EFFECT OF MILITARY DEPLOYMENT IN OPERATIONAL AREA ON THE TREND OF SMOKING AMONG TROOPS

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ABSTRACT

Objective: To identify effect of military deployment in operational area on trend of smoking cigarettes among troops.

Study Design: Descriptive cross-sectional study.

Place and Duration of study: The study was carried out in an Army Brigade deployed in Operation Al-Mizan, Swat, from Jan to March 2014.

Material and Methods: Whole troops of an army brigade deployed in operation Al-Mizan, Swat were the part of present study. Total strength of brigade comprised of 1850 troops. Out of these 1850, officers constituted 53 (2.86%) and rest 1797 (97.14%) were Junior Commissioned officers (JCOs), noncommissioned officers (NCOs) and soldiers. All ranks other than officers were collectively termed as soldiers. All the individuals were given structured questionnaire to fill. The information was gathered on variables like age, rank, unit, education, duration of deployment in operational area, habit of smoking, intensity of smoking (number of cigarettes smoked daily) and change in the habit and intensity of smoking after being deployed in the operational area. Information was also gathered from the individuals about the reasons for change in the habit (starting or stopping smoking) and intensity of smoking after deployment in operational area. Forty nine individuals with less than 6 months duration in operational area were excluded. All the other officers and soldiers (1801) having served more than 6 months in the operational area were included in the study.

Results: There were total 1801 individuals included in the study. Officers constituted 52 (2.88%) of the total and rest 1749 (97.12%) were soldiers. The mean age of officers was 26.34 ± 4.6 years and mean age of soldiers was 27.92 ± 4.5 years. The overall frequency of smoking in officers and soldiers in the operational area came out to be 29.6%, however the overall frequency of smoking in these individuals before coming to operational area was 26.8%. There were 3 officers and 47 soldiers who started smoking in the operational area. There was an increased consumption of cigarettes among troops ($p < 0.001$). The increased frequency of consumption of cigarettes in operational area was because of stress / increased combat activities, boredom, lack of recreational activities and monotony.

Conclusion: It is concluded from the present study that operational activities increase the tendency of smoking in some troops and cause increased consumption of cigarettes by others mainly because of stress and peer pressure, which over the period of time can affect health, medical fitness and operational readiness of military personnel.

Keywords: Peer pressure, Operational area, Stress, Smoking, Troops.

INTRODUCTION

Smoking has been in practice for centuries. Tobacco began to be chewed and smoked during cultural and religious ceremonies around 2000 years ago. In ancient Greece, it was also used as a healing practice. The first publication presenting the health risk of tobacco was a booklet entitled as "Work for Chimney-Sweepers" written in 1602 by a writer known as Philaretes[1]. Now it is a proven fact that smoking is injurious to health and an important risk factor of lot many diseases and cancers. Smoking is linked particularly to cardiovascular diseases, pulmonary diseases and various cancers. It affects health of not only smokers but also nonsmokers through exposure to environmental tobacco[2].

Military service is a risk factor for smoking[3,4] but fortunately the trend of smoking is decreasing among troops over the past few decades. A study carried out in UK armed forces from 2002 to 2005 has shown decline in the trend of troops and similar results were

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shown in a study done in US military personnel[5-7].

Psychosocial factors including both occupational and personal factors have effect on initiating smoking and on the extent of smoking. Occupational factors include work stress, deployment of troops in combat etc. Whereas personal factors comprise anger, boredom, interpersonal relations etc. Smoking is erroneously considered a strategy to deal with work stress[8]. Deployment of troops in operational area affects the dependence of troops on smoking[9]. Troops deployed in combat have a higher rate of initiating and indulge in smoking than the non-deployed troops[10].

Pakistan Army has been extensively employed and deployed in operations since the onset of war on terrorism. This study has been carried out to identify the association between smoking and deployment of troops in operational area for a prolonged period of time. It is of utmost importance to identify factors which promote and encourage smoking in the military in relation to its peculiar circumstances and requirements especially during deployment so as to suggest measures to address those factors and improve health, medical fitness and operational readiness of military personnel.

MATERIAL AND METHODS

This cross sectional study was carried out in an army brigade deployed in operation Al-Mizan, Swat. The study duration was 3 months from Jan to March 2014. All those officers and soldiers who had spent more than six months in operational area were included in study and those with less than six months duration in operational area were excluded. There were total 1850 individuals in the deployed brigade. Out of total 1850, 49 (1 officer and 48 soldiers) were excluded because of less than 6 months duration in operational area. All ranks other than officers were collectively termed as soldiers, because of the requirement of study. All the officers and soldiers were given structured questionnaire to fill. Informed consent was taken before filling the questionnaire. Information gathered included age, rank, unit, education, duration of deployment in operational area, habit of smoking, intensity of smoking (number of cigarettes smoked daily) and change in the habit and intensity of smoking after being deployed in the operational area. The reasons for change in the habit (starting or stopping smoking) and intensity of smoking after deployment in operational area were also enquired. The individuals who were occasional smokers (smoked one cigarette per week or less) were not included in the category of smokers.

Smokers were categorized into five categories according to intensity of smoking (number of cigarettes smoked per day). These categories are:

1. Category I (who smoked 1-5 cigarettes/day)
2. Category II (who smoked 6-10 cigarettes/day)
3. Category III (who smoked 11-15 cigarettes/day)
4. Category IV(who smoked 16-20 cigarettes/day)
5. Category V(who smoked >20 cigarettes/day)

All the data collected had been analyzed using SPSS version 18. Mean and standard deviation (SD) were calculated for quantitative variables while frequency and percentage were calculated for qualitative variables. Maximum test meniscal humanity test was applied to study the association between deployment of troops in operational area and trend of smoking. A p-value < 0.05 was considered as significant.

