

contacts with the register who were not also admitted, for alcohol related diagnoses in 1981.

In the Highlands and Kent all letters of reply to referring agents were read by RWL if a patient was a new referral in 1981. Those who were not admitted were counted as outpatient cases if alcohol was mentioned as a major contributory factor in their psychiatric presentation. In Kent numbers of first attenders at a day unit were easily and reliably obtained (to the exclusion of those admitted) from records held on computer. All patients admitted or seen as day patients for alcohol related diagnoses routinely complete the severity of alcohol dependence questionnaire.¹⁰ There were no day patients in the Highlands.

RESULTS

The figure shows the results. When psychiatric inpatient, outpatient, and day patient rates were added the total rates of morbidity due to alcohol treated by psychiatric services approximated. The ratio between rates in the Highlands and Kent was only 1.53:1, compared with 12.5:1 for psychiatric inpatient rates. A comparison of day patients and inpatients in Kent who completed the alcohol dependence questionnaire showed no significant differences.

Conclusions

These findings do not support the conventional view that there is a large north to south gradient in rates of treated morbidity due to alcohol. Patterns of alcohol consumption

in the general population are reported in our accompanying paper.¹¹

This study was funded by the Medical Research Council and by the Economic and Social Research Council. Additional support was provided by the Scotch Whisky Association and by the Brewers' Society. Some of the data will be included in a Birmingham University MD thesis.

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Regional variations in British alcohol morbidity rates: a myth uncovered? II: population surveys

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Abstract

Regional variations in officially recorded rates of alcohol related morbidity in Britain were investigated by surveying community drinking habits of a randomly selected sample of adults in the Highlands, Tayside, and part of the South East Thames region. Contrary to expectations, patterns of alcohol consumption did not differ in a manner consistent with the much higher rates of alcohol related problems recorded in the north.

Introduction

In our accompanying paper we reported that officially recorded levels of alcohol related problems are much higher in the north of Britain than they are in the south.¹ Paradoxically, evidence

about the corresponding levels of alcohol consumption in different regions is both restricted and inconsistent. In order to clarify the position two surveys were conducted. Both of these related to the Highlands, Tayside, and south east Kent. The first survey is described in our accompanying paper and was concerned with clinically diagnosed problem drinkers. This paper reports the results of the second survey, which was concerned with patterns of alcohol consumption in the general population.

Method

Data were obtained by interviewing samples of people drawn from the electoral register in each of the three areas. The initial sampling pool comprised 40 electors from 40 polling districts in each area. The polling districts were randomly selected within each area by (a) ranking parliamentary wards by size of population (largest to smallest); (b) similarly ranking polling districts (or civil parishes in rural areas) within wards; (c) dividing the cumulative total of electors (N) by 40; and (d) randomly selecting a number (which corresponded to an elector) between one and N/40. The polling district within which that elector resided became the starting point for selecting the remaining 39 districts. This was achieved by adding (N/40) 39 times to that initial random number.

Forty respondents aged 18 and over on 1 September 1982 were randomly selected from each polling district by choosing every 10th elector after a randomly chosen starting number between one and M-450. M was the number of electors in the polling district. This procedure randomly produced 1600 names equally divided by sex in each of the three survey areas. In order to increase the chance

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of interviewing heavy drinkers the sample was weighted roughly 2:1 in favour of men.^{2,3} To this end every second woman was removed from the sampling pool. An additional group of so called non-electors (people aged 18 and over and eligible to vote but not on the register) were added by the Kish grid method.⁴ The selection procedure automatically excluded people permanently living in institutions or who had no fixed abode. Electors were excluded from the sample without replacement if found to be dead, incarcerated in an institution, to have moved, or if their house was empty or demolished. Fieldwork was conducted between 8 September and 10 October 1982.

Results

A total of 2349 people were interviewed, representing a net response rate of 69% (table I). The response rate in Kent was slightly lower than in the two other areas ($\chi^2=6.06$; $df=2$; $p<0.05$). Reduced response rates in south east Britain have been noted in other studies.⁹⁻¹²

The numbers of respondents included in the following analyses varied from item to item owing to variations of responses to individual questions.

