



Directorate - General
for Health and Consumers

Drug policy and harm reduction

SANCO/2006/C4/02

Final Report Work Package 7

Report on tobacco smoking in prison

April 2008



Universität Bremen

WIAD

**Scientific Institute of the
German Medical Association**



ZIS

**Centre for Interdisciplinary
Addiction Research (CIAR)**

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Table of Contents

List of abbreviations	4
List of tables	4
Executive Summary	5
1. Introduction	7
2. Methodology	10
3. The prevalence of tobacco smoking among prisoners and prison staff	11
4. Regulations in prisons to protect health of prisoners and staff	13
4.1. Overview of smoking ban policies in European prisons.....	13
4.1.1. Prisoners	14
4.1.2. Staff	14
4.1.3. Experiences in England and Wales	18
5. Prevention programmes in prison to support the cessation of smoking.....	20
6. The experiences with and effects of a smoking ban in prisons	22
7. Conclusions	24
8. Recommendations	25
9. References	27
10. References from data base search	30

List of abbreviations

EU	European Union
FCTC	Framework Convention on Tobacco Control
GDP	Gross Domestic Product
NRT	Nicotine replacement therapy
SHS	Second-hand smoke
WHO	World Health Organization

List of tables

Table 1: References by region and topic

Table 2: Smoking ban for prisoners in European prisons (except Germany)

Table 3: Smoking ban for staff in European prisons

Table 4: Smoking ban for prisoners in 8 out of 16 German states ('Länder')

Table 5: Smoking ban for prison staff in 8 out of 16 German states ('Länder')

Executive Summary

The use of tobacco displays a great burden of disease, with 4.9 millions tobacco-attributed deaths worldwide each year. Tobacco is the single most important lifestyle risk factor for premature deaths.

Tobacco use is the second leading risk factor apart from high blood pressure, for premature deaths. 32% of European citizens are smokers, 21% were former smokers and 47% never smoked with significant variations throughout Europe. Tobacco and poverty are inextricably linked. In countries with a low gross national product (GNP) per capita, mostly in the Eastern part of the EU, smoking prevalence rates of over 50% compared with an average of 34% in wealthier countries can be observed. It is estimated that the overall daily adult smoking prevalence ranges around 26.8% whereas the respective prevalence among males is 40%. Data from several studies indicate a proportion of smokers among prisoners between 64-88%. Due to the fact that the majority of prisoners are male (approx. 95% of the European prison population) prevalence rates in prisons should be compared to the average of the male smoking population (which is 40%). This indicates that the prevalence of imprisoned men is one and a half to two times higher than in the general male population. No data are available about the percentage of female smoking prisoners.

To tackle the tobacco epidemic and the associated health problems the European Commission, the Member States and the World Health Organization have been running campaigns against tobacco for many years. The WHO “Framework Convention on Tobacco Control” (FCTC) entered into force in 2005 and has been signed by 168 and ratified by 152 Parties¹. Guidelines on smoke-free environments were adopted in 2007².

A coordinated effort towards “smoke-free Europe” is also one of the priorities of the European Commission’s public health, environment, employment and research policy. In its Environment and Health Action Plan (2004-2010), the Commission committed itself to “develop work on improving indoor air quality, in particular by encouraging the restriction of smoking in all workplaces by exploring both legal mechanisms and health promotion initiatives at both European and Member State level” (EC/DG Health and Consumer Protection 2007, 3). In 2007 the Commission published a Green Paper “Towards a Europe free from Tobacco smoke: policy options at EU level”³.

The result of an inquiry on smoking bans in European prisons revealed that 22 (79%) out of 28 respondents (EU-Member States plus Switzerland and Monaco) have introduced smoking bans in all of their prisons. The European process of introduction of smoking bans in prisons started in 2006 in The Netherlands, Belgium, Finland, and Scotland.

¹ <http://www.who.int/tobacco/framework/countrylist/en/index.html>

² <http://www.who.int/mediacentre/news/releases/2007/pr38/en/index.html>

³ http://ec.europa.eu/health/ph_determinants/life_style/Tobacco/Documents/gp_smoke_en.pdf

Hardly any smoking prevention programme has been evaluated and integrated in a prison setting so far. Studies addressing the effectiveness of smoking and sales/possession bans in prisons in reducing the prevalence of smokers are few, methodologically weak, and do not provide a comprehensive overview about effects and side effects of a smoking ban in prisons. However, first results regarding smoking cessation and reduction of the smoking prevalence are encouraging.

From a public point of view both non-smokers and smokers should not be exposed to second-hand smoke. The research data doesn't give an answer to a question whether smokers should have the possibility to smoke in their cells and designated areas in the prisons.

