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How do experiences in Iraq affect alcohol use among male UK armed forces personnel?

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ABSTRACT

Objectives: This paper reports on a statistically significant association between alcohol use and deployment to the 2003 Iraq War. It assesses the occupational factors and deployment experiences associated with heavy drinking in regular UK servicemen deployed to Iraq in the first phase of the 2003 Iraq War (Operation TELIC 1, the military codename for the conflict in Iraq).

Methods: A random representative sample of 3578 regular male UK Armed Forces personnel who were deployed to Iraq during Operation TELIC 1 participated in a cross-sectional postal questionnaire study (response rate 61%). Participants completed a questionnaire, between June 2004 and March 2006 (ie, after deployment), about their health, including a measure of alcohol use (Alcohol Use Disorders Identification Test, AUDIT) and questions about their experiences on deployment to Iraq. Heavy drinkers were identified as those scoring 16 or above on the AUDIT.

Results: After adjustment for sociodemographic and military factors, and the presence of psychological distress, heavy drinkers were more likely to have had major problems at home during (odds ratio (OR) 1.33, 95% confidence interval (CI) 1.04 to 1.70) and following their deployment (OR 1.68, 95% CI 1.32 to 2.14). Being deployed with their parent unit (OR 1.28, 95% CI 1.02 to 1.61), medium to high in-theatre unit comradeship (medium: OR 1.35, 95% CI 1.04 to 1.77; high: OR 1.35, 95% CI 1.02 to 1.79) and poor unit leadership (OR 1.78, 95% CI 1.37 to 2.31) were also associated with heavy drinking.

Conclusions: Deployment experiences and problems at home during and following deployment, as well as the occupational milieu of the unit, influence personnel's risk of heavy drinking.

Historically, alcohol has played a major role in the social environment of the UK Armed Forces and it is acknowledged that it can be beneficial in terms of bonding and comradeship.¹ Excessive alcohol use, however, can lead to physical, psychological and operational problems.² Previous work has shown that there was a marked increase in alcohol consumption between the 1991 Gulf War and the 2003 Iraq War, in both genders within the UK Armed Forces, regardless of deployment status.³ We have previously demonstrated that the majority of UK Armed Forces personnel drink at levels considered harmful for health and that they drink more than the UK general population (after taking age and sex into account).⁴

Studies from the United States and Australia have documented higher rates of alcohol abuse in

veterans returning from war than before their deployment or when compared with non-deployed military populations.⁵⁻⁷ Data from the UK have been conflicting.^{3 4 8 9} We have reported a modest, but statistically significant association, after controlling for sociodemographic variables, between deployment to Iraq and having a combat role with heavy drinking in men (using an AUDIT score of 16 or more, defined by the World Health Organization as "a high level of drinking problems", hereafter referred to as "heavy drinking").⁴ We now report a more detailed analysis, concentrating on the association between heavy drinking and military deployment factors which include in-theatre combat experiences, perception of comradeship and leadership, and problems at home during and after deployment to Iraq in 2003. We also examine time between exiting theatre and completion of the questionnaire and its association with heavy drinking.

METHODS

Study design

The data analysed here were collected as part of a questionnaire-based study which was the first stage of a cohort study of UK Armed Forces personnel comparing health and other outcomes between individuals who had been deployed on Operation TELIC 1 (the initial phase of the 2003 Iraq War, when major combat duties took place, January–April 2003) and individuals who were in the military at the time but who were not deployed on Operation TELIC 1. Random samples of a comparable size from each of these populations were selected. The sampling methods, participants, measures used and detailed information on response rates and characteristics of study non-responders are reported in detail in Hotopf *et al.*⁹ Data were collected, via questionnaire, after deployment on Operation TELIC 1, between June 2004 and March 2006. The questionnaire gathered information on military factors, recent deployment experiences (including potentially traumatic experiences, comradeship, unit leadership and problems at home), lifestyle factors (including alcohol use) and health outcomes.

