Readiness to Stop Smoking in Schizophrenia

Jean Addington, PhD¹, Nady el-Guebaly, MD², Donald Addington, MD³, David Hodgins, PhD¹

Objective: To assess the motivation and readiness to change of individuals with schizophrenia prior to developing a smoking cessation program.

Method: Smoking history, nicotine dependence, readiness to stop smoking, and interest in a smoking cessation group were assessed in 60 schizophrenia outpatients who smoked.

Results: The majority were interested in attending a smoking cessation group and appeared to be appropriately motivated.

Conclusions: Smoking cessation groups for a schizophrenia population may be a worthwhile endeavour. Current measures of motivation and readiness to change may be useful to identify those who are most likely to succeed.

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Despite the fact that much information has been disseminated concerning health hazards of smoking, many people continue to smoke heavily. Furthermore, it has been demonstrated in the United States that, compared with the general population, there is a higher prevalence of smoking among psychiatric patients, particularly among those with a diagnosis of schizophrenia (1). In a Canadian sample of schizophrenia outpatients in Calgary, 61% (n = 106) smoked, compared with 32% of the general population in Alberta (2). Possible reasons for these high rates are that smoking may reduce Parkinsonism, the sedative effects of neuroleptics, or negative symptoms (3,4). It has also been suggested that nicotine decreases the therapeutic effects of neuroleptics and increases tardive dyskinesia (5–7). Goff and others (8) examined the interrelationships of various correlates of nicotine in schizophrenia. Compared with nonsmoking patients with schizophrenia, those patients who smoked tended to be younger males and to have an earlier age of onset, less Parkinsonism, more previous hospitalizations, more akathisia, higher scores on the Brief Psychiatric Rating Scale, and higher doses of neuroleptics. Goff concluded that the smokers had higher neuroleptic doses partly because of a smoking-induced increase in neuroleptic metabolism.

Despite this increased focus on health hazards of smoking, there are only 2 references in the literature to confirm that programs exist or have been evaluated for their effectiveness with patients with schizophrenia (9,10). The lack of smoking cessation interventions for schizophrenia patients may stem from the untested assumption that, since these people have multiple impairments, quitting smoking may be very difficult for them (11). In addition, the presence of negative symptoms may impede the motivation and commitment necessary to quit. Nevertheless, individuals with schizophrenia who smoke are a high-risk population. They smoke more than the general population and other diagnostic groups. Besides the multitude of health hazards associated with smoking, they may require increased doses of neuroleptics. The majority receive public financial support, and the rising cost of tobacco products places increased demands on their already difficult economic situation. Finally, it may be difficult for such
individuals to participate in existing smoking cessation programs (11). The purpose of this study was to determine whether individuals with schizophrenia were motivated to stop and interested in stopping smoking. Although symptoms, medication type, and side effects may be important variables, this study addressed issues from the general smoking literature such as nicotine dependence and readiness and reasons to quit.

**Method**

**Subjects**

A sample of convenience of 60 smokers (47 males and 13 females) with schizophrenia was recruited from an outpatient schizophrenia disorders clinic in a general teaching hospital. All subjects were volunteers and signed a written, informed consent form. All were stable outpatients who met DSM-IV criteria for schizophrenia based on chart review. Subjects were excluded if they met criteria for alcohol or drug (other than nicotine) dependence in the past year. The majority were single white individuals receiving government financial support and with an average level of education of grade 11. The average age was 41.4 years (SD = 11.1), age at first admission was 24.9 years (SD = 6.1), and number of previous hospital admissions was 7.5 (SD = 8.6). The mean dose of medication in chlorpromazine equivalents was 506.3 mg (range 40 to 1228).

**Measures**

Subjects were asked how many cigarettes they smoked daily, how long they had smoked, and whether they would be interested in attending a smoking cessation group. Nicotine dependence was assessed with the Fagerstrom Test for Nicotine Dependence (12). This short test asks subjects about the time to the first cigarette of the day, difficulty refraining from smoking, increased smoking in the morning, and the most difficult cigarette to give up. This test has been shown to be a valid self-report measure of the heaviness of smoking as measured by biochemical indices (12). Scores range from 0 to 10, with scores greater than 3 suggesting dependency.

Motivation was assessed with the Reasons for Quitting Scale, which has satisfactory internal consistency and validity (13). This 20-item Likert self-report scale assesses 4 dimensions of motivation to quit smoking: health concerns, self-control, immediate reinforcement, and social influence. The first 2 dimensions are considered intrinsic motivation and the latter 2 extrinsic motivation.

Prochaska and others (14) delineate 5 stages of readiness to change that are widely used in smoking cessation research. In the *precontemplation* stage, there is no intention to change behaviour in the foreseeable future. In the *contemplation* stage there is an awareness that a problem exists, but no commitment to take action has been made. The *preparation* stage combines intention and initial action. Subjects were asked 4 of the 6 questions as suggested by Prochaska and colleagues (14) to determine the stage of readiness to change. Questions to determine the *action* and *maintenance* stages were not used since all subjects smoked. Diagnoses were clarified by chart review by JA and DA. All other questionnaires were administered by an experienced research nurse.

