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SMOKING ATTITUDES, BELIEFS, AND READINESS TO CHANGE AMONG ACUTE AND LONG TERM CARE INPATIENTS WITH PSYCHIATRIC DIAGNOSES

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Abstract — The present study represents an initial assessment of barriers and motives for quitting, health risk knowledge, and readiness to change in a hospitalized acute and long term care population with psychiatric diagnoses, and dual diagnoses of substance abuse and psychiatric disorders. Ninety-two patients residing in admissions, long term care, and mentally impaired/chemically addicted (MICA) units of a VA Medical Center were interviewed by nursing staff. Among the 78% of patients who smoke (smokers), 68% believed smoking was harmful and quitting would benefit their health. The majority of smokers were in Precontemplation (53%) or Contemplation (24%). Smokers in the MICA unit were more similar to the general population in smoking related beliefs and were more likely than other smokers to be in Preparation. These results indicate a need for educational and motivational enhancement interventions for the majority of smokers hospitalized for psychiatric disorders. © 1999 Elsevier Science Ltd

Reported smoking rates among individuals with psychiatric diagnoses range from 52% to 90% (Buchanan, Huffman, & Barbour, 1994; Gritz, Stapleton, Miller, & Jarvik, 1985; Hall et al., 1995; Hughes, Hatsukami, Mitchell, & Dahlgren, 1986; O'Farrell, Connors, & Upper, 1983; Resnick, Pasley, Siemsen, & Yok, 1989). Although the prevalence and rate of smoking among both inpatient and outpatient individuals with psychiatric disorders consistently exceeds that of the general population (Gritz et al., 1985; Hughes et al., 1986; Resnick, 1993), little is known about factors that influence smoking and smoking cessation in this group.

The majority of the small published literature regarding smoking and patients on psychiatric units either debate the practicality of restrictions or bans on smoking in this population, or describe the effects of such policy changes. Many institutions have been reluctant to attempt to restrict or ban smoking in outpatient and inpatient psychiatric settings despite the trend to prohibit smoking in other health care settings. Reasons for this reluctance include concern regarding discipline problems, treatment disruption, the historic use of cigarettes as rewards and incentives, the social function of smoking, the belief that smoking restrictions would eliminate one of the few pleasures available to these individuals, and the belief that individuals with psychiatric disorders lack the motivation, cognitive function, or insight necessary to control their addiction (Beemer, 1993; Geller & Kaye, 1990; Greeman & McClellan, 1991; Hartman,

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Leong, Glynn, Wilkins, & Jarvik, 1991; Peele, 1988; Resnick & Bosworth, 1988; Smith & Grant, 1989; Thorward & Birnbaum, 1989).

Although some psychiatric institutions have reported that a minority of patients who smoke have difficulties adjusting to restrictions on smoking (Greeman, & McClellan, 1991), the majority of institutions indicate few problems actually occur when smoking is severely restricted or banned in outpatient (Dawley, Williams, Guidry, & Dawley, 1989; Maiuro, Michael, Vitaliano, Chiles, & Davis, 1989) or inpatient settings (Beemer, 1993; Dawley, Williams, Guidry, & Dawley, 1989; Haller, McNiel, & Binder, 1996; Patten, Martin, & Owen, 1996; Resnick & Bosworth, 1989; Smith & Grant, 1989; Taylor et al., 1993; Thorward & Birnbaum, 1989). Little is known about the influence of restrictions on smoking in health care settings on behavior outside the outpatient clinic (Maiuro et al., 1989) or inpatient setting (Thorward & Birnbaum, 1989). Patients do report smoking less after discharge from a psychiatric institution with a smoking ban (Cooke, 1991), although 90% of patients experienced a smoking relapse after discharge (Jonas & Eagle, 1991).

It is assumed that inpatients with psychiatric disorders who smoke lack the motivation to quit and that treatment would not be successful (Buchanan et al. 1994), yet little research has been conducted to determine readiness to quit or to develop effective treatments for this group. Although some studies have found interest in quitting among outpatient smokers in treatment for substance abuse to be 53% (Kozlowski, Skinner, Kent, & Pope, 1989) and among inpatient smokers with psychiatric disorders to be as high as 42% (Gritz et al., 1985), Hall and associates (Hall et al., 1995) found that the majority of veterans with chronic psychiatric disorders (53%) residing in the community or residential care homes met Prochaska and DiClemente's (1983) criteria for Precontemplation (i.e., expressed no interest in quitting within the next 6 months).

