A Descriptive Study to Assess the Behavioural Risk Factors of Non Communicable Diseases among Adults of Selected Community of Ambala, Haryana

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Abstract— **Non-communicable disease also known as chronic disease, tend to be of long duration and are the results of a combination of genetics, physiological, environmental and behavioral factors. The main types of non-communicable diseases are cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. Aim: A descriptive study to assess the behavioural risk factors of Non Communicable Diseases among adults in the Ambala ,Haryana. Objectives :To determine the risk behavioural risk factors for non NCDs among adults and to find the association of behavioural risk factors with selected demographical variables Methodology: Study was based on Quantitative approach was used and 230 samples were collected .Adults who were at the risk of developing behavioural NCD were included SPSS version 20 was used for statistical analysis . The analysis and interpretation of data is based on the data collected through a Cronbach alpha formula used to check the reliability of to assess the behavioural risk factors related a to NCDs among adults. The data was analysed, tabulated, and interpreted with descriptive statistics. Major Findings: The people at high risk are 0%, moderate risk are 5.2% and at mild risk are 94.8%. And the variables like marital status,s moking status,types of types of family,area of resident,age group,do they consume alcohol, do they have a family history of NCDs of parents or siblings . Conclusion: adults have a mild behavioral risk factors related to NCDs.**

Index Terms: **Non-communicable diseases and behavioural risk factors.**

INTRODUCTION

Non-communicable disease also known as chronic disease, tend to be of long duration and are the results of a combination of genetics, physiological, environmental and behavioral factors. The main types of non-communicable diseases are cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. On communicable diseases management interventions are essential for achieving the global target of a 25% relative reduction in the risk of premature mortality from Non-communicable diseases by 2025, and the sustainable development goals target of a one-third reduction in premature deaths from Non-communicable diseases by 2030.[1]

According to the National Health profile 2019, 6.51 Cr. patients were screened at Non-communicable diseases clinics as part of the National Program for prevention and control of cancer, Diabetes, Cardiovascular Diseases and Stroke from January 1 to December 31, 2018. Non-communicable diseases (NCDs) such as cardiovascular diseases, cancer, respiratory diseases, and diabetes, cause 71% of all deaths globally, and 85% in low – and middle-countries.[2] Behavioural risk factors, such as tobacco use, physical inactivity, the harmful use of alcohol, and unhealthy diets all increase the risk of dying from a NCD In Indonesia, NCD-related mortality accounted for 65% of the deaths in 2010 In addition, Indonesia has a very high burden of tobacco smoking. Changes in the environment, lifestyle , and technology in Indonesia have to led to an increase of NCDs investigation showed that behavioural risk factors are often acquired during the adolescence period and are then adopted in adulthood .[3]

Factors associated with individual and or multiple behavioural NCD risk factors among adolescents include male sex , older age , lower socioeconomic status , physical inactivity , insufficient physical activity , not attending physical education classes , overweight /obesity , psychological distress , school truancy ,and lack of peer and parental support . the study aimed to investigate the prevalence and correlates of behavioural NCD risk factors in

adolescents .[4] It is well established that non-communicable diseases are the leading cause of adult mortality and morbidity worldwide including the southeast Asia region four main NCDs namely cardiovascular disease diabetes, cancer, and chronic respiratory disease, are mainly responsible for this high mortality and morbidity of the estimate 14.5 million total deaths in 2008 in SEAR , more than half (55%) of them were due to NCDs , mainly cardiovascular diseases (25%).[5]

India is a diverse country, and many states in India are passing through an epidemiological health transition with high rates of urbanization. Urbanization has led to economic improvement, the consequences of which is increased food consumption, tobacco-use, and decreased physical activity. One of the effects of this economic transition is a shift in the disease spectrum from communicable to non-communicable diseases. NCDs, especially cardiovascular disease, diabetes mellitus, and stroke, have emerged as a major public-health problem in India. The morbidity and mortality in most productive phase of life is posing serious challenges to Indian society and economy.[6] The huge burden of cardiovascular diseases in the Indian Subcontinent is the consequence of the large population and the high prevalence of CVD risk factors. NCDs have common risk factors, such as tobacco-use, unhealthy diet, physical inactivity, and excess adiposity. Policies and programmes focusing on reducing the burden of these common risk factors are likely to make a substantial impact on mitigating the mortality and morbidity due to NCDs.[7]

