



Do people with mental illness receive adequate smoking cessation advice? A systematic review and meta-analysis[☆]



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ARTICLE INFO

Article history:

Received 22 August 2014

Revised 13 November 2014

Accepted 14 November 2014

Keywords:

Severe mental illness

Smoking cessation

Systematic review

Smoking

Mental illness

ABSTRACT

Background: Prevalence rates of smoking in people with mental illness are high, and premature mortality attributed to tobacco related physical comorbidity is a major concern. We conducted a meta-analysis comparing rates of receipt of smoking cessation advice among people with and without mental illness.

Method: Major electronic databases were searched from inception till August 2014 for studies comparing rates of receipt of smoking cessation advice of people with and without a mental illness. Two independent authors completed methodological appraisal and extracted data. A random-effects meta-analysis was utilized.

Results: Seven studies of satisfactory methodological quality (n mental illness=68,811, n control=652,847) were included. Overall there was no significant difference in smoking cessation advice rates between those with and without a mental illness [relative risk (RR)=1.02, 95% confidence interval (CI)=0.94–1.11, n =721,658, Q =1421, P <.001]. Subgroup analyses demonstrated people with severe mental illness (SMI) received comparable rates of smoking cessation advice to those without SMI (RR=1.09, 95% CI=0.98–1.2, n =559,122). This remained true for people with schizophrenia (RR=1.09, 95% CI=0.68–1.70) and bipolar disorder (RR=1.14, 95% CI=0.85–1.5). People with non-SMIs were slightly more likely to receive smoking cessation advice (RR=1.16, 95% CI=1.04–1.30, Q =1364, P <.001, n =580,206).

Conclusions: People with SMI receive similar smoking cessation advice rates to people without mental illness, while those with non-SMI are slightly more likely to receive smoking cessation advice. While progress has been made, offering smoking cessation advice should receive a higher priority in everyday clinical practice for patients with a mental health diagnosis.

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1. Introduction

There is irrefutable evidence that people with mental illness have a reduced life expectancy compared to members of the general population [1–3]. Worryingly, this mortality gap appears to be widening [3,4]. About 80% of these deaths are attributable to physical comorbidity and modifiable lifestyle factors rather than suicide [1–3,5]. For instance, Lawrence et al. [3] recently established in a large population based study that 77.7% of deaths were attributed to physical health comorbidity such as cardiovascular disease (29.9%) and cancer (13.5%).

One modifiable lifestyle factor that is consistently implicated as a contributory factor to this mortality gap is smoking [2,3,6]. Smoking is

the most common substance use disorder in people with mental illness, and prevalence rates are two to four times higher than members of the general population [7–9]. In the USA, people with mental illness are estimated to smoke almost one out of every two cigarettes smoked [7,9,10]. People with severe mental illness (SMI) are particularly at risk and are often very heavy smokers [9], and in particular, it has long been known that people with schizophrenia smoke at high rates and this remains true today. For instance, Hartz et al. [11] recently established that people with schizophrenia are substantially much more likely to smoke than the general population (odds ratio=4.6). It is therefore unsurprising that mortality attributed to smoking is particularly high among this group. For example, Tran et al. [12] found that smoking is associated with a two-fold increase in cancer related deaths in those with mental illness. Others have found that mortality is higher in smokers than nonsmokers with schizophrenia [hazard ratio (HR)=2.1] with around 12 times increased risk of cardiac death seen in patients aged 35–54 years [13]. Cardiac disease accounted for 43% of deaths in smokers but only 19% of deaths in nonsmokers with schizophrenia [13], thus indicating the increased risk of cardiovascular disease when patients smoke. Moreover, it is estimated that quitting smoking

[☆] Conflict of interest: B.S. and A.J.M. have no conflict of interest to report. D.V. is supported by the Research Foundation–Flanders (FWO–Vlaanderen). M.D.H. declares that he has been a consultant for, received grant and/or research support and honoraria from, and been on the speakers' bureaus and/or advisory boards of the following companies: Astra Zeneca, Bristol-Myers Squibb, Eli Lilly, Janssen-Cilag, Lundbeck, Pfizer, Sanofi Aventis and Takeda.

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might reduce cardiac events by 90% in this group [14]. However, smoking-related mortality affects all people with mental illness, regardless of diagnosis. Callaghan et al. [15] found in a large-scale follow-up study covering approximately 1.7 million years that tobacco-related conditions accounted for roughly 53% of total deaths in schizophrenia, 48% in bipolar disorder and 50% of those with depression. Overall, estimates seem to suggest that life expectancy among people with mental illness is reduced by approximately 25 years due to chronic diseases secondary to tobacco use (e.g., cardiac and pulmonary disease [16]) compared to 10 years among smokers without a mental illness [17]. The economic costs associated with smoking among people with mental illness are also considerable. For instance, in the United Kingdom, the cost to the economy for smokers with mental illness was estimated to be £2.34 billion in 2009/10 [18] (approximately \$3.74 billion) including direct healthcare costs, indirect morbidity costs and indirect mortality costs due to smoking-related diseases.