The document suggests recommendations on tobacco control policies in prisons, on implementation of smoke-free environments, on smoking prevention and quitting support, as well as priority research.

1. Introduction

Tobacco is a highly addictive substance. It is estimated that 1.9 billion people worldwide currently smoke. It is also known, that the greatest proportion of people affected can be found in the developed world. According to the WHO, tobacco is the second leading cause of death in developed and developing countries. Tobacco will kill one in two users, it is responsible for the death of one in ten adults' worldwide, with 4.9 million deaths occurring worldwide each year. Taking this into account, tobacco is the second leading risk factor except high blood pressure, for premature deaths (Esson and Leeder 2004). It is estimated that, assuming the current smoking patterns continue, it will cause some 10 million deaths each year by 2020 (WHO 2007b).

For the European Union (EU) the latest special Eurobarometer revealed that 32% of European citizens were smokers, 21% were former smokers and 47% never smoked. The highest prevalence was observed in Greece (42%), Latvia (36%), Hungary (36%) and Bulgaria (36%). The Portuguese showed the lowest smoking prevalence with 64% saying they have never smoked (Directorate General Sanco 2007).

It is well known that tobacco and poverty are inextricably linked. There is evidence that in the poorest households in some low-income countries as much as 10% of the total household expenditures are spent for tobacco. In particular in countries with a low gross national product (GNP) per capita smoking prevalence rates are higher than in wealthier countries.

Economic costs of tobacco use are high: There are costs arising from the treatment of tobacco-caused diseases, the absence from workplace due to tobacco-caused diseases and the premature death of smokers. It is estimated that the use of tobacco resulted in an annual global net loss of 136 €thousand million, a third of this loss being in developing countries. For the EU it is estimated that the direct and indirect costs of smoking ranges from €97.7 to 130.3 billion in 2000, which corresponds to between 1.04% and 1.39% of the EU gross domestic product (GDP) (WHO 2007a; ASPECT Consortium 2005).

To tackle this epidemic, the WHO has taken the initiative and settled in the framework of the World Health Conference a convention: the WHO Framework Convention on Tobacco Control (WHO FCTC). The aim of this framework is to engage all relevant public health partners to ensure public health and well-being for the population. In contrast to previous drug treaties, the WHO FCTC emphasises the importance of drug demand as well as supply reduction strategies. Since February 27, 2005 the WHO FCTC is an international law.

The WHO Framework Convention on Tobacco Control (WHO FCTC) is the first treaty negotiated under the auspices of the World Health Organization. The WHO FCTC is an evidence-based treaty that reaffirms the right of all people to the highest standard of health. The Convention entered into force on 27 February 2005 - 90 days after it has been acceded to, ratified, accepted, or approved by 40 States. Beginning on that date, contracting parties are legally bound by the treaty's provisions.

Article 8 of this convention states:”

1. *Parties recognize that scientific evidence has unequivocally established that exposure to tobacco smoke causes death, disease and disability.*
2. *Each Party shall adopt and implement in areas of existing national jurisdiction as determined by national law and actively promote at other jurisdictional levels the adoption and implementation of effective legislative, executive, administrative and/or other measures, providing for protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places and, as appropriate, other public places.”*

The first Conference of the Parties to the FCTC in February 2006 agreed to develop guidelines on smoke-free environments to be presented to the second Conference of the Parties due in the first half of 2007.

As a Party to the WHO Framework Convention on Tobacco Control (FCTC), the Community is under a legal obligation to take action on smoke-free environments.

Curbing the use of tobacco is a clear policy priority for the EU. Building on its changing competencies and instruments the EU has developed a comprehensive approach. This has resulted in the current four-stage approach:

1. legislative measures, based on the Community Treaties as well as more specific, secondary legislation, are the backbone of the Community's present and future tobacco control activities
2. support for Europe-wide smoking prevention and cessation activities is another important element in the tobacco control strategy
3. mainstreaming tobacco control into a range of other Community policies (e.g. agricultural policy, taxation policy, development policy) is essential in order to make sure that tobacco control principles are part of all relevant policies
4. make sure that the pioneering role of the European Community in many tobacco control areas produces an impact beyond the frontiers of the European Union, and establish the Community as a major player in tobacco control at a global level.

In December 2002, a Council Recommendation on the prevention of smoking and on initiatives to improve tobacco control was published. This recommendation pays particular attention to measures restricting youth access to tobacco⁴.

