

Smoking Bans and their Potential Implications for Mental Healthcare. A Review of the Evidence

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Abstract

Different publications have described a close relation between tobacco consumption and major psychiatric disorders. A great number of countries have enacted smoking bans in public or working places since the early 2000s; nonetheless, concerns remain over the exemption in some psychiatric settings regarding smoking bans. Admission of smokers to smoke-free units may lead to behavior deterioration, but some recent evidence refutes this argument. *Methods:* Literature review. *Results:* One of the earliest smoking bans was a 1.575 Mexican ecclesiastical council ban aimed at smoking prevention in churches. Several recent studies have documented health and economic benefits related to smoking bans. Over 83 countries now have introduced different sorts of regulations. There was no increase in aggression, seclusion or discharge against medical advice, neither increased use of PRN (as needed) medication following the ban. As part of the ban imposition, Nicotine Replacement Therapy- NRT was used by patients. Consistency, coordination and full staff support for the ban were seen as key success factors. Many patients continued smoking after discharge. *Conclusions:* Evidence shows that smoking has no place in psychiatric hospitals or facilities. The introduction of smoking bans in psychiatric settings is possible, but these bans must be conceived only as part of a much larger strategy, necessary to diminish smoking high rates among mental health populations.

Key words: Second hand smoking, ban, mental health, regulation, globalization, tobacco smoking.

Título: Prohibición de fumar y sus implicaciones potenciales en cuidados de salud mental. Revisión de la evidencia

Resumen

Diferentes publicaciones describen una amplia relación entre el consumo de tabaco y desórdenes psiquiátricos mayores. Desde comienzos del 2000, gran número de países han prohibido fumar en espacios públicos o de trabajo. No obstante, persisten dudas respecto a la excepción en algunos ambientes psiquiátricos. Se cree que la admisión de fumadores en

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unidades libres de humo puede implicar el deterioro del comportamiento; sin embargo, evidencia reciente refuta este argumento. *Métodos:* Revisión de literatura. *Resultados:* Una de las primeras prohibiciones fue establecida por un concejo eclesiástico mexicano de 1575, en procura de que no se fumara en las iglesias. Varios estudios recientes documentan los beneficios económicos y para la salud derivados de la prohibición de fumar. Más de 83 países han implementado diferentes tipos de reglamentaciones. Esto no hizo que se incrementaran la agresión, la segregación ni los pacientes dados de alta en contra de la opinión médica; luego de la prohibición tampoco se registró aumento en la medicación PRN (según necesidad). Como parte de la prohibición, se usó en los pacientes la terapia NRT, terapia de remplazo de nicotina. La coherencia, coordinación y apoyo de todo el equipo fueron factores claves de éxito. Muchos pacientes continuaron fumando luego de haber sido dados de alta. *Conclusiones:* La evidencia muestra que fumar en hospitales o instalaciones psiquiátricas no debe tener lugar. Es posible implementar esta prohibición en ambientes de hospitalización psiquiátrica, pero debe concebirse como parte de una estrategia más amplia, necesaria para disminuir los índices de fumadores en la población con problemas de salud mental.

Palabras clave: Fumador pasivo, prohibición, salud mental, reglamentación, globalización, fumar tabaco.

Tobacco smoking and global public health

Globalization is defined as the “complex set of processes which increase interconnectedness and inter dependencies between countries and people” (1), and can be noticed almost everywhere in modern world

including Public Health trends. The recent Swine flu pandemic could be pictured as a classical example of how a virus can find its way across borders in a few days and how vaccination and education can have a positive impact on preventing the disease.

Major health problems associated with tobacco smoking were established more than 40 years ago, despite diverse tobacco control strategies deaths from smoking continue to rise globally (2). Every year around four million people die in the world from smoking related diseases, and this figure is expected to reach 25 million by the year 2025 (3). Not surprisingly this form of addiction to nicotine is currently one of the major concerns in global public health. Tobacco addiction is usually acquired at young ages.

Governments have responded to the growing health epidemic of smoking through different mechanisms of regulation: bans on tobacco advertising and promotion, restrictions on smoking (schools, public and work places), restriction on sales to minors, control of cigarette vending machines, increases in tobacco taxation, measures to curb or control smuggling, implementation of smoking cessation programs and health education campaigns as well as requiring the placement of health warnings on tobacco products. Very little has been done or published on regards to the non- classical presentations of tobacco (as water pipes)

or smokeless tobacco products like chewing presentations (4).