The WHO's approach to Surveillance of NCD Risk Factors (STEPS) was developed by WHO as part of a global surveillance strategy in response to the growing need for country-level trends in non-communicable diseases. By using the same standardized questions and protocols, all countries can use STEPS information not only for monitoring within-country trends but also for making between-country comparisons. The approach encourages the collection of small amounts of useful data on a regular and continuing basis. It focuses on a minimum number of risk factors that predict the major non-communicable diseases. This information can, in turn, be used in planning for disease prevention through population-level risk factor reduction.[8]

A study was part of a multi-site study in India coordinated by the Indian Council of Medical Research (ICMR) New Delhi, aimed as a feasibility exercise for setting up national level NCD risk factor surveillance mechanisms. In the process information on risk factors was also collected. Thiruvananthapuram district in Kerala State was selected for the present study keeping in mind the feasibility of continuous monitoring by the State Health Department and by the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), the institution undertaking this research. This district had a human development index score of 0.773 (the same as average for the State in 2005), a life expectancy at birth of 75.2 yr (compared to the State average of 74.6 yr), and a literacy rate of 89.4 per cent (compared to the State average of 90.9%) 8.These data demonstrate that Thiruvananthapuram district is quite representative of the State of Kerala, and a study of NCD risk factors in this district may mirror that for the entire State. [12]

A study was conducted with the aim of investigate the prevalence and correlates of behavioural non-communicable disease (NCD) risk factors among a national sample of school-going adolescents in the Seychelles. Cross-sectional data were analyzed from 2540 school adolescents (median age 14 years, interquartile range = 2), in the Seychelles "Global School-Based Student Health Survey (GSHS)" in 2015. Behavioural NCD risk factors (current tobacco use, current alcohol use, inadequate fruit and vegetable consumption, soft drink consumption, overweight or obesity, physical inactivity, and leisure-time sedentary behavior) were assessed by self-report. Among the seven individual behavioural risk factors, the highest prevalence was physical inactivity (82.7%), followed by daily soft drink consumption (68.3%), inadequate fruit and vegetable consumption (60.9%), leisure-time sedentary behavior (51.0%), current alcohol use (47.6%), overweight or obesity (28.2%), and current tobacco use (23.4%). The total mean number of behavioural NCD risk factors was 3.6 (Standard Deviation = 1.3), and the proportion of co-occurrence of having three or more behavioural NCD risk factors was 80.7%. In adjusted linear regression analysis, male sex, older age, and psychological distress were positively, and school attendance and peer support were negatively associated with the total number of behavioural NCD

risk factors. A high prevalence of multiple behavioural NCD risk factors were found and several associated factors were identified, such as male sex, older age, psychologicaldistress,schooltruancy,andlackofpeersupport,whichmayhelpinaidingintervention programs in this population.[14]

Problem Statement

"A Descriptive Study to Assess the Behavioural Risk Factors of Non Communicable Diseases Among adults of Selected Community of Ambala, Haryana."

Objectives of the study

1. To estimate the risk behavioural risk factors of non communicable diseases among adult.
2. To find the association of behavioural risk factors with selected demographical variables.

Hypotheses

All hypotheses were tested at the 0.05 level of significance
H_1: There will be significant association of behavioural risk factors of NCDs with selected demographic variable.

Inclusion criteria

Adults who were:
1. Willing to participate in the study.
2. Available at the time of data collection
3. able speak and understand Hindi and English

Exclusion Criteria

Adults who were:
1. Having any non communicable diseases i.e., hypertension, cancer, DM, and cardiovascular diseases.

Delimitations

The study was delimited to the adults lies between age group of 30 -60 years .

METHODOLOGY: The methodology of this include research approach, research design, variables, setting of the study, population , sample, sample criteria,, sampling technique, development and description of the tools, content validity of the tools, test retest, pilot study, data collection process, final study and plan analysis. On the whole it gives general pattern for gathering and processing research data.

