



PREVALENCE OF RISK FACTORS FOR NON-COMMUNICABLE DISEASES AMONG NURSES IN A TERTIARY CARE INSTITUTE OF SOLAN, HIMACHAL PRADESH

Community Medicine

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ABSTRACT

Background: Greater understanding about the lifestyle choices for clinical nurses may improve existing hospital-based programs and/or create desirable services for NCDs. This study was conducted with an aim to find out the prevalence of NCD risk factor in staff nurses. **Methodology:** This study was conducted in a tertiary care institute of Himachal Pradesh. All the nurses were included in this cross sectional study. Interview schedule was conducted with prior consent of nurses. **Results:** The results of present study revealed the prevalence of current tobacco and alcohol use was 0.5% and 13% respectively. None of the subjects were found to be obese. **Discussion and Conclusion:** The findings also highlight that for NCDs preventive interventions to be effective, public health authorities and other relevant stakeholders must exercise targeting in their planning and implementation of health promotion programs.

KEYWORDS

Non communicable diseases, Prevalence, Nurses.

Introduction

“Modernization” that contributes to the rise of these diseases is being accompanied by a growing need for chronic care. In reality the net gain of the benefits of modernization and economic growth are nullified out by the costs of care, lost productivity, and premature death, of a preventable disease and also leads to disruption of social fiber of the society.¹

The nurse as a health promoter is a professional specialized in maintaining and improving the populations' health. Some health promotion competencies are necessary for this professional, so that his/her activities can become efficiently and effectively operational. Such competencies represent a common base for all the health promoters' roles²

Most of India's nurses work in private hospitals, which are largely unregulated and do not follow the norm of having nurse-patient ratios of one to every four. Nurses work nine- to 14-hour days, often doing double shifts.³

One of the recent studies regarding NCD and its risk factors among nurses in a medical college hospital in Tamil Nadu, India, revealed prevalence of Diabetes mellitus, Hypertension, overweight and obesity to be 5.6%, 13.7%, 12.9% and 3.2% respectively.⁴

Hospitals often promote healthy lifestyles, but little is known about nurses' actual diet and physical activity. Greater understanding about these lifestyle choices for clinical nurses may improve existing hospital-based programs and/or create desirable services. Researchers have demonstrated, however, that knowledge about this area does not necessarily transfer to nurses' own lifestyle behaviors.⁵ Healthy lifestyle behaviors can encompass many factors that promote wellness. Nurses working full time spend most of their lives in the workplace which makes it important to identify factors in the work environment that affect healthy lifestyle behaviors.

Aims & objectives

To determine the prevalence of NCDs (Cancer, Diabetes, Cardiovascular diseases, and Stroke) and its risk factors among the among nurses in a tertiary care institute of Solan, Himachal Pradesh

Materials and methods

Study area: The study was conducted in a tertiary care institute, Maharishi Markandeshwar Medical College & Hospital, Kumarhatti, Solan for the purpose of teaching, training and research activities for medical undergraduates.

Sample size: The Maharishi Markandeshwar Medical College & Hospital is a tertiary referral institute with 650 teaching beds. All departments cater for in-patients and out-patients. The institute caters around 350 nurses in various departments. Nurses from all

departments were interviewed.

Exclusion criteria: Those who were not willing to give informed consent.

Study design: The study was an observational study with cross-sectional design (analytical study).

Study period: The study was carried out for 3 months (July-September 2017)

Study population: Nurses from all departments, such as surgery, medicine, and gynecology, were interviewed.

Data collection: Data were collected on pre-designed, pre-tested and semi structured schedule by the interview technique by the investigator himself. Definitions of various parameters like BMI (Body Mass Index), GPAQ (Global Physical Activity Questionnaire) were taken from IDSP NCD survey.⁶ (Annexure I)

Written and informed consent was taken from all the subjects before initiating the interview. The confidentiality of the information was assured. Health education talks regarding NCD risk factors and its awareness was conducted. Ethical approval was taken from Institutional Ethics Committee.

Data analysis

Collected data was entered in the excel, coded appropriately and later cleaned for any possible errors. Analysis was carried out using SPSS (Statistical Package for Social Studies) for Windows version 20.0 and online Graph Pad software (Prism 5 for Windows) version 5.01. During data cleaning, more variables were created so as to facilitate association of variables. Clear values for various outcomes were determined before running frequency tests.

Categorical data were presented as percentages (%). Pearson's chi square test was used to evaluate differences between groups for categorized variables.

Normally distributed data were presented as means and standard deviation, or 95% confidence intervals (CI). Student's T test for independent samples were used for comparison between quantitative variables. All tests were performed at a 5% level of significance, thus an association was significant if the p value was less than 0.05.

Study instruments: Electronic weighing machine, Measuring tape, Electronic B.P. instrument.

Results

The study involved 200 nurses of tertiary health care institute in Himachal Pradesh divided in to two age groups of ≥ 25 and < 25 years.

Table 1 depicts the demographic profile of the study participants. Majority of study subjects (99%) were female and two third of subjects (66.5%) were unmarried. Table 1 also reveals that nursing profession is dominated by rural folks as more than half (64%) subjects belonged to the rural area and caste wise distribution shows majority of subjects belonged to prestige caste (44.5%) followed by dominant cast (25%).

