally distributed ranging from 23% to 26%. The occupation shows diversity in all categories. The highest representation is from the service sector (24.6%,123) and daily wage workers (23%,115). All participants had no visible physical defect.

Section II(A): Risk Assessment

Table no. 02: Assessment of risk factors

Risk Factors	f	%
1. Tobacco use		
i. Never	180	36
ii. Occasional	180	36
iii. Daily	140	28
2. Alcohol use		
i. No	257	51.4
ii. Yes	243	48.6
3. Physical activity		
i. Yes	270	54
ii. No	230	46
4. Family history of NCD		

i. No	237	47.4
ii. Yes	263	52.6
5. Type of cooking fuel		
i. LPG	474	94.8
ii. Kerosene	0	0
iii. Coal	16	3.2
iv. Cow dung	0	0
v. Firewood	10	2
6. Occupational exposure		
i. None	135	27
ii. Burning of garbage	115	23
iii. Crop residue	75	15
iv. Working in industries	85	17
v. Gas and dust exposure	90	18

Table no.02: shows that 36% (180) of participants never use tobacco, while another 36% (180) use it occasionally. A significant 28% (140) are daily users, the distribution of alcohol use is almost equal among participants, with 51.4% (257) non-users and 48.6% (243) users. A slight majority of participants 54% (270) has physical activity more than thirty minutes in each day, while 46.4% (230) do not meet the recommended minimum. 52.6% (263) reported a positive family history of NCDs. Majority of participant 94.8% (474) use clean LPG fuel, while only 3.2% (16) and 2% (10) uses coal and firewood respectively. The distribution of occupational exposure show majority were not exposed to any exposure, while others experience some form of occupational exposure.

Section II(B): Risk Level Analysis
n=500

Figure no.01: It is observed that 75.4% (377) of participants fall under mild risk of NCDs, while 24.6% (123) of participants fall under moderate risk of NCDs. None of the participants are having severe risk of NCDs.

DISCUSSION

This study shows occurance of modifiiable causes of NCD's in adults living in selected areas of Pune district. Risk determinants like use of tobacco and alcohol, lack of physical activity and poor eating habits was seen commonly in the participants. Results showed that adults in Pune were exposed to many adjustable risk factors, such as unhealthy daily activities of living, excess body weight & present family history of Noncommunicable diseases. These findings indicate that urban population are at more risk of NCD and is rising challenges faced by people regarding Non-Communicable-Diseases.

Dakua U, Das S, Mandal S, Shaw P. (2024) in urban slums of Burdwan, West Bengal which also used WHO STEPs method. The observed associations between gender and alcohol consumption and between education and physical activity align with the Burdwan study, which emphasized the influence of socio-demographic elements which include age, gender, academic qualification, and occupation on NCD-related behaviours[13].

Additionally, the significant association between age and family history observed in the present study suggests that genetic predisposition combined with prolonged involvement to lifestyle risks factor increases susceptibility to NonCommunicable Disease with advancing age. Although obesity did not show a statistically notable associations of overall NCD risk with in this study, evidence from the Burdwan study suggests that increasing age contributes excess weight, & elevated blood pressure. These findings emphasize importance regarding early screening, continuous monitoring, and community-based health education programs aimed at lifestyle modification to curb the rising prevalence concerning Non-communicable Diseases.

CONCLUSION

The sample consisted of 500 adults, all from urban areas with balanced representation of both genders and broad age distribution. A considerable proportion reported use of tobacco and alcohol & variable levels of physical exercise. Use of LPG as a cooking fuels and various types of occupational exposures was recorded. Despite this variation, most lifestyle behaviours did not differ significantly across demographic groups. Only gender showed a statistically significant association with level of

risk. Age group, education, occupation, visible defect, ADL support, and area of residence did not show significant relationships. Majority belonged to the mild risk category, and severe cases were absent.

Investigation concludes that adults residing in selected areas of Pune district are exposed to a marked level of influenceable variables. Factors like useage of tobacco & alcohol, minimal- activity, harmful eating habits, family history impacts NCD risk. The significant relationship between demographic variable & NCD risk indicates the need of early detection and prevention. Community based health education and programmes are important to eliminate increasing impact of Non-communicable-diseases.

CONFLICTS OF INTEREST

The authors declare that there is no any conflicts of interest related to this study.

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There is no funding source for this study.

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