

Alcohol consumption among veterinary surgeons in the UK

David J. Bartram, Julia M. A. Sinclair and David S. Baldwin

Background	Alcohol consumption can have both medical and occupational implications and may affect fitness to practise among veterinary surgeons (vets).
Aims	To investigate alcohol consumption and the prevalence and associations of 'at-risk' drinking among vets in the UK.
Methods	Alcohol consumption was measured using the Alcohol Use Disorders Identification Test alcohol consumption questions (AUDIT-C) embedded in a questionnaire which included measures of mental health and psychosocial working conditions, administered to a representative sample of 1796 vets. Scores of ≥ 4 for women and ≥ 5 for men were used as an indicator of 'at-risk' drinking.
Results	The response rate was 56%. Five per cent of respondents were non-drinkers, 32% low-risk drinkers and 63% at-risk drinkers. The estimated odds of at-risk drinking was not significantly different for men and women. A 1-year increase in age was associated with a 2% reduction in the odds of at-risk drinking (OR 0.98, 95% CI: 0.97–0.99, $P < 0.01$). There was no significant difference across hours worked or on call in a typical week. Lower psychological demands at work were associated with reduced odds of at-risk drinking (OR 0.75, 95% CI: 0.63–0.90, $P < 0.01$).
Conclusions	It is estimated that vets drink more frequently than the general population, but consume less on a typical drinking day and have a prevalence of daily and weekly binge drinking that is similar to the general population. The level of alcohol consumption does not appear to be a negative influence on mental health within the profession as a whole.
Key words	Alcohol; alcohol use disorders; AUDIT-C; mental health; veterinary surgeons.

Introduction

The misuse of alcohol and other drugs is a feature of some concerns about professional conduct among veterinary surgeons (vets) and dedicated services exist (Veterinary Surgeons' Health Support Programme) to support those with addictions. However, there is scant evidence on the drinking behaviours of veterinarians. An investigation of the incidence of alcohol-related deaths among vets in England and Wales between 1993 and 2005 showed the proportional mortality ratio for alcohol-related deaths was not significantly higher than the general population during this time period and recommended that future studies should focus on establishing the incidence of sub-lethal alcohol misuse within the veterinary profession [1].

Mental Health Group, Division of Clinical Neurosciences, School of Medicine, University of Southampton, RSH Hospital, Brintons Terrace, Southampton SO14 0YG, UK.

Correspondence to: David J. Bartram, Mental Health Group, Division of Clinical Neurosciences, School of Medicine, University of Southampton, RSH Hospital, Brintons Terrace, Southampton SO14 0YG, UK. Tel: +44 23 8082 5538; fax: +44 23 8023 4243; e-mail: djbartram@hotmail.com

Methods

A stratified random sample of 3200 vets practising in the UK was identified. This number represents $\sim 20\%$ of the membership of the Royal College of Veterinary Surgeons (RCVS), excluding those practising overseas or retired. Questionnaires were mailed on two occasions, 3 weeks apart, in October and November 2007. Replies were anonymous.

Three items relating to alcohol consumption were embedded in a 120-item questionnaire which also assessed other elements of mental health and well-being using valid and reliable existing instruments. Further details of the questionnaire are reported elsewhere [2].

Reported alcohol consumption was graded using the Alcohol Use Disorders Identification Test alcohol consumption questions (AUDIT-C) [3]. Recommended as a simple and reliable tool for routine assessment of risky drinking [4], it comprises three items measuring frequency of drinking, typical quantity consumed and the frequency of binge drinking (≥ 6 units on one occasion). Each question is scored from 0 to 4, giving a possible

summary score of 0–12. If any items were missing, the scale was judged as invalid for that respondent and excluded from the analysis.

The summary score was interpreted as follows to provide optimal sensitivity and specificity for men and women [5]: non-drinkers, score 0; low-risk drinkers, score 1–3 for women and 1–4 for men and at-risk drinkers, score ≥ 4 for women and ≥ 5 for men.

Results

Evaluable questionnaires were returned by 1796 participants, a response rate of 56%. Eighty-three per cent worked in general practice, of which 69% reported small-animal practice as their main type of work. The mean age of respondents was 40.9 years (SD = 11.0), and 50% were male. The demographic and occupational profile of respondents was generally in close alignment with RCVS membership in terms of age, gender and type of work.

