ECOLOGY OF COMBAT FATIGUE AMONG TROOPS ENGAGED IN COUNTERINSURGENCY OPERATIONS

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ABSTRACT

A two staged study design combining features of cohort and cross sectional methods, was used to ascertain incidence of combat fatigue in troops deployed in counterinsurgency operations and study their living conditions as compared to troops deployed in similar terrain and climate but not taking part in counterinsurgency operations. Psychiatric morbidity both outdoor and indoor which was used as a surrogate measure for combat fatigue was almost three times higher for troops deployed in counterinsurgency operations (RR=3.21 and 3.11 respectively). Troops deployed in counterinsurgency operations also had significantly higher levels of dissatisfaction regarding medical and physical facilities like accommodation, food, water, clothing and recreational facilities as compared to troops not deployed. However there were no significant differences in posting and leave policies between the two groups. Troops in counterinsurgency however, did feel more often than other troops that their work was not appreciated. They also showed higher and significant signs of stress indicators such as use of alcohol, unfavourable response to task, diminished efficiency, frustration, maladjustment, tension, isolation, etc. In view of the study findings better interpersonal communications particularly task appreciation and improvement of medical and physical facilities for troops in CI Ops have been recommended.

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KEY WORDS: Combat fatigue; Counterinsurgency; Stress.

Introduction

The army has been involved in counterinsurgency operations (CI Ops) in different parts of the country for a long time. It was in 1956 that troops were inducted for the first time in Nagaland for counterinsurgency. In the north-east, most states have faced insurgency in varying degrees at one time or another. In Punjab, the army conducted anti-terrorist operations successfully. We have been facing low intensity conflict (LIC) in J & K for the past ten years. It appears that LIC will be with us for some time and is being referred by some as the warfare of the future.

Long tenures at CI Ops produce combat fatigue and burnouts. Uncertainties and continuous operations aggravate the situation. Mental and physical stresses set in. To some extent improving the living conditions of troops deployed in CI Ops can mitigate these.

The authors undertook the present study to ascertain the incidence of combat fatigue and deterioration in living standards of troops subsequent to their deployment for CI Ops.

Material and Methods

A two staged study design was used. In the first stage, a cohort of all troops deployed in CI Ops (actual figures concealed for security reasons), in a particular sector and other troops not taking part in CI Ops but deployed in similar terrain and climate was

followed for a period of three months from 01 Jan 97 to 31 Mar 97. Psychiatric morbidity both indoor and outdoor, which was used as a surrogate measure for combat fatigue was ascertained from unit and hospital records.

In the second stage of the study randomly selected cross sections of each group were interviewed by unit RMO's, with the help of structured questionnaires about service conditions, medical and physical facilities, and certain incipient stress indicators. A total of 199 randomly selected soldiers deployed in CI Ops, and 200 soldiers who though not deployed in CI Ops but were stationed in similar terrain and climatic conditions was interviewed in this manner. Confidentiality was ensured by not asking for identifying personal details like number or name.

Data were tabulated and subjected to statistical analysis using appropriate statistical and epidemiology software (Epi Info Version 6).

TABLE 1
Psychiatric morbidity (Rates per thousand)

Deployment	Rate of OPD cases	Rate of Indoor cases
Troops in CI Ops	5.33	4.13
Other troops	1.66	1.33
Statistical significance	P = 0.009 (chi sq), RR = 3.21, 95% CI = 1.27, 8.14, AR = 68.86%, 95% CI = 21.11%, 87.71%	P = 0.039 (chi sq), RR = 3.11, 95% CI = 1.10, 8.81, AR = 67.83%, 95% CI = 8.87%, 88.65%

Note : The statistical tests were done on the actual figures which have been concealed for security reasons.

Place of Work: 4016 Field Ambulance, C/o 56 APO.

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TABLE 2
Medical and physical facilities

