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CIGARETTE SMOKING AMONG PAKISTAN ARMY SOLDIERS

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ABSTRACT

Objective: To evaluate frequency, intensity and other characteristics of cigarette smoking in army soldiers.

Settings: Various army units stationed at Multan Garrison

Materials and Methods: This is descriptive cross sectional study, in which one thousands male soldiers from various army units (both fighting and supporting arms) were randomly selected to fill the questionnaire.

Results: Nine hundred and eighty six responses were included in study and rests were discarded in view of inappropriateness. Among responders, 470 (47.6%) were smokers. Frequencies of occasional, mild, moderate and heavy smoking were 11.9%, 14.8%, 10.7% and 10.2% respectively. Twenty one percent were smokers prior to joining army while 26.6% picked up this habit after induction. According to age 84.3% were less than 40 years of age while remaining 15.7% were above 40. The respective frequencies of smoking in these two age groups were 49.3% and 38.9% ($p<0.05$). The 56.7% of under-metric soldiers were smokers in comparison with 35.8% of over-metric ($p<0.05$). Frequency of smoking was 52.2% among unskilled soldiers while it was 33% in skilled soldiers ($p<0.05$). It was slightly higher among fighting units (52.3% vs. 47.7%). The job related stress and peer pressure were major risk factors for initiation of smoking. Almost all smokers wanted to quit and significant number of smokers reported that had tried to quit smoking at least once in the past.

Conclusion: Smoking frequency is quite high among army soldiers particularly among unskilled and less educated and there is strong need to address this issue.

Keywords: Cigarette smoking, army soldiers, Pakistan

INTRODUCTION

Smoking is responsible for many systemic diseases particularly lung cancer, hypertension, ischemic heart disease and chronic obstructive pulmonary disease. It is responsible for 92% cases of lung cancer, which is the most common cause of cancer-related deaths [1]. Cigarette-smoking men have 70% higher overall death rates than that of nonsmokers [2]. Prevalence of smoking varies from country to country, and from community to community depending upon its socioeconomic and educational status. Though an overall prevalence of smoking is declining in developed countries, but detailed analysis of their data reveals that the smoking prevalence stays unchanged in their youth [3]. In contrast, prevalence of smoking is on the rise in developing countries [1]. Among male Pakistani population, smoking prevalence ranges between 20-30%. In armed forces, no study has been carried out to assess the prevalence and pattern of smoking among soldiers, who are exposed to variety of unusual stresses and spend most of their time in barracks with their friends. The aim of this study was to evaluate frequency intensity and other characteristics of cigarette smoking in army soldiers.

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MATERIALS AND METHODS

In 1999, a questionnaire based cross sectional study was carried out on 1000 army soldiers in Multan. One hundred soldiers (including junior commissioned officers and other ranks) each from 10 army units (infantry, armor, artillery, signals, ASC, medical, engineer, ordinance, air defense and station headquarters) were enrolled. They were asked to gather in a hall and were requested to anonymously fill the questionnaire (typed in Urdu language) and to drop the filled questionnaires in a nearby box. Non smokers were those who never smoked or had left smoking, while occasional smokers were defined as those who used to smoke on certain social occasion or very occasionally. Regular smokers were those who were smoking regularly at the time of study. They were categorized as mild smokers (<10 cigarettes/day), moderate smokers (11-20 cigarettes/day) and heavy smokers (21 or more cigarettes per day) at the time of study. Pack years were not taken in to account. They were also asked to indicate whether they were smokers prior to induction in army or started smoking afterward. In addition they were required to indicate whether their education level was under-metric (less than GCS) or above-metric (above GCS), whether doing skilled jobs (medical assistants, vehicle mechanics, technicians etc) or unskilled jobs (guards, orderly etc). They were also required to indicate one out of four factors (job stress, peer pressure, fashion and parental smoking), they think was mainly responsible for initiation of smoking in them.

