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Original article

Smoking cessation treatment outcomes among people with and without mental and substance use disorders: An observational real-world study

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ABSTRACT

Background: There is a lack of studies evaluating smoking cessation treatment protocols which include people with and without mental and substance use disorders (MSUD), and which allows for individuals with MSUD undergoing their psychiatric treatment.
Methods: We compared treatment success between participants with (n = 277) and without (n = 419) MSUD among patients in a 6-week treatment provided by a Brazilian Psychosocial Care Center (CAPS) from 2007 to 2013. Sociodemographic, medical and tobacco use characteristics were assessed at baseline. Tobacco treatment consisted of 1) group cognitive behavior therapy, which included people with and without MSUD in the same groups, and 2) pharmacotherapy, which could include either nicotine patches, nicotine gum, bupropion or nortriptyline. For participants with MSUD, tobacco treatment was integrated into their ongoing mental health treatment. The main outcome was 30-day point prevalence abstinence, measured at last day of treatment.
Results: Abstinence rates did not differ significantly between participants with and without MSUD (31.1% and 34.4%, respectively). Variables that were significantly associated with treatment success included years smoking, the Heaviness of Smoking Index, and use of nicotine patch or bupropion.
Conclusion: The inclusion of individuals with and without MSUD in the same protocol, allowing for individuals with MSUD undergoing their psychiatric treatment, generates at least comparable success rates between the groups. Predictors of treatment success were similar to those found in the general population. Facilities that treat patients with MSUD should treat tobacco use in order to reduce the disparities in morbidity and mortality experienced by this population.

1. Introduction

Cigarette smoking is the primary preventable cause of death in the western world [1]. Among patients with mental disorders, tobacco use prevalence is two to four times higher than that found in the general population [2,3]. Numerous biological, psychological and social factors may explain these high rates of smoking and include lack of smoking cessation treatment in mental health programs [5] as well as the use of tobacco for self-medication of psychiatric symptoms [4].

These high rates of smoking contribute to extremely high rates of morbidity and mortality [4]. People with severe mental illness die 25 years younger than the general population, and most of this

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premature mortality is due to tobacco use [6]. For example, people with severe depression, alcohol-related disorders and schizophrenia have high mortality rates due to vascular disease and cancer [4]. Smoking also complicates treatment of some mental disorders by reducing blood levels of neuroleptics, such as olanzapine, clozapine, haloperidol, chlorpromazine, and fluphenazine. Therefore, smokers may require higher doses to achieve a therapeutic effect, and may be at increased risk of side effects from their psychotherapeutic medications [7].

Progress in the development of tailored cessation interventions for people with mental and substance use disorders (MSUD) has been slow, in part because most smokers with mental disorders are still excluded from most smoking cessation trials [7–10]. A growing body of literature, however, demonstrates that tobacco treatment does help smokers with mental disorders quit, and that neither treatment of tobacco dependence nor quitting smoking have adverse effects on psychiatric symptoms or serious adverse events such as death or hospitalization [11–13]. Gold-standard treatment of tobacco dependence for people with MSUD should combine cognitive-behavioral therapies with motivational enhancement interventions and integrate tobacco cessation pharmacotherapy into ongoing psychiatric care [10].

A number of studies have shown that, among individuals with MSUD, tobacco treatment is effective [4,15,17], and that retention rates are very good when patients are treated for tobacco dependence while they are undergoing psychiatric treatment [3]. Unfortunately, patients with MSUD who receive treatment for their tobacco use appear to achieve lower cessation rates than smokers in the general population. Few existing trials were designed to directly compare the success rates of smokers with and without MSUD. A recent large-scale randomized controlled trial [2] that was designed to make this comparison found that treatment with either bupropion or NRT resulted in significantly lower quit rates for individuals with MSUD when compared to those without MSUD. At week 12, 20% participants with MSUD who received medication were abstinent, compared to 26% of those without MSUD who received medication.

