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Predicting risk for Non-Communicable Disease (NCDs) using Community Based Assessment Checklist (CBAC) form among Adults of Haryana

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ABSTRACT

NCD are leading cause of premature Deaths worldwide. CBAC (Community Based Assessment Checklist) is a simple means of early identifying risk of NCDs in a community. It seems to be a cost-effective strategy for NCD prevention in developing countries and used by ASHA workers. This questionnaire collect details related to behavioral factors. A total of 168 subjects above 30 years of age were included in this cross sectional study. The study participants were interviewed with the help of a Community Based Assessment Checklist questionnaire. That included demographic variables, behavioral risk factors; physical measurements. The behavioral related risk factors were use of tobacco, alcohol, lack of physical activity and family history of any NCDs. Physical measurements included waist circumference. Near to half (41%) of the respondents were >=50 years. Most of the study subjects were females (70.8%). More than half (57.7%) of study participants had risk of developing any NCDs. Nearly 42.3% of respondents had score less than 4. The risk of NCD was found to be significantly associated with Age, Gender (p=<0.001), level of Education (p=<0.002), alcohol consumption, Waist circumference, and family history of hypertension, Diabetes mellitus and cardiovascular illnesses (p=<0.0001). CBAC Chart should be used by peripheral health workers for early Risk identification of individuals and provide timely services in restricting the number of NCD cases in India.

Keywords
Non-communicable disease, Community Based Assessment Checklist.

Introduction

Non-communicable diseases (NCD) are lifestyle or behavioral related diseases which are not passed from individual to individual. They progress very sluggishly and are of long duration in nature. Non communicable diseases broadly categorized as cardiovascular disease, Cancer, diabetes mellitus, chronic respiratory disease, chronic neurologic disorders, Arthritis.[1]

Most of these NCDs are caused by four modifiable behavioral/lifestyle related risk factors: use of tobacco, unhealthy dietary intake, lack of exercise and consumption of alcohol. NCDs affect both rich and poor families due to which there is increased load on health-care systems. NCDs are mostly prevalent in low and middle-income countries where it contributes more than three quarters of global deaths.[2]

Non communicable diseases contribute 70% of all deaths globally. Every year, NCDs leads to "premature" deaths. Cardiovascular diseases account for most of the NCD deaths, followed cancers, respiratory diseases and diabetes. Timely screening, diagnosis and prompt treatment of NCDs are key components to restrict the incidence of NCDs.[3]

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Rapid urbanization, globalization, adoption of unhealthy lifestyles are the major forces that leads to development of major non-communicable diseases. People with Unhealthy dietary habits and lack of physical activity may present with elevated blood pressure, rise in blood glucose level, hyperlipidemia and obesity. These are termed as metabolic risk factors that can be modified and control if detected early .[4]

Aim

The present study was taken with the objective to estimate risk for Common NCDs among Adults of Haryana by using Community Based Assessment Checklist (CBAC) form.

Definition of variables

Common NCDs: It includes screening of all the women and men above 30 years for increased blood pressure, elevated blood glucose, Oral cancer, Breast cancer and cervical cancer.

Smokers: In present study smokers are defined as the individuals who are active smokers and those who have done smoking in last 1 year before the assessment.

Current drinker: Those who consumed alcohol in the year preceding the Survey but ≤5 (for women ≤4) standard drinks on any occasion.

Insufficient physical activity: Insufficient physical activity can be defined as when a person is not doing more than 30 minutes of moderate activity per day.

Examples of moderate intensity physical activity includes walking briskly, gardening, dancing, swimming, bicycling, volleyball, scrubbing floors, carrying water from river or well, manual grinding or pounding of cereals, manual washing of clothes.

Methods

A cross sectional study was conducted in the village Adhoya of Ambala district. Written informed consent from study participants was obtained prior to the collection of data. Total 168 families were included under the study. Eligible respondent was selected from each of the households. The reference population for the study was adults aged 30 years or above. After three times visit houses found locked were excluded from the study. All patients with established Hypertension, Diabetes mellitus or any other NCDs were excluded from the study. The study participants were interviewed with the help of a Community Based Assessment Checklist questionnaire. That included demographic variables, behavioral risk factors; physical measurements. The behavioral risk factors were intake of tobacco , alcohol, lack of physical activity and family history of any NCDs. Physical measurements included waist circumference.

Community Based Assessment Checklist (CBAC)

The CBAC is designed to early screen, identify and refer the clients at community level for any kind of NCDs. This questionnaire collect details related to behavioral factors. All women and men aged 30 years and above screened with the help of this questionnaire by ASHA workers at community level. Individual whose score is 4 and above are at a risk for developing any NCDs hence those patients should be needed to be prioritized for screening.

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SPSS software package version 19.0 was used for analysis of entered data. The association between the risk factors (alcohol use, physical inactivity, and waist circumference, smoking and family history) and CBAC score was find out with the help of chi-square.