With the exception of smokers with both psychiatric diagnoses and substance abuse diagnoses (Bobo, Gilchrist, Schilling, Noach, & Schinke, 1987; Joseph, Nichol, Willenbring, Korn, & Lysaght, 1990; Kozlowski et al., 1989; Miller, Hedrick, & Taylor, 1983), there is a lack of research on smoking cessation treatment for smokers with psychiatric disorders (Bronaugh & Frances, 1990). For smokers undergoing substance abuse treatment, research suggests that bans on smoking increase interest in quitting and abstinence during treatment (Joseph et al., 1990). Smoking cessation does not appear to reduce treatment efficacy for recovering alcoholics (Bobo et al., 1987) and may predict successful abstinence from alcohol (Miller et al., 1983).

As the gap widens between smoking prevalence in the general population and among individuals with psychiatric diagnoses, the need to address smoking among patients being treated for psychiatric disorders becomes more evident. Further, the pharmacological effects of nicotine on neuroleptic medication commonly used with this group highlights the relationship between cigarette smoking and treatment efficacy, making smoking a treatment issue as well as a general health issue. Liver enzymes activated by nicotine and tar increase the metabolism of many psychotropic drugs and reduce the sedative effects of benzodiazapine and common antipsychotic medications (Miller, 1977; Salokangas et al., 1997). Higher doses of dopamine-blocking neuroleptic drugs required by smokers is thought to cause a two to three times greater frequency of tardive dyskinesia among smokers (Binder, Kazamatsuri, Nishimura, & McNiel, 1987). The risk of polydipsia among schizophrenics increases 3.6-fold if they smoke (de Leon et al., 1996). Hyponatremia in patients with schizophrenia may be related to the increased release of pituitary anti-diuretic hormone caused by smoking (Allon, Allen, Deck, & Clark, 1990). Individuals with a history of depression have a high prev-

alence of smoking, and low likelihood of successful smoking cessation (Glassman, 1993). Nicotine appears to reduce negative affect (Hall, Munoz, Reus, & Sees, 1993; U.S. Department of Health and Human Services, 1988) and to decrease blood levels of some antidepressants (Sutfin, Perini, Molnar, & Jusko, 1988). The synergistic effects of smoking and alcohol on cancer risks (U.S. Department of Health and Human Services, 1982), pancreatitis (Pitchumoni, Jain, Lowenfels, & DiMagno, 1988), and cirrhosis (Klatsky & Armstrong, 1992) suggest an urgent need to address smoking in the subpopulation of smokers dually diagnosed with psychiatric disorders and substance abuse problems.

The present study represents an initial assessment of barriers and motives for quitting, health risk knowledge, and readiness to change in a hospitalized population comprised of acute and long term patients hospitalized for psychiatric disorders, and patients with dual diagnoses of substance abuse and psychiatric disorders.

METHOD

Subjects

The Department of Veterans Affairs Medical Center at Canandaigua in Western New York is a 753-bed facility, of which 331 beds are occupied by patients with a primary psychiatric diagnosis. Subjects targeted for interview were 127 patients residing in four psychiatric units from October through December 1993: Admissions (hospitalized for less than 45 days), Long-Term Care (two units: one housing moderately disturbed patients and one housing more severely disturbed patients), and Mentally Impaired/Chemically Addicted (MICA). The four units chosen for inclusion in the study were representative of the various levels of psychiatric care at the hospital, excluding units with patients whose primary diagnosis was dementia. Patient eligibility was determined by head nurses on each unit; head nurses were asked to be liberal in their clinical judgement of potential patients. To qualify as subjects, patients had to be judged capable of responding to a brief interview and considered unlikely to be physically abusive to interviewers. If they met the above criteria, patients were eligible for participation even if their diagnoses included psychoses or cognitive impairments resulting from dementia or delerium. Patients targeted for interviews represented 84% of patients in Psychiatric Admissions (n = 42 of 50 patients); 78% of patients in Psychiatric Long-Term Care, moderate disfunction (n = 36 of 46 patients); 56% of patients in Psychiatric Long-Term Care, severe disfunction (n = 10 of 18 patients); and 100% of patients on the MICA unit (n = 42 of 42 patients). Participation among eligible patients was 77.7% (n = 28) on the moderate disfunction Psychiatric Long-Term Care unit, 60.0% (n = 6) on the severe disfunction Psychiatric Long-Term Care unit, and 97.6% (n = 41) on the MICA unit. Among eligible patients on the Psychiatric Admissions unit, 17 (40.5%) completed interviews, 17 (40.5%) were discharged prior to being interviewed, and 8 (19.0%) refused to participate.