Most of these studies, however, were clinical trials implemented in ideal conditions, which may not accurately reflect achievable outcomes in real-world clinical practice. Brazilian Psychosocial Care Centers (CAPS) are healthcare units that promote comprehensive care for people with severe and persistent mental disorders. The goal of CAPS is to enable patients to live in society, work, study and enjoy their full rights as citizens [14]. CAPS is an ideal setting for treating tobacco dependence among those with mental disorders [15]. CAPS employs multidisciplinary teams, composed of professionals specializing in mental health or addiction treatment [16], and can obtain materials and medications for smoking cessation treatment from the Brazilian National Cancer Institute (INCA).

Within CAPS, as in programs in other countries, perceptions that smokers with mental disorders do not want to quit, or are unable to quit, are major barriers to integrating tobacco treatment into mental health treatment [18–20]. Hence, understanding the impact of treatment in a real world clinical setting, and the relative effectiveness of treatment among people with and without comorbid mental illness, should shed light on the extent to which the culture of MSUD centers affects cessation outcomes and may provide clues regarding how existing barriers might be overcome.

The purpose of this study was to compare 30-day point abstinence prevalence at the end of a 6-week tobacco treatment program. taking into account important covariates (i.e., sociodemographic, smoking characteristics, type of treatment) that are known to influence the success of treatment. All participants received smoking cessation treatment in a Brazilian CAPS unit, by the health care professionals that staffed that unit. This permits a direct comparison of cessation rates across individuals with and without MSUD, who received care together in a real-world treatment center.

2. Methods

2.1. Ethics approval

This study was approved by the Faculty of Medicine of the ABC Foundation Ethics Committee.

2.2. Design of the study

2.2.1. Study overview

The study used a pretest, posttest observational design conducted as part of real-world clinical practice. It reports the outcomes of a 6-week treatment protocol that was adopted in April 2007 by a CAPS Alcohol and Drug (AD) unit located in São Caetano do Sul (CAPS-AD-SCS) in the state of São Paulo, Brazil. This protocol included medical consultations, group psychotherapy, and systematic data collection at each patient visit. Patient data was accessed through retrospective analysis of unit medical records. The main outcome measure was defined as 30-day continuous abstinence assessed at the last day of the treatment, named 30-day point prevalence abstinence. Patients could participate in the treatment protocol more than one time, if they relapsed. However, for the purpose of this study, only the first treatment episode and resulting outcomes for each patient were included in analyses.

2.2.2. Medical/psychiatry consultations

A psychiatry resident supervised by a fully qualified psychiatrist typically conducted consultations. Consultations included assessing withdrawal, determining need for pharmacotherapy, monitoring side effects of pharmacotherapy, and evaluating any need for dosing adjustments. Medication options included bupropion, nortriptyline, and nicotine replacement therapy such as patch or gum. Varenicline was not included in the protocol as it was not available through the National Tobacco Program. Considering that this was a real-life (naturalistic) study, criteria for allocation for pharmacologic treatment were guided by availability, clinical team agreement, patient preferences, and previous use. Patients could receive more than one tobacco cessation medication. Physicians had the ability to refer patients to other specialist physicians or psychiatrists as needed, during or after the 6-week treatment. Physicians did not participate in any of the group psychotherapy sessions, and no data from the individual sessions were shared with CAPS-AD unit staff or other patients in the psychotherapy group.

2.2.3. Group psychotherapy

The total duration of the treatment protocol was 6 weeks. During this period, each patient had six scheduled sessions of group therapy and four scheduled individual visits with a psychiatrist (t1 = 0, t2 = 1 week, t3 = 3 weeks, and t4 = 6 weeks).

The psychotherapy groups were based on the principles of cognitive-behavioral psychotherapy and included individuals with and without MSUD. The groups included up to 15 persons for each 6-week treatment. The main topics for discussion in group therapy sessions were the dangers of smoking, craving, coping tactics and recognition of withdrawal symptoms, the difficulties and benefits of treatment, and relapse prevention.

2.3. Sample

The sample consisted of all patients who participated in the CAPS-AD-SCS Smoking Cessation Treatment protocol between the