Results (Times New Roman, bold, 12)

Table 1: Characteristics of the study population

N=168

Variables	f (%)
1. Age in years	
30-39	52 (31)
40-49	47 (28)
>.=50	69 (41)
2. Gender	
Male	49 (29.2)
Female	119 (70.8)
3. Level of Education	
Non-Formal education	55 (32.7)
Primary School completed	27(16.1)
Middle school completed	37 (22.0)
High school completed	29 (17.3)
Degree/diploma	20 (11.9)
4. Religion	
Hindu	135(80.4)
Muslim	07(4.2)
Sikh	26 (15.5)
5. Smoking	
Never	135 (80.4)
Past/sometimes	17 (10.1)
Now	16(9.5)
6. Alcohol Use	
Never	143 (85.1)
Current Drinker	25(14.9)
7. Physical Activity	

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Yes (>150 minutes/week)		48(28.6)
No (<150minutes/week)		120 (71.4)
8. Waist circumference (Cm)		
< 80	Females	25 (14.9)
80-90		49(29.2)
>90		45(26.8)
<90	Males	20(11.9)
90-100		20(11.9)
>100		09(5.4)
9. Family History of High blood pressure, Diabetes and heart diseases.		
No		96 (57.1)
Yes		72 (42.9)

Table 1 shows a total of 168 subjects 30 and above 30 years of age were included in the study. Near to half (41%) of the respondents were >=50 years. Most of the study subjects were females (70.8%).The percentage of respondents with no formal education was 32.7%. This was followed by those who had completed middle school (22%). Majority of the study population (80.4%) was Hindu.

Majority of study population never smoked in his/her lifetime. Only 10% of respondents had past history of smoking whereas least (9.5) respondents are current smokers. All the females were lifetime abstainers of smoking. Nearly 15% of the male respondents were current drinker. On the other hand all the female respondents were lifetime abstainers.

Most of the subjects (71.4%) were perform physical activity less than 150 minutes/week. In terms of waist circumference more than one-fourth (26.8%) had waist circumference more than 90 cm. Least number of males (5.4%) had waist circumference >100 cm. Near to half (42.9%) of study samples had family history of High Blood pressure, Diabetes and heart diseases.

Figure 1 shows risk of developing NCD risk in respondents. More than half (57.7%) of study participants had risk of developing any NCDs. Nearly 42.3% of respondents had score less than 4.

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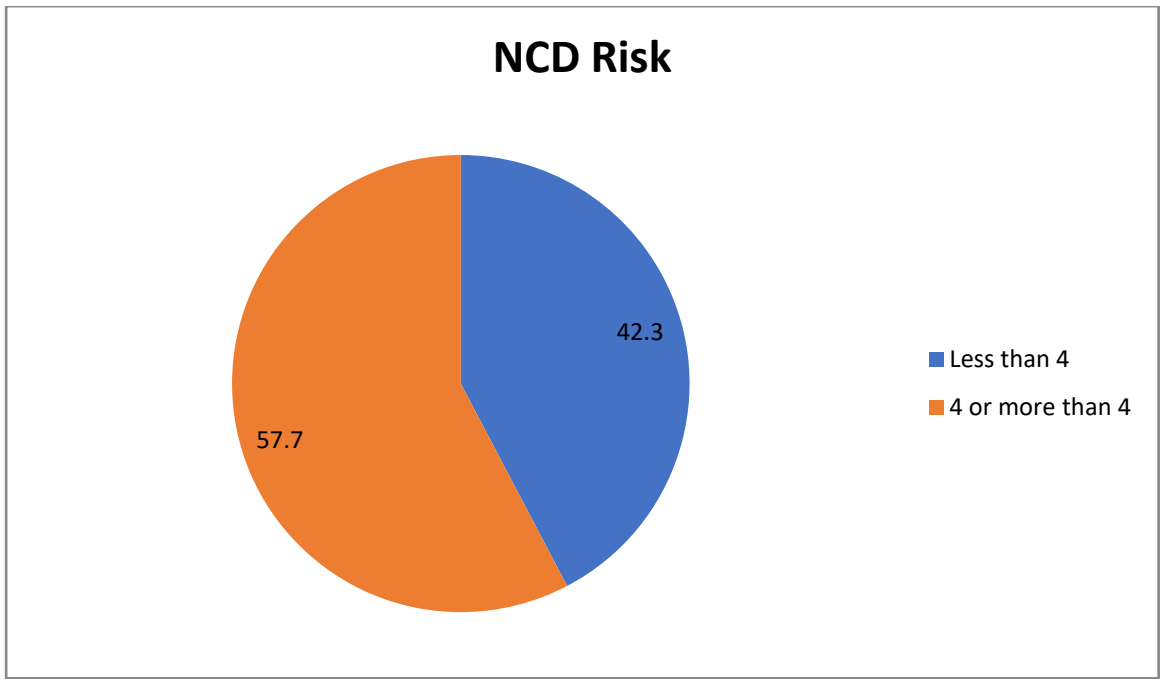

