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Exploration of Existing Risk Factors of NCD among 18-69-Years Old Individuals by STEP Method in Selected Districts of Punjab: A Pilot Study

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ABSTRACT

Introduction: Over the last three decades, there has been an epidemiological transition from infectious diseases to lifestyle related chronic non-communicable diseases. The burden of chronic non-communicable disease (NCDs) is rising rapidly all over the world. About 63% of all annual deaths globally are contributed by Non-communicable diseases and it is expected that it will increase to 73% by 2020. It is predicted that NCDs will be responsible for almost three quarters of all deaths in India by 2030. **Material and methods:** This cross-sectional study was conducted at selected rural urban areas of district Fazilika, Punjab to assess the risk factors of selected NCDs, using Partial WHO STEPS approach. Multistage sampling technique used for selection of 160 residents, aged 18-69 years from rural and urban areas. **Result:** The findings revealed that 18.1% (29 people) reported being diagnosed with hypertension and diabetes. Additionally, 62.5% participants have an abnormal BMI, which is a major risk factor for several NCDs. While 26.3% of the participants has an abnormal waist circumference, another indicator of increased NCD risk. **Conclusions:** Study showed a high burden of risk factors for NCDs in the study Population. There is a need to take some community based initiatives t decline the prevalence of NCDs.

KEYWORDS: *Non communicable diseases, WHO STEPS, Risk factors, Hypertension, Diabetes, Punjab*

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INTRODUCTION

Non-communicable diseases (NCDs) are illnesses of lifestyles that can arise from improper lifestyle choices. According to a recent Global Burden of Disease research, the main causes of death worldwide are chronic non-communicable diseases (NCDs), which include diabetes, hypertension, and cardiovascular illnesses (CVDs).[2]. In the Sustainable Development Goals, NCD prevention and management have gained international attention.[3] The risk of non-communicable diseases (NCDs) is increased by risk factors such smoking, poor food, sedentary behavior, and overweight/obesity. The majority of these risk factors start early in childhood and have an impact on health throughout one's life.[4] Worldwide, the risk of CVD is increased by a poor diet, primarily from the intake of beverages sweetened with sugar and saturated fat.[7]NCDs represent an individual burden[2,3] and substantial global economic costs.[4]NCDs, such as cardiovascular diseases, cancers, respiratory diseases, and diabetes, account for 80% of all deaths worldwide.[4–6] NCDs account for approximately 41 million deaths worldwide, or more than 75% of all deaths.[7] In response, the World Health Organization (WHO) and United Nations aim to reduce premature NCD mortality by 33% within 2030.[8-9] Key modifiable NCD risk factors include the behavioural factors tobacco use, physical inactivity, an unhealthy diet, and harmful use of alcohol, and the biological factors obesity, hypertension, hyperlipidaemia and hyperglycaemia[10]. The WHO has recognized NCDs as one among the top 10 global health threats of 2019.[11] In India, NCDs, particularly cardiovascular disease, diabetes mellitus, and stroke, have become a significant public health issue.[12]Major risk factors for NCDs include obesity, raised blood glucose, high

blood pressure, high cholesterol levels, physical inactivity, sedentary behavior, alcohol consumption, and smoking behavior.[13] Worldwide, the prevalence of non-communicable diseases such as cancer, diabetes, hypertension, and cardiovascular disorders has been rising. According to national family health survey-3 (2005-2006) Prevalence of different risk factors in Punjab state are: smoker (rural-18.4%) urban (24.15%); overweight and obesity (rural27.4%),(urban 34.1%) alcohol consumption (rural 44.6%) and urban (41.8%).[14] A project was conducted by technical advisory committee of Punjab to assess burden of NCD risk factors in Punjab state which show significant result. Hence, the present study is being conducted in Fazilika district of Punjab to assess risk factors of selected NCDs among population.

