Smoking Cessation Among People Seeking Mental Health Treatment

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Objective: **This study examined smoking cessation characteristics of smokers who reported seeking mental health treatment.** ***Methods:*** **Data for adult current smokers (N=18,939) were combined from the 2000, 2005, and 2010 National Health Interview Survey. Multivariate regressions were used to assess associations between smoking cessation behaviors, cessation-related social norms, and mental health treatment.** ***Results:*** **Smokers (N=1,897) who reported seeing mental health professionals for mental health problems had higher odds of having made attempts to quit in the past year (odds ratio [OR]=1.17), of having used nicotine replacement therapy (OR=1.28), and of using face-to-face counseling (OR=2.40), telephone quit lines (OR=1.81), and support groups (OR=1.63) to assist smoking cessation. They were more likely to have been advised by health professionals to quit smoking (OR=1.62) but less likely to live in a smoke-free home (OR=.78). Use of smoking cessation treatments and prevalence of smoke-free homes increased over the sampling period.** ***Conclusions:*** **Findings highlight the need for tailored efforts to reduce tobacco use among people with mental health problems. (*Psychiatric Services* 65:957–960, 2014; doi: 10.1176/appi.ps.201300444)**

The prevalence of smoking in the United States has decreased rapidly over recent decades (1) but has remained high in some subgroups. People suffering from mental illness constitute the largest and most vulnerable of these subgroups. It is estimated that adults with mental illness represent 25% of the total population but consume over 40% of all cigarettes smoked by adults (2).

Although people with mental illness have lower cessation rates (3–5), few population studies have explored the mechanisms for this. Possible explanations include reduced motivation to quit smoking, underutilization of evidence-based cessation treatments, and greater difficulty in remaining abstinent in the long term. Some researchers have reported that levels of quit attempts are similar among smokers with and without mental illness (5–7), but reports did not provide detailed investigation of how smokers with mental illness had tried to quit. Lawrence and colleagues (7) found that overall use of cessation treatments was more prevalent among smokers with serious nonspecific psychological distress; however, their study did not examine use of specific types of cessation treatments in association with mental illness. Smoking cessation treatments such as nicotine replacement therapy (NRT), prescribed medication, and telephone quit lines have been widely disseminated over the past few years (8), so assessing the pattern of use of cessation treatments by smokers with mental illness and describing any trends may facilitate a deeper understanding of the low cessation rate in this group.

Historically, smoking has been tolerated in the mental illness community—by the smokers themselves who have mental illness and by their families and health professionals (4). Thorndike and colleagues (9) estimated that in the 1990s less than 15% of outpatients with a psychiatric diagnosis were advised to quit smoking by their psychiatrists, and only 20%–50% were advised by their primary care physicians to quit. In view of increasing evidence that smoking cessation is not correlated with deterioration in mental health (4) and the widespread dissemination of population-level tobacco control programs (10), attitudes toward smoking among people with mental illness may have changed in the past decade.

In this study, data for adult current smokers from the 2000, 2005, and 2010 National Health Interview Survey (NHIS) were used to examine smoking cessation behaviors and social norms among people who had sought mental health treatment in the past year. The findings were expected to improve understanding of the smoking cessation characteristics of smokers in the mental health care system and provide guidance to policy makers and health practitioners on the optimal design of smoking cessation programs for people with mental illness.

Methods

The NHIS is an annual cross-sectional household survey that collects health-relevant data from a representative sample of the civilian noninstitutionalized population in the United States. Every five years, a cancer control interview is administered to the adult sample as a supplement to the core interview, to provide additional information on cancer-relevant topics such as smoking. Data from the three most recent cancer control files, from NHIS 2000, 2005, and 2010, were combined in this study. A total of 90,959 adults participated in both the core interview and the cancer control interview over these three years.

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Data for 18,939 current smokers for whom complete information on mental health service utilization was available were analyzed.

Utilization of mental health treatment was measured by the question, "During the past 12 months, have you seen or talked to any of the following health care providers about your own health?" Respondents who affirmed that they had seen "a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or clinical social worker" were defined as having sought mental health treatment in the past year.

Respondents who smoked cigarettes "every day" or "some days" at the time of interview were categorized as current smokers; those who smoked "every day" were also defined as daily smokers. The average number of cigarettes consumed per day was defined as the total number of cigarettes consumed in the past 30 days divided by 30. Daily smokers who smoked more than 20 cigarettes per day were categorized as heavy smokers.

