

Clearing the Air: Measuring Secondhand Smoke in Djibouti

Background

The WHO Framework Convention on Tobacco Control states; Article 8: "...scientific evidence has unequivocally established that exposure to tobacco smoke causes death, disease and disability ... [Parties] shall adopt and implement ... measures providing for protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places and, as appropriate, other public places".¹ WHO FCTC Article 8 guidelines are intended to assist Parties in meeting their obligations under Article 8 of the Convention and provide a clear timeline for Parties to adopt appropriate measures (within five years after entry into Force of the WHO FCTC).²

There is no safe level of exposure to secondhand smoke (SHS), which contributes to a range of serious and often fatal diseases, including heart disease, respiratory illness, and lung and other cancers. Completely smoke-free environments with no exceptions are the only proven way to protect people from second-hand smoke. Separate smoking rooms and ventilation systems do not prevent secondhand smoke exposure.³

Governments are expected to maintain strong support for laws once they are enacted through proactive and uniform enforcement that achieves high compliance levels.

Although prevalence estimates of tobacco use amongst adults are not available, in Djibouti, 22.7% boys and 14.3% girls between the ages of 13-15 years use tobacco, whereas almost 36% amongst both boys and girls are exposed to second hand smoke outside their homes.⁵

Current Smoke-free legislation in Djibouti

Under the current legislation, smoking is banned in all closed public places, government institutions, hospitals, educational institutions and in public transportation. However restaurants and entertainment venues are not included in current legislation.

Methods

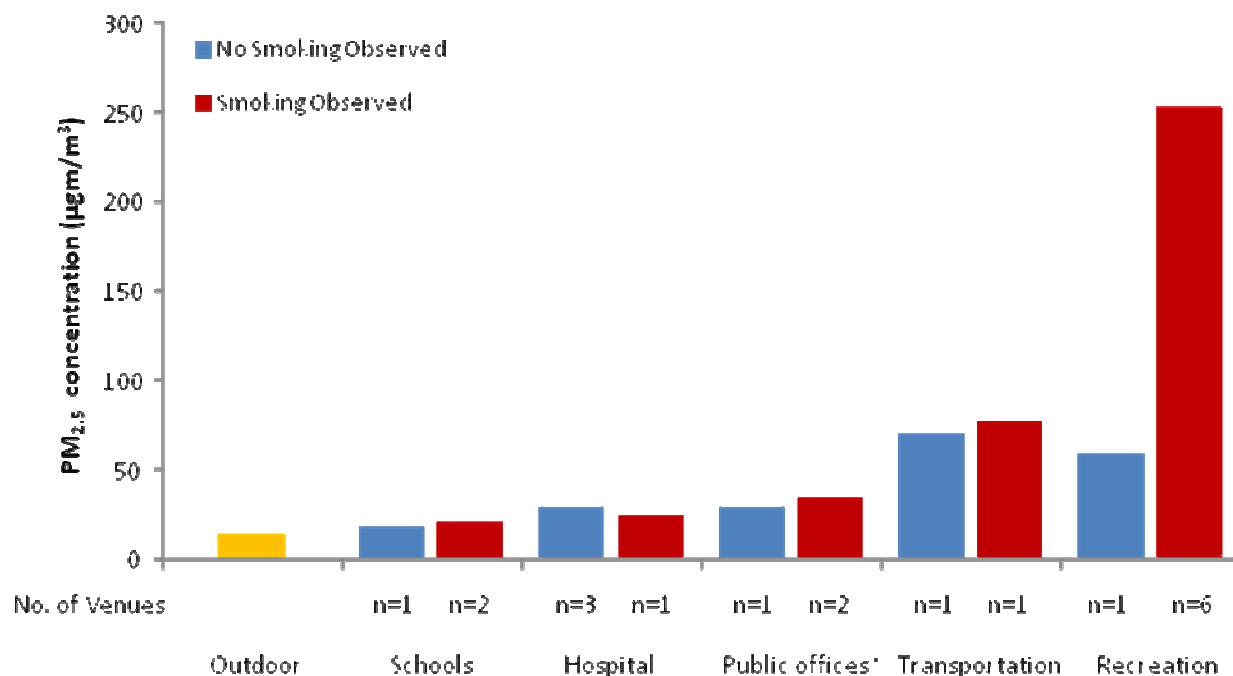
The objective of this study was to monitor SHS levels, as well as smoking behavior, in public places and work places in Djibouti city. The results provide a brief snapshot of selected venues whether or not these are compliant to the national legislation.

The study was conducted by using special PM_{2.5} monitoring instrument that measured the concentration of suspended SHS particulate matter (PM) in indoor air. Indoor Air monitoring was conducted for thirty minutes at every venue in a sample of hospitals, schools, public offices, transportation, and recreation venues. The study took place during May-June 2011. A total of 19 venues were monitored using PM_{2.5}. A brief summary of the findings from this study is presented here.