Methodology

In present study community based cross sectional survey design and quantitative approach were applied to assess the risk factors of NCDs among individuals of age group (18-69) years in Fazilika districts of Punjab. The study was conducted in the rural- urban areas of district Fazilika of Punjab. A questionnaire of WHO steps approach was used. Sampling was done by multistage sampling technique. For rural areas, the list of tehsils and villages along with their population in Fazilika districts were obtained from district health office. 1 PHC was selected and total 80 samples were selected from rural areas of selected districts. For urban areas, 1 urban PHC was selected. Under the PHC, 80 households were selected by simple randomization and from each household, sample were selected. The list of all households in the selected villages will be obtained from the registers of the respective health workers. A total 80 samples were selected from urban areas of selected districts. Both in urban and rural areas, one individual was selected from each household as per inclusion and exclusion criteria. The data collection was done with help of socio-demographic, Physical anthropometric measurements, Biochemical measurement and behaviour risk factors were collected in STEP-1. The content validity and reliability of the tools were established.

ETHICAL CONSIDERATIONS:

Study approval was taken from Ethical review board, UCER, Baba Farid University of health Sciences, Faridkot and Principal of University College of nursing, Faridkot, Punjab.

Result

Table 1: Socio- demographic characteristics of study population. (N=160)

Socio demographic characteristics		Frequency (f)	Percentage(%)
Age (in years)	18-28	46	29
	29-39	42	26
	40-49	32	20
	50-59	24	15
	60-69	16	10
Gender	Male	95	59.4%
	Female	65	40.6%
Level of education	No formal Schooling	5	3.1%
	Less than primary school	0	0.0%
	Primary school completed	8	5.0%
	Secondary school completed	83	51.9%
	High school completed	17	10.6%
	College /university completed	47	29.4%
Marital status	Never married	20	12.5%
	Married	136	85%
	Separated	4	2.5%
	Divorced	0	0.0%
	Widowed	0	0.0%
Occupational status	Government employee	0	0.0%
	Non -government employee	15	9.4%
	Self employed	78	48.8%
	Non paid	0	0.0%
	Student	13	8.1%
	Homemaker	34	21.3%
	Retired	0	0.0%
	Unemployed (able to work)	20	12.5%

Table-1 highlighted demographic profile of the participants. In terms of age, majority of the subjects (29%) were from 18-28 years followed by 26% subjects were between 29-39 years. As per gender, nearly 60% subjects were male and rest were female. Nearly 52% participants had completed their secondary school followed by 29.4% have completed their graduation. The most of subjects (85%) were married. Around 49% subjects were self employed while 21.3% were home makers. No subject was having government job.

Hypertension: The findings revealed that 18.1% (29 people) reported being diagnosed with hypertension. 75% of those diagnosed received advice on reducing salt intake, losing weight, and exercising. Additionally, noone reported taking medication in the past two weeks. Traditional healers weren't consulted for hypertension.

Diabetes: The findings communicated that 18.1% (29 people) reported being diagnosed with diabetes. Similar to hypertension, awareness might be lower than the diagnosed cases. 75% of those diagnosed received advice on losing weight and exercising. 18.1% reported being on a special prescribed diet.

BMI: Over six in ten (62.5%) of the participants have an abnormal BMI, which is a major risk factor for several NCDs, including heart disease, stroke, type 2 diabetes, and some cancers.

Waist circumference: A significant portion (26.3%) of the participants has an abnormal waist circumference, another indicator of increased NCD risk.