Current smokers who had "stopped smoking for more than 1 day because" they had tried to quit smoking in the past year were defined as having made a quit attempt. They were asked about their use of cessation aids, including NRT, such as nicotine gum, patches, nasal spray, and inhalers; prescription medication such as bupropion; one-on-one counseling; a clinic, class, or support group; and, in 2005 and 2010, telephone helplines or quit lines. Smokers who did not report use of any of these cessation aids were categorized as "did not use any of the aids above." Current smokers who said they "would like to quit smoking cigarettes completely" were perceived as having an intention to quit in the future.

Health professionals' attitudes toward quitting were evaluated by asking current smokers who had seen a health professional for their own health the question "In the past 12 months, has a medical doctor or other health professional advised you to quit smoking or quit using other kinds of tobacco?" A respondent had a smoke-free home if no one smoked cigarettes, cigars, or pipes anywhere inside the home.

The following variables were included in the regression analysis: gender, age, race and ethnicity, marital status, and educational attainment. Because medical insurance coverage affects the decision to use health services and cessation aids, a medical insurance indicator was also used in the analyses.

Cross-tabulation was used to compare current smokers who had sought mental health treatment in the past year with smokers who had not. Multivariate logistic regression models were constructed for the three-year pooled sample to explore associations among smoking cessation behaviors, social norms, and smokers' utilization of mental health services, and analyses controlled for the reported sociodemographic variables. An indication of heavy smoking was also entered to account for the influence of nicotine dependence on smoking cessation. Survey year indicators were also included. To uncover any temporal trend in cessation behavior and social norms among smokers seeking mental health treatment, measures were described separately for each year, and the linear time trend was estimated by bivariate logistic models, with survey year coded as a continuous regressor.

The sampling weights, strata, and primary sampling units provided by the NHIS were applied to the reported statistics to account for multiple stages of sampling and varying probability of sample selection. Yearly sampling weights were divided by 3 in the pooled data analysis to annualize the statistics. The complex survey analysis procedures in Stata, version 12, were used to perform all the statistical analyses; $p<.05$ was the threshold for statistical significance.

Results

Of the 18,939 current smokers, 46.2% were female, 74.9% non-Hispanic white, 11.5% black, 9.1% Hispanic, and 2.2% Asian, and the mean±SD age was 41.65±14.98. Of the smokers, 1,897 (10%) had seen a mental health professional for mental health problems during the past year. The other 17,042 smokers had either seen other health professionals for other health conditions (76%) or not seen a health professional for health care (24%). Smokers who had sought mental health treatment were more likely to be female, younger, non-Hispanic white, highly educated, and covered by medical insurance. They consumed one more cigarette per day ($p=.002$), or 18.25 more packs per year, than smokers who had not sought mental health treatment, and they were more likely to be heavy smokers ($p=.005$). [A table in the online data supplement to this report provides sociodemographic characteristics and details on smoking behavior.]

The multivariate logistic regressions showed significant associations between mental health service utilization and most of the outcome measures after adjustment for sociodemographic variables (Table 1). People who had sought mental health treatment were more likely to report attempts to quit in the past year (odds ratio [OR]=1.17) and to have used NRT, face-to-face counseling, telephone quit lines, and a class or support group to assist with cessation (ORs ranged between 1.28 and 2.40) and less likely to not have used any aids (OR=.76). Seeking mental health treatment was associated with a greater likelihood of having been advised by health professionals to quit smoking (OR=1.62) but with a reduced likelihood of having a smoke-free home (OR=.78).

The use of NRT, one-on-one counseling, and classes or a support group by smokers who had sought mental health treatment showed increasing trends from 2000 to 2005, then dropped slightly between 2005 and 2010, whereas the most pronounced increase in the use of prescription medication occurred between 2005 and 2010. Smokers who had sought mental health treatment were also increasingly likely to have a smoke-free home. The rate of past-year quit attempts was stable, but intention to quit in the future decreased over the sample period. Advice from health professionals did not vary significantly over time. [Details on these results are provided in the online data supplement to this report.]

Discussion

The findings were consistent with previous research in that current smokers seeking mental health treatment were at least as likely as those not seeking mental health treatment to have made

Table 1

Results of logistic regressions to determine predictors of smoking cessation among 18,939 current smokers[a]

Variable	Total N	N	%[b]	OR[c]	95% CI	p
Made quit attempt in past year	18,909	8,349	44.3	1.17	1.05–1.32	.007
Would like to quit cigarettes completely	17,871	12,294	69.5	1.01	.89–1.16	ns
Cessation aids used in most recent quit attempt among smokers with a past-year quit attempt						
Nicotine replacement therapy	9,504	1,904	21.0	1.28	1.05–1.56	.014
Prescription medication	9,501	725	8.5	1.29	.99–1.68	ns
One-on-one counseling	9,503	139	1.5	2.40	1.55–3.72	<.001
Telephone quit line[d]	4,918	125	2.6	1.81	1.07–3.08	.027
Clinic, class, or support group	9,502	148	1.7	1.63	1.03–2.61	.038
Did not use any of the aids above	9,503	7,051	72.7	.76	.63–.91	.004
Advised by health professional to quit smoking[e]	14,307	7,743	54.1	1.62	1.41–1.87	<.001
Lives in a smoke-free home	18,216	7,827	45.2	.78	.68–.89	<.001