⁴ A complete overview of EU legal documents related to tobacco control can be found on the DG SANCO website:
http://ec.europa.eu/health/ph_determinants/life_style/Tobacco/legal_smoking_prevention_tobacco_en.htm

Early in 2007 the Commission published a Green Paper “Towards a Europe free from Tobacco smoke: policy options at EU level” (COM [2007] 27 final)⁵ launching a broad consultation process on the best way forward to tackle second-hand smoke. Exposure to second-hand smoke, also known as ‘passive smoking’, is increasingly recognized as a major threat to health, throughout the EU. The Commission had already committed itself in its Environment and Health Action Plan (2004-2010) to improve indoor air quality by encouraging the restriction of smoking in all workplaces (COM [2004] 416 final).

Despite the clear trend towards smoke-free environments throughout the European Member States, driven – among other factors – by legal requirements at EU and international level, the national smoking bans are very heterogeneous, especially when it comes to the custodial settings. Although nearly all Member States currently have some form of regulation aimed at limiting exposure to environmental tobacco smoke and its harmful effects on health, the scope and character of these regulations vary widely, and this comprises prisons particularly.

⁵ http://ec.europa.eu/health/ph_determinants/life_style/Tobacco/Documents/gp_smoke_en.pdf

2. Methodology

A systematic review of international literature was carried out in order to analyse the baseline for future policy and practice approaches. Medline and Psycinfo search was performed by using the following search terms “smoking and prison”, “cigarettes and prison” and “tobacco and prison”. For “smoking and prison” a total of 59 articles were retrieved. With “tobacco and prison” 30 articles were found. “Cigarettes and prisons” found the least with 10 articles. The citations were compiled in an Endnote database, in which after searching for duplicates 94 references were left over. Relevant sources such as the WHO-Europe, EU and the EMCDDA were also included in the search for relevant papers for the topic smoking and prison. Although the focus in this project should be clearly put on the concepts of a smoking ban in the European prisons, a lack of studies can be stated. The majority of the references included in this project come from the United States of America (USA) and Australia. The following table gives an overview of the included literature.

Almost all references included from the EU were found in the United Kingdom. Only three studies were found in other EU countries.

Table 1: References by region and topic⁶

Topic	Total	EU	Europe	Outside of Europe
Prevalence of smoking	12	7	1	4
Regulations in prisons	2	2	-	-
Prevention	12	5	-	7
Activities to control tobacco	6	4	-	2
Experiences	10	2	-	8

⁶ The above table includes only literature retrieved from Pubmed and Psychinfo databases.

3. The prevalence of tobacco smoking among prisoners and prison staff

Only very few epidemiological data are available to assess the prevalence of tobacco smoking among prisoners and prison staff.

For the European population, it is estimated that the overall daily adult smoking prevalence ranges around 26.8% whereas the respective prevalence among males is 40%. Most of the Eastern European countries show higher prevalences of male smoking, while in twelve (mostly Western European countries) the male smoking prevalence is below 30%. In contrast to men, the estimated average female smoking prevalence in Europe is 18.2%, whereas the prevalence for western European countries is higher than 18.2% and for eight Eastern European countries it is below 10% (WHO 2007a).

It has been estimated that around 64 to 88% of the prisoners smoke (Tielking, Becker, and Stöver 2003; Department of Health and HM Prison Service 2007; Narkauskaite et al. 2007). Prevalence rates of smoking in prison are at least doubled or even tripled compared to the general population. Due to the fact that the majority of prisoners are men (approx. 95% of the European prison population) prevalence rates in prisons should be compared to the average of the male smoking population (which is 40%). This indicates that the smoking prevalence of imprisoned men is one and a half to two times higher than in the general male population. No data are available about the percentage of female smoking prisoners.

Palmer (2007, 164) reports about the health status of imprisoned women that “most substance misusers also smoke cigarettes, and no matter how effectively clinicians treat the other withdrawal symptoms, women will still become distressed, volatile and impulsive if they go into nicotine withdrawal, the severity of which should not be under-estimated”.

Differences in the smoking prevalence were reported from England and Wales between remand prisoners or sentenced prisoners, where 78% of the male sentenced prisoners smoked and 85% of the male remand prisoners (Office for National Statistics 1999).

A recent study by Narkauskaite et al. carried out in Lithuanian prisons revealed a smoking prevalence of 85.3 % among the prisoners (n=9,634) (Narkauskaite et al. 2007). A paper primarily focussing on the oral health status of prisoners showed a prevalence of 78% for smoking in a remand prison in London. Additionally it was shown, that on average they smoked nine roll-ups a day for 15 years (Heidari et al. 2007).