A total of 10 272 (61%) of our contacted sample responded (TELIC 1: n = 4722; non-deployed: n = 5550). Responders and non-responders were found to differ as regards gender, age, service, rank, ethnicity and enlistment type (regular or reserve status).⁹ However, further analyses showed that only enlistment type modified the outcomes under investigation.⁹

Table 1 Experiences on deployment and their association with heavy drinking, regular male personnel deployed on Operation TELIC 1, number (percentage, %), odds ratios (OR) and 95% confidence intervals (CI)

	Number (%)		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Adjusted† OR (95% CI)	Adjusted‡ OR (95% CI)
	Non-heavy drinker (n = 2916)	Heavy drinker (n = 662)				
Combat experiences in theatre						
Time spent in a "forward area"						
None	1130 (40.7)	178 (28.0)	1.00	1.00	1.00	1.00
Up to 1 week	381 (13.7)	103 (16.2)	1.72 (1.31 to 2.25)	1.20 (0.87 to 1.63)	1.08 (0.78 to 1.49)	1.05 (0.75 to 1.45)
1 week–1 month	594 (21.4)	164 (25.8)	1.75 (1.39 to 2.22)	1.17 (0.89 to 1.55)	1.15 (0.86 to 1.53)	1.13 (0.84 to 1.51)
>1 month	673 (24.2)	191 (30.0)	1.80 (1.44 to 2.26)	1.10 (0.84 to 1.45)	1.04 (0.78 to 1.39)	1.00 (0.74 to 1.34)
p Trend			<0.001	0.527	0.724	0.919
Perceived risk to self (thought might be killed)	1554 (55.2)	410 (64.1)	1.45 (1.21 to 1.73)	1.25 (1.02 to 1.53)	1.24 (1.00 to 1.55)	1.15 (0.92 to 1.44)
Number of "risk events"						
0	622 (22.1)	79 (12.3)	1.00	1.00	1.00‡	1.00¶
1	587 (20.9)	102 (15.8)	1.37 (1.00 to 1.87)	1.25 (0.89 to 1.78)	1.21 (0.85 to 1.74)‡	1.20 (0.84 to 1.72)¶
2–3	698 (24.8)	165 (25.6)	1.86 (1.39 to 2.49)	1.37 (0.98 to 1.92)	1.24 (0.87 to 1.76)‡	1.23 (0.86 to 1.75)¶
≥4	907 (32.2)	298 (46.3)	2.59 (1.98 to 3.38)	1.63 (1.16 to 2.30)	1.38 (0.95 to 1.99)‡	1.35 (0.93 to 1.96)¶
p Trend			<0.001	0.004	0.109	0.143
Preparedness, comradeship and leadership						
Deployed with parent unit						
No	903 (32.2)	157 (24.8)	1.00	1.00	1.00	1.00
Yes	1899 (67.8)	476 (75.2)	1.44 (1.18 to 1.76)	1.22 (0.98 to 1.52)	1.27 (1.01 to 1.59)	1.28 (1.02 to 1.61)
Work in theatre matched trade and experiences						
Yes	2433 (86.1)	519 (79.3)	1.00	1.00	1.00	1.00
No, above	109 (3.9)	38 (5.9)	1.66 (1.14 to 2.44)	1.58 (1.03 to 2.42)	1.50 (0.97 to 2.32)	1.28 (0.81 to 2.00)
No, below	182 (6.4)	56 (8.7)	1.47 (1.07 to 2.01)	1.47 (1.04 to 2.07)	1.23 (0.85 to 1.79)	1.21 (0.83 to 1.76)
No, outside	102 (3.6)	39 (6.1)	1.82 (1.25 to 2.67)	1.70 (1.10 to 2.62)	1.53 (0.97 to 2.41)	1.46 (0.92 to 2.31)
Comradeship						
Lowest	827 (29.3)	170 (26.3)	1.00	1.00	1.00	1.00
Middle	995 (35.3)	233 (36.1)	1.14 (0.92 to 1.42)	1.07 (0.84 to 1.36)	1.33 (1.02 to 1.73)	1.35 (1.04 to 1.77)
Highest	997 (35.4)	243 (37.6)	1.19 (0.95 to 1.47)	0.99 (0.78 to 1.27)	1.35 (1.02 to 1.78)	1.35 (1.02 to 1.79)
p Trend			0.131	0.900	0.043	0.047
Leadership						
Highest	1250 (44.3)	216 (33.3)	1.00	1.00	1.00	1.00
Middle	793 (28.1)	171 (26.4)	1.25 (1.00 to 1.55)	1.13 (0.89 to 1.44)	1.22 (0.94 to 1.57)	1.16 (0.90 to 1.51)
Lowest	776 (27.5)	261 (40.3)	1.95 (1.59 to 2.38)	1.77 (1.41 to 2.22)	1.99 (1.54 to 2.57)	1.78 (1.37 to 2.31)
p Trend			<0.001	<0.001	<0.001	<0.001

*Adjusted for age, marital status, educational status, service branch, rank, role in-theatre, time spent away on operational deployments, having children under age 18 years living with you and having a parent with a drink or drug problem; †adjusted for * plus all other variables in the table (excluding total number of "risk events"); ‡adjusted for * plus all other variables in the table (excluding time spent in "forward area"); §adjusted for † plus psychological distress; ¶adjusted for ‡ plus psychological distress.

