Table 1 Anencephaly and Spina Bifida in Babies Born to Mothers who had had Hormonal Pregnancy Tests

		Survey cases		Controls	
		Total	Pregnancy tests	Total	Pregnancy tests
South Wales	Spina bifida	29	2	112	7
	Anencephaly	31	2		
Exeter	Spina bifida	45	3	64	7
	Anencephaly	19	3		
London	Spina bifida	75	4	75	2
	Anencephaly	72	8	72	6
	Total	271	22 (20.1)	323	22 (23.9)

The number expected in survey and control groups if no difference exists is shown in parentheses. The difference between actual and expected numbers is within the standard error.

parity and month of conception. In the South Wales series the control mothers were those who had one baby with spina bifida or anencephaly and had a subsequent normal birth during the survey period and these were thus not controlled individually. The findings are summarized in Table 1. In these three surveys there is no significant association of pregnancy tests with pills containing oestrogenic and progesterogenic hormones and the birth of children with neural tube malformations.

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[1] Gal, I., Kirman, B., and Stern, J., *Nature*, **216**, 83 (1967).

Effect of *Avena sativa* on Cigarette Smoking

IN 1967, in India, I came across a practitioner of ancient Ayurvedic medicine who successfully used a decoction of common oats (*Avena sativa*) to cure the opium habit. While using an alcoholic extract of the plant on a group of opium addicts, several patients reported a loss of interest in smoking. The drug is listed in the United States Dispensatory and National Formulary[1-2], yet no reference has been traced regarding its application on smokers (Library of the Pharmaceutical Society of Great Britain, personal communication). I have therefore studied the effect of this drug on a group of smokers.

The active drug was an extract of healthy, fresh plant *Avena sativa* selected just before harvest. I used 1.5 parts of the crushed whole plant by weight in 5 parts by volume of 90% ethyl-alcohol, kept at room temperature with frequent agitation for 72 h and then filtered. The active constituent has not been identified.

Twenty-six cigarette smokers including healthy volunteers and chronic patients in the chest wards of Ruchill Hospital, Glasgow, including tuberculous patients, participated in the trial. The total duration of their smoking and the average number of cigarettes smoked per day in the preceding six months were recorded.

They were told that a drug was being tested which might affect their smoking, and that they were not to make any conscious effort to alter their smoking during the trial.

Table 1 Numbers of Cigarettes Smoked during Trial

	Group I (drug)		Group II (placebo)	
	Cigarettes per day before trial	Cigarettes per day after trial	Cigarettes per day before trial	Cigarettes per day after trial
	20	20	22	19
	25	10	30	28
	10	0	18	18
	12	0	14	14
	11	0	18	17
	9	0	17	18
	35	3	17	18
	25	7	8	18
	22	0	18	18
	20	7	20	18
	25	7	15	14
	20	10	10	9
	20	10	8	8
Av.	19.5	5.7	16.5	16.7

Each patient kept a daily record of cigarettes smoked, commenting on any changes in the craving for cigarettes. By random allocation, thirteen patients received the drug and the others received placebo for 28 days. The alcoholic extract (1 ml.) was diluted to 5 ml. and each oral dose was 5 ml. of this dilution given four times a day. No psychotherapy was used. No patients were taking any other drugs which could affect smoking. The patients in both groups were comparable in age, sex and smoking history.

The results of the trial are given in Table 1. In the drug group the total daily consumption by thirteen patients was 254 cigarettes; at the end of the trial it was seventy-four. Five had stopped smoking, seven had reduced it to less than 50% and in one no change had occurred. In the placebo group the total daily consumption at the start was 215, at the end it was 217. Smoking had been stopped by none, reduced to above 50% by six and increased by three; four reported no change.

The two groups were comparable in their smoking habits, since group I "before" (mean 19.5 ± 2.0 s.e.) is not statistically separable from group II "before" (mean 16.5 ± 1.7 s.e.); $t = 1.33$, $0.30 > P > 0.20$. Group I "before" is significantly different from group I "after" (mean 5.7 ± 2.0 s.e.); $t = 5.21$, $P < 0.001$. Group II "before" is not different from group II "after" (mean 16.9 ± 1.4 s.e.); $t = 0.180$, $0.90 > P > 0.80$. The mean differences between the groups due to treatment (group I "before"–group I "after") and (group II "before"–group II "after") are naturally equally significant; $t = 5.73$, $P < 0.001$. All these calculations are based on Student's t test.

In the drug group various degrees of loss of craving for cigarettes were reported. The drug seems to reduce the number of cigarettes smoked per day, along with diminished craving for smoking. Moreover, the reduction in smoking seems to continue even 2 months after the termination of the drug. The drug has never been used in dealing with the problem of smoking and, as this was the first instance of its use in smokers, its role and significance are worthy of further investigation.

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[1] United States Dispensatory, twentieth ed., part II, 1513 (1918).
[2] National Formulary of the United States, seventh ed., 60 (1942).