A survey describing the population of incoming prisoners of Lyon prison showed a prevalence of 64.0% of regular use, an abusive use or dependence on tobacco (Sahajian et al. 2006). From Italy it is reported that 77% of inmates interviewed in nine Italian prisons (N=1267) smoke. The Scottish prison service states in the annual prisoner survey of 2006 that

⁷ For Gender and Tobacco Control:
http://www.who.int/tobacco/resources/publications/general/policy_brief.pdf

78% of prisoners' population smoke. No change in the behaviour of smoking was seen between 2004 (80%), 2005 (78%) and 2006 (78%). 62% stated that they wanted to give up smoking, over half of them stated having increased smoking during incarceration, 20% smoked less and 26% stated no change in their smoking habit (SPS 2006).

Tielking, Becker and Stöver (2003) analysed the drug consumption in a male prison in Oldenburg and found that 88% of the inmates were smokers (N=217), smoking between 4 and 100 cigarettes, on the average 23,3, cigarettes per day.

An Australian study reported significantly higher smoking prevalences for female inmates (n=324/402, 81%) compared to male inmates (n=3,980/5,575, 71%)(Awofeso et al. 2001). In a recently published study a cross-sectional random sample of inmates stratified by sex, age and ethnic origin was performed in 29 New South Wales (Australia) correctional centres. 79% participants were current smokers (78% men, 83% women). Most individuals smoked between 11 and 20 cigarettes a day and a median of 50 grams per week (Belcher et al. 2006).

Just one study was retrieved by the literature search which addressed the prevalence of smoking among prison staff. In this survey carried out in Vermont (USA), 24% of the respondents were current smokers, 38% were ex-smoker and 38% were never smokers. However, this study yielded at a low response rate of 50% with only 321 out of 630 returned questionnaires (Carpenter et al. 2001).

No information could be obtained regarding prisoners starting smoking in prisons or attitudes of staff and inmates on tobacco and tobacco control.

4. Regulations in prisons to protect health of prisoners and staff

Promoting the health of non-smokers is one of the main objectives of the WHO. Second-hand tobacco smoke (SHS) is a health threat for non-smoking prisoners and prison staff. SHS refers to smoke from burning tobacco products, generated by people smoking them.

There is a body of evidence that second-hand smoke causes severe health damages both for smokers and non-smokers (British Medical Association 2004); see also EC/DG Health and Consumer Protection 2007, 4ff).

Promoting of health of non-smokers and smokers alike in prisons must include the provision of a smoke-free environment. Prisons are workplace for staff, home for prisoners (Butler et al. 2007). Banning smoking in prisons will thus affect both prisoners and staff and partly also visitors and external persons. It can be differentiated between partial smoking bans and total smoking bans: the former will restrict smoking to particular places within a prison, such as designated smoking areas or outside areas, while the latter will affect the whole prison, including the cells. Prisons can be regarded as personal accommodations; therefore they were not included in the smoking ban initially.

4.1. Overview of smoking ban policies in European prisons

A questionnaire on „Smoking bans in European prisons“ has been developed in December 2007 and has been adjusted by the members of the consortium in January 2008. The questionnaires were sent to the Ministries of Justice of the 27 EU Member States and Norway, Switzerland, and Monaco. In case where jurisdiction is in the hands of administrative units (e.g. in the UK for Scotland, England & Wales) or states (16 ‘Länder’ like in Germany) the questionnaires were sent to them as well.

Ministries were given one month to send the questionnaire back to the University of Bremen. We received responses from 28 national/regional Ministries of Justice (including Switzerland and Monaco; in Germany 12 Ministries of Justice replied, we did not receive questionnaires from Hamburg, Mecklenburg-West Pomerania, Berlin, and Saxony). Several respondents sent in their Smoking ban policies and guidelines.

The quantitative analysis showed that 22 of the 28 respondents (79%) introduced smoking bans in prisons in all of their prisons. The two German states Hessen and Baden-Württemberg introduced smoking bans in pilot projects only. In Switzerland, Monaco, Czech Republic, Hungary and Thuringia/Germany no smoking bans have been introduced. However, Monaco (2008) is planning to undertake these measures in the near future.

The European process of introduction of smoking bans in prisons started in 2006 in The Netherlands, Belgium, Finland, and Scotland.

There are different policies in place regarding smoking ban regulations for staff and prisoners.

4.1.1. Prisoners

19 (70%) respondents stated that prisoners are only allowed to smoke in their cells. 14 (52%) of the Ministries of Justice offered either special smoking rooms or additional facilities, like within the factories where it was an organisational problem to lead prisoners back to their cells for smoking purposes).

16 (60%) respondents stated that non-smoking prisoners are allowed to change into a 'non-smoking cell' on request (e.g. Estonia).

Smoking bans in prisons have been integrated in all countries into the regular health policy in prisons (except Hessen and Baden-Württemberg in Germany where smoking bans in prisons have only been introduced as pilot projects).