Different research studies have assessed the effectiveness of tobacco control campaigns, showing with different levels of agreement that fiscal policies and mass media intervention may play important roles in achieving prevalence reduction of smoking in target populations; it has been discussed by some authors that all these interventions may delay but not prevent recruitment to smoking on young audiences (5)

Tobacco smoking and mental illness

Tobacco smoking is recognized as a form of substance abuse that causes far more deaths than all other psychoactive substances. Research has indicated that nicotine now classified as a psychoactive substance (6) regulates the dopaminergic transmission in the mesolimbic and nigrostriatal systems through nicotinic receptors (7).

A higher association between tobacco consumption and major psychiatric disorders has been described by different publications especially in High Income Countries- HIC (8-12). Smoking tobacco is a common finding among patients with schizophrenia and affective disorders (13-15).

Some authors (16-18), have argued that nicotine could control psychotic symptoms, and reduce extrapyramidal side effects of antip-

sychotic medication in patients with schizophrenia, acting as a form of self- medication. Withdrawal from smoking has been associated in major depression with relapse of symptoms following cessation (19). Nevertheless it is well known that sociocultural and economic factors could influence smoking behavior with or without the presence of mental illness (20,21).

A great number of countries have enacted bans on smoking in public or work places since the early 2000s, but authors like O'Gara et al (22) have addressed the issue of smoke- free legislation and encouraged mental units should be free of smoking; nonetheless concern remains that some psychiatric settings will be exempt from smoking bans. Admission of smokers to smoke- free units may lead to behavioral deterioration, but some recent evidence refutes this argument.

The role of smoking bans in prevention

Smoking bans can be defined as public policies (criminal laws and occupational safety and health regulations), which prohibit tobacco smoking in workplaces and/or other public spaces. The main recent established goal for smoke-free laws is to protect passive smokers from the effects of second-hand smoke; according to scientific evidence passive smokers are at risk of the same problems as direct smokers, inclu-

ding lung cancer, cardiovascular disease, and lung ailments such as emphysema, bronchitis, and asthma (23). Lifelong non-smokers with partners who smoke in the home have a 20–30% greater risk of lung cancer than non-smokers who live with non-smokers. Non-smokers exposed to cigarette smoke in the workplace have an increased lung cancer risk of between 16% and 19% (24–26).

Laws implementing bans on indoor smoking have been introduced by many countries in various forms over the years, with some legislators citing scientific evidence that shows tobacco smoking is harmful to the smokers themselves and to those inhaling second-hand smoke. Such laws may lower health care costs (27), improve work productivity, and lower the overall cost of labor in a community.

Previous rationales for smoking restrictions were aimed to reduce risk of fire in public areas; cleanliness in places where certain products are manufactured (e.g. food, pharmaceuticals, semiconductors, precision instruments and machinery are); alongside taxes, cessation support, and education, smoking ban policy is currently viewed as an important element in lowering smoking rates and promoting public health. When correctly and strictly implemented it is seen as one important policy goal to change human behavior away from unhealthy consumption and towards a healthier lifestyle (28).

This article reviews the published evidence on the impact of globalization, both in smoking promotion and smoking banning; and also on recent findings on how the implementation of smoke-free mental facilities may or may not have an impact on the clinical outcomes of psychiatric patients.

Methods

A systematic search of medical, nursing, psychological, social science and 'grey' literature in 12 databases and 3 websites (EMBASE, Classic EMBASE, Social Policy & Practice, Pubmed, Medline, Cochrane Library, CAB Abstracts, Global Health, PsycEXTRA, PsycINFO, ADOLEC, Web science, CINAHL plus, IBSS and SCIRUS), sought published sources from their date of inception up to November 2011 on the evidence of the association between mental illness and tobacco consumption, also on the history of smoking banning, and on the potential final impact of prohibition in mental clinical outcomes.

The systematic comprehensive search was performed for primary studies in any language and setting (high, middle or low income countries). OVID SP was the primarily browser used, as well as additional independent websites; search strategy included terms: (tobacco products OR smok* OR cigar*) AND (prohib adj3 ban* OR restric*) AND ((psychi* OR mental) OR (illness or disord*)) AND (effect* OR Impact). To assess

the quality of primary studies the quality criteria tool referred by NICE was used (NICE, 2006, pp. 65-110).

Results

Tobacco smoking regulation and globalization

Smoking bans implementation in more than 83 countries around the globe in the last decade based mainly on the willingness to protect passive smokers is another example of policy change in a globalized era.