Table-2: Association between behavioural NCDS risk factors and hypertension and diabetes. N=160

Behavioural Non- communicable diseases (NCDS) Risk factors	Hypertension *(p- value)*	Diabetes *(p-value)*
Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?	**<0.001**	**<0.0001**
Drugs (medication) that you have taken in the past two weeks	**0.030**	**0.003**
Advice to reduce salt intake	0.166	0.543
Advice or treatment to lose weight	0.166	0.543
Advice or treatment to stop smoking	0.142	0.268
Advice to start or do more exercise	0.166	0.543
Have you ever seen a traditional healer for raised blood pressure or hypertension?	0.128	0.268
Are you currently taking any herbal or traditional remedy for your raised blood pressure?	0.237	0.285
Have you ever had your blood sugar measured by a doctor or other health worker?	0.166	0.543
Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?	0.520	**0.0001**
Have you been told in the past 12 months?	0.520	**0.0001**
Insulin	0.166	0.543
Special prescribed diet	0.520	**0.0001**
Advice or treatment to lose weight	0.166	0.543
Advice or treatment to stop smoking	0.841	0.627
Advice to start or do more exercise	0.166	0.543
Have you ever seen a traditional healer for diabetes or raised blood sugar?	0.261	0.547
Are you currently taking any herbal or traditional remedy for your diabetes?	0.520	**<0.0001**

Table-2 highlighted association between behavioural NCDS risk factors and hypertension and diabetes. **"**You have raised blood pressure or hypertension" has significant association (p=<0.001) and **"**Drugs (medication) that you have taken in the past two weeks" shown significant association (p= 0.03) with hypertension. While diabetes shown significant association with factors like **"**You have raised blood pressure or hypertension" has significant association (p=<0.001). The factors like Insulin ((p=0.026), Special prescribed diet (p=0.0001) and "currently taking any herbal or traditional remedy for your diabetes" (p=<0.0001) have significant association with diabetes. The other remaining variables had no significant association with diabetes.

DISCUSSION

The present study is being conducted in Fazilika district of Punjab to assess risk factors of selected NCDs among population of this district. The findings revealed that 18.1% (29 people) reported being diagnosed with hypertension. 75% of those diagnosed received advice on reducing salt intake, losing weight, and exercising. Additionally, no one reported taking medication in the past two weeks. Traditional healers weren't consulted for hypertension. In this context, In a cross-sectional survey, **Tushi A et al**[15] applied WHO STEPS to assess NCD risk factors among rural population. The study communicated revealed that prevalence of higher blood pressure was 43.2% which was more than our findings. Additionally, the findings communicated that 18.1% (29 people) reported being diagnosed with diabetes. Similar to hypertension, awareness might be lower than the diagnosed cases. 75% of those diagnosed received advice on losing weight and exercising. 18.1% reported being on a special prescribed diet. Traditional healers weren't consulted for diabetes. **Sivanantham P et al**[16] done a cross-sectional analytical survey. The study highlighted that 28.2% had hypertension and 24.4% had diabetes mellitus. This finding was in context of our research outcomes. **Mathur P et al**[17] done a cross-sectional study to assess non-communicable diseases prevalence. The study revealed that proportion with raised blood pressure and raised blood glucose were 28.5% and 9.3% respectively. This finding was in support of our findings. In our research, over six in ten (62.5%) of the participants have an abnormal BMI, which is a major risk factor for several NCDs, including heart disease, stroke, type 2 diabetes, and some cancers. **Sarveswaran G et al**[18] explored that rural population have few NCD risk factors like obesity (around 46%). In another study, **Sithey G et al**[19] done a secondary analysis of data from Bhutan's nationwide STEPS survey. Noncommunicable diseases risk factors in Bhutan: The results shown that prevalence of overweight or obesity, hypertension and diabetes was 32.9%, 35.7% and 6.4% respectively. This study in support of our research findings. In a cross-sectional survey, **Tushi A et al**[15] applied WHO STEPS to assess NCD risk factors among rural population. The study communicated revealed that prevalence of obesity and higher blood pressure were 32.4% and 43.2% respectively. This research was also similar to present research outcomes.

CONCLUSIONS:

We observed a high prevalence of behavioural risk factors for NCDs, diabetes and hypertension in the population. The primary healthcare system needs to be strengthened in this area to improve detection and management of hypertension and diabetes. Mass and print media campaigns and provision of cessation services may also be helpful.

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Conflicts of interest: Nil.

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