Given the above, numerous authors have called for urgent research to determine and deliver effective smoking cessation interventions among people with mental illness in daily clinical practice [3,9,15]. Helping people with mental illness stop smoking should form a routine part of clinical care and is clearly an International public health priority [19], and several interventions may help. For instance, a systematic review of randomized control trials on smoking cessation interventions [20] established a number of safe approaches (for example, Bupropion) to help people with schizophrenia stop smoking. A recent systematic review concluded that smoking cessation interventions are as effective in people with SMI as the general population [21]. From an environmental perspective, many inpatient psychiatric units have implemented smoking restrictions or bans [22]. While it is true that inconsistencies in the implementation of smoke-free policies in mental health facilities have been reported in a number of countries, results have generally been encouraging [23]. However, the most fundamental intervention is smoking cessation advice. In the general population, smoking cessation advice helps improve quit rates [24–26], but it remains unclear if this applies in mental health settings; in particular, do such patients receive adequate cessation advice from clinicians? Mass media campaigns have been widely disseminated in many countries and may be effective for some groups [27] but have not been aimed at those with mental illness. Thus, despite some advances in awareness and interventions for smoking in those with mental ill health, it is not clear if we have achieved at least parity of care compared with the general population. Advice and support to stop smoking from members of the multidisciplinary team (MDT) should be the first port of call and may instigate the process of stopping smoking for the patient.

Within recent years, numerous studies have established that people with mental health problems receive suboptimal medical care as well as preventive advice and physical health screening compared to the general populations [28–31]. It is currently unclear if these disparities extend to receipt of smoking cessation advice and support. Given the substantial burden of smoking on morbidity and mortality among people with mental illness, it is important that research considers if there is a disparity among smoking cessation advice given to people with mental illness compared to the general population, ideally while taking into account different subtypes and severity of mental ill health. Thus, the aim of the current paper was to establish if there are differences in the rates of smoking cessation advice among people with mental illness compared to those without mental illness.

2. Methods

We conducted a systematic review and meta-analysis in accordance with the Meta-analysis of Observational Studies in Epidemiology guidelines [32] and reported it in line with the PRISMA statement [33] following a predetermined protocol.

2.1. Eligibility criteria

Studies were eligible that (1) included people with a diagnosis of nonorganic mental illness (including SMI (e.g., schizophrenia, psychosis, bipolar disorder, mood disorders, depression, anxiety) or mental health problem according to recognised diagnostic criteria (ICD-10 or DSM-IV)/validated screening measures or medical chart reviews; (2) were comparative studies (including observational or intervention studies, in which case baseline data were used) with a group without mental illness; and (3) reported smoking cessation advice rates for both samples among those who smoked. We defined smoking cessation advice in accordance with Stead et al. [34] as “recorded verbal instructions from the physician with a ‘stop smoking’ message irrespective of whether or not information was provided about the harmful effects of smoking.” We also included studies that reported smoking cessation advice from any member of the MDT, as we believe smoking cessation advice is every clinician’s responsibility.

We did not include studies reported among people with dementia/mild cognitive impairment or learning disabilities (although to our knowledge, no such papers exist). No language restrictions were placed upon potentially eligible studies. If we encountered multiple studies from the same data set at different times, we used the largest and/or most recent data. If we encountered studies that enquired about smoking cessation advice but did not report the data in the paper, we contacted the authors to acquire the variables of interest (no additional requests were necessary).

2.2. Literature search and study selection

Two independent authors (A.J.M., B.S.) conducted electronic searches of Medline, Pubmed, Embase and CINAHL electronic databases from inception till August 2014. The key words used were smoking* or smoking cessation or smoking cessation advice and mental or psychiatr* or depression or mood or anxiety or severe mental illness/SMI or schizophrenia or psychosis or psychotic. In addition, we conducted full-text searches of the Web of knowledge, Scopus, Science Direct, Ingenta Select, Springer-Verlag’s LINK and Blackwell Wiley and hand searched all included articles (i.e., checked the reference lists for potentially relevant articles). We also conducted online “hand searches” including the in press sections of major psychiatric journals from 2000 up until August 2014 (including *General Hospital Psychiatry*, *British Journal of Psychiatry*, *Schizophrenia Research*, *Schizophrenia Bulletin*, *Psychological Medicine*, *Acta Psychiatrica Scandinavica*, *American Journal of Psychiatry*, *JAMA Psychiatry*, *Canadian Journal of Psychiatry*, *Journal of Psychiatric Research*, *Psychiatric Services*).

After the removal of duplicates, two independent reviewers (B.S., A.J.M.) screened the titles and abstracts of all potentially eligible articles. Both authors applied the eligibility criteria, and a list of full-text articles was developed through agreement. Two reviewers (B.S., A.J.M.) then considered the full texts of these articles and the final list of included articles was reached through consensus.

2.3. Methodological quality assessment

Two authors (A.J.M., B.S.) independently completed the methodological appraisal of included studies using the Newcastle Ottawa Scale (NOS [35]). The NOS provides an assessment of the quality of nonrandomized controlled trials, and each article received a methodological quality score out of 9. Articles were judged across three key areas: selection, comparability and outcomes. The NOS validity and reliability have been established, and scores of 5 out of 9 were considered satisfactory quality [35].

2.4. Data extraction

All data extraction was conducted by two independent authors (B.S., A.J.M.) utilizing a predetermined form. We extracted data regarding the

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