• Research Approach: Quantitative research approach
• Research design: descriptive survey design.

Setting

The setting of the study was community area Ambala (Haryana)
The criteria for selecting the setting were:
• Familiarity of researcher
• Availability of subject
• Feasibility of conducting study
• Economy of time and access

Population

It refers to the total category of person or objectives that meet the criteria for the study. In the present study adult more than 30 years

Accessible population

The accessible population of the study is adult residing in Mullana, Deen, Ambala, Dosarka, holi, community people of (Haryana).

Target population

The target population is adults residing in village of Ambala, Haryana

Sample

A sample is defined as the selected group of people or elements sample is expected to represent a population of people.
The sample is the subset of a population selected to participate in a research study.

Sampling Technique

Sampling refers to the process of selecting a sample from the target population to represent the entire population.
In this study convenient sampling technique used to select the sample from target population on and purpose was that it was convenient to researcher.
Convenient sampling is the method the researcher selects those units of population in the sample which appear convenient to him.

Sample Size

The sample for the study comprised of 230 samples of community people Ambala, (Haryana).

Criteria for Selection of Sample
The community adult people of non -communicable diseases of Ambala, Haryana

Data Collection Instruments
Data collection tools are the procedure and instruments used by the researcher to measure the key variables in a research problem. Structured questionnaire was prepared on the basis of the objectives of the study.

Development of the Tool
The following steps were adopted in the development of the tool:
• Review of literature
• Discussion with experts
• Construction of the structured Questionnaire
• Content validity
• Pretesting of the tool
• Reliability
• Pilot study

Description of the tool
The tool consists of 2 parts:
Part 1: It comprised of a demographic data of the sample.
Part 2: It comprised of a community based assessment checklist (CBAC) form for early detection of behavioral risk factors of non-communicable disease among adults.

Validity of the Tools
Validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested.
Validity by 9 experts: our respected principal mam,2 from department of Medical surgical nursing , 2 from mifdwifery,2 from community health nursing department,2 from child health nursing department .
After experts suggestion we have corrected the questions and finalized the questionnaire.

Reliability of the Tool
Reliability refers to the accuracy or inaccuracy rate in measurement device.

The tool was tested for reliability on 30 samples from the selected community Ambala (Haryana) after obtaining permission from the Sarpanches Calculated value is 0.65 and measured by Cronbach alpha.

Pilot Study
Pilot study was conducted in one of the selected community of Ambala (Haryana).

Procedure for Final Data Collection
Data collection is the gathering of the information to address research problem. The formal procedure researcher develops to guide the collection of the data in a standardized fashion.
• The data collection was carried out during month of May 2020 after taking formal permission Through registration form adults of Haryana community.
• Data was collected through the Google form during lockdown period due to covid -19 pandemic.
• By using snow ball sampling technique total 230 samples were selected as a sample for present study.
• Self -introduction was given to community members .Rapport was developed with them. Nature and purpose of the study were explained to community people and informed written consent was taken from the adults for participation in the study in form of registration.
• The sample was taken from the people residing in community village .Haryana with research variables of behavioral risk factors of non-communicable disease among adults.

ANALYSIS AND INTERPRETATION OF DATA:
The data was analysed, tabulated and interpreted with descriptive statistics. The data has been organized and presented under the following.
Section I: the behavioral risk factors related to NCDs among adults
Section II: Association of behavioral risk factors with selected demographic variables
Section I

Table No –1 Level of scores related to behavioural risk factors of NCDs among adults
N -230

Data present in table 2 shows that maximum (94.8) adults have a mild behavioural risk factors related to NCDs and 0% chance adults have a behavioural risk factors related to NCDs among adults

Table No -2 Range , Mean , Median% , Mean and Standard Deviation

N -230

	Range	Mean %	Mean	± S.D
Level score of behavioural risk factors of NCDs	0-8	5.04	1.01	1.82