Hospital smoking policy

Restrictions on smoking, in effect since 1992, varied by unit. In the Admissions unit, smokers restricted to the unit received 6 cigarettes per day and smokers not restricted to the unit received 12 cigarettes per day. On both Long-Term units, smokers received 5 cigarettes per day. On the moderate dysfunction Long-Term Care unit, smokers not restricted to the unit received 5 additional cigarettes. On the MICA unit, the number of cigarettes was not restricted, and smoking was allowed during all scheduled breaks

throughout the day. Only low tar/nicotine cigarettes were allowed on all units, with distribution controlled by unit staff.

Measures

Patient Smoking Survey. All patients who consented to be interviewed were asked about their smoking status and education level. Patients who responded that they had never smoked were not asked additional questions. Patients who reported smoking at the time of the interview (smokers) and ex-smokers were asked about their smoking history, current number of cigarettes smoked per day, number of cigarettes smoked prior to unit restrictions, and number of years smoked. Smokers were asked additional questions related to their readiness to quit, beliefs about smoking hazards and benefits of quitting, self-efficacy for quitting, and reasons why they had not stopped smoking. To classify patients by stage of change (Prochaska & DiClemente, 1983), smokers were asked whether they ever planned to quit, planned to quit by spring (approximately 6 months from the interview period), planned to quit within 1 month, and whether they had quit for at least 24 hours within the past year. Stages of change were classified as follows: do not plan to quit within 6 months (Precontemplator), do not plan to quit within the next month (Contemplator), plan to quit within the next month with a 24-hour quit attempt within the past year (Preparation), smoke-free for 48 or more hours (Action), and smoke-free for greater than 6 months (Maintenance). Self-efficacy for quitting was assessed with a single item of confidence in ability to quit, rated on a 5-point scale with 1 indicating *not at all sure* and 5 indicating *completely sure* (National Cancer Institute, 1984). Knowledge regarding the hazards of smoking and benefits of quitting was assessed first by asking patients if they believed smoking "hurts your health in any way" and if stopping smoking "would help make you healthier." For smokers who endorsed the statement that smoking was hazardous to their health, the open-ended question, "How does smoking hurt your health?" was asked. For smokers who endorsed the statement that stopping smoking would help make them healthier, the open-ended question, "How do you think it would make you healthier?" was asked. All smokers were asked, "Why do you think that you haven't stopped smoking?"

Demographics and medical history

Information on length of stay, diagnoses, medications, marital status, and age were collected from patient records. Patients were asked about their education level during the interview.

Procedure

Interviews were administered by eight registered nurses with research experience. Research interviewing techniques were reviewed with the nurses. Nurses had expressed concern that unfamiliar interviewers might agitate patients and lead to physical outbursts. To reduce the risk of violence, members of the unit staff and nurses familiar to patients on the unit were selected to be interviewers. If requested by the interviewer, a staff member from the unit was available to observe the interview to provide assurance for patients, thereby reducing the potential for acting-out behavior.

The typical interview required 5 to 15 minutes to complete and was conducted in a private area. At the beginning of the interview, patients were assured that all responses would be confidential, would not be shared with unit staff, and would not influence patient care or policies on smoking. Scheduling of interviews was coordinated

between the interviewer and unit staff. Interviews were conducted during times that would not interfere with the patient's treatment, recreation, or privilege periods.