In some countries certain prisoner groups, like juveniles, are not allowed to buy tobacco (e.g. Hungary, and Rhineland Palatinate/Germany). In England and Wales prison establishments or units holding persons under 18 must have entirely smoke free environment within their buildings and they must not be permitted to smoke at all. Also in Estonia, Hungary, and Hessen/Germany inmates under 18 are not allowed to smoke.

Generally in England and Wales each prison must have a local smoking policy to comply with national instructions and legislation (details in the documents PSI 09/2007 and PSI 09/2007W)⁸.

4.1.2. Staff

Regarding smoking ban regulation for prison staff there is no unique policy in place. In 50% of all responding countries prisons staff is allowed to smoke outside the premises. 38% of the responding countries introduced special smoking rooms.

In six countries (25%) smoking for prison staff is not allowed at all (Switzerland, England, Wales, Scotland, Slovenia, and Bremen/Germany).

8 http://psi.hmprisonservice.gov.uk/PSI_2007_09_smoke_free_legislation.doc +
http://psi.hmprisonservice.gov.uk/PSI_2007_09W_smoke_free_legislation_wales.doc

Table 2: Smoking ban for prisoners in European prisons (except Germany see tables 3+4)

EU Countries	Introduced Smoking ban (Date)	Introduced in all prisons?	Smoking for prisoners not allowed at all	Smoking for prisoners only in their cells	Smoking for prisoners only in special rooms	Smoke free cells for non smoking prisoners	Smoking ban for prisoners as pilot project
Belgium	Yes (06/07)	Yes	No	Yes	No	No	No
Bulgaria	Yes (no data)	Yes	No	No	Yes	Yes	No
Czech Republic	No	-	No	Yes	Yes	Yes	No
Denmark	Yes (08/07)	Yes	No	No	No	No	No
England	Yes (04/2007)	Yes	No	No	No	No	No
Estonia	Yes (no data)	Yes	No	No	Yes	Yes	No
Finland	Yes (10/06)	Yes	No	Yes	Yes	Yes	No
Hungary	No	-	No	No	Yes	Yes	No
Latvia	Yes (01/07)	Yes	No	Yes	Yes	Yes	No
Monaco	No	-	No	Yes	No	No	No
Scotland	Yes (03/2006)	Yes	No	Yes			
Slovenia	Yes (08/07)	Yes	No	No	Yes	Yes	No
Sweden	Yes (01/08)	Yes	No	No	No	No	No
Switzerland	No	-	No	Yes	Yes	Yes	No
The Netherlands	Yes (01/06)	Yes	No	Yes	Yes	Yes	No
Wales	Yes (07/07)	Yes	No	No	No	No	No

Table 3: Smoking ban for staff in European prisons

EU Countries	Smoking for staff not allowed at all	Smoking for staff only in special rooms	Smoking for staff only allowed outside building	Smoking ban for staff only as pilot project
Belgium	No	Yes	Yes	No
Bulgaria	No	Yes	No	No
Czech Republic	No	No	Yes	No
Denmark	No	Yes	Yes	No
England	No	No	No	No
Estonia	No	No	No	No
Finland	No	Yes	Yes	No
Hungary	No	No	No	No
Latvia	No	Yes	No	No
Monaco	No	No	No	No
The Netherlands	No	Yes	Yes	No
Scotland	Yes	No	No information	No
Slovenia	Yes	No	Yes	No
Sweden	No	No	Yes	No
Switzerland	Yes	Yes	No	No
Wales	No	No	No	No

Table 4: Smoking ban for prisoners in 8 out of 16 German states ('Länder')

Germany States (,Länder')	Introduced Smoking ban	Introduced in all prisons?	Smoking for prisoners not allowed at all	Smoking for prisoners only in their cells	Smoking for prisoners only in special rooms	Smoke free cells for non smoking prisoners	Smoking ban for prisoners as pilot project
Baden- Württemberg	No	No	Yes	No	No	No	Yes
Bavaria	Yes (01/2008)	Yes	No	Yes	Yes	Yes	No
Brandenburg	Yes (01/2008)	Yes	No	Yes	Yes	No	No
Bremen	Yes (01/2008)	Yes	No	Yes	No	Yes	No
Hessen	Yes	Yes	No	Yes	Yes	Yes	Yes
Lower Saxony	Yes	Yes	No	Yes	Yes	Yes	No
North Rine Westphalia	Yes	Yes	No	Yes	Yes	No	No
Rhineland Palatinate	Yes	Yes	No	Yes	No	Yes	No
Saarland	Yes	Yes	No	Yes	Yes	No	No
Saxony Anhalt	Yes (01/2008)	Yes	No	Yes	No	Yes	No
Schleswig-Holstein	Yes	Yes	No	Yes	No	Yes	No
Thuringia	No	No	No data	No data	No data	No data	No data