Maximum=20   Minimum=0

CRITERIA MEASURE OF BEHAVIOURAL RISK SCORE		
Level of Scores	Percentage	Frequency
HIGH RISK.(13-20)	0.0%	0
MODERATE RISK.(6-12)	5.2%	12
MILD RISK.(0-5)	94.8%	218
Maximum =20		Minimum=0

Table 3shows the mean scores of behavioural risk factors related t NCDs among adults is 1.01 and standard deviation is 1.82 . the range is 0-8 and mean % is 5.04

Table No -3 Frequency Distribution of Socio Demographic variables

N=230

S. No	Variables	Percentage (%)	Frequency(f)
1	Gender		
1.1	Male	43%	98
1.2	Female	57%	132
2	Marital Status		
2.1	Married	77%	178
2.2	Unmarried	14%	31
2.3	Divorced/widowed/separated	9%	21
3	Types of Family		
3.1	Nuclear	73%	169
3.2	Joint	27%	61
4	Diet		
4.1	Vegetarian	41%	95
4.2	Non-vegetarian	20%	44
4.3	Mixed	39%	91
5	Area of Resident		
5.1	Rural	65%	151
5.2	Urban	35%	79
7	Socio Eco. Status		
6.1	Above 126,360	1%	1
6.2	63,182-126,356	33.%	77
6.3	47,266-63178	38%	88
6.4	31,591-47262	23%	54
6.5	18,953-31589	4.%	10
7.	What is your age?(in complete year		
7.1	30-40 year	31.3%	72
7.2	40-49 year	35.7%	82
7.3	Equal or more than 50	33.0%	76
8	Do you smoke or consume smokeless products such as Gutka; or Khanini?		
8.1	Never	54.3%	125
8.2	Used to consume in past/some Time know	24.8%	57
8.3	Daily	20.9%	48
9	Do you consume Alcohol daily?		
9.1	No	71.7%	165
9.2	Yes	28.3%	65
10	Measurement of Waist (in cm)		
10.1	<80cm	18%	41
10.2	80-90cm	46%	107
10.3	>90cm	35%	82
11	Do you undertake any Physical Activities for minimum of 150 in week		
11.1	At least 150 min in week	50%	116
11.2	Less than 150 min in week	50%	114
12	Do you have a family history (any one of your parents or sibling) of high blood pressure, diabetic and heart disease?		
12.1	No	65%	151
12.2	Yes	35%	79

Table no 4 shows nearly half (57%) adults were female , more than half (77%) adults were married, ,more than half (73%) adults belongs to nuclear families, nearly half (41%) adults were vegetarian, more than half (65%) were belonged to rural areas and nearly half (38%) adults lies in 47,266-63178 category of socio-economic status. that most of adults (35%) were lies in age group of 40-49 years, more than half (54%) aduts were not consume the some

and somekless products such as Gutka; or Khanini, more than half (71%) adults were not cnsume alcohol, nearly thalf (46) adults waist circumference were between 80-90cm.half of the adult were undertaken physical activities at least 150 min in week and more tan half of the adults had no any family history (any one of your parents or sibling) of high blood pressure, diabetic and heart disease

Table No- 4 Frequency percentage of Behavioural risk factors of NCDs among adults

N=230

S.No	Behavioural risk factors iteams	Yes (%)	No (%)	Yes (f)	No (f)
1	Shortness of breath	19.1%	80%	44	186
2	Coughing more than 2 week	3.5%	96%	8	222
3	Blood in sputum	2.6%	97%	6	224
4	History of fits	1.3%	98%	3	227
5	Difficulty in opening mouth	0.4%	99%	1	229
6	Ulcer/patch/growth in the mouth that has 0t healed in two weeks	1.7%	98%	4	226
7	Any change in the tone of your voice	0.9%	99%	2	228
8	Increase Frequent urination	12.6%	87%	29	201
9	Increase thirst	8.3%	91%	19	211
10	always feel hungry	13.5%	86%	31	199
11	blurry vision	11.7%	88%	27	203
12	tingling numbness or pain in the hands and feet	3.0%	97%	7	223
13	sudden confusion	5.7%	94%	13	217
14	sudden severe headache	11.3%	88%	26	204
15	sudden rapid pulse and palpitation	0.4%	99%	1	229
16	unexplained weight loss	2.2%	97%	5	225
17	change in bowl bladder habits	2.2%	97%	5	225
18	difficulty in swallowing	0.4%	99%	1	229
19	bleeding from any opening	0.0%	100%	0	230
20	feeling of any hard mass or lump in any site your body	0.0%	100%	0	230