We previously reported a small but statistically significant difference in the pattern of drinking by deployment status (OR 1.22, 95% CI 1.06 to 1.41).⁴ The present study examines deployment-specific exposures and experiences in personnel who deployed to Iraq. We have shown a significant difference between the prevalence of heavy drinking between men and women (17% vs 9%).⁴ Given the small number of women who were classed as heavy drinkers (n = 64), the present analyses were restricted to males only. We have also found that regular and reserve personnel differ with regards to their health status^{9,10} and their prevalence of heavy drinking (18.5% vs 11.5%, respectively, p<0.001). Alcohol use and other risk taking behaviours among reservists will therefore be reported in a separate publication. Thus the present analyses were based on a restricted sample of male, regular personnel who deployed on Operation TELIC 1 (n = 3578).

Measurement of alcohol use

The Alcohol Use Disorders Identification Test (AUDIT), developed by the World Health Organization (WHO), was used to assess alcohol use and misuse.¹¹ The AUDIT comprises 10 questions relating to alcohol consumption, symptoms of alcohol dependence and problems related to alcohol abuse within the last 12 months. Each item is scored 0–4 with the overall score ranging from 0 to 40 (ie, the sum of the responses to each of the 10 questions). The AUDIT score describes an individual's pattern of drinking and is used to measure the level of risk related to alcohol use. An AUDIT score of 8 or more has been used to define "hazardous drinking".¹¹ However, due to the high prevalence of hazardous drinking among military men compared with the general population (67% vs 38%, respectively),⁴ an AUDIT score of 16+ has been previously used to examine drinking patterns in the UK military,⁴ which corresponds

Table 2 Problems at home and their association with heavy drinking, regular military male personnel deployed to Iraq in 2003, number (percentage, %), odds ratios (OR) and 95% confidence intervals (CI)

	Number (%)		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Adjusted† OR (95% CI)	Adjusted‡ OR (95% CI)
	Non-heavy drinker (n = 2916)	Heavy drinker (n = 662)				
Problems at home during deployment	483 (16.6)	164 (24.8)	1.66 (1.36 to 2.03)	1.61 (1.28 to 2.03)	1.51 (1.19 to 1.91)	1.33 (1.04 to 1.70)
Problems at home after deployment	451 (16.3)	191 (30.4)	2.24 (1.84 to 2.73)	2.10 (1.68 to 2.62)	1.98 (1.57 to 2.50)	1.68 (1.32 to 2.14)

*Adjusted for age, marital status, educational status, service branch, rank, role in-theatre, time spent away on operational deployments, having children under age 18 years living with you and having a parent with a drink or drug problem; †adjusted for * plus all other variables in table 1 (excluding time spent in "forward area"); ‡adjusted for † plus psychological distress.

to the WHO definition of "a high level of drinking problems".^{11 12} Therefore, in the present study, individuals scoring 16 or above were defined as heavy drinkers. This cut-off represents 18.5% (n = 662) of the population under study.

Deployment factors and experiences

Responders were asked about a series of combat related or potentially traumatic experiences: for example, time spent in a "forward area" in close contact with the enemy; discharging their weapon in direct combat; thinking they might be killed; handling bodies, aiding the wounded and seeing personnel wounded or killed; experiencing landmine attacks; coming under mortar or artillery fire; or experiencing hostility from civilians. We classified these variables into two groups of experience: (1) "perceived risk to self" (one item: thinking one might be killed); and (2) "risk events" (eg, coming under small arms fire, aiding the wounded or handling bodies). Participants were also asked about the levels of comradeship and leadership they had within their unit with questions on statements such as "I felt a sense of comradeship (or closeness) between myself and other people in my unit" and "My seniors were interested in what I thought or did", which were endorsed on a five point scale from "strongly disagree" to "strongly agree". These questions were modified from previous scales used with US military personnel.⁵ To aid interpretation of the data on comradeship and leadership, principal components analyses were undertaken to derive one variable for comradeship and one for leadership. Other relevant questions included whether the individual had felt the work they experienced while in-theatre matched their training and experiences and whether they had experienced any major problems at home during or after deployment.

