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Community Medicine

PREVALENCE OF TOBACCO CONSUMPTION AMONG MILITARY POPULATION : A MULTICENTRIC STUDY

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ABSTRACT

Background: It was keeping in view the importance of tobacco consumption due to its role as a modifiable risk factor in various diseases, coupled with the lack of studies which have been done in this area, in the Armed Forces that the present study was taken.

Materials And Methods

A cross-sectional study was conducted among service personnel across various training centres to determine prevalence of tobacco consumption. The study population comprises of recruits, recruits who passed out on completion of their training and service personnel who report to the training for their pension documentation, prior to proceeding on pension.

Minimum sample size worked out on the basis of WHO guidelines was calculated as 354. In fact, an even higher sample of 913 wasactually studied to further increase the precision of the study.

The data was collected using "personal interview technique".The data was analysed using standard statistical methods.

Results: The overall prevalence of currently using tobacco in any form is 20.81% (95% CI :18%-23%).Prevalence of current smokers increased from younger age group to older age group. Difference was statistically significant.

All subjects in all the three study strata could name at least one or two harmful effects of tobacco consumption. The commonest reason for smoking across all strata was to relax and get over the stress, wherein 175 (92.10%) out of 190 current smokers gave this reason.

Discussion: The increased prevalence of smoking with age as observed in our study could be because military culture facilitates smoking; increase in rank and consequent increase in pay and allowances with age; stress of military life, coupled with the stress of prolonged separation from family during field tenures.

Recommendations: The workers would like to recommend that more such studies be carried out across the country. Keeping in view the harmful effects of tobacco in any form, extensive health education should be carried out at all levels.

KEYWORDS :

INTRODUCTION

Despite being legal world over, tobacco causes far more deaths than all other psychoactive substances combined. Tobacco smoking accounts for around 3 million premature deaths every year.Approximately 30 per cent of all cancer deaths in developed countries are due to tobacco. More deaths occur due to tobacco related diseases other than cancer such as stroke, myocardial infarction, aortic aneurysm and peptic ulcer.[1]

There exists research on prevalence of e-cigarette smoking and prevalence of exposure to e-cigarette advertisements.[2,3] However, despite extensive search for literature on medline, the workers observed that there was very little work done on actual prevalence of tobacco consumption in the general population and military population. Besides, there seem to be gaps in the scientific knowledge about tobacco consumption practices among Armed Forces personnel in our country, which need to be studied. It was keeping in view the importance of tobacco consumption due to its role as a modifiable risk factor in various diseases, coupled with the lack of studies which have been done in this area,in the Armed Forces that the present study was taken.

Materials And Methods

General settings and research design :

A cross-sectional study was conducted among service personnel across various training centres to determine prevalence of tobacco consumption.[4] The study population comprises of recruits, recruits who passed out on completion of their training and service personnel who report to the training for their pension documentation, prior to proceeding on pension.

Sample size and sampling technique:

The sample size was calculated to estimate 95% Confidence Interval for prevalence of tobacco consumption with 5% absolute precision. Earlier studies carried out in this field indicated that the prevalence of tobacco consumption among military population varies from 30% to 33%.[5,6] The minimum sample size is calculated to be 354 assuming the prevalence to be 33%. However 913 service personnel were included in the study. The study subjects were selected using stratified random sampling, 429, 200 and 284 service personnel were selected from three strata namely recruits (Stratum1), recruits who passed out on completion of their training (Stratum2) and service personnel who report to the training centre for their pension documentation, prior to proceeding on pension (Stratum3) respectively.

Instruments and techniques :

A questionnaire tool was developed using available literature and taking advice from the experts in the field. The tool was pretested by conducting a pilot study and suitably modified based on the findings of the pilot study. The data was collected using this tool from the subjects included in the study using "personal interview technique".The data was analysed using standard statistical methods.[8]

RESULTS

913 service personnel were included in the study. The age distribution of study subjects in each stratum is tabulated in Table 1. The mean age (Standard deviation) of the study subjects in the first, second, third stratum and overall was 31.78 yrs, (12.76), 41.98 yrs (4.49), 49.03 yrs (7.29) and 18.33 (11.53) respectively. In the first, second and third stratumand

overall 57, 40 and 90 and 190 were currently using tobacco in any form respectively. The overall prevalence of currently using tobacco in any form is 20.81% (95% CI :18% - 23%) Out of 190 current users of tobacco in any form 150 (78.95%) were using tobacco daily and similarly 50, 39 and 61were using tobacco daily in the first, second and third stratum respectively.

Table 1: Age distribution of each stratum

Age group	First stratum numbers (%)	Second stratum numbers (%)	Third stratum numbers (%)	Total
<20	32 (07.45)	05 (02.50)	07 (02.45)	44 (04.81)
20-25	78 (18.18)	45 (22.50)	60 (21.12)	183 (20.04)
25-30	01 (00.20)	01 (00.50)	00 (00.00)	02 (00.21)
30-35	05 (01.16)	01 (00.50)	02 (00.70)	08 (00.87)
35-40	75 (17.48)	40 (20.00)	45 (15.84)	160 (17.52)
40-45	59 (13.75)	28 (14.00)	38 (13.38)	125 (13.69)
45-50	85 (19.81)	51 (25.50)	70 (24.64)	206 (22.56)
50-55	52 (12.12)	16 (08.00)	26 (09.15)	94 (10.29)
>55	42 (09.70)	13 (06.50)	36 (12.67)	91 (09.93)
Total	429 (100.00)	200 (100.00)	284 (100.00)	913 (100.00)

Note: In the 2nd, 3rd and 4th columns the percentages are calculated based on the total number of study participants in each stratum. In the last column the percentages are calculated based on total number of study participants including all the three strata.

