

Tobacco, Alcohol and other Drug use among Medical Students

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The non-medical use of dependence-producing drugs is not a new phenomenon. The use of tobacco, which is known to be a dependence-producing substance causing serious physical illness, is so widespread as to constitute a major public health problem; the fact that it does not have major psychotoxic effects, even when consumed in large amounts, has allowed tobacco to become a socially acceptable drug. The moderate use of alcoholic drinks by adults is regarded as normal behaviour in most countries but excessive use of, or dependence on, alcohol is less socially acceptable, and acceptance of excessive drinking varies considerably in different countries. The use of psychoactive substances has been socially acceptable in countries where alcoholic beverages are not traditionally used, for example cannabis in India, Pakistan and North Africa, coca in South America, and opium derivatives in South-East Asia.

The most marked change in non-medical drug use, particularly in the last fifteen years, has been that drugs which for many years were used only in certain areas of the world, are now consumed in countries outside the region of traditional use; cannabis is a notable example of this phenomenon. Another new trend is the use of these psychoactive substances by adolescents and young adults from higher socio-economic groups, in contrast to earlier patterns of drug abuse by minority groups in poor social conditions. It is this new pattern of drug use by young people from middle-class backgrounds which has caused much of the current concern and publicity about the drug subculture.

In view of the physical and social ills associated with dependence on drugs, and to increase our knowledge of the nature and extent of the problem among young people in this country, the need for which was emphasised in the Report of the Working Party on Drug Abuse (1971), this study of drug use by medical students in University College, Dublin was undertaken in 1973 and 1974. The particular classes chosen for study were those which were receiving lectures from the staff of the Department of Social and Preventive Medicine in the Trinity terms, and which therefore were readily accessible to us.

Study Population and Method

The study was carried out among first, third, fourth and sixth year medical students in the academic session 1972-73 and among first, third and sixth year students in 1973-74; the fourth year students in the latter session had been included in the survey of the previous year. Data collection was carried out in May 1973 and May 1974. There were 1,013 students registered in the seven classes in the study, and of the 776 students present at lectures on the days on which the

survey was carried out, 765 (98.6%) returned completed questionnaires. There was a very full attendance of first and sixth year students; the majority of those absent was in the third and fourth year classes who also have considerable hospital commitments away from the university campus during the Trinity term. Attendance at formal lectures is not mandatory for medical students at University College, Dublin. The questionnaire was of a confidential nature, and it was not possible to identify students who did not return completed questionnaires or those who were absent from the lecture on the day on which the questionnaire was administered.

Table 1
Age and Sex Distribution of Students

		Age in years							
		17	18	19	20	21	22	> 22	Total
Male	No.	34	99	63	57	49	37	163	502
	%	6.8	19.7	12.5	11.4	9.7	7.4	32.5	100
Female	No.	26	58	27	37	23	18	62	251
	%	10.4	23.1	10.8	14.7	9.1	7.2	24.7	100
Total	No.	60	157	90	94	72	55	225	753
	%	7.9	20.8	11.9	12.5	9.6	7.3	30.0	100

$$\chi^2 = 9.06. \text{ d.f.} = 6 \text{ } 0.20 > P > 0.10.$$

Pre-coded questionnaires were distributed at the beginning of lectures following a brief explanatory talk, and were completed and returned before the lectures began. Questions were asked about sex of respondent, age, place of residence during term and socio-economic status, and information was requested about smoking habits, consumption of alcohol and exposure to and use of psychoactive drugs. Twelve students did not give information about their sex and were omitted from the study, leaving a total of 753 questionnaires for analysis. Of these twelve students, ten were non-smokers and two smokers; five were regular drinkers, five did not drink regularly, and two gave no information; and four were offered drugs, five were never offered drugs and three gave no information; of the four who were offered drugs, two accepted on one occasion but did not continue to use drugs.

Results

Sex and Age Distribution: Five hundred and two (66.7%) respondents were male and 251 (33.3%) were female. Table I shows the age distribution of male and female students which is very similar.

Place of residence and socio-economic status: The majority of the students (62.1%) lived at home, 18.4% lived in flats, 8.6% in lodgings, 4.6 % stayed with relatives and 6.3 % stayed in hostels. There was no association between place of residence during term or socio-economic status and psychoactive drug use.