The table 5 shows that most of adults (80%) had no a shortness of breath, most of the adults (96%) had no a complaints of coughing more than 2weeks ,maximum (97%)people had no complaints of blood in sputum, maximum (98%)adults had no history of fits , maximum (99%) adults had no Difficulty in opening mouth, maximum(98%)had no Ulcer/patch/growth in the mouth that has to healed in two weeks, maximum (99%)adults had not Any change in the tone of voice, maximum (99%)of adult had no Increase Frequent urination, maximum (87%) of adults had not Increase thirst, maximum(86%) were not always feel hungry, maximum (88%) adults had not   blurry vision, maximum (97%)of adults were

not complaints of tingling numbness or pain in the hands and feet, maximum (94%) adults were not sudden confusion, maximum (88%) of had no sudden severe headache. The maximum (99%) adults were had no sudden rapid pulse and palpitation. The most adults (97%) had no unexplained weight loss, maximum (97%) adults had no complaints of change in bowl bladder habits. Almost (1005) of adult had complaints of bleeding from any opening in the body and no feeling of any hard mass or lump in any site their body

SECTION: 2

Table No -5 Chi test Showing Association of behavioural risk factors scores related to NCDS among adults with selected Demographic Variables

N=230

S.No	Variables	MODERATE RISK	MILD RISK	df	Chi value	P Value
1	Gender					
1.1	Male	2	96	1	3.484	0.062[NS]
1.2	Female	10	122			
2	Marital Status					
2.1	Married	8	170	2	10.017	0.007[*]
2.2	Unmarried	0	31			
2.3	Divorced/widowed/separated	4	17			
3	Types of Family					
3.1	Nuclear	4	165	1	10.470	0.001[*]
3.2	Joint	8	53			
4	Diet					
4.1	Vegetarian	5	90	2	3.550	0.170[NS]
4.2	Non-vegetarian	0	44			
4.3	Mixed	7	84			
5	Area of Resident					
5.1	Rural	12	139	1	6.624	0.010[*]
5.2	Urban	0	79			
6	Socio Eco. Status					
6.1	Above 126,360	0	1	4	3.176	0.529[NS]
6.2	63,182-126,356	4	73			
6.3	47,266-63178	7	81			
6.4	31,591-47262	1	53			
6.5	18,953-31589	0	10			

Maximum Score=20   Minimum Score=0
* significant (p≤0.05)   NS not significant(p≥0.05)

Table no 6 shows that there were not significant association of behavioural risk factors with gander (chi value = 3.484, P value=0.062), diet(chi value = 3.550, P value=0.170) and socio economic status(chi value = 3.176, P value=0.529).

Table No -7 Chi test Showing Association of behavioural risk factors scores related to NCDS among adults with selected Demographic Variables

N=230

S.No	Variables	MODERATE RISK	MILD RISK	df	Chi value	P Value
7	What is your age?(in complete year)					
7.1	30-40 year	0	72	2	8.314	0.016[*]
7.2	40-49 year	4	78			
7.3	Equal or more than 50	8	68			
8	Do you smoke or consume smokeless products such as Gutka; or Khanini?					
8.1	Never	6	119	2	2.454	0.293[NS]
8.2	Used to consume in past/some Time know	5	52			
8.3	Daily	1	47			
9	Do you consume Alcohol daily?					
9.1	No	3	162	1	13.642	0.000[*]
9.2	Yes	9	56			
10	Measurement of Waist (in cm)					
10.1	<80cm	0	41		4.867	0.088[NS]