Chi-square analyses were conducted for categorical data. When assumptions of normality and homogeneity of variance were met, *t* tests or analyses of variance were conducted for interval data. When the data did not meet the requirements for an analysis of variance, a Kruskal-Wallis test was used. This test performs a nonparametric test equivalent to the ANOVA using ranked rather than interval data. Because potential differences in attitudes, beliefs, and practices between patients on the MICA unit and patients on the other units were of particular interest, comparisons between these two groups were conducted when overall differences were found.

RESULTS

Patients considered inappropriate for interview

From October through December 1993, all patients admitted to the Canandaigua VAMC Psychiatric Admissions Unit or residing in one of the other three units participating in the study were screened for interview eligibility. Demographic and medical characteristics of patients targeted for participation were compared with characteristics of patients considered inappropriate for interview residing on the four targeted units at the time of a unit census taken during the 3-month period of interview eligibility ($n = 55$). Patients considered inappropriate for interview were significantly older ($M = 57.4$, $SD = 13.9$) than patients targeted for participation ($M = 47.5$, $SD = 13.2$), $t(163) = 4.38$, $p < .001$. The median length of stay for patients considered inappropriate for participation was longer (1,495 days, range: 35–18,332) than the median length of stay for targeted patients (78 days, range: 6–13,258). These patients were more likely to have a primary diagnosis of schizophrenia (65%) than targeted patients (35%), $\chi^2(1) = 10.32$, $p < .001$.

Nonrespondents

Of the 127 patients identified as eligible to be interviewed, 17 were discharged prior to being interviewed. Among the 110 patients approached to be interviewed, 21 (19.1%) declined to participate. Nonresponders tended to have longer lengths of stay, Kruskal-Wallis $H(1) = 4.35$, $p = .05$ (median: 686.0 days vs. 69.0 days) and were less likely to be diagnosed with substance abuse disorders, χ^2 (1, $N = 110$) = 4.52, $p < .05$ (33.3% vs. 60.9%) or affective disorders, $\chi^2(1, N = 110) = 4.98$, $p < .05$ (11.1% vs. 38.0%). The percentage of patients refusing to participate differed significantly by unit, $\chi^2(3, N = 110) = 11.\ 91$, $p < .01$, with 40% of the more severely disturbed long term care unit, 24% of the admissions unit, 19% of the less disturbed long term care unit, and 2% of the MICA unit refusing to participate. The MICA unit had significantly fewer refusals (2%) than the other units combined (28%), $\chi^2(1, N = 110) = 9.7$, $p < .01$.

Patient characteristics

Responders were 98% male with a mean age of 47.6 years. The typical patient had never been married (43.5%) and had completed 12.5 years of education. The median current length of stay was 59 days (range: 6–4,542 days). Major diagnoses included substance abuse (60.9%), schizophrenia (55.4%), and affective disorders (38%). Patients were prescribed a mean of 2.5 ($SD = 1.1$) psychoactive medications. Patient characteristics by unit are presented in Table 1.

Table 1. Characteristics of long term care patients with psychiatric disorders

	Unit									
	Total (n = 92)		Long term, severe (n = 6)		Long term, moderate (n = 28)		Admissions (n = 17)		MICA (n = 41)	
Characteristic	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age (years)*	47.2	13.0	39.3	6.5	56.8	13.2	52.9	13.6	39.3	6.5
Education (years)	12.5	2.4	12.3	1.8	11.6	3.2	12.2	2.2	13.2	1.7
Length of stay* (Median days)	69.0		1,868.5		1,186.5		28.0		34.0	
Marital status										
% never married	44.4		66.7		48.1		41.2		40.0	
% married	16.7		0		22.2		23.5		12.5	
% separated	7.8		0		3.7		0		15.0	
% divorced	31.1		33.3		25.9		35.3		32.5	

*$p < .001$.