RESULTS

Out of 1000 questionnaires, nine questionnaires were not returned and five were declared invalid because of incomplete entries. Among these 986 responders, 470 (47.7%) were smokers and 516 (52.4%) were non-smokers (fig: 1). Among respecters, 117 (11.9%) were occasional smokers, 146 (14.8%) were mild smokers, 106 (10.7%) were moderate smokers and 101 (10.2%) were heavy smokers (table-1). Data was further segregated in to three groups according to age: < 30, 31-40, and > 40 years. Frequencies of smoking in these age groups were 46.6%, 51.1% and 38.9% respectively (table-2). There was significant difference in frequency of smoking between these groups ($p < 0.05$). Out of 986 responders, 427 (43.3%) were matriculate and above and 559 (56.7%) were under-matriculate (table-3). There was also significant difference in frequency of smoking among these two groups 56% vs 35%. ($p < 0.05$). Among 986 soldiers, 224 (26.7%) were skilled while 762 (77.3%) were unskilled (table-4). Frequency of smokers was significantly higher amongst unskilled: 52.2% vs 33% ($p < 0.05$). Two hundred and eight smokers started smoking before joining the army, and the rest 262 started smoking afterward (fig. 2). Among smokers, 39.1%, 30.7%, 24.6% attributed their smoking to peer pressure; fashion and job stress respectively (fig. 3). Minority (5.5%) of smokers stated that they were influenced by their parental smoking. Frequencies of smoking among soldiers belonging to fighting arms was slightly higher than that in supporting arms but difference did not achieve statistical significance (table-5). All smokers responded that they know that smoking is injurious to health but only few could pinpoint specific health hazard like ischemic heart disease, COPD and lung cancer. All smokers showed their desire to quit smoking. Very high number of regular smokers (84%) admitted that they had attempted to quit smoking at least once.

DISCUSSION

Though the study was conducted in one garrison, but sample size is fairly adequate and can reliably represent the overall pattern of smoking in soldiers of Pakistan army. Moreover the study results have even wider demographic applications and can be applied to Pakistani population as a whole because this sample represents various ethnic groups from different parts of Pakistan. In our study, frequency of smoking among army soldiers

was 47.6%, which is slightly higher than that mentioned in "World wide smoking prevalence report of 1998 by Crofton in which prevalence of smoking in Pakistan was 43% [4]. According to another study conducted locally by Alam SE [5], the prevalence of smoking in Pakistan was 21.6%. However this was the collective prevalence in males and females and contained all forms of smoking including cigarettes, Hukka and Bidi. When data is segregated the prevalence of various form of smoking in males appears to be 36%. Among these only 60% smoked cigarette thus giving rise to overall prevalence of cigarette smoking in Pakistani male to be around 21.6% which appear to be significantly lower than projected in our study. However if we recall that in our study the prevalence of cigarette smoking in young soldiers at the time of induction was also 21%, and remaining 26.6% picked up smoking after induction in army. This not only brings us close to Alam SE but also reflects huge impact of stressful environment of army in picking up habit of smoking.

The higher prevalence of smoking in army soldiers have been reflected in other studies from other parts of the world as well. According to Wynd-CA et al, prevalence of cigarettes smoking, alcohol abuse and other poor health practices continue to be high for active duty military personnel, than for the civilian population in USA [6]. Another epidemiological survey carried out by Dahl S et al to determine the health profile of professional Danish army personnel also pointed out high prevalence of smoking in Danish Army when compared with local civilian population. [7]. Chisick et al compared use of tobacco among those on active duty with those on non-active job in US army. He found doubling of tobacco use in those on active duties [8]. His study concluded that active duty and military environments encouraged the initiation and increase in the use of tobacco.

Table-1: Frequencies of cigarette smoking among soldiers (n=986)

Categories	Smoking Habits	Frequencies
Non- Smokers	Never smoked	516 (52.3%)
Occasional Smokers	on social occasions only	117 (11.9%)
Mild Smokers	Less than 10 cigarettes / day	146 (14.8%)
Moderate Smokers	10-20 cigarettes / day	106 (10.8%)
Heavy Smokers	More than 20 cigarettes / day	101 (10.2%)

Table-2: Frequency of smoking in various age groups (n=986).

Age Groups	No.	Smokers	Non smokers
< 30 yrs	384	180 (46.9%)	204 (53.1%)
30-40 yrs	448	230 (51.3%)	218 (48.7%)
> 40 yrs	154	60 (39%)	94 (61%)

P-value < .05

Table-3: Relationship of smoking with school education.

Education level	No.	Smokers	Non smokers
Matriculate & above	427	153(35.8%)	274 (64.2%)
Under Matriculate	559	317 (56.7%)	242(43.3%)

P-value < 0.05

Table-4: Relationship of smoking with technical skills.

Category	No.	Smokers	Nonsmokers
Skilled	224	74 (33%)	150 (67%)
Unskilled	762	398 (52.2%)	364(47.8%)

P-value < 0.05

Table-5: Frequencies of smoking among various fighting and supporting units.

Fighting units	No of smokers	Supporting units	No of smokers
Infantry	49	Medical	43
Artillery	50	Ordinance	44
Air Defense	48	S&T Bn	47
Armor	52	Signals	46
Engineers	47	Station HQ	44
Total	246 (52.3%)		224 (47.7%)

In a National Health Survey report of USA (1998), smoking was higher in the American Indians as compared to other Asian Americans, Hispanics and Pacific Islanders, and it was also higher in adults living below

poverty and in persons of a low educational level [9]. Grassier et al studied that the prevalence of tobacco use was highest among soldiers between 18-24 years of age, and those serving in junior ranks. [10]. This also favors our findings.