Aggressive promotion of cigarette consumption from manufacturing companies and globalization has created a global upward trend for consumption in many countries. To reverse this different approaches have been attempted, this enforcement measures have shifted the market focus of smoking products' manufacturers from developed to developing countries. Among the global drivers for smoking described by the evidence could be included: high susceptibility among general population, second hand smoke, pro- tobacco campaigns through advertising and governmental delay to regulate specially in Low and Middle Income Countries (LMICs) (29).

International regulation of tobacco in recent times complies more with standards agreed by health community than those set by the tobacco industry, but the latter still continues to oppose regulation, including warnings, which might pre-

vent smokers from tobacco (29). By June 2009, 89% of European Union member states and some other High Income Countries (HIC) have mandated text-only health warnings on tobacco products over graphic and text warnings.

The history of smoking bans

One of the earliest smoking bans was a 1.575 Mexican ecclesiastical council ban that forbade the use of tobacco in any church in the country. Ancient bans date from the Popes Urban VII and VIII in 1.590 and 1.624 respectively. The earliest citywide European smoking bans were enacted shortly after in Bavaria and certain parts of Austria in the late 1600s, Berlin in 1.723 and Greece in 1.856. Most of these prohibitions were valid only within state buildings and were grounded on the need to prevent accidents or fires in public or holly places, and most of them were defeated in later wars or revolutions.

The first modern, health based nationwide tobacco ban was imposed by the Nazi party in Germany (universities, post offices, military hospitals and Nazi party offices), under the auspices of Karl Astel's Institute for Tobacco Hazards Research, created in 1941 (30) major anti-tobacco campaigns were widely broadcasted by the Nazis until the demise of the regime in 1945 (31).

For a while Tobacco industries avoided smoking bans by promoting

a courtesy (“tolerance”) policy between smokers and non-smokers. In the US, states were encouraged to pass laws providing separate smoking sections (32). The city of San Luis Obispo, California, became the first city in the world to ban indoor smoking at all public places (bars and restaurants included) (33). In US, the success of this ban enacted by the state of California in 1998 encouraged neighboring states.

In May 2003 after almost four years of negotiation by member states of the World Health Organization (WHO) the final text of the Framework Convention on Tobacco Control was agreed. On March, 2004, the Republic of Ireland implemented a ban on smoking in the workplace, the first country to do so. In Norway similar legislation was put into force on July 1 that same year. United Kingdom became subject to a ban on smoking in enclosed public places in 2007, nonetheless England became the last region of the UK to have the legislation come into effect. In 2007, Chandigarh became the first city in India to become ‘smoke-free’. Smoking was banned in public indoor venues in Victoria, Australia on July 1, 2007, as of April 2009 there were 37 states of the US with some form of smoking ban (34). Some areas in California began making entire cities smoke-free, except private residential homes.

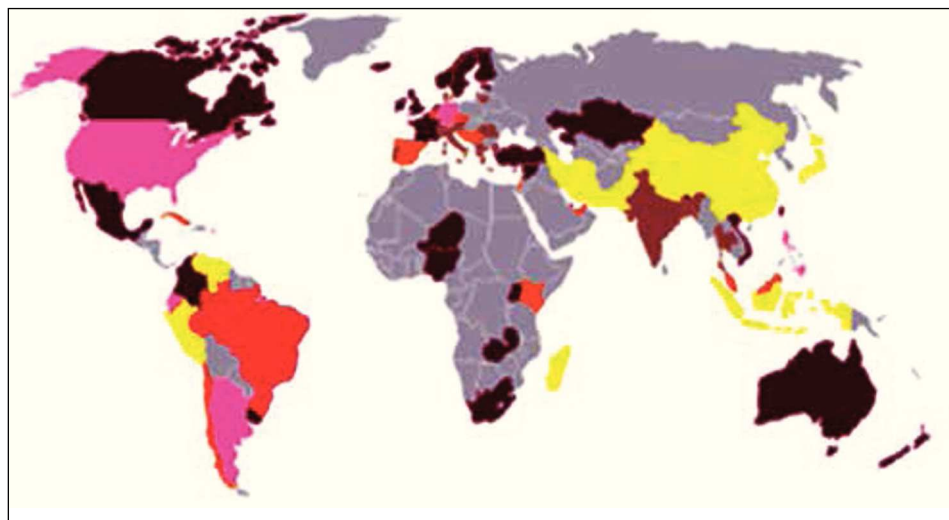
An important number of HIC have enacted bans on smoking in public or work places since the early

2000s, but also middle and low income countries were caught by this trend, hence smoking bans have been enforced in the last 3 or 4 years in: Argentina, Australia, Bahrain, Bangladesh, Bhutan, Brazil, Chile, China, Colombia, India, Israel, Italy, Puerto Rico, Thailand, United Arab Emirates, Uruguay, Vatican city among others. Even the United Nations Organization- UN has its own smoking and non-smoking policies. Kofi Annan introduced in 2003 a total ban on smoking at UN Headquarters (35). Some specialized agencies of the UN, such as the United Nations Children’s Fund- UNICEF and the WHO have their own strict smoking bans which apply to their offices worldwide. See figure 1 for a global map of smoking bans.

