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Research Article

RISK FACTOR ASSESSMENT OF NON-COMMUNICABLE DISEASES USING COMMUNITY BASED ASSESSMENT CHECKLIST AMONG KASHMIRI ADULT POPULATION

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ABSTRACT

Objective: The Objective of the study was to assess the risk factors of non-communicable diseases (NCDs) using community based assessment checklist (CBAC) form among Kashmiri adults.

Methods: This was a community based cross sectional study conducted in the field practice area of department of community medicine, Government medical college Srinagar over a period of 3 months.

Results: Among the total of 601, 212 (34.7%) were found to have high risk and 398 (65.2%) were found to have low risk. Majority (38.6%) of the high-risk patients were in the age group of 41–50 years. Age, gender and educational level was significantly associated with high-risk participants with a p<0.001. Tobacco consumption, physical inactivity and presence of NCD were significantly higher among high-risk participants.

Conclusion: 34.7% of the study participants were found to have high risk on CBAC assessment. CBAC is a very simple tool that can be used to screen the risk of NCDs in communities by ASHA workers.

Keywords: Kashmiri, CBAC, Non-communicable diseases.

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INTRODUCTION

Non-communicable diseases (NCDs) are lifestyle diseases which do not pass from individual to individual. They progress very slowly and are of long duration in nature. NCDs are broadly categorized as cardiovascular disease, Cancer, diabetes mellitus, chronic respiratory disease [1]. NCDs originate from unhealthy lifestyles and adverse physical and social environments. Well-known risk factors include poverty, poor diets like intake of foods rich in fat, salt and sugar; physical inactivity, consumption of tobacco, smoking, excessive use of alcohol, and stress [2].

NCDs contribute 70% of all deaths globally, mostly being prevalent in low and middle-income countries contributing more than three quarters of global deaths [3]. Among NCDs, the most recent national estimates reveal the prevalence of diabetes and hypertension in India approximately as 6% of men and women suffer from diabetes and 20% to 25% have hypertension [4]. Under the National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases and Stroke Cancer (NPCDCS), the Government of India has already started opportunistic screening of major NCDs, a Community Based Assessment Checklist (CBAC) is used under NPCDCS to identify high-risk people for NCDs [5]. It is based on four modifiable (smoking, alcohol, waist circumference [WC], and physical inactivity) and two non-modifiable (age and family history of blood pressure/DM/heart disease) known risk factors for NCDs. This checklist is extensively used by grassroot health workers [6].

METHODS

Study design

It is a community based cross sectional study.

Study area

The study was conducted in nishat area which comes under the field practice area of department of community medicine Government medical college Srinagar located in block Hazratbal. Nishat area, a town on the eastern outskirts of Srinagar, the summer capital of union territory of Jammu and Kashmir. It consists of 6 wards catering a population of 15118.

Study period

This study was conducted over a period of 3 months from September 2021 to November 2021.

Sample size

Considering a prevalence of 50%, and 5% error a sample size of 400 was calculated which is the minimum sample requirement. Probability Proportionate to size (PPS) was used for selection of wards. A total of 3 wards were selected using PPS. From each selected area, a total of 200 households (1 participant from each household) were selected in four different directions. Each household was visited and after taking a proper consent, a community-based assessment checklist (CBAC) was used to assess the risk of NCDs. This evaluation included all eligible adults aged ≥30 years confirmed by directly viewing a government issued document with the individual's date of birth in all 3 wards. Those with a CBAC score >4 were classified as "high risk". The confidentiality of participants was maintained throughout the study.

Statistical analysis

Data was entered in Microsoft excel 2016 and analysed using SPSS Software. Categorical variables were expressed as frequencies and percentage. Association between the risk of developing NCDs with other associated variables was derived using Chi-square test or Fischer test. Multilogistic regression analysis was done to determine the significant risk factor for Ncds. p<0.05 was considered to be significant.

Ethical clearance

The study was approved by the institutional ethical committee of Government Medical College Srinagar.