Smoking status and history

Table 2 presents the history and characteristics of smoking by unit. Overall, smoking prevalence was reported to be 78% (n = 72) and did not differ significantly across units, $\chi^2(3, N = 92) = 5.3, p > .05$. Of those who were currently not smoking, 65% (n = 13) were ex-smokers. Number of years smoked differed across units, Kruskal-Wallis $H(3) = 8.1, p < .05$. Compared to smokers on the other three units (M = 28.9, SD = 15.6), smokers on the MICA unit had significantly shorter smoking histories (M = 21.0, SD = 8.9), Kruskal-Wallis $H(1) = 5.7, p < .05$. Because smokers on the MICA unit were significantly younger (M = 39.3, SD = 6.5) than smokers on the other three

Table 2. Smoking prevalence, smoking history, and current consumption among long term care patients with psychiatric disorders

	Unit									
	Total		Long term, severe		Long term, moderate		Admissions		MICA	
Variable	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Smoking status										
Smoker	72	78.2	6	100	19	67.8	12	70.6	35	85.3
Ex-smoker	13	14.1	0		7	25.0	3	17.6	3	7.3
Never smoker	7	7.6	0		2	7.4	2	11.8	3	7.3
Smoke within 30 minutes of waking*	52	75.4	4	100	9	50.0	9	75.0	30	85.7
25+ cigarettes/day	16	22.5	0		2	10.5	3	27.3	11	31.4
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Years smoked*	24.9	13.2	21.3	13.2	28.6	15.3	33.1	16.8	21.0	8.9
Current # cigarettes/day**	17.5	13.7	7.8	6.1	16.2	19.0	18.5	15.4	19.6	9.9
Cigarettes/day prior to restrictions	26.0	18.1	32.0	11.0	31.1	21.9	24.6	23.2	23.5	15.5

*$p < .05$.
**$p < .01$.

wards ($M = 53.1$, $SD = 13.7$), Kruskal-Wallis $H(1) = 28.8$, $p < .001$, it is likely that the difference in number of years smoked can be accounted for by differences in age rather than differences in initiation age.

An average of 17. 5 cigarettes was reported to be consumed per day by smokers ($SD = 13.7$, range = 2 to 80). Table 2 presents mean consumption by unit. A Kruskal-Wallis ANOVA indicated that the units differed significantly in their average cigarette consumption: $H(3) = 10.8$, $p = .01$. Consumption among patients on the MICA unit did not differ from that of the other three wards. The number of cigarettes reported smoked per day prior to restrictions (26.0) was significantly greater than current consumption, $t(63) = 4.4$, $p < .001$, with no significant differences reported across units.

The percentage of smokers who smoked their first cigarette within 30 minutes of waking or who smoked more than 25 cigarettes per day was used as a rough measure of nicotine dependence. Note that this is an imperfect measure, in that both the number of cigarettes smoked and timing of smoking typically was regulated by staff. The majority of smokers appeared to be dependent on nicotine, with 75% ($n = 52$) of smokers consuming their first cigarette within 30 minutes of waking and 24.6% of smokers ($n = 16$) smoking 25 or more cigarettes per day. The percentage of patients who smoked within 30 minutes of waking differed significantly by unit, $\chi^2(3, N = 72) = 9.36$, $p < .05$. Patients on the MICA unit were more likely to smoke within 30 minutes of waking (77%) than patients on the other three units (59%). Chi-quare analysis of the percent of patients who smoked more than 25 cigarettes per day was not conducted because expected cell values were too small.

Beliefs about smoking and health

When asked whether or not they thought smoking "hurts your health in any way," 68% of smokers ($n = 47$) stated that smoking affected their health negatively. As seen in Table 3, the same level of endorsement was found (68%) when smokers were asked if "stopping smoking would help make you healthier." Comparing MICA patients with patients in the other three wards, a chi-square analysis revealed that smokers on the MICA unit were more likely to believe smoking negatively affected their health (91.4%, $n = 32$) than smokers on all the other units (44.1%, $n = 15$), $\chi^2(1, N = 47) = 17. 8$, $p < .001$. Smokers on the MICA unit also were more likely to believe that "stopping smoking would help make you healthier" (94.3%, $n = 33$) than smokers on all other units (41.2%, $n = 14$), $\chi^2(1, N = 47) = 22.4$, $p < .001$. Conversely, smokers on the Long Term Care units were least likely to agree with these statements.