Table 5: Smoking ban for prison staff in 8 out of 16 German states (‘Länder’)

German States (‘Länder’)	Smoking for staff not allowed at all	Smoking for staff only in special rooms	Smoking for staff only allowed outside building	Smoking ban for staff only as pilot project
Baden-Württemberg	No	No	No	No
Bavaria	No data	No data	No data	No data
Brandenburg	No data	No data	No data	No data
Bremen	Yes	No	Yes	No
Hessen	No	No	Yes	Yes
Lower Saxony	No	Yes	Yes	No
North Rhine Westphalia	No	Yes	No	No
Rhineland Palatinate	No	No	No	No
Saarland	No	No	Yes	No
Saxony Anhalt	No data	No data	No data	No data
Schleswig-Holstein	No	No	Yes	No
Thuringia	No data	No data	No data	No data

4.1.3. Experiences in England and Wales

As of July 2007, respectively April 2007 in Wales and England, prisons are smoke-free and intense efforts were made to support prisoners in stopping smoking.

One strategy is to ensure that non-smokers share cells only with non-smokers. The indoor-areas in prisons should be completely smoke-free and efforts should be made to reduce the harm resulting from passive smoking. In rooms where smoking is allowed, there should be no ventilation system which opens into any other room of the prison. Cells in which smoking is allowed should be indicated as such. Those above mentioned strategies have been implemented in prisons in England and Wales (HM Prison Service 2007).

The construction of smoking ban seems to vary between and even within countries. In England, Wales, Scotland and Northern Ireland smoking in prison has been restricted since 2007. Prisoners are restricted to smoke in their own cells “...recognising that this may be regarded as either their permanent or temporary home“ (NIPS 2007). Also, prisoners are not allowed to smoke in their workplace, during education programmes and activities. Furthermore it is not permitted to bring tobacco/cigarettes and lighters to court. If prisoners

cannot return to their cells during work they should be allowed to smoke in designated outdoor spaces.

This smoking ban concerns also prison staff: they are not allowed to smoke in enclosed spaces, but they may smoke in designated areas during their breaks.

Smoking cells should be marked as such. Non-smokers should not share a cell with smokers. If this not avoidable, the cell should be smoke-free. In this case, the smoking prisoners should be allowed to smoke in designated place in the prison. Smoking in prison vehicles is also not permitted.

Mother and baby units are declared as totally smoke-free. Also, young-offenders prisons are to be smoke-free (HM Prison Service 2007; MacAskill and Hayton 2007; NIPS 2007).

To an earlier point in time, the United States banned smoking in prisons. The smoking ban was accompanied by several law suits. In 1993, the US Supreme Court upheld a ruling that exposing a prisoner to SHS could constitute a “cruel and unusual punishment” (Helling v McKinney 1993) violating the prisoner’s Eighth Amendment rights. It was argued that banning smoking also violates the Eighth Amendment or other constitutional rights. Thus, this claim was not upheld, because prison authorities were able to demonstrate that they provided smoking cessation programmes (Butler et al. 2007).

In 2000, a survey revealed that 22% of US facilities disallowed tobacco use for prisoners, although 79% of them allow staff to use tobacco on the premises (Chavez et al. 2005). Difficulties between staff and inmates were reported, in particular during the transition process (Lincoln et al. 2005). NRT is offered to prisoners just in very few correctional facilities in the US. In the above mentioned survey, 80% of the prisons stated that they do not offer any cessation programme at all. Contrarily, 63% of the facilities stated that they assess the smoking status of the prisoner at entrance.

The banning of smoking in prisons should be accompanied by various methods of intervention programmes. „A whole prison approach” (Hayton and MacAskill 2006), integrating all key partners and addressing not only individuals is necessary to pave the way for smoke free prison environments.

5. Prevention programmes in prison to support the cessation of smoking

Regarding the smoking prevalence in prison, prevention programmes are in particular aiming at smoking cessation. The prison setting is a unique setting with special components, which needs to be addressed cautiously. Referring to Butler et al. (2007) "Tobacco smoking is an integral part of prison life and an established part of the culture". Little attention has been paid to smoking prevention in prison. Other prevention programmes, such as on HIV, drug use, self-harm, suicide or violence prevention are predominant. From a public health point of view, this is understandable, because the spread of communicable diseases do not only affect the prison population but also partners, families and thus the general population. The new endeavours of smoking prevention are originated in the smoking ban, which was introduced in many countries, e.g. United States, Australia and England and Wales.

The current worldwide literature revealed only very few prevention programmes addressing prisoners as specific target group. No primary preventive programme has been published. Preventive programmes have solely been developed in those countries which already have a smoking ban in prison (United Kingdom, Australia, US).