Factor	Deployment			Statistical significance
	CIOpsts	Othertps	Total	
Medical facility				
Unsatisfactory	42 (21.11%)	16 (8%)	58 (14.63%)	Chi sq = 13.79, df = 1, p = 0.0002 OR = 3.08, 95% CI = 1.67, 5.68
Satisfactory	157 (78.89%)	184 (92%)	341 (85.47%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Accommodation				
Poor	79 (39.7%)	4 (2%)	83 (20.8%)	Chi sq. = 90.23 df = 2, p = 0.0000001
Satisfactory	103 (51.78%)	149 (74.5%)	252 (63.16%)	
Good	17 (8.52%)	47 (23.5%)	64 (16.04%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Food				
Not good	33 (16.58%)	2 (1%)	35 (8.77%)	Chi sq. = 31.03, df = 2, p = 0.0000001
Good	160 (80.4%)	187 (93.5%)	347 (86.96%)	
Very good	6 (3.02%)	11 (5.5%)	17 (4.27%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Water (drinking)				
Satisfactory	152 (76.38%)	198 (99%)	350 (87.72%)	Chi sq. = 45.2, df = 1, p = 0.0000001 OR = 0.03, 95% CI = 0.01, 0.14
Not satisfactory	47 (23.62%)	2 (1%)	49 (12.28%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Water (bathing)				
Available	139 (69.85%)	198 (99%)	337 (84.46%)	Chi sq = 62.38, df = 1, p = 0.000001 OR = 0.02, 95% CI = 0.01, 0.10
Not available	60 (30.15%)	2 (1%)	62 (15.54%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Hot water				
Available	119 (59.8%)	182 (91%)	301 (75.44%)	Chi sq = 50.74, df = 1, p = 0.00001 OR = 0.15, 95% CI = 0.08, 0.26
Not available	80 (40.2%)	18 (9%)	98 (24.56%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Clothing				
Satisfactory	160 (80.4%)	184 (92%)	244 (86.22%)	Chi sq = 10.34, df = 1, p = 0.001305 OR = 0.36, 95% CI = 0.19, 0.66
Not satisfactory	39 (19.6%)	16 (8%)	55 (13.78%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Recreation				
Not available	57 (28.64%)	8 (4%)	65 (16.29%)	Chi sq. = 95.8, df = 2, p = 0.00000001
Unsatisfactory	72 (36.18%)	27 (13.5%)	99 (24.81%)	
Satisfactory	70 (35.18%)	165 (82.5%)	235 (58.9%)	
Total	199 (100%)	200 (100%)	399 (100%)	

TABLE 3
Management indicators

Indicator	Deployment			Statistical significance
	CIOpsts	Othertps	Total	
Work Appreciation				
Yes	147 (73.87%)	191 (95.5%)	338 (84.71%)	Chi sq = 34.39, df = 1, p = 0.00001 OR = 0.03, 95% CI = 0.06, 0.28
No	52 (26.13%)	9 (4.5%)	61 (15.29%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Casual leave				
< 15 days	60 (30.15%)	46 (23%)	106 (26.56%)	Chi sq = 2.61, df = 1, p = 0.10589 OR = 1.45, 95% CI = 0.92, 2.26
> 15 days	139 (69.85%)	154 (77%)	293 (73.44%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Casual leave freq				
Once	6 (3.02%)	5 (2.5%)	11 (2.76%)	Chi sq. = 3.98, df = 3, p = 0.263535
Twice	110 (55.28%)	98 (49%)	208 (52.13%)	
Thrice	62 (31.16%)	81 (40.5%)	143 (35.84%)	
Four times	21 (10.54%)	16 (8%)	37 (9.27%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Posting				
Peace to field	148 (74.37%)	143 (71.5%)	291 (72.9%)	Chi sq = 0.42, df = 1, p = 0.518568
Field to field	51 (25.63%)	57 (28.5%)	108 (27.1%)	
Total	199 (100%)	200 (100%)	399 (100%)	

TABLE 4
Stress indicators

Indicator	Deployment		Total	Statistical Significance
	CI Ops	Other		
Use of alcohol				
Never	7 (3.52%)	69 (34.5%)	76 (19.05%)	Chi sq = 62.86, df = 2, p = 0.00000001
Occasional	190 (95.48%)	128 (64%)	318 (79.7%)	
Daily	2 (1.00%)	3 (1.5%)	5 (1.25%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Reaction to task				
No reaction	59 (29.65%)	59 (29.5%)	118 (29.57%)	Chi sq. = 34.17, df = 2, p = 0.00000001
Upset	35 (17.59%)	2 (1%)	37 (9.27%)	
Happy	105 (52.76%)	139 (69.5%)	244 (61.16%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Efficiency				
Increased	69 (34.67%)	55 (27.5%)	124 (31.08%)	Chi sq. = 105.07 df = 2, p = 0.00000001
Decreased	86 (43.22%)	11 (5.5)	97 (23.31%)	
No change	44 (22.11%)	134 (67%)	178 (44.61%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Frustration				
Frustrated	91 (45.73%)	27 (13.5%)	118 (29.57%)	Chi sq = 48.21, df = 1, p = 0.00000001 OR = 5.40, 95% CI = 3.30, 8.83
Not frustrated	108 (54.27%)	173 (86.5%)	281 (70.43%)	
Adaptation				
Nil	14 (7.04%)	6 (3%)	20 (5.01%)	Chi sq = 10.40, df = 2, p = 0.005511
Partial	69 (34.67%)	48 (24%)	117 (29.32%)	
Complete	116 (58.29%)	146 (73%)	262 (65.67%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Emotional state				
Face reality	91 (45.73%)	82 (41%)	173 (43.36%)	Chi sq = 16.85, df = 2, p = 0.00022
Calm	86 (43.22%)	114 (57%)	200 (50.13%)	
Easily upset	22 (11.05%)	4 (2%)	26 (6.51%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Isolation				
Feels isolated	169 (84.92%)	145 (72.5%)	314 (78.7%)	Chi sq = 8.46, df = 1, p = 0.003633 OR = 2.14, 95% CI = 1.30, 3.51
Group dependent	30 (15.08%)	55 (27.5%)	85 (21.3%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Tension				
Tense	62 (31.16%)	23 (11.5%)	85 (21.3%)	Chi sq. = 21.83, df = 1, p = 0.000003 OR = 3.48, 95% CI = 2.05, 5.90
Relaxed	137 (68.84%)	177 (88.5%)	314 (78.7%)	
Total	199 (100%)	200 (100%)	399 (100%)	
Apprehension				
Troubled	29 (14.57%)	12 (6%)	41 (10.28%)	Chi sq = 63.29, df = 1, p = 0.00000001
Depressed	44 (22.11%)	—	44 (11.03%)	
Confident	126 (63.32%)	188 (94%)	314 (78.69%)	
Total	199 (100%)	200 (100%)	399 (100%)	