Statistical analysis

Odds ratios (ORs) and 95% confidence intervals (CIs) were computed by univariable and multivariable logistic regression to estimate the effect of deployment factors and experiences on alcohol use.¹³ Odds ratios were calculated with and without adjustment for age, marital status, educational status, service branch (Royal Navy and Royal Marines, British Army, Royal Air Force (RAF)), rank, role in-theatre, time spent away on operational deployments, having children under 18 years of age living at home and having a parent with a drink or drug problem. Additional adjustment was made for general mental health, as measured using the General Health Questionnaire-12 (GHQ-12),¹⁴ to take account of the known association between mental health problems and alcohol abuse.¹⁵ Hosmer-Lemeshow goodness-of-fit tests were also performed to ensure adequate

model fit. The statistical software package Stata (v 9.0) was used for all analyses.

RESULTS

As shown in Fear *et al*,⁴ heavy drinking was associated with holding a lower rank, being younger, being single, being in the naval service or army, being deployed to Iraq on Operation TELIC 1, not having children, being a smoker, having a combat role and having a parent with a drink or drug problem.

Table 1 shows that all potentially adverse combat experiences in theatre were more common in personnel who were heavy drinkers. After controlling for sociodemographic variables, thinking that you might be killed and experiencing four or more "risk events" was significantly associated with heavy drinking. Two models were then generated due to the degree of correlation between spending time in a "forward area" and number of "risk events" in theatre (Spearman's rho = 0.52). The results for the multivariable model using time spent in a "forward area" have in general been reported due to the better model fit observed. Following adjustment for all other experiences on deployment, only thinking that you might be killed remained associated with heavy drinking (p = 0.052). When also adjusted for all other experiences on deployment and psychological distress, no associations were observed.

Personnel who deployed with their parent unit, whose role in theatre was outside, above or below their training or experience and who experienced poor in-theatre unit leadership were more likely to be heavy drinkers (table 1). The associations with work being below or outside training or experience remained after controlling for potential sociodemographic variables but not after adjusting for all other deployment experiences and psychological distress. Associations with heavy drinking among personnel who were deployed with their parent unit and who experienced poor unit leadership remained following adjustment for sociodemographic factors, all other deployment experiences and psychological distress. In addition, following adjustment for all other deployment experiences, an association between heavy drinking and medium to high levels of comradeship emerged; this association remained following adjustment for psychological distress. We examined the association between heavy drinking and comradeship further in order to explain why a significant association emerged following adjustment. The key explanation appears to be due to the variable measuring leadership. We observed a highly significant inverse association with comradeship (p = 0.001), but as the correlation coefficient was only -0.36, we felt it appropriate to include both variables in the final model. We have also found that a high level of unit comradeship is associated with better general mental health (as measured by the GHQ-12) (OR 0.78, 95% CI 0.63 to 0.96) in an

Table 3 Time between exiting theatre and completion of questionnaire and its association with heavy drinking, regular military male personnel deployed to Iraq in 2003, number (percentage, %), odds ratios (OR) and 95% confidence intervals (CI)

Time between exiting theatre and questionnaire completion	Number (%)		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Adjusted† OR (95% CI)	Adjusted‡ OR (95% CI)
	Non-heavy drinker (n = 2916)	Heavy drinker (n = 662)				
≤ 12 months	238 (9.7)	76 (13.6)	1.25 (0.90 to 1.73)	1.19 (0.83 to 1.71)	1.26 (0.86 to 1.85)	1.26 (0.86 to 1.86)
13–17 months	691 (28.1)	154 (27.6)	0.87 (0.67 to 1.13)	0.93 (0.69 to 1.26)	0.95 (0.70 to 1.30)	0.94 (0.69 to 1.29)
18–23 months	1048 (42.6)	204 (36.6)	0.76 (0.59 to 0.98)	0.91 (0.69 to 1.21)	0.95 (0.71 to 1.28)	0.95 (0.71 to 1.27)
24+ months	485 (19.7)	124 (22.2)	1.00	1.00	1.00	1.00
p Trend			0.246	0.485	0.392	0.406

*Adjusted for age, marital status, educational status, service branch, rank, role in-theatre, time spent away on operational deployments, having children under age 18 years living with you and having a parent with a drink or drug problem; †adjusted for * plus all other variables in table 1 (excluding total number of "risk events"); ‡adjusted for † plus psychological distress.

unadjusted analysis. In contrast, perceived poor unit leadership is associated with poorer outcomes in terms of general mental health (as measured by the GHQ-12) (OR 2.29, 95% CI 1.87 to 2.80) in an unadjusted analysis (data not shown).