Although these major policy changes have occurred, some countries still have no legislation against smoking whatsoever and some others with high tobacco consumption have bans that are unheard of or unenforced. These countries include Cameroon, Central African Republic, Chad, and many other countries in Central and Western Africa, where people can smoke wherever they want. Saudi Arabia has no government ban on smoking anywhere.

Several recent studies have documented health and economic benefits related to smoking bans. (e.g. hospital admissions for heart attacks dropped by 27% (36), 40% reduction in heart attacks following the imposition of a smoking ban (37),

Figure 1. Map of smoking bans by country



Source (Canadian council for tobacco control- as of Jan 1, 2010)

- No restrictions or no data
- Patchy and incomplete bans, low enforcement
- No national ban, some localities have comprehensive indoor bans
- Strong national ban in public areas except entertainment and restaurants, or weak enforcement in indoor entertainment areas
- Strong national ban in public areas except entertainment and restaurants, some localities have comprehensive indoor bans
- Strong national ban in all public indoor areas with some exceptions
- Strong national ban in all public indoor areas. Note: Countries with all sub national entities having a ban equates to a nationwide ban here, such as for Canada and Australia

significant improvements in bar workers' lung function and inflammatory markers attributed to a smoking ban in New York City was found to have prevented 3,813 hospital admissions for heart attacks in 2004, and saved \$56 million in health-care costs for the year (38). Some other relevant data reports informed that in Ireland, cigarette sales fell by 16% in the six months following the ban's introduction. In the UK, cigarette sales fell by 11% on July 2007, the first month

after the smoking ban in England, compared with July 2006 (39). Smoking bans may make it easier for smokers to quit, according to a survey 22% of UK smokers may quit in response to a smoking ban in enclosed public places (40). Even restaurant smoking bans may help to diminish young people from becoming habitual smokers, a study of Massachusetts youths, states that those in towns with bans were 35 percent less likely to be habitual smokers (41,42).

The potential impact of somoking bans in mental healthcare

According to the retrieved evidence concern remains that if some psychiatric units are exempt from the smoking ban, this could only further alienate psychiatry from medicine and increase stigma against psychiatric patients and services (22, 43,44).

In a study by Ryabik et al, in 1994 (45) the implementation of a smoking ban, establishing a smoke-free psychiatric service and abolishing tobacco products, created minor management difficulties on a locked psychiatric unit. No behavioral disruptions were observed after a smoking ban on a 25-bed psychiatric in-patient unit, neither discharges against medical advice increase right after the restriction on smoking and 2 years later (46).

In a study by Smith et al, in 1999 (47) signs and symptoms of nicotine withdrawal and alterations in psychopathology were evaluated among psychiatric patients with acute illness admitted to a hospital with a smoking ban. Patients reported feeling distressed and experiencing nicotine withdrawal symptoms, but abrupt cessation of smoking did not affect psychopathological symptoms during admission.

A systematic search by Lawn and Pols in 2005 (48), reviewed 26 peer reviewed papers of smoking bans in psychiatric inpatient settings, key findings were: there was

no increase in aggression, use of seclusion, discharge against medical advice or increased use of PRN (as needed) medication following the ban. Only few studies showed a significant increase in the use of PRN medications and seclusion, and verbal assaults immediately post-ban (49, 50). Nicotine Replacement Therapy- NRT was used by patients as part of imposing the ban, uptake of NRT remained low despite being offered as part of imposing the ban, consistency, coordination and full staff support for the ban were seen as key success factors, and the lack of them as major drivers for problems, severely disturbed patients who were smokers coped less well with the ban, many patients continued to smoke after discharge.

Conclusions

Evidence shows that smoking has no place in psychiatric hospitals or facilities, and that a smoking ban can only improve the well-being of patients, staff and visitors. The introduction of smoking bans in psychiatric inpatient settings is possible; nonetheless it would need to be a clearly and carefully planned process involving all parties affected by the bans. Staff coordination, consistency and administrative support are key aspects for implementing bans. NRT should be offered as an option for severely disturbed patients who are heavy smokers to help them cope with bans. Imposing bans in inpa-

tient settings is seen as only part of a much larger strategy needed to overcome the high rates of smoking among mental health populations.

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