[a] Source: pooled data from the National Health Interview Survey of 2000, 2005, and 2010

[b] Weighted

[c] The logistic regressions controlled for socioeconomic covariates and included a heavy-smoker indicator and survey-year indicators (results for these covariates not shown above). The reference group for the reported OR is current smokers who had not seen a mental health professional for mental health problems in the past year, unless otherwise noted.

[d] 2005 and 2010 sample only

[e] The study sample consisted of current smokers who had seen a mental health professional in the past year. The reference group was current smokers who had seen a health professional for non–mental health problems in the past year.

quit attempts in the past year or to intend to quit completely in the future (5,7). This suggests that lack of motivation to quit smoking should no longer be perceived as a major barrier to smoking cessation in this population. However, although the level of intention to quit among people who seek treatment for a mental health problem remains high, it has decreased during the past decade. Intervention efforts are needed to reverse this downward trend, which may otherwise become a barrier to the success of smoking cessation programs for this group in the future.

This study also showed that smokers who had sought mental health treatment were more likely than other smokers to use smoking cessation treatments to aid quitting. It may be due to the higher level of nicotine dependence, which produces a greater need for smoking cessation support (11), in this group of smokers. Another explanation is that, because the smokers who saw a mental health provider also were more likely to have health insurance, they may have had coverage to allow them to obtain some cessation aids. Higher rates of use of NRT might also be explained by commercial promotion strategies and recommendations from health professionals. Use of face-to-face counseling, telephone quit lines, and support groups was rare, but the increased prevalence reflects trends among smokers in the general population. Further population studies of smokers with mental illness are warranted to evaluate whether the increased utilization of cessation treatments has led to changes in successful quitting and sustained abstinence and whether yet wider dissemination of cessation treatments should be encouraged to further reduce the prevalence of smoking in this subgroup.

Health professionals' and family members' attitudes toward smoking cessation are crucial factors in encouraging quit attempts and promoting successful cessation among people with a mental health problem (12,13). This study showed that people using mental health services were more likely than other smokers to receive advice from their health professionals to quit smoking. Smokers seeking mental health treatment were slightly less likely than other smokers to live in a smoke-free home but were much more likely to do so compared with a decade ago. Further research is required to investigate how populationwide tobacco control programs have produced favorable changes in social norms and how changes in social norms have contributed to variations in cessation behaviors in order to reduce the disparity in smoking prevalence between mental health service users and the general population.

This study revealed disparities in smoking cessation characteristics between people who did and did not see a mental health professional for a mental health issue. Policy makers and health practitioners might consider designing and promoting tobacco control strategies tailored to people with mental health problems while continuing to disseminate programs for reaching the general population (4,14). Although the association between mental illness and smoking has been recognized, the disconnection between mental health treatment and smoking cessation treatment remains unresolved (4,15). Collaborative delivery of health services and tailored public health interventions are urgently needed to address the epidemic of cigarette smoking in this group.

Several limitations of this study are noteworthy. First, mental health and smoking measures were subject to self-report bias. Second, the use of cross-sectional surveys does not permit causal inferences or enable direct assessment of long-term cessation. Third, the combination of three nonconsecutive surveys with inconsistencies in survey design or sampling strategies may have affected results. Fourth, people who have contacted a mental health professional about mental health may be not representative of the population with a mental illness.

Respondents who had consulted a primary care provider about mental health problems were not included. Because of data constraints, associations involving the type of mental health problem, severity of the mental health problem, and the type of health professionals who advised patients to quit smoking could not be explored. Finally, the NHIS does not sample the group considered to be most vulnerable to mental health problems, namely institutionalized people such as patients in psychiatric facilities, prisoners, and active military service members.

Conclusions

This study suggests that although smokers seeking mental health treatment were at high risk of smoking cigarettes and smoking heavily, they were as likely as other smokers to attempt to quit and to be motivated to quit completely in the future. Their cessation behaviors were more likely to be encouraged by health professionals and aided by smoking cessation treatments. These findings highlight the need for integrative and tailored tobacco-control policies and smoking cessation treatments to improve cessation rates in this population.

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