KEY MESSAGES

TackSHS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 681040

Tackling tobacco-related chronic diseases in Europe: towards healthy populations protected from tobacco and secondhand smoke

Smoking and secondhand smoke (SHS) exposure in Europe

Smoking is still highly prevalent in Europe (26% overall, 31% in men and 21% in women, ranging from 19% in Italy to 37% in Bulgaria). People with low socioeconomic status have higher smoking prevalence

Daily exposure to SHS among non-smokers is highly prevalent in most European countries (31% overall, ranging between 24% in Ireland and 68% in Greece), especially in indoor and outdoor settings of hospitality venues, workplaces, and homes and cars

Secondhand smoke exposure: outdoor settings

Smoking occurs and SHS is present in almost all outdoor terraces of bars and restaurants across Europe, with higher levels during evening and night periods and in more enclosed terraces, even in countries with legislation in these settings

Smoking occurs and SHS is present in most playgrounds and entrances to schools across Europe, especially in deprived neighbourhoods and countries with lower tobacco control climate

SHS exposure levels in outdoor terraces of hospitality venues were highly related to the number of walls

Occasional exposure to SHS in outdoor settings worsens some respiratory parameters in non-smoking patients with asthma and COPD

Secondhand smoke exposure: indoor private settings

Across Europe, three out of five smokers allow smoking in their homes, with very high levels of SHS exposure detected, potentially affecting children and other bystanders

Personalised feed-back provided to smokers on how their smoking impacts household air quality encourages them to make their homes smoke-free. A one-month intervention produced a moderate reduction in SHS concentrations in homes in disadvantaged areas

SHS levels in cars of smokers are very high, with nicotine concentrations exceeding those observed in smokers' homes

Burden of secondhand smoke exposure

The burden attributable to SHS exposure is still substantial in the EU, mainly due to SHS exposure at home

Diseases causally linked to SHS exposure in children are low birth weight, lower respiratory tract infections, asthma, Sudden Infant Death Syndrome (SIDS), and otitis media. The burden in children is mainly due to low birth weight (72%) and low respiratory infections (13%)

Diseases causally linked to SHS exposure in adults are ischemic heart disease (IHD), chronic obstructive pulmonary diseases (COPD), stroke, lung cancer, diabetes mellitus, asthma, and breast cancer in women. Attributable burden in adults is mainly due to IHD (30%), COPD (27%), stroke (15%), and lung cancer (12%)

In 2017 in children aged 0-14 years, exposure to SHS at home was associated with 344 deaths (1.5% of total deaths in children) and 37,000 disability-adjusted life years (0.75% of total DALYs), whereas in non-smoking adults it was responsible of 30,000 deaths (0.6% of total deaths) and 712,000 DALYs (0.5% of total DALYs). In adults, when also considering SHS exposure at workplaces, there was a 40% increase in attributable deaths and an 80% increase in attributable DALYs.

There is a high variability in the burden due to SHS exposure among European Countries: in Romania, Slovakia, Poland, and Bulgaria the attributable burden in children is three times higher than that recorded in Belgium, the Netherlands, Luxembourg, Estonia, Finland, Sweden, and the United Kingdom. In Romania, Bulgaria, Poland, Croatia, and Greece the burden for adults is two times higher than that recorded in Luxembourg, Germany, Belgium, and Finland

The annual cost of lost DALYs due to exposure to SHS is 356 million (of Purchasing Power Parity Adjusted euro of year 2017 on average in the EU 28 Member States. Differences around this average value are substantial. Germany is the member state with the highest losses (1694.69 million euro) and Malta (10.55 million euro) with the lowest ones. Such differences reflect mostly differences in population size but also differences in the prevalence of exposure to SHS

Economic simulation modelling predicted that, over 2020-2024, a scenario of complete "smoke-free homes" would generate health care cost reductions ranging from 40 million euro in Bulgaria to over 200 million euros in Germany. In a scenario of no SHS exposure at all, health care cost savings would be substantially higher, reaching for example 800 million euro in Germany

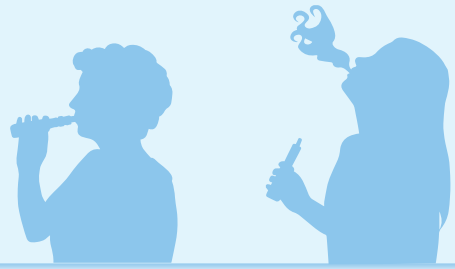
Electronic cigarette use and exposure to their secondhand aerosols (SHA)

Electronic cigarette use is low and diverse in Europe, more prevalent among youth and usually concurrent with traditional cigarette smoking

Despite the generally low prevalence of electronic cigarette use in Europe, exposure to SHA is frequently reported in various indoor settings. In Europe, one out of six non-users are daily exposed to SHA

Electronic cigarette use impairs air quality with particulate matter, nicotine, volatile organic compounds, and heavy metals among others

Individuals exposed to electronic cigarettes aerosol showed immediate alterations of their lung function (respiratory mechanics and exhaled biomarkers) and experienced symptoms of eye, nose and throat irritation



RECOMMENDATIONS

TackSHS

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Tackling tobacco-related chronic diseases in Europe: towards healthy populations protected from tobacco and secondhand smoke

Smoking and secondhand smoke exposure in Europe

Comprehensive policies and interventions to tackle tobacco consumption continue to be necessary with targeting of specific populations groups with higher prevalence rates

Increased monitoring and enforcement of smoke-free legislation is necessary, especially in workplaces and hospitality venues

Secondhand smoke exposure: outdoor settings

Smoke-free legislation should be extended to outdoor areas (terraces, playgrounds, entrances) to discourage smokers, protect bystanders (including specific groups such as children and patients with lung chronic conditions), and to increase public awareness

Patients with asthma and COPD should be advised of the risks posed to their respiratory health when spending time in outdoor spaces where smoking takes place and SHS is present

Further research is required to fully understand health effects of SHS exposure in outside areas of hospitality venues on people with asthma and other chronic respiratory conditions

Secondhand smoke exposure: indoor private settings

Smoke-free homes should be promoted through evidence-based interventions at multiple levels

European governments should set national targets to reduce the proportion of children exposed to SHS

Further novel methods should be investigated on how to encourage smokers to make their homes smoke-free. New low-cost technology can provide real-time feed-back to smokers and current interest in the health effect of poor air quality should be harnessed to make it socially unacceptable to smoke indoors

Implementation and dissemination research of evidence-based interventions to promote smoke-free homes across Europe is needed

Future interventions based on providing air quality feedback to decrease SHS exposure in homes with children should consider simple procedures of instrument installation and involvement of all household members

European governments should introduce smoke-free policies to regulate smoking inside private cars

Burden of secondhand smoke exposure

Importance of interventions aiming to decrease SHS exposure at home should be a priority for European governments to decrease disease burden among children and adults

Burden of diseases indicators should be incorporated in the planning and evaluation of tobacco control targets at national and European level

Smoke-free laws should be planned and supported by multiple national agencies, from health promotion to economy departments, as bystanders' protection from SHS exposure represents significant budget savings

Electronic cigarette use and exposure to their secondhand aerosols

To protect bystanders from secondhand aerosols from electronic cigarettes, policies to restrict their use in enclosed public spaces should be introduced

More research on the mid- and long-term effects of acute and chronic exposure to aerosols of electronic cigarettes by bystanders is needed, targeting specific population groups (e.g., children, patients with lung chronic diseases, pregnant women, etc.)

Partners

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