Table 2, shows the number of years of tobacco use which consists smoking cigarettes/bidis per day in each stratum; and overall, mean (SD) of number of years of tobacco use was 5.8 years (2.12).

Table 2 : Number of years of tobacco use

Number of years of smoking	First stratum numbers (%)	Second stratum numbers (%)	Third stratum numbers (%)	Total
< 1	11 (22.00)	07 (17.95)	03 (04.92)	21 (14.00)
1-5	10 (20.00)	11 (28.20)	08 (13.11)	29 (19.33)
5-10	10 (20.00)	07 (17.95)	09 (14.75)	26 (17.33)
>10	19 (38.00)	14 (35.90)	41 (67.21)	74 (49.33)
Total	50 (100.00)	39 (100.00)	61 (100.00)	150 (100.00)

Note: In the 2nd, 3rd and 4th columns the percentages are calculated based on the total number of current daily smokers in each stratum. In the last column the percentages are calculated based on total number of current daily smokers including all the three strata.

Table 3, shows the number of cigarettes/bidis smoked per day in each stratum and overall, mean (SD) of number of cigarettes/bidis smoked per day was 3.69 (1.29)

Table 3: Quantum of smoking cigarettes/bidis per day

Number of cigarettes/bidis smoked per day	First stratum numbers (%)	Second stratum numbers (%)	Third stratum numbers (%)	Total
< 5	33 (66.00)	23 (58.97)	24 (39.34)	80 (53.33)
5-10	10 (20.00)	10 (25.64)	22 (36.07)	42 (28.00)
10-20	02 (04.00)	03 (7.69)	14 (22.95)	19 (12.67)
>20	05 (10.00)	03 (07.69)	01 (01.634	09 (06.00)
Total	57 (100.00)	39 (100.00)	61 (100.00)	150 (100.00)

Note: In the 2nd, 3rd and 4th columns the percentages are calculated based on the total number of current daily smokers in each stratum. In the last column the percentages are calculated based on total number of current daily smokers including all the three strata.

Table 4, shows age group wise prevalence of current smokers. Prevalence of current smokers significantly increased from younger age group to older age group except age groups 25-30 yrs and 45-50 yrs (p-value-0.00005).

Chi square = 44.346, p<0.05

Table 4 Prevalence of current smokers in each age group

.Age group	Current smokers	Prevalence	Total
<20	0	0.00	44
20-25	25	13.66	183
25-30	0	0.00	2
30-35	2	25.00	8
35-40	38	23.75	160
40-45	33	26.40	125
45-50	30	14.56	206
50-55	33	35.11	94
>55	29	31.87	91
Total	190	20.81	913

Note: Study participants of all the three strata have been clubbed together for the purpose of this analysis.

All subjects in all the three study strata could name at least one or two harmful effects of tobacco consumption. The commonest sources of information across all strata was television/radio, 520 (56.95%), followed by 297 (32.63%), Regimental Medical Officer/hospital, friend/relative 195 (21.35%), and internet 183 (20.04%). In the first stratum 265 (61.77%) reported the source of information as television/radio, followed by friend/relative 112 (26.10). In the second stratum the commonest source of information as reported by the study subjects was Regimental Medical Officer/hospital with 140 (70%) followed by internet 125 (62.5%). In the third stratum the commonest source of information was the same as the second stratum, with the figures being 212 (74.64%) for Regimental Medical Officer/hospital and 195 (68.66%) for internet. Average amount spent on tobacco consumption per month across all strata was Rs 470.38 (1.79% of monthly salary). Average amount spent on tobacco consumption per month by each stratum and average percentage of monthly salary spent on tobacco consumption is presented in Table 5. The commonest reason for smoking across all strata was to relax and get over the stress, wherein 175 (92.10%) out of 190 current smokers gave this reason.

Table 5: Average amount spent on tobacco consumption per month (Percentage of monthly salary spent on tobacco consumption)

Average amount (Rs) spent on tobacco consumption per month (Percentage of monthly salary spent on tobacco consumption)		
First stratum	Second stratum	Third stratum
413.5 (1.74)	422.8 (2.35)	601.1 (1.46)

DISCUSSION

Melissa AL, Zoran B, Karen JD, Jon OE, Gerald WT, Ann Hryshko-Mullen et al reported tobacco use by 27.1% of US Air Force trainees.[9] Arlene de MP and Isabela MB in their study carried out on 473 students in a Police Academy observed a frequency of smoking of 6.5%.[10] The results of this study differs from our present study wherein 13.29% of fresh recruits were current smokers. Michael CC, Forrest RP and Andrew KY carried out a study on 2711 recruits and 15915 active duty personnel. They reported the highest level of smoking (42.8%) and smokeless tobacco (24.4%) among 18–34 year old white men on active duty. They also observed that the prevalence of smoking doubled between recruits and personnel on active duty the prevalence of smoking doubled for non-white/non-black men from 11.5% to 26.4% and quadrupled for black men from 5.4% to 20.4%.[11] These figures are much higher than those of the present study. Arlene de MP and Isabela MB also observed an increase in the percentage of smokers over the

years at the Police Academy. However, this difference was not significant, unlike in our present study, wherein it was significant.[10] The increased prevalence of smoking with age as observed in our study could be because military culture facilitates smoking; increase in rank and consequent increase in pay and allowances with age; stress of military life, coupled with the stress of prolonged separation from family during field tenures.

Recommendations

The workers would like to recommend that more such studies be carried out across the country, so as to validate the findings of the present study. Since in our study, the prevalence of current smokers significantly increased from younger age group to older age group except age group; and keeping in view the harmful effects of tobacco in any form, the workers would like to recommend that extensive health education should be carried out at all levels to curb the habit of tobacco consumption among our military population.

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