Table 1: Demographic profile of the study subjects (N=200)

Determinants	Frequency (n)		%age
	< 25 years	≥ 25 years	
Age	< 25 years	98	49.0
	≥ 25 years	102	51.0
	Total	200	100.0
Gender	Female	198	99.0
	Male	2	1.0
	Total	200	100
Marital status	Married	67	33.5
	Unmarried	133	66.5
	Total	200	100.0
Residence	Rural	128	64.0
	Urban	72	36.0
	Total	200	100.0
Caste	Schedule caste	24	12.0
	Lower caste	24	12.0
	Artisan caste	4	2.0
	Agriculture caste	6	3.0
	Prestige caste	89	44.5
	Dominant caste	53	26.5
	Total	200	100.0

Table 2: Prevalence of tobacco and alcohol use among study participants by age group

Age group	Current Tobacco use	Ever Tobacco use	Current Alcohol use	Ever Alcohol use
< 25 years	0/98 (0%)	1/98 (1.02%)	10/98 (10.20%)	15/98 (15.31%)
≥ 25 years	1/102 (0.98%)	4/102 (3.92%)	16/102 (15.69%)	5/102 (34.31%)
Total	1/200 (0.5%)	5/200 (2.5%)	26/200 (13.0%)	50/200 (25%)
P value	0.326	0.189	0.249	0.002

Prevalence of tobacco and alcohol use by age group is depicted in Table 2. Ever tobacco and alcohol use was found to be 2.5% and 25% respectively which was on the higher side than current tobacco (0.5%) and alcohol (13%) use. Statistically significant difference ($p=0.002$) between < 25 years (15.31%) and ≥ 25 years (34.31%) age group was seen for ever alcohol use.

Table 3: Prevalence of inadequate fruit and vegetable intake and sedentary physical activity (by GPAQ criteria) among study participants by age group

Age group	Inadequate fruit and vegetable intake (< 5 servings)	Sedentary activity
< 25 years	96/98 (97.95%)	22/98 (22.22%)
≥ 25 years	86/102 (84.31%)	38/102 (37.25%)
Total	182/200 (91.0%)	60/200 (30.0%)
P value	0.001	0.022

Inadequate fruit and vegetable intake (< 5 servings) was found in 91% of the study subjects and was higher in ≥ 25 years (84.31%) than < 25 years (97.95%) age group. Prevalence of Sedentary activity was higher in ≥ 25 years (37.25%) than < 25 years (22.22%) age group and the difference was found to be statistically significant ($p=0.022$).

Table 4. Prevalence of hypertension, overweight and obesity among study participants by age group

Age group	Hypertension	Overweight	Obese
< 25 years	5/98 (5.10%)	1/98 (1.02%)	0/98 (0%)
≥ 25 years	16/102 (15.69%)	3/102 (2.94%)	0/102 (0%)
Total	21/200 (10.5%)	4/200 (2.0%)	0/200 (0%)
P value	0.015	0.198	-

The prevalence of obesity and overweight in study subjects is depicted in the table 4. Only a small percentage 2.94% and 1.02% subjects in the ≥ 25 year age group and < 25 year age group respectively were found to

be overweight. None of the study subjects in either age group was found to be obese. Whereas prevalence of hypertension was found to be 10.5% among the study subjects and the difference was found to be statistically significant among both the age groups.

Discussion

Non communicable diseases and their associated risks factors have emerged rapidly and are becoming a major public health challenge worldwide and are the major contributor to the burden of diseases in developed countries and are increasing rapidly in developing countries. Health personnel should be looked upon as pioneers in reducing the risk factors of NCD and the prevalence of these risk factors should be at a very negligible level in them.

Present study was carried out to investigate the prevalence of lifestyle associated risk factors for non-communicable diseases among the nurses in tertiary care institution in Himachal Pradesh. The results of present study revealed the prevalence of current tobacco and alcohol use was 0.5% and 13% respectively which is on the lower side as compared to study conducted by Sharma et al in Delhi (Current tobacco: 12.5% and alcohol: 50%). This difference may be attributed to culture difference in urban metropolitan city of Delhi and rural area of Himachal Pradesh. Similar results regarding current smoking was found in studies from South India conducted by Mony PK et al^{8,9} with prevalence of 0% and 0.8%. Hypertension was found to be present in nearly 11% of the nurses which is coherent with studies by Hedge¹⁰ et al (13.7%) and Sharma⁷ et al (10%).

None of the subjects were found to be obese in our study which is attributed to hilly terrain and physical activities of people in Himachal Pradesh whereas 3.2% of nurses were found to be obese in study by Hedge et al.¹⁰ The need for reduction of risk factors for NCDs should start within the health workforce itself. According to the results of this study, it appeared highly imperative that multidisciplinary healthcare professionals must address NCDs risk factors in their daily clinical practice at all levels. The findings also highlight that for NCDs preventive interventions to be effective, public health authorities and other relevant stakeholders must exercise targeting in their planning and implementation of health promotion programs.

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Conflicts of interest: Nil

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