Smoking Habit: Table II shows the smoking habit of respondents which is significantly more common in males ($P < 0.0005$). The prevalence of smoking increases with age, smoking being more common among the sixth year students than those in first year (Table III). Mean age at starting to

Table II
Smoking Habit

Smoking Now	Male	Female	Total
Yes	168	47	215
%	33.8	18.9	28.8
No	329	202	531
%	66.2	81.1	71.2
Total	497	249	746*
%	100	100	100

*5 Males and 2 Females did not state smoking habit.

$$X^2 = 18.02, \text{ d.f.} = 1, P < 0.0005.$$

smoke is significantly younger for males than females (males 16.6 years, females 18.0 years; $P < 0.001$). In Table IV it is seen that 136 (88.4%) male smokers and 45 (97.8%) female smokers smoke cigarettes; and Table V shows daily cigarette consumption of male and female smokers, with males smoking more heavily than females ($P < 0.01$).

Drinking Habit: The drinking habit of respondents is seen in Table VI. More male than female students are regular drinkers of alcohol ($P < 0.0005$); prevalence of alcohol consumption increases significantly with age (Table VII). Mean age at starting to drink alcohol is younger for male than female students (males 17.3 years; females 18.1 years; $P < 0.001$). Male students also drank more alcohol than female students, both beer ($X^2 = 71.81, \text{ d.f.} = 4, P < 0.0005$) and spirits ($X^2 = 17.3, \text{ d.f.} = 3, P < 0.001$).

Exposure to and Use of Psychoactive Drugs

Table VIII shows the proportion of students who were offered, accepted and continued to use psychoactive drugs. There is a greater number of men than women students in each category ($P < 0.001$). Mean age at starting to use drugs was similar for both sexes, 19.4 years for men and 19.1 years for women. Table IX lists for each sex the drugs used on one occasion and Table X those drugs which were still in use. Drug use by male and female students showed a similar pattern ($P > 0.40$).

Table XI shows the relationship between psychoactive drug use and drinking and smoking. An analysis of variance for main effects and inter- actions (Armitage, 1971) of how the factors of

Table III
Smoking Habit

Smoking Now	Medical Year				Total
	1st	3rd	4th	6 th	
Yes	72	41	23	77	213
%	24.0	24.4	33.3	37.6	28.7
No	227	127	46	128	528
%	76.0	75.6	66.7	62.4	71.3
Total	299	168	69	205	741*
%	100	100	100	100	100

*7 Students (5 male and 2 female) did not state smoking habit, and 5 students-2 smokers (male), and 3 nonsmokers (1 female, 2 male) did not state year in college.

$$X^2 = 13.21, \text{ d.f.} = 3, P < 0.005.$$

Table IV
Type of Tobacco Smoked

Type of Tobacco	Male		Female		Total	
	No.	%	No.	%	No.	%
Cigarettes Only	98	60.1	45	97.8	143	68.4
Pipe tobacco Only	15	9.2	1	2.2	16	7.7
Cigars Only	12	7.4	0	0.0	12	5.7
Cigarettes and Other	38	23.3	0	0.0	38	18.2
TOTAL	163*	100	46*	100	209	100

*5 males and 1 female did not state type of tobacco smoked.

Table V
Daily Cigarette Consumption

Cigarettes/ Day	Male		Female		Total	
	No.	%	No.	%	No.	%
<6	22	17.1	15	34.1	37	21.4
6-10	31	24.0	16	36.4	47	27.2
11-20	56	43.4	8	18.2	64	37.0
>20	20	15.5	5	11.3	25	14.4
TOTAL	129*	100	44*	100	173*	100

*8 Cigarette-smokers (7 male and 1 female) did not state daily cigarette consumption.

$$X^2 = 12.32, \text{ d.f.}=3, P<0.01.$$

Table VI
Drinking Habit (Alcohol)

Drinking Now	Male		Female		Total	
	No.	%	No.	%	No.	%
Yes	407	81.2	154	61.4	561	74.6
No	94	18.8	97	38.6	191	25.4
TOTAL	501	100	251	100	752*	100

*1 Male did not state drinking habit.

$$X^2 = 34.84, \text{ d.f.}=1, P< 0.0005.$$

drinking and smoking related to the taking of drugs was performed. This showed that alcohol consumption was significantly associated with drug taking ($P < 0.001$) but that cigarette smoking on its own was not.