Table 2 shows problems experienced at home during and after deployment. Heavy drinkers were more likely to have had major problems at home than non-heavy drinkers. These associations remained after adjustment for sociodemographic factors, deployment experiences and psychological distress.

No pattern emerged between time since exiting theatre and completion of the questionnaire with heavy drinking (table 3).

DISCUSSION

We have previously reported a raised, albeit non-significant, effect of deployment on alcohol use using an AUDIT score of 13 or more (OR 1.10, 95% CI 0.99 to 1.22).⁹ In a more detailed analysis, using an AUDIT score of 16 or more, we reported a small but significant association between deployment to Iraq and heavy drinking (OR 1.22, 95% CI 1.06 to 1.41).⁴ Approximately 19% of our sample was classed as heavy drinkers, compared to 6% of the general population (restricting the comparison to males of a similar age).¹²

This study investigated factors relating to operational deployment associated with heavy drinking among 3578 male UK regular Armed Forces personnel who had deployed on Operation TELIC 1. This sample forms part of the largest study ever conducted within the UK Armed Forces, and is representative of all three services. The present analyses indicate that both individual and deployment-specific factors are associated with heavy drinking in deployed personnel. Heavy drinking is more likely in those individuals who deployed with their parent unit, had medium to high unit comradeship, had poor unit leadership and had problems at home during and following deployment.

Combat experiences and alcohol use

Previous literature has reported significant associations between combat exposure and alcohol use.¹⁶ Although no individual combat experiences reached statistical significance in the current study, there was a trend towards increasing levels of exposure (eg, more time spent in a "forward area", greater number of "risk events") being associated with heavy drinking. We have previously reported an increase in the risk of alcohol misuse with increasing duration of deployments.¹⁷

Comradeship and alcohol use

Heavy drinking was associated with deploying with one's parent unit and perceived medium to high levels of in-theatre unit comradeship. There is no previous research regarding the

association between comradeship and alcohol use. The military have long argued that, while excessive alcohol consumption is harmful, moderate amounts of alcohol are an important catalyst for unit bonding and cohesion.

Hockey¹⁸ has shown that alcohol serves as a means of allowing relaxed social interaction and a way of reducing inhibitions concerning boundaries between the individual and the group. Other evidence comes from the police force, which shows that alcohol serves an indirect role in obtaining information, bonding members in a group^{19, 20} and providing an opportunity to engage in "occupational deviance".²⁰

Middleton Fillmore²¹ suggests that teamwork lends itself to the development of occupational subcultures and hence inevitably occupational drinking subcultures. Ames and Janes²² suggest that "social relations" occur in domains such as work and leisure, and that in a situation like the military where people work, live and socialise together, these domains can overlap leading to close-knit groups. Members of such groups tend to develop behavioural norms which may influence alcohol consumption.

The study also showed that comradeship was associated with better psychological health. The relationship between social support and health status has been well documented.^{23–24} Low social support has been identified as a risk factor in veterans for various mental health outcomes.^{25–27} The stress-buffering hypothesis²⁸ argues that social support influences health and well-being by protecting people from the negative effects of stressors.

Leadership and alcohol use

An association of heavy drinking with poor leadership may at first appear contradictory given the wealth of evidence associating positive leadership with comradeship and unit cohesiveness.^{29–31} However, anecdotal reports suggest that poor leadership can also be an accelerant for bonding troops together; personnel often use social situations with their peers as a forum to vent their grievances and frustrations regarding the chain of command.

Previous research with reserve personnel has documented an association between poor leadership and ill health,³² which we also report here.

Problems at home and alcohol use

We report an association between heavy drinking after deployment and experiencing major problems at home during and following deployment to Iraq. It is unclear whether problems at home led to an increase in alcohol use following deployment or whether personnel who drank heavily before

Main messages

- ▶ Deployment experiences during the 2003 Iraq War, such as deploying with your parent unit, medium to high comradeship and poor unit leadership, are associated with heavy alcohol use in regular UK servicemen.
- ▶ Heavy drinkers were also more likely to have had problems at home during and following their deployment to Iraq.

deploying to Iraq experienced more problems at home. Due to the study design we are unable to determine the causality of this association. However, we will be able to address this issue in our follow-up study.