In England, two large preventive programmes have been evaluated: the Acquitted programme and a nicotine replacement therapy (NRT). The Acquitted programme and the resulting guidance (Department of Health and HM Prison Service 2007) have been piloted in two prisons. Prisoner's motivation for smoking has been assessed in detail: The majority of prisoners smoked due to boredom, relief from stress, peer-group pressure and the combination with illegal drug use. The negative consequences of smoking, which are relevant for cessation of smoking, were specified as high proportionate costs, negative health effects and the concern's expressed by the family. The prisoners were offered group- or one-to-one counselling and NRT with Zybane or nicotine patches. Since the results were promising, between April 2004 and March 2005, in 16 prisons of the North Western region of England these programmes were further evaluated. All prisons provided various counselling programmes accompanied by NRT. NRT was free of charge for the prisoners and funded by the local prisons. The average quit rate for 4 weeks was 41% validated by carbon monoxide monitoring. These results are comparable to quit rates in community settings. This result might point out that there is a huge potential in using smoking cessation to improve the health of prisoners.

By extrapolating these findings to the prison population of England and Wales, as a conservative estimate it is suggested that at least 41,240 prisoners would be successful in quitting within a one year period (MacAskill and Hayton 2007). Selection bias must be considered because probably just highly motivated prisoners have joined the prevention programme.

In New South Wales, Australia a pilot study of multi-component smoking intervention among prison inmates was conducted. The study took place in a maximum-security prison, which housed 330 men. Smoking cessation consists of two brief cognitive behavioural therapy

sessions, NRT, bupropion and self-help resources. Thirty males participated. At six months, the biochemically validated point prevalence and continuous abstinence rate were 26% and 22% respectively. Reasons for relapse to smoking were: transfers to other prisons without notice, boredom, prolonged periods locked in cells, and stress associated with family or legal concerns. The authors concluded that prison inmates are able to quit or to reduce tobacco consumption while in prison, but the prison-specific issues must be analysed and addressed by conducting smoking prevention programme in prison (Richmond et al. 2006). Summing up, for prisoners intending to quit smoking (Belcher et al. 2006; Richmond et al. 2006; Butler et al. 2007), with just few exceptions, no adequate prevention programmes are offered.

6. The experiences with and effects of a smoking ban in prisons

The goals of a smoking policy in prison are to ensure the health of non-smokers and to promote the health of smokers. Thus the primary effect should be an improvement of the health status of prisoners and employees. However, no studies have been published so far assessing the direct health effects before and after the introduction of the smoking ban in prison.

One older publication (Laurent et al. 1992) from France evaluated the effects of chronic exposure to tobacco smoke on the health of non-smokers. For this purpose 14 non-smoking volunteers were put in a cell which was already occupied by three smokers. The participants were examined on arrival and on the 30th day of their imprisonment. Besides of general questions of well-being, measurement of nicotine, cotinine, thiocyanates and cadmium concentrations in blood and urine were performed. The results did not demonstrate any significant difference. The authors argue that it is difficult to find evidence of a biological impact, notably on the concentrations of the specific indicators nicotine and cotinine. From today's state of knowledge this study should be interpreted with caution, because these biomarkers can be detected in urine and blood. It also seems to be quite unethical to put non-smokers under the stress of sharing share a cell with smokers.

A new publication from Danbury, USA focussed on the relationship of cigarette smoking to postoperative complications from dental extractions among female inmates. 219 inmates having dental extractions were included in the study. Data on postextraction complications revealed a significant difference in overall complications between smokers and non-smokers and smoking appeared to be a contributing factor to increased complications among multiple extractions (Heng et al. 2007).

Studies addressing the effectiveness of a smoking ban in prison in reducing the prevalence of smokers are few and methodologically weak. In New South Wales, Australia, 66% of the state's juvenile offender population smoked regularly in custody (Butler et al. 2007). In Indiana, US, the smoking ban was not successful either since 76% prisoners continued to smoke following the ban and 97% smoked on released (Cropsey and Kristeller 2005). A health promotion study from South Dakota prison demonstrated that despite the smoking ban, still 24% of the female inmates were smoking (Khavjou et al. 2007).

Another study was undertaken to determine the effects on non-smoking by measuring the average weekly nicotine concentration. It could be demonstrated that the nicotine exposure could be significantly reduced after the smoking ban, but exposure on SHS still exists (Hammond and Emmons 2005).

Experiences from an UK young offenders institute accepting remand and sentenced young people between the ages of 15 and 18, where smoking is not permitted in the prison by young offenders and staff, and all tobacco related products are banned, yielded positive results. Although minor altercations occurred between young offenders, the incidence of fires

decreased from 27 fires in the first 10 months of the previous year to only one fire in the year of the introduction of the smoke-free prison (Kipping et al. 2006).