The alcohol consumption and proportion of at-risk drinkers for the sample is presented in Table 1. One in 20 vets (5%, 95% CI: 4–7%) reported not drinking alcohol. Women were more likely than men to be non-

drinkers ($\chi^2 = 6.0$, $df = 1$, $P < 0.05$). Almost two-thirds of vets (65%, 95% CI: 63–67%) drank more than twice a week, and 38% (95% CI: 35–41%) of men and 24% (95% CI: 22–27%) of women drank four or more times a week. One in four men (25%, 95% CI: 22–28%) and one in eight women (13%, 95% CI: 10–15%) who drink consumed ≥ 5 units of alcohol on a typical day when drinking. Binge drinking (≥ 6 units on a single occasion) occurred at least weekly for 25% of men (95% CI: 22–28%) and 12% (95% CI: 10–14%) of women. The differences between males and females in the frequency of drinking, typical quantity consumed and frequency of binge drinking were significant ($P < 0.001$).

The proportion of vets in each AUDIT-C category is displayed in Table 2 with normative data for the general population. There was a significant difference between men and women vets across AUDIT-C categories ($\chi^2 = 6.9$, $df = 2$, $P < 0.05$) and a significant difference between the distribution of vets and the general population across drinking categories ($\chi^2 = 150$, $df = 2$, $P < 0.001$). The proportion of vets who were non-drinkers was lower than among the general population ($\chi^2 = 70.1$, $df = 1$, $P < 0.001$) and the proportion who were at-risk drinkers was higher than the general population ($\chi^2 = 129$, $df = 1$, $P < 0.001$).

Table 1. Alcohol consumption and proportion of at-risk drinkers

Alcohol consumption/AUDIT-C	Scores	Male (<i>n</i> = 849–881), %	Female (<i>n</i> = 819–876), %	Total (<i>n</i> = 1668–1757) % (95% CI)
Frequency of drinking: How often do you have a drink containing alcohol?		a	a	
Never	0	4	7	5.5 (4.5–6.6)
Monthly or less	1	7	12	9.5 (8.2–11.0)
2–4 times a month	2	18	22	19.9 (18.1–21.9)
2–3 times a week	3	33	35	33.9 (31.7–36.1)
≥ 4 times a week	4	38	24	31.3 (29.1–33.5)
Typical quantity: How many units of alcohol do you have on a typical day when you are drinking? ^b		c	c	
1–2	0	38	53	45.5 (43.1–47.9)
3–4	1	38	34	35.9 (33.6–38.2)
5–6	2	15	9	12.0 (10.5–13.6)
7–9	3	6	2	4.0 (3.1–5.0)
≥ 10	4	4	1	2.6 (2.0–3.5)
Frequency of binge drinking: How often do you have six or more units on one occasion?		d	d	
Never	0	21	34	27.4 (25.4–29.6)
Less than monthly	1	32	35	33.2 (31.0–35.4)
Monthly	2	23	20	21.3 (19.4–23.3)
Weekly	3	21	11	15.9 (14.3–17.7)
Daily or almost daily	4	3	1	2.2 (1.6–3.0)

^a $\chi^2 = 46$, $df = 4$, $P < 0.001$.

^bA small glass of wine, half a pint of beer or one measure of spirit are each classed as 1 unit. With some strong beers and ciders, a pint is equivalent to ≥ 3 units. A large (175 ml) glass of red or white wine contains > 2 units of alcohol.

^c $\chi^2 = 61$, $df = 4$, $P < 0.001$.

^d $\chi^2 = 68$, $df = 4$, $P < 0.001$.

Table 2. AUDIT-C drinking categories for vets compared with normative data for the general population of Great Britain

	<i>n</i>	Non-drinkers, % (95% CI) Score 0	Low-risk drinkers, % (95% CI) Score 1–4 for men; score 1–3 for women	At-risk drinkers, % (95% CI) Score ≥ 5 for men; score ≥ 4 for women
Vets				
Total	1757	5.4 (0.4–6.6)	32.0 (29.9–34.3)	62.6 (60.3–64.8)
Male	881	4.1 (3.0–5.6)	33.5 (30.4–36.7)	62.4 (59.2–65.6)
Female	876	6.7 (5.3–8.6)	30.6 (27.6–33.7)	62.7 (59.4–65.8)
General population^a				
Total	8575	12.3 (11.6–13.0)	39.9 (38.9–40.9)	47.7 (46.6–48.8)
Male	3849	9.3 (8.4–10.3)	37.0 (35.5–38.5)	53.6 (52.0–55.2)
Female	4726	14.8 (13.8–15.9)	42.3 (40.9–43.7)	42.9 (41.5–44.3)

^aFigures are derived from the *Psychiatric Morbidity among Adults living in Private Households, 2000* survey, a cross-sectional study of a nationally representative sample of adults in households in Great Britain. The dataset used to make these calculations was sourced from Office for National Statistics, *Psychiatric Morbidity among Adults Living in Private Households, 2000* (computer file). Colchester, Essex: UK Data Archive (distributor), May 2003. SN: 4653. The age range of the sample was 16–74 with a mean age of 45.4 years (SD = 15.6) and 55.1% were female.