Limitations

Our overall response rate of 61% is comparable to that achieved by other population-based studies, especially studies dominated by young men. The study did not find evidence of any response bias by health outcome or any differences in the prevalence of medical downgrading (being fit for operational deployment) between responders and non-responders.³³ Furthermore, we have already presented data suggesting that our response rates are largely influenced by our difficulty in finding people and participant inertia,³⁴ but the possibility that some of the non-response was associated with alcohol intake cannot be excluded.

This study only looks at alcohol use at one time point, after deployment. Thus we cannot exclude the possibility that the 18.5% defined as heavy drinkers would have been defined as such before deployment. Although we did not find an association between time since exiting theatre and completion of the questionnaire with heavy drinking, we cannot exclude the possibility that heavy alcohol consumption influences recall of in-theatre experiences and exposures, and perception of comradeship and unit leadership. Given that our sample consisted of mostly younger men, it is unlikely that socially acceptable responses will have biased the results, as this is more prevalent in older individuals.³⁵ However, US data have shown that military personnel are slightly more likely to report drink driving in anonymous compared to non-anonymous surveys (6.4% vs 4.7%).³⁶

As the present analyses are restricted to regular male personnel only, the associations observed may not be generalisable to women and reserve personnel. Given the increase in alcohol use by female personnel since the 1991 Gulf War,³ it would be interesting to investigate how deployment-specific experiences in Iraq have affected their alcohol use. Unfortunately, the number of women in our sample who were defined as heavy drinkers ($n = 64$) was too small for us to undertake meaningful analyses. Furthermore, our sample consists of personnel deployed on Operation TELIC 1, the initial phase of major combat operations in Iraq. As women are not deployed in combat roles, it may be more appropriate to investigate the association of heavy drinking in women with their deployment experiences on later phases of the operations in Iraq. Reservists were excluded from the analyses due to differences in the prevalence of their heavy drinking, and health outcomes.^{9, 10} Their risk-taking behaviours may be more reflective of the general population as opposed to the military, given their different occupational and living circumstances; this will be examined in future analyses.

These analyses include a small proportion (approximately 10%) of veterans (ie, personnel who have left the services). We

Policy implications

Preventative approaches aimed at reducing alcohol consumption following operational deployment need to be explored, especially given the current pace of military operations in the UK Armed Forces.

have shown that there is no difference in the drinking patterns by serving status for men.⁴ However, further longitudinal data are needed to see whether deployment issues have a long-term impact on the drinking levels of veterans of the UK Armed Forces.

Using the data presented here, we have not been able to examine changes in alcohol use over time. We plan to repeat the same measures in the same personnel within the next 12 months. This will help elucidate any further impact of deployment experiences on alcohol use and will allow changes over time to be explored. We also intend to examine qualities of comradeship and leadership in more detail in our follow-up study. However, using longitudinal data from a study of approximately 2000 UK military personnel, we have been able to show that the increase in alcohol use was greater in those subjects who had been deployed on any phase of Operation TELIC compared to non-deployed personnel, and in particular in those who thought they might be killed or who experienced hostility from civilians while on deployment (personnel communication, 2007).

Implications

Alcohol use and misuse is an important health issue and revised alcohol policies for all three services, which came into effect last year, acknowledged the damaging effects of alcohol consumption on operational effectiveness, values and standards.³⁷⁻³⁹ Given the overall modest deployment effect of alcohol use, allied to the fact that heavy drinking is also prevalent in non-deployed individuals, it is probably more relevant to focus alcohol policies at the wider military population rather than at deployed individuals exclusively. A real problem for the military is what can be done to moderate the impact of people's deployment experiences on their alcohol consumption. Education is important, but as we have reported,⁴ most interventions trialled in the general population have not been effective and so other preventive approaches need to be explored. These may include restricting availability, increasing price and ensuring that alternative recreation is available. In particular, attention needs to be paid to ensure that sensible drinking is facilitated during the decompression period; role models of sensible drinking by more senior ranks is also important at this time.

Conclusion

We have shown that deployment experiences and problems at home during and following deployment, as well as the occupational milieu of the unit, influence personnel's risk of heavy drinking.

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Ethics approval: The study received approval from the Ministry of Defence (Navy) personnel research ethics committee and the King's College Hospital local research ethics committee.

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