Smoking among adults {18-24yrs} and in low socioeconomic strata in Pakistan has been gradually increasing over the last fifteen years, while the trend has been changing towards quitting of smoking in the better educated and upper socioeconomic classes [1]. The recurrence rate of smoking after the cessation is also more common in young military personnel [11]. Similarly in a Health of Nation Report in London 1994: smoking is prevalent between 16-50 yrs of age and is highest between 25-40 yrs of age. Trend declines as most of the people quit smoking when they approach 50 yrs and above [12]. Soldier performing active duties (Sep/GDA, driver, gunner) smoke more than men carrying out staff and technical work and this observation is proved by other studies [7,8].

Education brings more awareness and information regarding both good and bad effects of smoking thus imposing reluctance in tobacco initiation. In Western countries the power of informed public opinion has made the use of tobacco socially unacceptable. Galanti LM et al found inverse relationships between smoking and both educational and psycho-technical level in the Belgian army [12]. In our study we have also observed that the prevalence of smoking among more educated soldiers is less as compared to soldiers who are less educated (35.8% & 56.7% respectively). According to Alam S smoking was 2-3 times more common in the illiterate and married individuals in Pakistan, than the literate and single individuals [5]. Fashion, peer pressure and job stress are believed to be a major risk factors in tobacco initiation and relapses after quitting [13]. The same impression was made in study conducted by Galanti LM [12]. Our study also confirms impact of these factors on initiation of smoking in soldiers. Smoking is high among boys having one or both smoking parents [14].

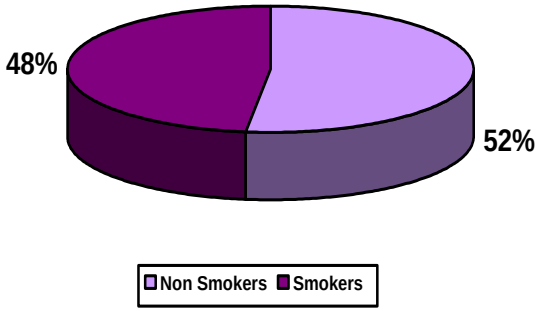

Fig. 1: Frequency of smoking among army soldiers (n=986).

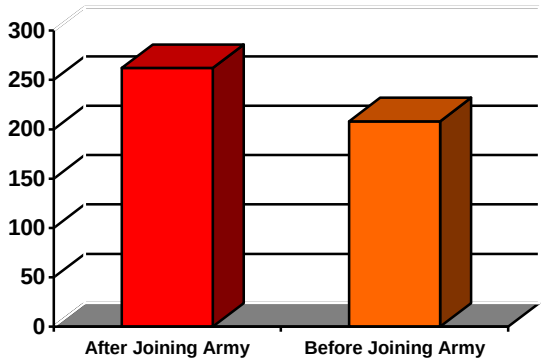

Fig. 2: Frequency of smokers before and after induction in army.

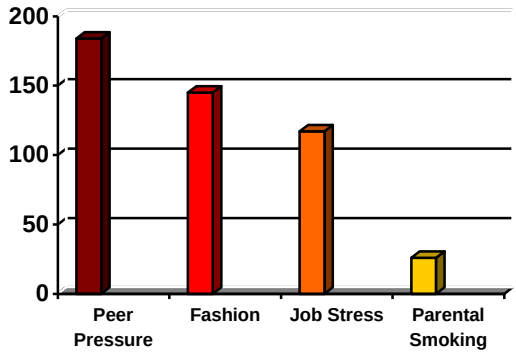

Fig. 3: Frequency of various motivating factors responsible for initiation of smoking.

CONCLUSION

The frequency of smoking among Pakistan army soldiers is alarmingly high and is significantly more as compared to that in general population of Pakistan. Among soldiers it is more frequent in unskilled and less educated class. The atmosphere in military units encourages initiation of

smoking. Major motivating factors appear to be peer pressure, fashion and job stress. A big number of smokers smoke occasionally at social gatherings and stand risk of becoming regular smokers if not discouraged. These factors need to be seriously addressed to if smoking trend is to be curtailed. We propose primary health care programs employing smoking prevention and cessation strategies through behavioral modification, developing cigarettes quitting skills and addressing environmental factors, in addition to raising concerns among the young military soldiers. It is also recommended that "Smoking Cessation Clinics" should be established in military hospitals to employ specialized techniques to help smokers to quit.

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