Table 1: Sociodemographic characteristics of study participants based on risk assessment

Variable	Total (n=610)	[a]Low risk (398)	[b]High risk (212)	p-value*
Age (years)				
30–40	284	255	29	<0.001
41–50	180	98	82	
51–60	83	30	53	
>60	63	15	48	
Gender				
Female	348	240	108	0.02
Male	262	158	105	
Educational level				
No formal education	13	4	9	0.02
Primary and middle school	194	133	61	
High school and above	403	261	142	

[a]Low risk was defined as CBAC score ≤4 and [b]high risk as CBAC score >4

Table 2: Baseline risk factors screened in study participants

Variables	Total (n=610)	[a]Low risk (398)	[b]High risk (212)	p-value*
Tobacco consumption				
Never	540	389	151	<0.001
Past	45	6	39	
Current	25	3	22	
Physical activity				
150 min in a week	335	239	96	<0.001
<150 min in a week	275	159	116	
Family history of hypertension, diabetes or heart disease				
No	318	281	37	<0.001
Yes	292	117	175	
Waist circumference (cm)	83.2±10.4	79.5±9.6	94.3±15.0	<0.001

Table 3: Multivariable logistic regression analysis of risk assessment among study participants

Variable	Risk assessment		
	Full model	Final model	95% CI
	p-value*	p-value*	
Tobacco consumption	<0.01	<0.01	0.031–0.155
Physical activity	0.05	<0.01	0.137–0.380
Family history of hypertension, diabetes and heart disease	<0.001	<0.01	0.158–0.280
Waist circumference	0.001	<0.01	0.101–0.247

*logistic regression

RESULTS

A total of 610 adults completed the baseline assessment in the present study. Among these, 212 (34.7%) were found to have high risk and 398 (65.2%) were found to have low risk (Figure 1). Majority (38.6%) of the high-risk patients were in the age group of 41–50 years. In our study we found that age, gender and educational level was significantly associated with high risk participants with a p<0.001 (Table 1). Table 2 depicts information regarding baseline risk factors screened among study participants. Tobacco consumption, physical inactivity and presence of NCDs were significantly higher among high risk participants (p<0.05).

On multivariable logistic regression analysis (Table 3), Tobacco consumption, physical inactivity, Family History of Hypertension, Diabetes, heart disease and increased WC were found to be statistically associated with high risk of developing NCDs.

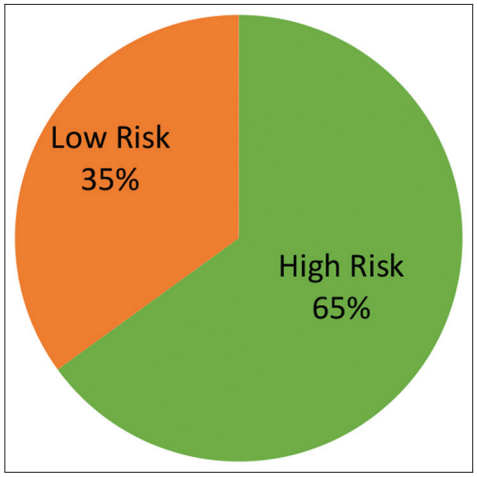

Fig. 1: Pie chart showing risk assessment of study participants

DISCUSSION

There has been an epidemiological transition from communicable diseases to NCDs with CVD as the most common cause of sudden deaths. So, prevention of CVD is an important factor in reducing the overall NCDs related deaths. Early NCD risk detection with the help of CBAC can help in preventing the premature deaths due to NCDs.

In this study there was significant relationship was seen between age, gender, educational status and risk of NCD. These findings are supported by the study conducted in Kathmandu, Nepal by Dhungana *et al.* [7]. Another study conducted in rural areas of north India by Bansal *et al.* also reported same results [8].

This study also showed a strong association of Tobacco consumption, physical activity and family history of NCD with development of NCD. A cross-sectional study in Salem (Premanandh and Shankar) also showed that abdominal obesity and smoking were significantly associated with higher CVD risk [9]. A study was conducted in rural area of Mysuru among 608 individuals aged ≥40 years also concluded that High BMI, abdominal obesity, smoking and alcohol is significantly related to Increasing the risk of CVD [10].

Our study result also showed abdominal obesity (WC) had a higher risk of NCD compared with normal individuals, and was statistically significant (p<0.001). WC which is the measure of the central obesity of an individual is one of the most simpler and practical tool that can be easily used in the community settings. Increase in the abdominal obesity is a risk factor for development of cardio-vascular diseases and it can be used as a predictor for metabolic diseases.

CONCLUSION

CBAC is a very simple tool that can be used to screen the risk of NCDs in communities by ASHA workers. In order to prevent and control NCDs key behavioural risk factors like tobacco consumption, physical inactivity and unhealthy diets need to be targeted. This will further help the stakeholders to plan and implement strategies (targeted interventions) among the recognized high risk population which can further reduce the burden of NCDs.

CONFLICT OF INTEREST

No conflict of interest between authors.

AUTHOR FUNDING

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