TABLE I—Response rates in three areas

	Area							
	Highland		Tayside		Kent		All	
	No	%	No	%	No	%	No	%
Electors (E)	1196		1199		1182		3577	
Non-electors (NE)	85		117		81		283	
Ineligibles (I)	148		164		144		456	
Total eligible (E + (NE - I))	1133	100.0	1152	100.0	1119	100.0	3404	100.0
Non-interviews	335	29.6	342	29.7	378	33.8	1055	31.0
Non-contacts*	203	17.9	178	15.5	171	15.3	552	16.2
Refusals	89	7.9	137	11.9	124	11.1	350	10.3
Not possibles†	25	2.2	9	0.8	48	4.3	82	2.4
Other reasons	18	1.6	18	1.6	35	3.1	71	2.1
Interviews	798	70.4	810	70.3	741	66.2	2349	69.0
Complete	794	70.1	805	69.9	731	65.3	2330	68.4
Prematurely terminated	4	0.4	5	0.4	10	0.9	19	0.6

*Never in, not available.

†Senile, too ill or incapacitated, no English spoken.

TABLE II—Demographic details of respondents in three areas (percentages in parentheses)

Variable	Respondent's sex	Area			Level of significance
		Highland	Tayside	Kent	
Mean age of respondent (years)	{ M F	42.7 41.6	42.6 42.2	45.3 47.5	Area: $F=4.7$; $df=2,2336$; $p<0.001^*$ Sex: $F=0.2$; $df=1,2336$; NS^*
Social class of head of household†:					
Non-manual	{ M	137 (40.4)	152 (42.8)	118 (39.1)	$\chi^2=0.6$; $df=2$; NS^\ddagger
Manual	{ F	202 (59.6)	203 (57.2)	184 (60.9)	
Non-manual	{ M	78 (61.9)	89 (62.7)	80 (65.0)	$\chi^2=0.3$; $df=2$; NS^\ddagger
Manual	{ F	48 (38.1)	53 (37.3)	43 (35.0)	

NS = Not significant.

*3 (Area) \times 2 (respondent's sex) analysis of variance.

†3 (Area) \times 2 (social class: manual v non-manual) χ^2 analysis for each sex.

‡Registrar General's scale.

TABLE III—Types of drinker in each of three areas

Type of drinker	Respondent's sex	Area						Level of significance*
		Highland		Tayside		Kent		
		No	%	No	%	No	%	
Abstainer	{ M F	27 46	5.6 14.6	10 23	2.0 7.2	11 26	2.5 8.7	Men: $\chi^2=17.6$; $p=0.002$ Women: $\chi^2=16.5$; $p=0.003$
Had not drunk alcohol in past 7 days	{ M F	145 147	30.1 46.7	117 136	23.9 42.8	114 122	26.1 40.9	
Had drunk alcohol in past 7 days	{ M F	309 122	64.2 38.7	362 159	74.0 50.0	311 150	71.3 50.3	

*3 (Region) \times 3 (drinker) χ^2 test with 4 df conducted for each sex.

Respondents were interviewed privately by trained interviewers. A standardised interview schedule was employed. This took about 30 minutes to administer and elicited information about alcohol consumption, experience of alcohol related consequences, and attitudes to alcohol use and misuse together with biographical details. Many of these items were identical with those employed in relation to the clinical samples, so that data from both studies could be compared. Almost all items had been used in earlier studies⁵⁻⁷ (Kreitman *et al*, personal communication, 1984). Pretesting of the initial schedule was conducted by members of the alcohol research group on six colleagues in the psychiatry department of Edinburgh University. Piloting was carried out with 75 randomly selected members of the general public (five in Glasgow, 10 in Edinburgh, and 20 from each of the three study areas).