However, due to few studies, it is premature to conclude that smoke-free prisons or smoke-free prisons with other measures are not successful.

Possible side effects

The smoking ban in prison will put the nicotine dependent prisoners in a high stress situation unless accompanied by other measures. If he or she is not offered any form of therapy or support and is not able to abstain from nicotine, he/she will be forced to buy nicotine on the black market in prison. Especially, for the US prisons system, it has been documented that a black market developed due to the smoking ban. Prisoners, visitors and prison staff have been caught smuggling tobacco on the black market. In California, the price for a packet of cigarettes is about 82 € i.e. 7 € per cigarette. A tin of loose tobacco is now worth 136 €, a hand-rolled cigarette will also cost 7 €. Sometimes prisoners even pay for the flick of a lighter, where no lighters are allowed. Similar scenarios have been reported from Maine and Oregon (Ayres 2005; Austin 2007).

7. Conclusions

1. The issue of smoking in prison is a new topic. Only few countries have introduced systematic tobacco control policies, a smoking ban or tobacco prevention and quitting programmes in prisons.
2. There is a clear lack of studies focussing on the topic of smoking in prison. Despite the strong presence of the dangers of smoking and passive smoking the prison setting seems to be neglected in science and research.
3. National legislation on smoking bans differs widely across the Member States and even within a country (e.g. Germany).
4. The prisoners' population offers a great opportunity to address health promotion and prevention. Although the greater health threats seem to derive from infectious diseases and the use of illegal drugs, the majority of the prisoners are affected by the effects of smoking. This high prevalence among the vulnerable population of prisoners underlines the needs for a comprehensive approach to address the high tobacco use.
5. Regarding the prevalence of smoking among prison staff, only very few data were found indicating that the percentage of never smoker was lower compared to the average in the general population. It has to be taken into account, that the introduction of a smoking ban in prison is new and no large evaluation has been published so far.

8. Recommendations

1. Prisons are public places, workplaces both for prisoners and prison staff and homes of the inmates. All smoke-free policies and actions taken to reduce the exposure to environmental tobacco smoke should take these three areas into account.
2. Smoking policies in prisons should be in accordance with the framework of the World Health Organization's anti-smoking campaign, the WHO "Framework Convention on Tobacco Control" (FCTC), and the EU/Commission's smoking policies.
3. According to the European Strategy for Tobacco Control (ESTC of WHO European Region), national strategies and action plans to reduce the consumption of tobacco should also include prisons and the related areas.
4. The health problems caused by SHS and smoking in prison have to be recognised and acknowledged by the respective national Ministries in charge as well as by prison governors and prison health care staff. Tobacco control strategies for prison systems have to be developed, implemented and evaluated at national level (like the prison service application of the smoke-free legislation released in 2006 and 2007 by Prison Services in Scotland, England and Wales).
5. National governments have to acknowledge the general need for prison specific smoke-free policies as well as smoking prevention and quit support programmes. By addressing the smoking behaviours of both prisoners and prison staff there are promising, but so far not sufficiently developed possibilities for important health gains.
6. Clear protocols on how to implement smoking bans in prisons and procedures of dealing with breaching the smoking ban need to be developed.
7. Both prisoners and prison staff should be supported and encouraged to change their smoking behaviour within anti-smoke campaigns (e.g. counselling as well as the free of charge access for prisoners to NRT) and non-smoking prisoners need to be supported in not starting smoking inside prisons.
8. Although non-smokers should not be exposed to second-hand smoke, smoking prisoners should have the possibility to smoke in their cells respectively designated areas in the prisons. Cells in which smoking is allowed should be indicated as such. At the same time it has to be ensured that non-smokers share cells only with non-smokers. In rooms where smoking is allowed, there should be no ventilation system which opens into any other room of the prison. Commonly used indoor-areas in prisons should be completely smoke-free.
9. Substantial research efforts are needed to investigate the effects and adverse side effects of smoking bans in prisons and the effectiveness of certain strategies to

implement smoking bans. Several research questions arise that need to be tackled in the near future:

- a. Quantifying the exposure levels to SHS in prisons of smokers and non-smokers both among inmates and staff
- b. Socio-economic and cultural problems that arise from limiting tobacco use and possession in prisons, such as trafficking and smuggling
- c. Degree of consumption of health damaging 'substitutes' of tobacco
- d. Impact of the smoking ban in terms of violence and tensions, pressure put on inmates on a furlough
- e. Identification of successful strategies to support prisoners and staff to quit smoking or not starting smoking
- f. Identification of the resources needed for the implementation and evaluation of prison specific smoking policies

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