After adjustment for age and gender, full-time assistants had lower odds of at-risk drinking than sole principals (OR 0.56, 95% CI: 0.35–0.91, $P < 0.05$). Respondents of practices owned by a charity had a lower odds of at-risk drinking than those owned by a sole principal (OR 0.53, 95% CI: 0.30–0.96, $P < 0.05$). The estimated odds of at-risk drinking did not differ significantly across hours worked or on call in a typical week.

After adjustment for age and gender, a 1-unit increase in the ‘demands’ score for psychosocial working conditions (HSE Management Standards Indicator Tool [6]) was associated with a 25% lower risk of being an at-risk drinker (OR 0.75, 95% CI: 0.63–0.90, $P < 0.01$), i.e. lower demands were associated with reduced odds of at-risk drinking; an increase in score reflects more favourable working conditions. At-risk drinking was not associated with other elements of psychosocial working conditions (control, management support, peer support, relationships, role and change), depressive or anxiety symptoms (Hospital Anxiety and Depression Scale [7]), positive mental well-being (Warwick-Edinburgh Mental Well-Being Scale [8]) or 12-month prevalence of suicidal thoughts [9]. There was no significant difference in the odds of at-risk drinking for males and females and at-risk drinking was significantly associated with age: a 1-year increase in age was associated with a 2% reduction in the risk of at-risk drinking (OR 0.98, 95% CI: 0.97–0.99, $P < 0.01$).

Discussion

Our study found that male and female vets drank more frequently, consumed fewer units of alcohol on a typical drinking day and had a similar frequency of binge drinking to the general population [10]. Among the general population, income and higher educational level are gen-

erally associated with higher rates of reported hazardous drinking [10], so it is possible that the proportion of at-risk vets may be no higher than a general population sample of similar socio-economic status.

The similarity in the prevalence of daily binge drinking between the vets and the general population may imply that the rates of alcohol dependence are similar. However, the use of a more comprehensive instrument for measurement of alcohol-related problems would be required to validate this.

The decline in prevalence of at-risk drinking with increasing age among vets also occurs in the general population [10].

Further research could use information extracted from case notes for vets referred to a specialist service for treatment of alcohol and drug problems to identify possible risk factors for substance misuse within the profession. A longitudinal study of recovery and relapse rates, health and employment history post-referral would help to understand treatment outcomes among this occupational group.

Key points

- Vets drink more frequently, consume less on a typical drinking day and have a prevalence of binge drinking that is similar to the general population.
- The level of alcohol consumption does not appear to be a negative influence on mental health within the profession as a whole.
- At-risk drinking is associated with greater work-related psychological demands but not with other evaluated elements of psychosocial working conditions, depressive or anxiety symptoms, positive mental well-being or 12-month prevalence of suicidal thoughts.

Funding

Veterinary Times and BUPA Giving (project no. 59).

Conflicts of interest

None declared.

References

1. Mellanby RJ, Platt B, Simkin S, Hawton K. Incidence of alcohol-related deaths in the veterinary profession in England and Wales, 1993–2005. *Vet J*. 2008, Advance Access published July 17, 2008, doi:10.1016/j.tvjl.2008.04.006.
2. Bartram DJ, Yadegarfar G, Baldwin DS. A cross-sectional study of mental health and well-being and their associations in the UK veterinary profession. *Soc Psychiatry Psychiatr Epidemiol*. 2009, Advance Access published March 18, 2009, doi:10.1007/s00127-009-0030-8.
3. Bush K, Kivlahan DR, McDonnell MB, Fihn SD, Bradley KA. The AUDIT alcohol consumption questions (AUDIT-C). An effective screening test for problem drinking. *Arch Intern Med* 1998;**158**:1789–1795.
4. Wallace P. Patients with alcohol problems—simple questioning is the key to effective identification and management. *Br J Gen Pract* 2001;**51**:172–173.
5. Gual A, Segura L, Contel M, Heather N, Colom J. AUDIT-3 and AUDIT-4: effectiveness of two short forms of the alcohol use disorders identification test. *Alcohol Alcohol* 2002;**37**:591–596.
6. Cousins R, MacKay CJ, Clarke SD, Kelly C, Kelly PJ, McCaig RH. ‘Management standards’ and work related stress in the UK: practical development. *Work Stress* 2004;**18**:113–136.
7. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983;**67**:361–370.
8. Tennant R, Hiller L, Fishwick R *et al*. The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health Qual Life Outcomes* 2007;**5**:63.
9. Paykel ES, Myers JK, Lindenthal JJ, Tanner J. Suicidal feelings in the general population: a prevalence study. *Br J Psychiatr* 1974;**124**:460–469.
10. Coulthard M, Farrell M, Singleton N, Meltzer H. *Tobacco, Alcohol and Drug Use and Mental Health*. London: The Stationery Office, 2002.