Table 3. Smoking beliefs for long term care patients with psychiatric disorders

	Unit									
	Total		Long term, severe		Long term, moderate		Admissions		MICA	
Smoking belief	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Hurts health										
Agree	47	68.1	1	16.7	7	43.8	7	58.3	32	91.4
Disagree	22	31.9	5	83.3	9	56.2	5	41.7	3	8.6
Stopping improves health										
Agree	47	68.1	2	33.3	4	25.0	8	66.6	33	94.3
Disagree	22	31.9	4	66.7	12	75.0	4	33.3	2	5.7

Smokers who had endorsed the statement that smoking hurt their health were asked to identify specific ways in which smoking affected their health. The majority of respondents identified at least one recognized health risk factor associated with smoking. The most commonly cited hazards of smoking included breathing problems (e.g., hurt lungs, cause emphysema, shortness of breath; 91.5%, $n = 43$), heart disease (38.3%, $n = 18$), and cancer (31.9%, $n = 15$). Smokers who had endorsed the statement that stopping smoking would benefit their health were asked to identify specific ways in which stopping smoking would help their health. The most commonly cited benefits of quitting included improved breathing/lung function (83.0%, $n = 39$), improved cardiovascular system (19.1%, $n = 9$), and improved physical condition (19.1%, $n = 9$). Table 4 presents a list of the hazards of smoking, and Table 5 presents a list of the benefits of cessation cited by smokers.

Intentions to quit, readiness to quit, and quitting self-efficacy

When asked whether or not they planned to quit smoking within the next 6 months, 40% of smokers responded that they intended to quit within this time period. Of those who had no plans to quit within the next 6 months, 24 smokers (33% of smokers) indicated that they did not intend to quit at any time. Of those who indicated that they planned to quit smoking within the next 6 months, 16 (23% of smokers) indicated that they planned to quit within the next month. Thirty-nine percent of smokers ($n = 25$) indicated that they had at least one 24-hour quit attempt in the past year.

Readiness to change was calculated using the algorithm developed by Prochaska and DiClemente (1983). Smokers were classified as "Precontemplators" if they reported no plans to quit within the next 6 months. If smokers intended to quit within the next 6 months, they were classified as "Contemplators." Smokers intending to quit within the next month with a 24-hour quit attempt in the past year were considered to be in "Preparation." Individuals currently not smoking for 48 hours or more were considered in "Action." Smokers who had remained smoke-free for 6 or more months were considered to be in "Maintenance." As shown in Table 6, the majority of smokers were categorized as Precontemplators (53%) or Contemplators (21%). Because the expected value of many of the cells was too small to conduct a chi-square analysis, no analysis was conducted.

Self-efficacy for quitting was assessed by asking smokers, "How sure are you that you would be able to stop smoking completely and stay off?" On a scale of 1 (*not at all*

Table 4. Beliefs about the hazards of smoking among long term care patients with psychiatric disorders

Response	*n*	%
Respiratory problems	43	91.5
Heart problems	18	38.3
Causes cancer	15	31.9
Reduces physical capacity	4	8.5
Dizziness/headache	4	8.5
Hurts me mentally	3	6.4
Throat	2	4.2
Nicotine gets into blood, is a poison	2	4.2
Bad smell, taste	2	4.2
Eye problems	2	4.2
Other	16	34.0

Note. $N = 47$.

Table 5. Beliefs about the benefits of quitting among long term care patients with psychiatric disorders

Response	*n*	%
Easier to breathe/rid self of cough	39	83.0
Improve physical condition	9	19.1
Improve cardiovascular system	9	19.1
Clear senses	8	17.0
Reduce cancer risks	5	10.6
Put on lost weight/better eating habits	4	8.5
Miscellaneous health benefits	4	8.5
Increase energy	3	6.4
Save money	3	6.4
Don't know	3	6.4
Think clearer, excel, more ambition	3	6.4
Improve gums, teeth	3	6.4
Rid body of tar/nicotine	2	4.3
Other	5	10.6

Note. $N = 47$.

sure) to 5 (*absolutely sure*), the mean response was 2.6 (*a little bit sure* to *in between*), $SD = 1.5$. Confidence did not differ significantly across units.

Reasons for continuing to smoke

Smokers were asked to identify reasons why they continued to smoke. Table 7 provides a list of reasons cited for continued smoking.

DISCUSSION

The results of this study indicate a high smoking prevalence among long term patients hospitalized for psychiatric disorders (78%). As has been found in previous studies of this population, the smoking prevalence among long term care patients with psychiatric disorders is in excess of rates exhibited by the general adult population (Hughes et al., 1986), as well as VA patients on general medical and surgical units (Dawley, Williams, Dawley, & Fleischer, 1989; Gritz et al., 1985).