Discussion

Smoking: Altogether 28.8% of the medical students in this study were current smokers (33.8% male and 18.9% female); 24.0% of first year students smoked compared with 37.6% of the final year students. Male students smoked more than female students, but the number of women who smoked in the final year class was double that in the first year class, whereas the number of final year men smokers was 25% greater than that in the first year. These figures may be compared

with data from other studies among student populations. Parfrey (1975) found that 37.0% male and 28.0% female students in University College, Cork were current smokers; McKay's (1973) figures for medical students in Glasgow University showed that 21.8% of men and 18.8% of women students smoked; Knopf and Wakefield (1974), in their study of students in Manchester University, showed that 32.7% male and 21.6% female medical students smoked compared with 37.0% male and 28.0% female law students. An eleven-year study (1960-1970) of students entering Drexel University, Philadelphia (Arnett et al., 1974) found that 23.9% male and 23.0% female first year students were current smokers; however, there was a marked fall over the 11-year period in the proportion of students smoking, from 32.9% in 1960 to 14.6% in 1970. This figure of 14.6%, of first year students in Drexel University in 1970 is considerably lower than figures for first year medical students in University College, Dublin (24.0%), Glasgow University (18.2%) and Manchester University (19.2%). A study among schoolchildren in Dublin (O'Rourke, Wilson-Davis and Gough, 1973) found that 38% of boys and 25% of girls in the sample smoked regularly at the age of 15, and this had increased to 45% and 28%, respectively at 16 years and older, which is higher than the proportion of regular smokers among the University students.

The most recent statistics of smoking in the Republic of Ireland (1975) show that 61%, of males and 44% of females in the 16-19 age-group and 54% of males and 47% of females in the 20-24 age-group are current smokers. Comparison between these figures for the total population aged 16-24 and

Table VII

Drinking Habit (Alcohol)

Drinking Now	Medical Year								Total	
	1st		3rd		4th		6th		No.	%
	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	191	63.0	131	77.5	62	88.6	171	85.4	559	74.6
No	112	37.0	38	22.0	8	11.4	30	14.6	188	25.4
Total	303	100	169	100	70	100	205	100	747*	100

*1 Student (male) did not state drinking habit and 5 students-2 drinkers (male) and 3 non-drinkers (2 male 1 female)- did not state year in college.

$$X^2 = 42.13, \quad d.f.=3, \quad P < 0.0005.$$

Table VIII

Exposure to and use of Psychoactive Drugs

	Total		Male		Female		P (M v F)
	No.	%	No.	%	No.	%	
Total Number of Students	753	100	502	100	251	100	
Offered Drugs	421	55.9	317	63.1	104	41.4	< 0.001
Accepted Drugs	241	32.0	197	39.2	44	17.5	< 0.001
Still Use Drugs	86	11.4	70	13.9	16	6.4	< 0.001

N.B. (1) Percentages are of total number of students.

(2) The 3 categories are not exclusive and percentages do not add to 100.

medical students at University College, Dublin in this age-group shows that the prevalence of smoking is considerably less among the University student population. Earlier studies (McArthur, Waldron and Dickinson, 1958; Cartwright, Martin and Thomson, 1959; Lilienfeld, 1959; Lynch, 1963; Herity, Bourke and Wilson-Davis, 1976) have shown lower levels of smoking among

professional groups than in the general population, and this trend has been attributed to a high standard of general education. It appears that this trend is seen at an earlier stage among University student populations.

The association between ill-health and smoking is widely accepted by both medical and lay people and, although this knowledge has not brought about a substantial decrease in cigarette smoking in the general population, a majority of people feel that doctors should not smoke in public (Which, 1975) and there is no doubt that a doctor who is known to smoke cannot with conviction give anti-smoking advice. It might be expected that the medical school would provide an environment where students who are smokers would be motivated to give it up and those who are non-smokers would remain so; however, evidence from studies is to the contrary. Knopf and Wakefield (1974) note that the increase in smoking habit occurs mainly in the early years of the course whereas information about associated hazards to health is provided mainly in the later clinical years and suggest that, to forestall this increase in smoking, education about smoking should be given as early as possible in the medical curriculum. Since 1971 first year medical students in University College, Dublin have had teaching in Social and Preventive Medicine, which includes information about the health hazards of smoking, but studies of smoking behaviour among University graduates (Lynch, 1963; Herity, Bourke and Wilson-Davis, 1976) have shown that detailed knowledge acquired during medical training of hazards to health associated with smoking has no great influence on smoking behaviour.