**Results**

On average this group smoked 26 cigarettes daily, (range 5 to 75, median 25), had smoked for 16.2 years (SD = 10.4,
range 1 to 52), and had made 3.7 previous attempts to quit (range 0 to 25). Fifty percent had made 3 or more previous attempts. As shown in Table 1, the average level of nicotine dependence was relatively high (13). Thirty-eight subjects (63%) reported that they would be keen to attend a smoking cessation group. There were no differences between men and women in age, attempts to quit, number of cigarettes smoked, and motivation to quit, but women had significantly higher levels of nicotine dependence (t = 2.28, P < 0.05).

The assessment of “readiness to change” revealed that 35 subjects were in the “precontemplation” stage, 18 were in “contemplation,” and 7 were in “preparation.” Subjects scored higher on intrinsic than extrinsic motivation. They ranked motivation in the following order of importance: health reasons, immediate reinforcement, self-control, and social influences (Table 2).

Pearson correlational analyses were conducted to assess relationships among motivation to quit, nicotine dependence, attempts to quit, and number of cigarettes smoked. An increased number of previous attempts at quitting was significantly associated with high scores on intrinsic motivation (health concerns, self-control) and with high scores on immediate reinforcement (r = 0.28, P < 0.05).

One-way analyses of variance were used to compare those at different stages of readiness to change. There was no difference among the groups in nicotine dependence, number of years they had smoked, and number of cigarettes smoked. The groups were significantly different in number of previous attempts at quitting and reasons for quitting (Table 3).

Those who were keen to attend a group were compared with those who were not interested. There were no differences in years of smoking, number of cigarettes smoked, or nicotine dependence level. Those who were keen to attend a group had made more previous attempts to quit (t = 2.0, P < 0.05). They also scored higher on the following reasons to quit: health concerns (t = 3.4, P < 0.01), self-control (t = 3.8, P < 0.001), immediate reinforcement (t = 3.3, P < 0.01), and social pressure (t = 2.2, P < 0.05).

### Discussion

These schizophrenia outpatients had smoked a high number of cigarettes for many years. Nicotine dependence was relatively high. Although they generally were not considering quitting in the next few months, more than half of the sample said they would like to come to a smoking cessation group if one were available. Furthermore, if they were to consider quitting, most of them were intrinsically rather than extrinsically motivated. The most popular reason was immediate reinforcement (for example, to save money) followed by health-related reasons and then reasons related to self-control (that is, to be in control of my life, to like myself better). The least common reasons were social influences (for example, to eliminate the inconvenience to or distress of others, to receive rewards). These reasons were no different from those reported by the general population (14). This finding is encouraging, especially since Curry and others (13) suggest that successful quitters are more likely to be intrinsically than extrinsically motivated.

The validity of our determination of the motivation levels of this clinical population was supported by the fact that those who were in the stage of precontemplation appeared less motivated and had fewer reasons to quit than those in contemplation and preparation. Subjects who reported more reasons and appeared more highly motivated had made more prior attempts to quit. Thus these measures appear to be useful for this population, and the results confirm that these patients are interested in doing something about their smoking habit.

Resnick (15) suggests that psychiatric patients are as likely as others to benefit from quitting smoking. Because of the cognitive, affectional, and social deficits so often associated with schizophrenia, however, it is likely that existing programs may not be ideal for this population. The 2 programs that have been reported were modified or designed for a schizophrenia population and appeared to be relatively successful (9,10). In conclusion, smoking cessation groups, provided that they have been specifically designed or modified for a schizophrenia population, may be a worthwhile endeavor.
Clinical Implications

- Individuals with schizophrenia are interested in smoking cessation.
- They are as motivated to quit as the general population.
- Cessation programs should be modified to account for the cognitive, social, and affective deficits of schizophrenia.

Limitations

- No control group.
- Sample of convenience.

References


Résumé

**Objectif** : Évaluer la motivation et l’aptitude au changement de personnes schizophrènes avant l’élaboration d’un programme qui aide à cesser de fumer.

**Méthode** : Chez 60 consultants externes schizophrènes qui fumaient, on a évalué les antécédents de tabagisme, la dépendance de la nicotine, l’aptitude à cesser de fumer et l’intérêt porté sur un groupe qui cesse de fumer.

**Résultats** : La plupart désiraient participer à un groupe pour cesser de fumer et semblaient être bien motivés.

**Conclusions** : Au sein de la population schizophrène, il pourrait être utile d’organiser des groupes qui aident à cesser de fumer. Les mesures actuelles de motivation et d’aptitude au changement pourraient aider à identifier les personnes les plus aptes à réussir.