Biographical details—Respondents in Kent were significantly older than those in the Highlands ($t=2.56$; $df=1537$; $p<0.01$) and in Tayside ($t=3.8$; $df=1549$; $p<0.001$) (table II). The three areas did not differ in relation to respondents' social class (Registrar General's scale).

Self reported alcohol consumption—Details were obtained about alcohol consumption during the week preceding interview. This is a standard procedure employed in recent British studies of alcohol consumption.⁸⁻¹¹

Types of drinker—Respondents were classified as abstainers, drinkers within the past seven days, and drinkers who had not consumed alcohol during the previous week. Table III shows the overall drinking state of the study group. The proportion of abstainers in the Highlands was roughly double that in the two other areas.

Highlanders were also less likely than other respondents to report having consumed alcohol in the previous week.

Levels of alcohol consumption—Table IV shows the mean levels of alcohol consumption reported by men and women in the three areas. Significant differences were reported in the mean amounts consumed during the previous week by both sexes in the three areas. Among men, those in Tayside drank the most; whereas among women, those in Kent were the heaviest drinkers. Highlanders drank the least. These differences did not appear to arise from either sampling or response bias (Crawford, and Crawford *et al*, unpublished observations).

TABLE IV—Mean levels of self reported alcohol consumption (units*) among respondents who had consumed alcohol during previous week

Respondents	Area			Level of significance†
	Highland	Tayside	Kent	
Men	15.4	19.1	16.9	Region: $F = 5.7$; $df = 2,1407$; $p < 0.003$
Women	5.5	6.6	7.2	Sex: $F = 218.5$; $df = 1,1407$; $p < 0.001$

*Each unit equivalent to half pint (285 ml) ordinary beer, lager, etc, or single glass of wine or spirits. Each unit contains approximately 1.0 cl/7.9 g absolute alcohol.
†3 (Area) × 2 (respondent's sex) analysis of variance with scores logged to base 10.

Conclusions

These results do not support the view that levels of alcohol consumption in the community mirror officially recorded rates of treated morbidity for alcohol dependence. In this respect this general population survey produced results fully compatible with those of our clinical survey.¹ Together these studies suggest that the widespread belief that alcohol dependence is vastly more commonplace in the north than in the south of Britain is more of a myth than a reality. Regional differences in other

indicators of alcohol misuse remain to be explained. Several policy options exist whereby alcohol misuse may be curbed. These range from controlling the price and availability of alcohol to attempting to make public drinking more relaxed and socially integrated. Some of these are reviewed elsewhere.¹³

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Reliability of cardiocography in predicting baby's condition at birth

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Abstract

A prospective study of 6825 labours was undertaken to determine the relation between the Apgar scores of the babies at one minute and the cardiocography tracing in labour. The sensitivity of an abnormal tracing was 35.2% for babies who needed intermittent positive pressure ventilation and 20.0% for babies who did not but who had Apgar scores of less than 7. The sensitivity of an abnormal tracing for all babies with an Apgar score of less than 7 was 23.2%. The positive predictive value of an abnormal tracing was 8.7% for babies who needed intermittent positive pressure ventilation and

18.7% for babies who did not but who had an Apgar score of less than 7. The positive predictive value of an abnormal tracing was 27.4% for all babies with an Apgar score of less than 7. The specificity of the tracing was 93.4% for babies with an Apgar score of 7 or over. The relatively high incidence of false positive predictions might be explained on the grounds that abnormalities in the cardiocography tracing are a more sensitive indicator of hypoxia than the Apgar score. False negative predictions might have been due to adverse factors other than hypoxia—for example, fetal trauma, compression of the head, infection, and analgesia in labour.

These findings suggest that the current overdependence on fetal monitoring by cardiocography alone should be examined and that other reliable indicators for non-hypoxic fetal distress should be sought.

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Introduction

Continuous monitoring of the fetal heart rate in labour is now widespread, but the fetal benefits of this have been questioned.¹ Earlier papers reporting the results of randomised controlled trials showed that continuous monitoring was associated with a