Cigarette smoking is the predominant form of smoking among the medical students studied, 83.4% of men and 97.8% of women smoking in this study were cigarette smokers and 51.4% (58.9% male and 29.5% female) of the students smoked more than ten cigarettes daily. These figures are similar to those for the general population in the Republic of Ireland which show that 84.7% of males and 99.0% of women smokers at all ages smoke cigarettes. However, a recent study of male medical staff in University College, Dublin (1976) showed that only 39% of those who smoked were cigarette smokers and 61 % smoked pipes and/or cigars. It may perhaps be expected that male medical students in this cohort who continue to smoke may change their smoking habits later in their career.

Drinking Habit: Altogether, 74.6% of the medical students drank alcohol regularly (81.2% male and 61.4% female). These findings are similar to those of two other studies of young people in this country. Parfrey (1975) found that 70% of his sample of students in University College, Cork drank alcohol (80% male and 64%

Table IX

Psychoactive Drugs used on one occasion

	Male		Female		Total	
	No.	%	No.	%	No.	%
Pot	188	54.0	41	64.1	229	55.6
Hash	85	24.4	17	26.5	102	24.8
Amphetamines	11	3.2	–	–	11	2.7
L.S.D.	30	8.6	2	3.1	32	7.7
Heroin	1	0.3	1	1.6	2	0.5
Cocaine	1	0.3	–	–	1	0.2
Barbiturates	12	3.4	–	–	12	2.9
Glue	7	2.0	–	–	7	1.7
Other	13	3.8	3	4.7	16	3.9
	348*	100	64*	100	412*	100

* Because some respondents used more than one drug these numbers exceed the total number of male and female users.

Table X

Drugs Still Used

	Male		Female		Total	
	No.	%	No.	%	No.	%
Pot	64	53.8	15	65.2	79	55.6
Hash	36	30.3	8	34.8	44	31.0
Amphetamines	3	2.5			3	2.1
L.S.D.	8	6.7	–	–	8	5.7
Heroin	1	0.8	–	–	1	0.7
Barbiturates	3	2.5	–	–	3	2.1
Other	4	3.4	–	–	4	2.8
	119*	100	23*	100	142*	100

*Because some respondents were using more than one drug these numbers exceed the total of males and females who continued to use drugs.

Table XI

Psychoactive drug-taking in relation to drinking and smoking

	Drinkers And Smokers		Drinkers Only		Smokers Only		Neither Drinkers nor Smokers		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Drug Takers	125	63.8	104	28.9	1	5.3	12	7.5	242	32.4
Non-Drug Takers	71	36.2	256	71.1	18	94.7	160	92.5	505	67.6
Total	196	100	360	100	19	100	172	100	747*	100

* Fill information was not available in 6 cases.

female) and O'Connor's (1975) survey of 377 young people in Dublin aged 18-21 years found that 86.9% of boys and 73.8% of girls drank alcohol regularly. A study of medical students in Glasgow University (McKay et al., 1973) showed that 52% of those studied drank alcohol regularly and Orford et al. (1974), in their study of English university students, reported that 69.5% male and 53.5% female students drank alcohol at least once weekly.

All studies of drinking among young people have shown it to be age related; consumption of alcohol increases both in frequency and amount with increasing age. This is apparent in the present study, particularly among the female students; only 45% of the first year female students (average age 18 years) drank alcohol whereas 70% of the third year (average age 21 years) and 76% of the sixth year female students (average age 23 years) drank regularly. At all ages, more male than female students drank regularly and they also drank more heavily, both beer and spirits. Of the students who drank alcohol, just over half of both male and female students drank spirits—57% and 53% respectively—but more male students than female students drank beer—97.5 % as compared to 45.3%.

The proportion of first year medical students who drank alcohol regularly is higher than the proportion of regular drinkers among post-primary schoolchildren in Dublin surveyed by O'Rourke et al. (1973); this study showed that 33% of boys and 25% of girls of 18 years and older were regular drinkers. It seems likely that the consumption of alcohol plays a fairly prominent part in the social life of university students and that there is a definite increase in alcohol consumption during the first year in college. O'Connor (1975) found in her survey that "drinking with friends" was a usual recreational activity for 60% of boys and 30% of girls. It is

also interesting that in the same survey the majority of young people thought that their contemporaries drank mainly for social reasons. Orford et al. (1974), in their study of drinking behaviour and attitudes in an English university, came to the conclusion that student drinking was largely under the control of peer group influence and it is probable that this was an important factor among our students also.