Although the majority of smokers believe smoking is harmful and quitting would benefit their health (68%), this percentage is well below the national average for smokers (93.4%: U.S. Department of Health and Human Services, 1986). Viewed as a whole, the beliefs of this group closely resemble the beliefs of VA patients hospital-

Table 6. Readiness to quit smoking among long term care patients with psychiatric disorders

	Unit									
	Total		Long term, severe		Long term, moderate		Admissions		MICA	
Stage	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Precontemplation	42	53%	5	83%	14	58%	6	40%	17	45%
Contemplation	17	21%	1	17%	2	8%	5	33%	9	24%
Preparation	11	13%	0		1	4%	1	7%	9	24%
Action	3	4%	0		1	5%	0		2	5%
Maintenance	7	9%	0		4	18%	2	14%	1	3%

Table 7. Barriers to smoking cessation among long term care patients with psychiatric disorders

Response	*n*	%
Enjoy smoking/don't want to stop	34	47.2
Strength of habit	26	36.1
Boredom	9	12.5
Anxiety, "nerves"	8	11.1
Smoking does me good (e.g., relaxing, stimulating, stifles pain)	7	9.7
Availability of cigarettes	5	6.9
Never had a reason/need to stop	5	6.9
I have emotional problems	5	6.9
Other stressors	4	5.6
Concentrating on other addictions	3	4.2
Smoking helps your appetite/digestion	3	4.2
I need some help to stop	3	4.2
Sociability of smoking	2	2.7
Don't know	2	2.7
Other	10	13.9

ized for non-psychiatric illnesses (Dawley et al., 1989). One finds large variability when beliefs across the four units are studied, however, with smokers on the chronic Long-Term Care unit least likely to believe in the hazards of smoking (17%) and benefits of quitting (33%) and smokers on the MICA unit exhibiting responses most similar to the general population (91% believing in the hazards of smoking and 94% believing in the benefits of quitting). The majority of smokers who believe smoking is harmful and quitting is beneficial cite examples of the "textbook" hazards of smoking (cancer, lung, heart problems) and benefits of quitting (reduced cancer risk, easier breathing, improved cardiovascular condition). A small number of responses, however, indicate the presence of distorted thought processes (e.g., "Smoking is sinful, I have every reason to be punished"; "I am the earthly presence of the Holy Spirit, nothing can harm me"; "Everything will get better if I quit").

According to Prochaska and associates (Prochaska, DiClemente, & Norcross, 1992), at any given time, 10–15% of all smokers are in Preparation or Action and 85–90% of smokers are in Precontemplation or Contemplation. The percentage of the general population of smokers in Precontemplation and Contemplation is similar to the percentage in this sample of smokers (84%). Smokers on the MICA unit were more likely than smokers in the general population to report being in Preparation (24%) or Action (5%). Because fewer respondents from the MICA unit reported being in Maintenance (3%) than in Action (5%), it appears that individuals in this group have difficulty quitting for a sustained period of time. These findings indicate a need for general smoking education and intervention programs to enhance motivation among the majority of smokers in inpatient psychiatric settings who are in Precontemplation and Contemplation. Assessment of readiness to change would allow targeted action-oriented strategies for the small but important group of smokers interested in quitting.

Despite unit restrictions limiting access to cigarettes and times available to smoke, 22% of smokers were heavy smokers, and 74% smoked within 30 minutes of awakening. Reports by nurses of high levels of cigarette-seeking behavior even among smokers who did not meet the above criteria suggest that these criteria may underestimate true nicotine dependence in this population.

Smokers reported smoking significantly fewer cigarettes than before smoking restrictions were implemented. However, for each unit, the mean reported smoking rate exceeded the number of cigarettes allowed by unit policy. This indicates that smokers may be accessing cigarettes from other sources. These sources might include relatives, purchases at local stores, and a cigarette black market. Nonetheless, differences in consumption between units did parallel the different unit policies, indicating that restrictions are helpful in significantly reducing intake as a function of their strictness. In light of the relatively sizeable percentage of smokers on the MICA unit reporting readiness to quit smoking, it may be appropriate to further restrict smoking on this type of unit.