10.2	80-90cm	9	98	2		
10.3	>90cm	3	79			
11	Do you undertake any Physical Activities for minimum of 150 min in week					
11.1	At least 150 min in week	3	113	1	3.276	0.070NS
11.2	Less than 150 min in week	9	105			
12	Do you have a family history (any one of your parents or sibling) of high blood pressure, diabetic and heart disease?					
12.1	No	2	149	1	13.472	0.000*
12.2	Yes	10	69			

Maximum Score=20   Minimum Score=0

* significant (p≤0.05)   NS not significant(p≥0.05)

Table no 7shows that there were not significant association of behavioural risk factors with Do you smoke or consume smokeless products such as Gutka; or Khanini? (chi value = 2.454, P value=0.293), Measurement of Waist (in cm) (chi value = 4.867, P value=0.088) and Do you undertake any Physical Activities for minimum of 150 min in week(chi value = 3.276, P value=0.070)

MAJOR FINDINGS OF THE STUDY

- Maximum (94.8%) adults have a mild behavioural risk factors related to NCDs and Minimum 0% adults have a behavioural risk factors related to NCDs
- Nearly half (57%) adults were female, more than half (77%) adults were married, more than half (73%) adults belongs to nuclear families, nearly half (41%) adults were vegetarian, more than half (65%) were belonged to rural areas and nearly half (38%) adults lies in 47,266-63178 category of socio-economic status
- Most of adults (35%) were lies in age group of 40-49 years, more than half (54%) aduts were not consume the some and somekless products such as Gutka; or Khanini, more than half (71%) adults were not cnsume alcohol, nearly thalf (46) adults waist circumference were between 80-90cm.half of the adult were undertaken physical activities at least 150 min in week and more tan half of the adults had no any family history (any one of your parents or sibling) of high blood pressure, diabetic and heart disease

CONCLUSION

The conclusion of this study is adults have   a mild behavioral risk factors related to NCDs

NURSING IMPLICATIONS

The study has major implications for nursing practice, nursing education and nursing administration

NURSING PRACTICE

A non communicable disease constitutes a major problem and caregivers plays vital role in prevention of non communicable diseases. Following measure should be taken to improve nurses' practice in relation to prevention non communicable diseases by:
1   Using risk assessment tool.
2   Teach the caregivers of patient about care of risk factor of non communicable diseases.
3   Make the protocol for care givers regarding prevention and treatment of non communicable diseases in patients.
4   Enhancing care givers work and involve them in care of patients.
5   Proper communication of risk status of the patient to the caregivers at the time of duty shift.

NURSING EDUCATION

1. Seminar should be planned for caregivers so that they can upgrade their knowledge about current practice for care of risk factor of non communicable diseases in Patients.
2. Nurses should educate the caregivers about the use at risks assessment tool for identifying non communicable diseases

3. Nurse should monitor and supervise the practice of caregivers.

4. Student nurses should make teaching aids for the caregivers regarding care of risk factor of non communicable diseases.

NURSING ADMINISTRATION

1 .Nurse administrator could provide the necessary facilities to patients to equip themselves with the knowledge related to risk factor of non communicable diseases.

2. Nurse administrator could facilitate various aspects of working conferences regarding care of risk factor of non communicable diseases.

3. Nurse administrator should facilitate adequate and proper supply of equipment for prevention of non communicable diseases in the patients.

4. Nurse administrator should make the protocol for the caregiver regarding care of patients.

NURSING RESEARCH

LIMITATION
Data collection criteria was change that is fulfil through Google form due to the COVID 19 situation

RECOMMENDATIONS
On the basis of the findings of this study, the following recommendations are suggested to the various stakeholders:

1. Further risk factor surveillance studies incorporating regarding the protocol should be done to give a more comprehensive profile.

2. A continuous national surveillance system on risk factors should be instituted by the Centre for Disease Control and Prevention to offer up-to-date analysis of the national risk factor profile.

3. Data on multiple risk factors should be used as the baseline foundation for legislation and intervention by the public health authorities and policy planners,

4. Clinicians, including medical doctors, physiotherapists and nurses in both public and private health care sectors should incorporate enquiries on modifiable health risk behaviours in order to ensure early detection at the primary health care level.

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