Original Research Article

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Assessment of risk factors of non-communicable diseases among healthcare workers in Nelamangala: a cross sectional study

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ABSTRACT

Background: India is facing a new challenge of epidemiological health transition where the disease spectrum has changed from communicable diseases to non-communicable diseases. Diabetes mellitus, hypertension, stroke and cardiovascular diseases have emerged as major public health problems. Health care workers considered as mentors to general public are becoming victims to these life style disorders. Hence this study was conducted to assess the risk factors of non-communicable diseases among health care workers.

Methods: A cross sectional study was carried out for a period of 2 months- October to November 2016 among 120 health care workers working under the primary health centre's of Nelamangala. Data was collected by interview method using NCD's risk factors survey India questionnaire.

Results: Among 120 study subjects, males were 14 (11.7%) and females were 106 (88.3%). The mean age of study subjects was 39.19 (8.62). Anganwadi workers were 57 (47.50%), 35 (29.10%) were ASHA workers, 8 (6.60%) were senior health assistants and 20 (16.66%) were junior health assistants. Among these 11 (9.2%) had hypertension. 75 (62.5%) had abnormal waist-hip ratio. 33.3% were overweight and 8.3% were obese.

Conclusions: There was an association between physical activity and development of risk factors of NCD's. Most of them are exposed to second hand smoke i.e. passive smoking. Improved literacy status and creation of awareness about the risk factors and sedentary lifestyle among the health care professionals can protect them for Non communicable diseases.

Keywords: Non communicable diseases, Health care workers, Health transition

INTRODUCTION

Every country should have a healthy society to have growth and development. But the sociodemographic transition has led to altered health behaviour and health profile of people in developing countries. This in turn has resulted in epidemiological health transition with shift of disease spectrum from communicable to non-communicable diseases. These are considered to be the chronic condition without any infectious etiology which develop over relatively longer periods of time and ultimately leading to death.²

According to WHO, risk factor is defined as any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury. Most of the NCD's such as Diabetes mellitus, Hypertension, stroke, cardiovascular disease share common and preventable risk factors such as tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol, which may result in overweight, obesity, raised blood pressure and blood glucose.³ These physiological changes are considered to be the precursors for the development of non-communicable diseases. According to WHO's global status report on NCD's – 2014 on India,

Non communicable diseases (NCDs) contribute to around 5.87 million deaths that account for 60% of all deaths in India.⁴

In the past NCD's were considered as diseases of rich with high prevalence in developed countries but now they are on significant rise in low and middle income countries probably due to the effect of increased life expectancy and urbanization leading to sedentary lifestyle and unhealthy food habits.⁵

Health care workers are those, who are engaged in actions within the community with a primary intent of enhancing health. They are considered to be the mentors of health of general public. These workers create awareness within the community by imparting health education which is considered the most powerful tool to bring behaviour change among the people. But unfortunately they sacrifice their own health for the well being of people by getting exposed to various hazards at work place, unhealthy working conditions and not giving much attention to self care. They are also exposed to high risk of these life style disorders. Hence this study was conducted to assess the prevalence of risk factors for noncommunicable diseases among the health care workers.

METHODS

A cross sectional study was conducted for a period of 2 months October to November 2016. Study subjects were health care workers such as Anganwadi workers, ASHA workers, and health assistants working in the PHC's of Nelamangala those who gave consent to the study and were present on the day of data collection. Those who had diabetes and hypertension were excluded from the study. Sample size was estimated to be 120 by considering the prevalence of pre hypertension as 46% among working population according to study done on prevalence of risk factors for NCD's by Sandhu et al.¹ Multi stage random sampling method was used where out of the 10 PHC's of Nelamangala 5 were selected randomly and health care workers among these were selected by probability proportionate sampling method. Data was collected by interview method by using prevalidated and tested NCD's risk factor survey India questionnaire. Ethical approval was taken by the institution. Confidentiality was maintained. Measurements such as height, waist and hip circumference were done using a non-stretchable measuring tape. Blood pressure was recorded by using mercury sphygmomanometer. It was recorded for three times with a gap of 5 minutes between the recordings. The average of the three readings was taken as final blood pressure value.

Data was entered in excel sheet and analysis was done by SPSS software version 23. Findings were expressed using descriptive statistics in terms of percentages and proportions. Inferential statistics were used wherever required.