Although only a small proportion of drinkers experience direct adverse effects, studies have shown that an increase in the per capita consumption of alcohol is positively correlated with an increase in alcohol-related health and social problems (WHO Expert Committee on Drug Dependence, 1974). Therefore, the trend towards higher levels of alcohol consumption at young ages, which is a world-wide one, must be viewed with some concern. In the light of the well-recognised problem of excessive consumption of alcohol by Irish people generally, the widespread use of this drug by young adults should alert health educators to the necessity for an effective programme of health education and research aimed at discouraging the inappropriate use of this widely used and socially acceptable drug.

Drug Taking: Of the 753 students in this study, 421 (55.9%) had been offered drugs, 241 (32%) had accepted on at least one occasion and 86 (11.4%) had continued to use them. The figure of over 55% of the student population being offered drugs is comparable to the figures from the Glasgow study (McKay et al., 1973) as is the proportion who accepted on one occasion but didn't continue, but the proportion who continued to use drugs was higher, 11.4% compared with 3.6% of the Glasgow students. The study in University College, Cork (1975) reported that about 20% of the students had taken drugs and 12.9% had used them more than once. A study of a provincial university in Great Britain (Einstein, Hughes and Hindmarch, 1975) found that 29% of the student population had used cannabis, and 13% had continued to use the drug subsequently.

Factors associated with the non-medical use of drugs have been analysed in the Report of the WHO Committee on Drug Dependence (1974). Three types of illicit drug use are described: (a) experimental use, which is trying a drug once or a few times and then stopping; (b) casual or recreational use in which drug taking is intermittent without the development of physical or psychological dependence; and (c) dependent use which involves a compulsive need to take a drug, either to experience its psychic effects or to avoid the discomfort of its absence. Initial experimental use usually occurs in adolescence or early adulthood. Important factors seem to be curiosity about the effects of the drug, the influence of the peer group, the need to be accepted by others, to allay anxiety or to gain new and pleasurable experiences. The casual use of dependence-producing substances is best illustrated in the use of alcoholic beverages, and cannabis preparations are increasingly being regarded in a similar manner. The reason for continuing to use these drugs is related to the initial reasons, e.g. those who seek relief from anxiety are those likely to continue to experiment in a continuing search for solutions to problems; likewise, what began as curiosity may be continued because it provides acceptance in a group. Dependence, which is of course much more likely to arise from "hard" drugs, is frequently the result of an underlying character disorder, and other patterns of deviancy are usually in evidence (Carney, Timms and Stevenson, 1972; Kelly and Sammon, 1975). In this study the pattern of drug use is predominantly experimental, with about 20% of those students who were offered drugs continuing to use them casually, the majority (77.2%) less than once a week or four times a month. Cannabis preparations were most commonly used and were the only drugs used by female students.

The association between smoking tobacco, drinking alcohol and drug use by young people is well recognised. Weiner (1970) in his study of schoolchildren found drug use related to alcohol and cigarette consumption, association with older children, and having more experience of opposite sex relationships. He used the term "precocity" to describe this type of behaviour, Orford et al. (1974) in their study of student drinking habits described an "adventurous pleasure-seeking dimension"; Einstein et al. (1975) found that experimentation with cannabis was closely correlated with drinking habits. In the present study it was noted that drug use was significantly

associated with alcohol consumption but not with smoking. The WHO Committee on Drug Dependence (1974) consider that one important indicator of possible present or future use of drugs by young people is previous experience with tobacco and alcohol but our study seems to indicate that it is the use of alcohol that is the more significant indicator.

Summary

A study of the use of tobacco, alcohol and psychoactive drugs by medical students attending University College, Dublin during the academic years 1972/73 and 1973/74 was undertaken. The results show that 28.8% of the study population smoked tobacco, male students smoking significantly more than female students; cigarette smoking was the predominant form of smoking. Three-quarters of the students drank alcohol regularly and men drank more frequently and in greater quantity than women. Over one-half of the students had been offered drugs, mainly cannabis preparations, a third had accepted on one occasion and 11% subsequently used drugs. These figures indicate that cannabis preparations were fairly freely obtainable by the students, but the number who continued to use drugs was small—but of these 21% used drugs at least once a week. Psychoactive drug use was significantly associated with alcohol consumption but not with smoking.

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