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**Dr. Neha Choudhary**  
Department of Community  
Medicine, Government  
Medical College Bakshi Nagar,  
Jammu, Jammu and Kashmir,  
India

**Dr. Sonika Sangra**  
Assistant Professor,  
Department of Community  
Medicine, Government Medical  
College, Bakshi Nagar,  
Kathua, Jammu and Kashmir,  
India

**Dr. Akash Narangyal**  
Department of Community  
Medicine, Government Medical  
College Bakshi Nagar, Jammu,  
Jammu and Kashmir, India

**Corresponding Author:**  
**Dr. Sonika Sangra**  
Assistant Professor,  
Department of Community  
Medicine, Government Medical  
College, Bakshi Nagar,  
Kathua, Jammu and Kashmir,  
India

## Risk assessment for non-communicable diseases among outpatients visiting urban health centre in Jammu region: A cross sectional study

**Dr. Neha Choudhary, Dr. Sonika Sangra and Dr. Akash Narangyal**

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### Abstract

**Introduction:** Twentieth century heralded accelerated health transition which brought Non Communicable Diseases (NCDs) to the forefront of global public health challenges. Global trends suggest that these diseases to a large extent are associated with life styles like- unhealthy dietary intake, physical inactivity, tobacco use, high alcohol consumption and are on the rise

**Objectives:** To assess the risk of Non Communicable Diseases among the community using Community Based Assessment Checklist.

**Methods:** 266 patients over 30 years of age, presenting to OPD were assessed on their behaviour. Risk score on the risk factors like Age, Tobacco and Alcohol consumption, Physical inactivity, Waist measurement and Family history of NCDs were taken. Each risk factor has an allotted score from 0 to 2, a total score above 4 poses the individual at risk for developing NCDs.

**Results:** 28% individuals had an average score above 4, 48% at 4 and 24% had a score below 4.

**Conclusion:** Populations having a higher level of score needs an urgent health intervention so that its ongoing burden of NCDs can be halted or controlled.

**Keywords:** Community based assessment checklist, non communicable diseases, risk score

### Introduction

From a long time, communicable diseases have been a predominant cause of death worldwide. With advances in treatment modalities, availability of newer drugs, antibiotics, vaccination, improved living conditions, which is also the post second world war era; the incidence of communicable diseases has suffered a downfall with a concomitant rise in the incidence of Non communicable diseases<sup>1</sup>. This is marked by the fact that in the year 1990, leading causes of disease burden were pneumonia, diarrhoeal diseases and perinatal conditions. By 2020, it is predicted that NCDs will account for 80 percent of the global burden of disease, leading to seven out of every 10 deaths in developing countries, which is less than half as compared to today<sup>2</sup>. It was initially thought upon that NCDs are the disease of 'the rich' but over the years, they have taken over the entire globe with an increasing trend in developing countries. As per the recent estimates, 34.5 million people died from NCDs in 2010, constituting 65 per cent of the 52.8 million deaths worldwide that year. It has been projected that the deaths due to NCDs will increase to more than 50 million every year by 2030. In the developing countries, NCDs are projected to contribute 80 per cent of the global burden of disease and 70 per cent of deaths by 2020. In India, NCDs caused an estimated 50 per cent of all deaths and 62 per cent of the total disease burden in 2004. NCDs accounted for nearly 40 per cent of all hospital stays and 35 per cent of all outpatient visits in India in 2004<sup>3</sup>.

In 2017, in India, 61% of deaths were from NCDs, Total number of NCD deaths was 5817000 and Risk of premature death from target NCDs was 23%<sup>4</sup>.

Age-standardized mortality rate for NCDs (per 100 000 population), for both sexes was 599.8 (males 671.0 and females 531.1)<sup>5</sup>.

The rise in burden of NCDs have been primarily driven by rapid urbanization, industrialization, and globalization that have led to socioeconomic transition that in turn influences the health risk behaviour which leads to increasing burden of obesity, hypertension, diabetes that are well established risk factors for CVD. These CV risk factors are measurable and are modifiable, and thus become the important targets for cost effective

Intervention for prevention and control of CVD risk [6]. Physical inactivity, tobacco use, harmful use of alcohol; are the behaviour risk factors that can be modified and should be targeted for NCD control. If these risk factors can be controlled at first hand, the risk of NCDs could be halted as age and family history of occurrence of the disease is beyond the of the individual [7, 8]. So as to obtain the true picture of the burgeoning NCDs in India, strong system of risk factor surveillance needs to be undertaken. This becomes especially important for estimating the burden, prioritization for formulating health policies and program, etc. The surveillance of NCD risk factors predicts the future risk of the disease in the population [9].

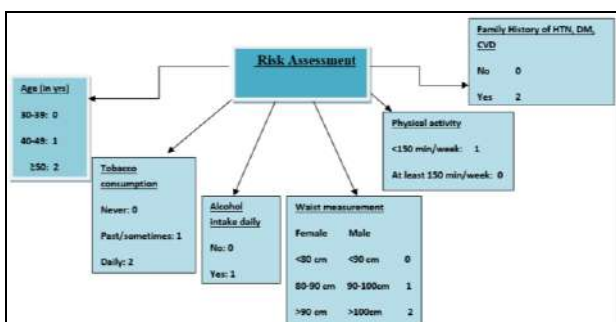
**Methodology**

Present community based cross-sectional study was conducted among individuals attending out-patient department (OPD) in the Urban Health and Training Centre, Trikuta nagar area, District Jammu which is the urban field practice area of Department of Community Medicine, GMC Jammu, J&K. Area trikuta nagar consists of sectors 1 to 9 and extension with population of 20245 (Jammu Municipal Corporation 2014) and 12 scattered urban slums are under the centre with urban slum population of 580 (survey) making a total population of 20825.