The present results indicate that smokers with dual diagnoses (i.e., substance abuse and other psychiatric diagnoses) in treatment for substance abuse problems differ from smokers on other psychiatric units in their level of knowledge of the hazards of smoking and the benefits of quitting, and their reported readiness to change. This may reflect an attempt to stabilize psychiatric symptoms prior to admission into the substance abuse treatment program. Contrary to the assumption that smokers in treatment for substance abuse are not interested in smoking cessation, our study suggests these smokers may be more ready to address their smoking than individuals in the general population. Although infrequently undertaken, simultaneous treatment for smoking and other substance abuse problems does not appear to be deleterious, and may be beneficial to the treatment of the primary addiction. Within residential programs for substance abuse, strict no-smoking policies and didactic training have been found to increase smoking abstinence and motivation to quit smoking without increasing the incidence of early discharge (Joseph et al., 1990). Treatment for smoking appears to aid abstinence from drugs and alcohol even among individuals who continue to smoke (Burling, Marshall, & Seidner, 1991). Among users of smokable drugs such as crack cocaine and marijuana, because the behaviors associated with smoking cigarettes may elicit triggers and cues of drug use and lead to relapse (Sees & Clark, 1993), successful treatment of cigarette use may be an important key to treatment efficacy. It is important to note, however, that implementation of smoking bans in units treating chemical dependency have lead to more surreptitious smoking among patients than in units treating psychiatric disorders (Patten et al., 1996).

Cessation treatment is not common in psychiatric hospitals (Resnick, 1993). Many health care staff assume that smokers with psychiatric disorders are not interested in quitting and that efforts to encourage abstinence would be futile (Buchanan et al., 1994). Our research indicates that a small percentage of these individuals may be interested in quitting. The comments smokers made indicating that their psychiatric disorders were barriers to quitting (e.g. “smoking is part of my addiction”; “I have emotional problems”) highlight the need to be attentive to the unique obstacles facing this group of smokers when treatment strategies are formulated. The interaction between smoking and depression (Glassman, 1993), and smoking and psychoactive medications (Sutfin et al., 1988) may make smoking cessation more difficult for this group than other groups of smokers. The social nature of smoking and the limited opportunity for other activities add to the challenge of remaining smoke-free in a psychiatric hospital. Treatment suggestions include enforcing a smoke-free environment to extinguish the social cues of smoking (Resnick et al., 1989), providing nicotine replacement therapy when requested (Hartman et al., 1991), as well as offering ongoing treatment and support groups for interested individuals. Special attention to the appeal of smoking cessation treatment programs offered in inpatient settings may be necessary in light of

the low utilization by patients (Taylor et al., 1993). As has been found true of other special populations (e.g., older adults, pregnant smokers), programs specifically targeted to this group are likely to prove more successful than "generic" programs (Dawley, Morrison, & Carrol, 1980).

Because this is a population hospitalized for psychiatric disorders, the reliability of patient's responses is unknown. However a delusional and unstable response style is characteristic of this population. Furthermore, as evidenced by the responses to the open-ended questions, patient's responses ranged from the rational to the delusional. In the absence of standardized mental status tests, it is not possible to quantify the psychopathology of this sample. The purpose of this study, however, was not to differentiate the more oriented patients from the less functional patients. Rather, the purpose was to obtain a representative view of the opinions and knowledge of patients with a chronic history of hospitalizations for psychiatric disorders. Thus, eligibility criteria were minimal to maximize the inclusion of patients into the study. This study can provide only a "snapshot picture" of the beliefs and attitudes of this sample at the time of the interview.

This study provides an initial analysis of attitudes, beliefs, and readiness to quit smoking among individuals in acute and long term hospital care for psychiatric disorders. The results indicate this population is less likely to believe in the risks of smoking and benefits of quitting than the general population, although these beliefs vary greatly across types of inpatients. The majority of smokers are in the early stages of change, although there is a small group of smokers, primarily in the Mentally Impaired/Chemically Addicted unit, in the Preparation and Action stages. Treatment for the general population of smokers hospitalized with psychiatric disorders should include educational and motivational enhancement interventions. Screening of patients who smoke for readiness to change would allow action-oriented treatments to be targeted to patients interested in quitting.

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