RESULTS

The mean age of study participants was 39.19 (8.62) with majority of them were in the age group of 31-40 years. About 14 (11.7%) were male and 106 (88.3%) were female participants. 80% (96) had secondary education followed by diploma 10.8% (13) and graduate 9.1% (11). Majority of study participants were Anganwadi workers accounting for 47.50% (57), ASHA workers- 29.20% (35), junior health assistants – 16.70% (20) and senior health assistants – 6.60% (8). The risk of passive smoking both in home and at work place was 52.50% (63). 58 (48.3%) of the study subjects had walking as a regular physical activity.

Table 1: Age and sex wise distribution of study participants.

Age in years	Male (%)	Female (%)	Total
21-30	3 (17.6)	14 (82.4)	17
31-40	6 (10.5)	51 (89.5)	57
41-50	3 (10.3)	26 (89.7)	29
51-60	2 (11.8)	15 (88.2)	17
Total	14 (11.7)	106 (88.3)	120

Table 2: Distribution of study participants according to literacy status.

Education status	Number (%)	
Secondary education	96 (80)	
Diploma	13 (10.8)	
Graduate	11 (9.1)	
Total	120	

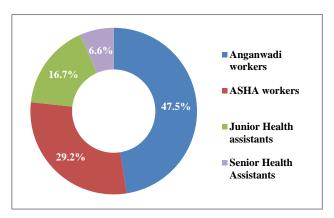
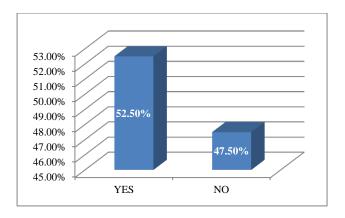


Figure 1: Distribution of study participants according to occupation.

11 (9.2%) of the study participants had hypertension and 75 (62.5%) had abnormal waist-hip ratio. 33.3% were overweight, 8.3% obese and 7% were underweight.

Pearson correlation test showed significant correlations between weight and blood pressure, waist circumference and BMI and blood pressure and BMI.



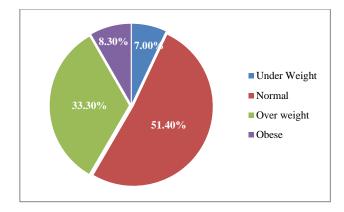


Figure 2: Study participants exposed to passive smoking.

Figure 3: BMI among study participants.

Table 3: Prevalence of hypertension and abnormal waist-hip ratio in study participants.

		Number (n=120)	Percentage (%)
Blood pressure	Normal	109	90.8
	Abnormal	11	9.2
Waist-hip ratio	Normal	45	37.5
	Abnormal	75	62.5

Table 4: Pearson correlation between variables.

Variable	Weight	Waist circumference	Systolic blood pressure	Diastolic blood pressure	BMI
Height	0.219*	-0.058	-0.012	-0.134	-0.109
Weight		0.355*	0.214*	0.160*	0.696*
Waist circumference			0.210*	0.111	0.414*
Systolic B P				0.615*	0.220*
Diastolic B P					0.232*

P<0.05*

DISCUSSION

Non-communicable diseases are also termed as life style disorders which share common risk factors such as physical inactivity, harmful consumption of alcohol and tobacco and unhealthy diet. In our study we found that 52.50% of the health care workers were exposed to second hand smoke which is almost similar to a study on overview of tobacco problem in India by Mishra et al. The intake of fruits and vegetables was found to be 65% and 95% respectively as 2 servings per day which is considered to be low consumption, similar to the results found in the study done by Sandeep et al on challenges and opportunities on increasing fruits and vegetables consumption. Low intake of fruits and vegetables has a pivotal role in development of NCD's.

In this study, following the screening activity for hypertension, 11 (9.2%) health care workers had blood pressure on the higher side, In a study by Kumar et al showed the prevalence of hypertension was 5.6% among nurses, which is considered to be comparatively low probably the reason is increased awareness of risk factors

among the nursing staff of a hospital compared to peripheral health care workers.⁹

In the present study, the prevalence of abnormal waisthip ratio was 62.5% and obesity was 8.3%. In a study done by Shantanu et al in health professionals 52% had abnormal waist-hip ratio and 12% were found to be obese. ¹⁰

CONCLUSION

The present study showed that health care workers are at risk of developing Non-communicable diseases. Hence there is a need to create awareness among the workers about the importance of physical activity and dietary modification. Surveillance of risk factors for NCD's and conduction of regular screening and awareness programs among health care workers for hypertension, diabetes, obesity and cancer can prevent and control the development of Non communicable diseases. Programs to motivate the health care workers to adopt the healthy life style and diet remains the best approach to overcome the burden of non-communicable diseases among them.

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Institutional Ethics Committee

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