After taking ethical clearance, patients over 30 years of age, presenting with any complaint in the general OPD were screened for NCD risk factors, namely- Age, Tobacco consumption, Alcohol intake, Waist measurement, Physical inactivity and Family history (Fig.1). An individual score of each variable was given, ranging from 0 to 2. This Community based assessment checklist was obtained from: Operational Guidelines on Prevention, Screening and Control of common Non Communicable diseases: Hypertension, Diabetes and common cancers (part of comprehensive primary health care) [10].

**Total patients screened: 266**

1. **Study duration:** 1<sup>st</sup> May 2019 to 30<sup>th</sup> October 2019 (6 months).



**Fig 1:** Risk score (Community Based Assessment Checklist)

Total score of the risk factors was calculated, wherein a score of above 4 indicates that the person may be at risk for these NCDs and needs to be prioritised.

Individuals below 30 years of age and pregnant women were excluded from the study.

**Results**

The study reveals that predominant gender was males (64%). Maximum individuals belonged to Hindu (76%),

next was Sikh (18%). Only 6% of the study participants were Muslims.

Maximum individuals were over 50 years of age- 64.66 %. Majority of the participants never consumed tobacco in any form.

Only 11% of the individuals consume alcohol daily.

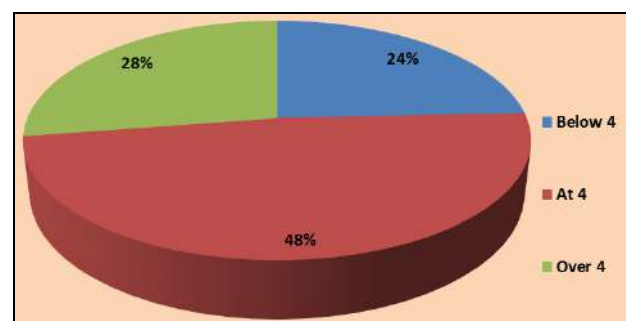
More than half of the study participants were physically inactive (performed <150 min of activity in a week). Also, nearly half of the individuals have a family history of NCDs.

**Table 1:** Demographic characteristics

Variable	N (%)
<b>Gender</b>	
Male	145(64%)
Female	121(36%)
<b>Religion</b>	
Hindu	202(76%)
Muslim	17(6%)
Sikh	47(18%)
Others	0(0)

**Table 2:** Community based assessment checklist (CBAC)

Question	Range	N (%)	
Age	30-39	40(15.03%)	
	40-49	54(20.30%)	
	≥50	72(64.66%)	
Tobacco	Never Used to consume in the past/sometimes now	29(86.09%)	
	Daily	9(3.38%)	
	Alcohol daily	Never	36(88.72%)
	Yes	0(11.27%)	
Waist measurement	Female <80cm	Male <90 cm	00(37.59%)
	80-90 cm		
	>90 cm	>100 cm	70(26.31%)
	Physical activity	<150 min a week	138(51.87%)
At least 150 min a week		128(48.12%)	
Family history	No	135(50.75%)	
	Yes	31(49.24%)	



**Fig 2:** Risk score of the individuals

**Discussion**

It is a well-established fact that the risk factors prevalent today culminate into diseases tomorrow. Identifying these risk factors in community forms the central point in the surveillance system considering lag time that exists between the exposure and development of the disease. So, public health strategies should be aimed at identifying risk factors in populations, and the profile of risk factors should be known to the health establishments so that a targeted approach can be undertaken to modify and hence decrease the burden of disease in the population.

Our study presents the Community based assessment checklist for Non Communicable Diseases in urban area. This is among the first

sites to use a comprehensive approach to assess NCD risk profile at the community level.

In our study, tobacco consumption was 10.5% which is less as compared to that reported by others<sup>[11]</sup>. This can be attributed to the fact that our area comprises of a population that is comparatively educated and well read. Individuals, especially belonging to a higher age group constitute mainly those who are retired from service. The results of alcohol consumption among the respondents was 11.27% which is less compared to that reported by some studies<sup>[12, 13]</sup>. However, a few reported comparatively similar results of 16% alcohol consumption among the individuals<sup>[14]</sup>.

Physical inactivity was almost 52%, in line with the findings of other studies<sup>[13, 15]</sup>. Lack of physical activity could be mainly due to the fact that with progressing age, especially after 30, individuals are less inclined towards maintaining a body image, as some are engrossed in their jobs while some in household chores, becoming like a machine programmed to attend duty hours and fulfilling the 'responsibilities' while they don't give much of an importance to fuelling this machine by performing physical activities to remain fit. Higher waist circumference in our study was 36% in line with that reported by other studies<sup>[14, 8]</sup>.

#### Strength

- This is a novel study that collectively examined risk factors in urban population.
- The checklist used is standardised and validated.

#### Limitation

- Small sample size limits the results of the study to be generalised on the whole population
- The study was carried out among patients over 30 years; presenting to the OPD, it would be highly beneficial if the research is performed at the community, household level only so that generalization of the data can be performed.

#### Conclusion

Proper IEC activities regarding awareness of the ill effects of tobacco and alcohol consumption, benefits of being physically active, to maintain appropriate body weight, need to be undertaken so that the prevalence of risk factors and its progression in the future generations as a disease is curtailed, breaking the cycle of Non communicable diseases.

**Conflict of interest:** None.

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