Results

Psychiatric morbidity (Table-1). Both outdoor and indoor cases were higher in troops deployed in CI Ops. For OPD cases the relative risk was 3.21 with 95% confidence interval 1.27 to 8.14 and for admitted cases relative risk was 3.11, 95% confidence interval 1.10 to 8.81.

Satisfaction levels as regard to medical and physical facilities (Table-2). There were significant differences. Dissatisfaction levels in medical facilities and living conditions such as accommodation, food, water, clothing and recreation were more in troops deployed in CI Ops as compared to other troops.

Management indicators (Table-3). There were no significant differences in most management indicators such as posting policy, leave frequency, etc. However, troops deployed in CI Ops felt more often that their work was not appreciated.

Stress indicators (Table-4). Troops deployed in CI Ops scored significantly unfavourably on certain stress indicators such as use of alcohol, reaction to task, efficiency, frustration, adjustment,

emotion, isolation, tension and apprehension. However, there was no difference in incidence of STD in the two groups, both showing incidence of 0.5% (not shown in table).

Discussion

During World War I traumatic reactions to combat conditions were called "shell shock", a term coined by Col Frederick Mott, who regarded such reactions as organic conditions produced by minute haemorrhages of the brain [1]. It was gradually realised that only a small percentage of such cases represented physical injury from concussions of exploding shells. Most of these men were suffering from the general combat situation with its physical fatigue, and severe psychological shock. During World War II, traumatic reactions to combat passed through a number of classifica-

tions, such as "operational fatigue" and "war neuroses", before finally being termed combat fatigue" or "combat exhaustion" in the Korean war and the Vietnam conflict.

About 10% of all casualties are attributed to combat fatigue [2], the cumulative effect of little sleep, poor food (typically cold and consumed in an unappetising atmosphere), dreary living conditions, and the constant threat of random death or mutilation. However, it is difficult to ascertain the actual incidence, since many receive therapy at their battalion aid post and are returned to combat within a matter of hours [1].

In the present study overall psychiatric morbidity has been used as a surrogate and at best a very crude measure of combat fatigue (for lack of an effective and objective alternative measure). For this reason and for the reason of limited study duration of three months the figures of the present study are not comparable with recorded incidence of combat fatigue in military medical history. Moreover, psychiatric morbidity as obtained from records, may only be the tip of the iceberg, as evident from higher levels of stress manifested by higher intake of alcohol, unfavourable reaction to task, lowered efficiency, higher frustration levels, isolation, tension and apprehension among troops in CI Ops-all of which may be taken as the submerged portion of incipient combat fatigue.

Similarly, in a cross-sectional study design, temporal association is not guaranteed, and what have been observed in this study are observations and not necessarily causation.

Medical personnel and regimental officers cannot modify most of the socio-political causes of low morale in LIC [3-5]. Nevertheless, it is hoped that with better interpersonal communications particularly task appreciation, and improvement of medical and physical facilities, which were found wanting, some cases of combat fatigue, could be forestalled. This view finds support in the literature, as there has been an increasing awareness that non effective military behaviour stems more often from difficulties in the environment, both physical and social, than from individual psychopathology [6-8].

Further studies are needed for development and validation of a proper instrument for assessment of combat related stress in LIC scenario.

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