PM_{2.5} Highlights

What are the levels of exposure to tobacco smoke particles in indoor places in Djibouti?

In Djibouti the study found an average PM_{2.5} level of 144 µg/m³ in all indoor places with evidence of smoking which is 3 times higher than indoor places where no smoking was observed.



*public offices like government buildings, banks, telecommunication, etc.

Figure: Mean indoor particulate air pollution (PM_{2.5}) concentrations by type of location and observed smoking in Djibouti

PM_{2.5} concentrations in indoor places by observation of smoking in Djibouti

Recreation venues detected the highest levels of PM_{2.5}. An average PM_{2.5} level of 253 µg/m³ was detected in recreation venues where smoking was observed.

Venue Type	Smoking Observed	N	PM _{2.5} concentration (µg/m ³)			
			Mean	Min	Median	Max
Schools	No	1	18	18	18	18
	Yes	2	21	14	21	27
Hospital	No	3	30	20	21	49
	Yes	1	24	24	24	24
Public offices	No	1	29	29	29	29
	Yes	2	34	24	34	43
Transportation	No	1	71	71	71	71
	Yes	1	77	77	77	77
Recreation	No	1	60	60	60	60
	Yes	6	253	11	178	643
Outdoor			14	2	8	50

Figure: PM_{2.5} concentrations in indoor places in Djibouti

Observational findings based on building type in Djibouti

Smokers were observed in six out of seven recreation venues visited. Two out of the three public offices visited had smokers present while only one had signs prohibiting smoking.

Venue Type	N	100% Smoke-free regulation ⁴	Smokers observed (%)	Cigarette Butts found (%)	Tobacco smell detected (%)	Signs prohibiting smoking (%)
Schools	3	Yes	67	33	33	0
Hospitals	4	Yes	25	50	25	50
Public offices	3	Yes	67	33	33	33
Transportation	2	Yes	50	0	0	0
Recreation	7	No	86	29	71	0

Figure: Observational findings based on building types in Djibouti.

Study Findings

Levels of PM_{2.5} in Indoor Places in Djibouti

- Active smoking was observed in all venue types observe in this study and nearly all recreation venues.
- PM_{2.5} levels were 3 times higher in venues where smoking was observed compared to venues with no smoking observed.
- The highest average PM_{2.5} levels were detected in recreation venues where smoking was observed (253 µg/m³). In only 30 minutes, visitors to this venues would be exposed to levels 10 times higher than what is acceptable for a whole day (25 µg/m³), defined by the World Health Organization.⁶
- Signs prohibiting smoking were only observed in two hospitals and one public office.

Study Summary

- There is no risk-free level of secondhand smoke exposure. Even brief exposure can be dangerous. SHS is a pollutant that causes serious illness in adults and children.⁷
- This study provides a brief examination of a few different venues in Djibouti

- Although covered under the comprehensive smoke-free law, a fourth of hospitals, more than half of schools, public offices, and public transportation reported non-compliance. Exposure to SHS remains a problem in these places.
- Although the sample size was small (19 venues), all the venues studied had very limited signage prohibiting smoking.
- The findings from this study may not represent other similar buildings but does provide a small assessment of highlighting potential areas that need to be addressed.

Recommendations

- In order to protect the health of children and adults, the smoke free legislation need to be enforced fully in all indoor public places.
- The smoke free policies in recreation venues need to be re-examined to protect the health of the public, families and the workers.
- The smoke free laws in schools, public offices, hospitals and transportation need to be supported by providing guidelines for implementers and enforcement officials.
- Signage prohibiting smoking should be posted in all venues.
- The World Health Organization recommends that cities and countries adopt a comprehensive smoke-free law, requiring all public places and work places to ban smoking indoors.⁷

1) WHO Framework Convention on Tobacco Control. 2003 (updated 2005). 2) Guidelines for implementation of Article 8 of the WHO Framework Convention on Tobacco Control (Protection from exposure to tobacco smoke). 2007. 3) WHO report on the global tobacco epidemic, 2009: implementing smoke-free environments. 2009. 4) WHO Report on the Global Tobacco Epidemic. 2011: Warning about the Dangers of Tobacco. 2011 5) Global Youth Tobacco Survey (GYTS) 2009; data reported in WHO Report on the Global Tobacco Epidemic. 2011 6) WHO air quality guidelines for particulate matter, ozone, nitrogen dioxide, and sulphur dioxide. Global update, 2005. 2006. 7) World Health Organization, "Making cities Smoke-free". 2011. All documents can be accessed and downloaded from <http://www.who.int/publications/en/>