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Helping people to stop smoking: randomised comparison of groups being treated with acupuncture and nicotine gum with control group

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The two treatments most often studied in helping people to stop smoking are acupuncture[1,2] and nicotine gum.[3,4] We report the results of a randomised trial comparing the efficacy of these treatments with that of a control treatment over 12 months of follow up.

Subjects, methods, and results

We advertised among the general public asking for volunteers to participate in the trial. Although a recent poll reported that almost half the smokers in France wished to stop smoking, we had to contact nearly 35 000 smokers to enrol 651 participants. Adults smoking at least five cigarettes a day were eligible. We excluded women who were pregnant or breast feeding and people with gastric ulcers or a history of heart disease. Treatment (acupuncture, nicotine gum, or a control treatment) was allocated by balanced randomisation, each group receiving three one hour sessions of group therapy during the first month.

In the group given acupuncture the needles were placed bilaterally for 30 minutes at the "shuai gu" and "qiuhou" points. In the group given nicotine gum 105 pieces of gum, each containing 2 mg nicotine, were distributed to each participant. Subjects in the control group were given minimal intervention, consisting of a cigarette case with a lock controlled by a time switch, which they could regulate at will.

The criteria for success were the proportion of people who had completely stopped smoking one and 13 months after entering the study and evolution of this proportion.

Subjects who claimed to have stopped smoking were followed up by post every three months after stopping. Those still smoking after one month were not followed up afterwards and were counted as failures, as were non-respondents to mailings sent to those who did not attend the third group therapy session. Half of the ex-smokers were visited at home at one year and their expired carbon monoxide concentration measured (carbon monoxide breath kit, Catalyst Research Corporation). Concentrations greater than five parts per million were attributed to smoking. We estimated that 200 participants in each group were necessary to show a reduction in the prevalence of smoking after one month from 75% in the control group to 60% in the active treatment groups (α=5%, β= 10%).

Altogether 224 subjects were given acupuncture, 205 nicotine gum, and 222 the control treatment. No significant difference was found between the three groups for sex, age, age at first cigarette, daily consumption, previous attempts to stop smoking, and frequency of inhalation. The proportion of non-respondents (about 6%) did not differ between the three groups. None among those whose exhaled concentration of carbon monoxide was checked was found to be smoking.

The proportion of ex-smokers at one and 13 months was significantly lower in the control group than in the groups given acupuncture and gum (table). The evolution of this proportion throughout the follow up period showed no significant difference between the three groups.

No (%) of ex-smokers one and 13 months after entry to study by treatment group

	Acupuncture (n=224)	Gum (n=205)	Control (n=222)	p Values of tests			
				Global	Acupuncture *v* control	Gum *v* control	Acupuncture *v* gum
At one month	43 (19)	46 (22)	18 (8)	0-0001	0-001	0-00001	NS
At 13 months	17 (8)	24 (12)	6 (3)	0-002	0-02	0-001	NS

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Comment

The groups given acupuncture and nicotine gum showed a better response than the control group. The lack of difference between the two active treatments may have been due to a lack of power: the number of subjects was insufficient to enable the active treatments to be compared. Acupuncture and nicotine gum were effective in helping smokers to stop smoking during the first month but did not reduce the tendency to relapse after that time. The subjects in our trial did not take the initiative in coming to a clinic to stop smoking but were invited to take part. This may explain our low long term rate of success compared with that of withdrawal clinics.

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