Figure 1: Pie chart showing NCD risk among study participants

Table 2: Chi-square value showing association of NCD with selected variables

N=168

Variables	less than 4 n=71	4 or more than 4 n=97	Chi-square (df) p
1. Age in years			
30-39	35	17	35.2 (2) **0.000**
40-49	25	22	
>=50	11	58	
2. Gender			
Male	11	38	11.1(1) **0.001**
Female	60	59	
3. Level of Education			
Non-Formal education	15	40	17.4 (4) **0.002**
Primary School completed	17	10	
Middle school completed	11	26	
High school completed	15	14	
Degree/diploma	13	07	
4. Smoking			
Never	65	70	10.7 (2) 0.006
Past/sometimes	04	13	

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Now	02	14	
5. Alcohol Use			
Never	69	74	14.1 (1) **0.000**
Current Drinker	02	23	
6. Physical Activity			
Yes (>150 minutes/week)	24	24	1.6 (1) .19
No (<150minutes/week)	47	73	
7. Waist circumference (Cm)			
<80	23	02	49.8 (5) **0.000**
80-90	25	2	
>90	12	33	
<90	10	10	
90-100	01	19	
>100	00	09	
8. Family History of High blood pressure, Diabetes and heart diseases.			
No	68	28	74.9 (1) **0.000**
Yes	03	69	

Table 2 shows that the of NCD was found to be significantly associated with Age, Gender (p=<0.001), level of Education (p=<0.002), alcohol consumption, Waist circumference, and family history of hypertension, Diabetes mellitus and cardiovascular illnesses (p=<0.0001)

Discussions

With the epidemiological transition from communicable diseases to Non-communicable diseases, CVD is a foremost cause of untimely death. Prevention of CVD is an essential component in reducing overall mortality related to NCDs. Detecting risk factors contributing towards NCDs at the earliest along with CBAC is helpful in preventing any unexpected outcome in the future. In the present study there was significant relationship was seen between age and risk of NCD (As age increases risk of NCD also increases). This findings was supported by the study conducted in Kathmandu, Nepal by Dhungana RR et al (2014).[5] This result was also alike with the results of a study conducted in rural areas of north India by Bansal P et al (2016).[6]

Present study result showed abdominal obesity (Waist circumference) had a higher NCD risk compared with normal individuals, and was statistically significant (p=0.0000).Waist circumference (WC) was to measure the central obesity of an individual. It is one of the most simpler and practical tool to be used in community settings. Increased abdominal obesity is strongly connected with the development of cardio-vascular diseases and in future it can be used as a predictor for metabolic diseases. In present study Alcohol consumption was also a strong risk

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factor associated with NCD. A cross-sectional study in Salem (Premanandh K, Shankar R (2018)) also showed that abdominal obesity and alcohol consumption were significantly associated with higher CVD risk.[7] 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.[8]

Conclusion

CBAC is a very simple tool that can be used to screen the risk of NCDs in communities by ASHA workers. This will further help the stakeholders to plan and implement strategies (targeted interventions) among the recognized high risk population which can further restrict the burden of NCDs.

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References

1. [Internet]. Cdc.gov. 2020 [cited 17 September 2020]. Available from: https://www.cdc.gov/globalhealth/healthprotection/fetp/training_modules/new-8/overview-of-ncds_ppt_qa-revcom_09112013.pdf
2. Noncommunicable diseases [Internet]. Searo.who.int. 2020 [cited 17 September 2020]. Available from: http://www.searo.who.int/entity/noncommunicable_diseases/en/
3. Non communicable diseases [Internet]. Who.int. 2020 [cited 17 September 2020]. Available from: http://www.who.int/mediacentre/factsheets/fs355/en/
4. Global status report on noncommunicable diseases 2010 [Internet]. World Health Organization. 2020 [cited 17 September 2020]. Available from: https://www.who.int/nmh/publications/ncd_report2010/en/
5. Dhungana RR, Khanal MK, Pandey AR, Thapa P,Devkota S,Mumu SJ et al . Assessment of Short Term Cardiovascular Risk Among 40 Years and Above Population in a Selected Community of Kathmandu, Nepal. Journal of Nepal Health Research Council. 2015 Jan - Apr;13(29): 66-72.
6. Bansal P, Chaudhary A, Wander P, Satija M, Sharma S, Girdhar S et al. Cardiovascular Risk Assessment Using WHO/ISH Risk Prediction Charts In a Rural Area of North India. Journal of Research in Medical and Dental Science. 2016;4(2):127.

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Received 25 April 2021; Accepted 08 May 2021.

7. Premanandh K, Shankar R. Predicting 10-year cardiovascular risk using WHO/ISH risk prediction chart among urban population in Salem. Int J Community Med Public Health 2018;5:5228-34.
8. Kadiyala P, Renuka M, Kulkarni P, Narayanamurthy M. Prevalence of risk factors and 10 year risk estimation of cardiovascular diseases among rural population of Mysuru, Karnataka. International Journal Of Community Medicine And Public Health. 2019;6(3):1178.