RESULTS

There were total 1801 individuals included in the study. The mean age of officers was 26.34 ± 4.6 years and mean age of soldiers was 27.92 ± 4.5 years. The overall frequency of smoking in the operational area came out to be 29.59% in our study. In officers the frequency of smoking was 46.15% and in soldiers it was 29.10%. However the overall frequency of smoking in these individuals before coming to operational area was 26.81% (40.38% in officers and 26.41% in soldiers). (Table-1).

At the time of the study in the operational area there were 2 officers who were category II smokers (smoked 6-10 cigarettes/day), 3 officers were category III smokers (smoked 11-15 cigarettes/day), 15 officers were category IV smokers (smoked 16-20 cigarettes/day) and 4 were category V smokers (smoked >20 cigarettes/day). Among soldiers there were 136 soldiers who were category I smokers, 266 soldiers were category II smokers, 51 soldiers of category III smokers, 37 were category IV smokers and 19 soldiers of category V (table-2). There was a significant increase in the intensity of smoking (number of cigarettes smoked per day) among officers and soldiers after being deployed in operational area (p<0.001). Majority of the officers and soldiers attributed the increased consumption of cigarettes in operational area to stress/increased combat activities. Other reasons are summarized in table-3.

There was no officer or soldier who stopped smoking after deployment in the operational area. There were 3 officers who started smoking in the operational area.

Hence there was a significant increase in the number of smokers in the post deployment phase (p<0.001) and also significant increase in the consumption of cigarettes after deployment of troops in the operational area (p<0.001). Troops attributed this trend of smoking mainly to work stress, combat activities, lack of other recreational activities and boredom.

Table-1: Frequency of smokers and non-smokers in pre-deployment and post-deployment period.

Groups	Pre Deployment		Post Deployment		*p*-value
	Smokers	Non-smokers	Smokers	Non-smokers	
Officers	21 (40.38%)	31 (59.62%)	24 (46.15%)	28 (53.85%)	0.385
Soldiers	462 (26.41%)	1287 (73.59%)	509 (29.10%)	1240 (70.90%)	<0.0001
Total	483 (26.8%)	1318 (73.2%)	533 (29.6%)	1268 (70.4%))	<0.0001

Table-2: Intensity/extent of smoking in pre-deployment and post-deployment period.

Groups	Officers		Soldiers	
	Pre Deployment	Post Deployment	Pre Deployment	Post Deployment
Category I	1 (4.8%)	0 (0%)	232 (50.2%)	136 (26.7%)
Category II	9 (42.9%)	2 (8.3%)	167 (36.1%)	266 (52.3%)
Category III	2 (9.5%)	3 (12.5%)	33 (7.1%)	51 (10%)
Category IV	8 (38.1%)	15 (62.5%)	17 (3.7%)	37 (7.3%)
Category V	1(4.8%)	4(16.7%)	13(2.8%)	19(3.7%)
p-value	0.001		0.000 <0.0001	

Table-3: Reason of starting smoking tobacco in operational area.

Reason of starting smokingduring deployment	Officers	Soldiers
Stress/Increased Combat Activities	1 (33.3%)	18 (38.3%)
Company/Peer Pressure	1 (33.3%)	13 (27.7%)
Boredom/Lack Of Recreational Activities	1 (33.3%)	9 (19.1%)
Fashion/Style	0	7 (14.9%)
Total	3	47

DISCUSSION

Smoking tobacco has been a part of military culture even before World War I. Armed forces personnel were issued cigarettes in their rations for morale boosting and to offer pleasure and comfort[11]. Troops consider smoking as an encouraged and normalized part of life especially during deployment. Smoking is also perceived to manage stress, anxiety, boredom and monotony among the army personnel[12].

According to the present study the overall frequency of smoking was 29.59%, which is

similar to the prevalence of smoking in US and UK armed forces, the prevalence among US military was 27 % and among UK armed forces was 30%[3,13]. The present study shows significant increase in smoking in initiation and a significant increased consumption of cigarettes after deployment of troops in operational area. This is in accordance with the study of Hourani et al, done in US naval personnel, who found twice higher chances of individuals to be nicotine dependent who were exposed to combat activities in operations[9]. Smith et al also concluded from their study that troops deployed in combat have a higher rate of initiating and indulging in smoking than the non-deployed troops[10]. However a study carried out in UK armed forces by Hooper et al failed to find any association between smoking and deployment in combat, contrarily they showed significant association between combat activities and alcohol consumption[5]. Silva et al performed a study in Sri Lankan navy and also concluded a strong association between smoking and various combat activities[14].

Majority of the individuals attributed the initiation of smoking and increased consumption of cigarettes to stress, increased combat activities, company of friends/peer pressure, lack of recreational activities and boredom (p<0.000). It is therefore suggested that the troops deployed in operational area should be provided with various healthy activities to prevent indulging into smoking. In the operational areas these healthy activities can be amicably provided through many indoor games/facilities, even if outdoor facilities are restricted due to security risks.

CONCLUSION

It is concluded from the present study that operational activities increase the tendency to start smoking and cause increased consumption of cigarettes by troops, which over the period of time can affect health, medical fitness and operational readiness of military personnel. To address the hiking trend of smoking in operational areas, healthy activities in the form of indoor games, regular movie nights, entertainment/recreational activities should be promoted alongwith regular counseling of the troops.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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