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Making homes and cars smokefree: just a few minutes of your time

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Abstract

Children's secondhand smoke (SHS) exposure remains a significant public health concern. In the UK, over half of children who live with smokers are regularly exposed to SHS at home. After quitting, the best way to reduce children's domestic exposure is to promote complete home smoking bans. School nurses are well placed to raise the issue of SHS exposure, explain the benefits of creating smokefree environments, and help with practical advice. A free online training module (www.ncsct.co.uk/SHS) is available to equip school nurses with the knowledge and skills required to intervene effectively with anyone who smokes and cares for children.

Key words

Secondhand smoke, smoke-free homes, very brief advice, online training, healthcare professionals, school nurses

Background

What is secondhand smoke?

Secondhand smoke (SHS), also known as passive smoke or environmental tobacco smoke, is made up of two components: mainstream smoke that the smoker exhales, and side-stream smoke that comes from the burning end of the cigarette. Whilst both forms of smoke are harmful, side-stream smoke is more toxic than mainstream smoke (Schick and Glantz, 2005). Recently, the term thirdhand smoke (THS) has been used to describe the residual particulate matter and toxins that build up in layers on surfaces and furnishings after tobacco products have been extinguished.

Harm associated with secondhand smoke exposure

Exposure to SHS has been causally linked with a number of childhood conditions, including upper and lower respiratory tract infections, middle ear disease, sudden infant death syndrome, asthma and bacterial meningitis (Cook and Strachan, 1999, Jones et al., 2011b, Jones et al., 2012, Royal College of Physicians, 2010). Children are at greater risk from exposure to SHS compared with adults, given their higher respiration rate and less well-developed airways, lungs, and immune system. The Royal College of Physicians (Royal College of Physicians, 2010) estimates that childhood disease, related specifically to SHS exposure, generate an additional 300,000 general practice consultations and 9,500 hospital admissions in the UK each year. Children who regularly see their parents and carers smoke are also more likely to become smokers themselves and it is estimated that 17,000 young people take up smoking by the age of 15 each year as a direct consequence of exposure to smoking in the home (Leonardi-Bee et al., 2011). Exposure to SHS in cars has also been

associated with adverse health effects including an increased risk of allergic and respiratory symptoms, in particular wheeze and hay fever symptoms (Kabir et al., 2009, Sly et al., 2007), and an increased risk of never-smoking children reporting at least one symptom of nicotine dependence by the time they become adolescents (Belanger et al., 2008). Although there is currently no evidence to link THS exposure to morbidity outcomes in children, one recent study has suggested that tobacco smoke residue on indoor surfaces may react with other compounds in the air to form cancer causing agents (Sleiman et al., 2010).

Extent of secondhand smoke exposure

Around two million children in the UK are regularly exposed to SHS (Royal College of Physicians, 2010). Smoking by parents and carers, and whether smoking is allowed in the home, are the two main determinants of a child's level of exposure to SHS (Jarvis et al., 2009, Sims et al., 2010). The home is the primary source of SHS exposure in children (Ashley and Ferrence, 1998, Wipfli et al., 2008) and, although cotinine (a metabolite of nicotine that can be found in saliva of children exposed to SHS) validated exposure in England has declined markedly in recent years (Sims et al., 2010), 52% of children who live with one or more smokers are still regularly exposed to SHS in the home (Jarvis et al., 2012).

Exposure is highest for the most deprived children, even after controlling for parental smoking status (Sims et al., 2010), and although the biggest decline in exposure to SHS over the last 15 years has occurred in children from the most deprived backgrounds, their level of exposure is still greater than their more affluent peers (Royal College of Physicians, 2010, Sims et al., 2010). It has been suggested that children from deprived backgrounds have

higher levels of exposure to SHS as their parents and carers are more likely to smoke and smoke more heavily (Sims et al., 2010, Jarvis and Wardle, 2005). Disadvantaged smokers are also more likely to perceive smoking as a 'normal' (Wallace-Bell, 2003), smoke in the presence of children (Johansson et al., 2003) and smoke in domestic settings such as in homes and cars (Bolte and Fromme, 2009).

After homes, cars and other vehicles are potentially the second highest source of exposure to SHS for children (Akhtar et al., 2010, Holliday et al., 2009, Moore et al., 2011, Edwards et al., 2006, Jones et al., 2009, Sendzik et al., 2009). Data from the 2007-2008 wave of the International Tobacco Control (ITC) Four Country Survey showed that 29% of respondents from the UK reported smoking in cars in the presence of non-smokers, although this survey did not specify what proportion of these non-smokers were children (Hitchman et al., 2010). Fifteen percent of UK smokers have admitted to smoking in a car in the presence of children (Kabir et al., 2009). These studies were based on self-reported data and are not biochemically validated, so it is likely that they underestimate the true extent of children's exposure to SHS in cars.

Relevance for school nurses

The importance of school nursing has been recognised by the government in the public health strategy 'Healthy Lives, Healthy People' (Department of Health, 2010). The key role for school nurses is to ensure children, young people and families are offered a core programme of evidence based preventative health care with additional care and support for those who need it (DH CNO Professional Leadership Team, 2012). In addition to this, the

current increased emphasis on parental education as a preventative measure places school nurses in an ideal position to engage with smoking parents and carers and their children and support them to change their home smoking behaviours.

Children are often very keen for their parents to stop smoking (Department of Health, 2011) but this can sometimes put the school nurse in a difficult position as they have to respect the wishes of both the child and the parents. Being able to advise on ways to make homes and cars smokefree, without the need for parents to necessarily quit smoking, is a useful addition to the strategies at the school nurses disposal.

Very brief advice on secondhand smoke

What parents do to protect their children from secondhand smoke

Of course the most effective measure to reduce SHS exposure in children is for their parents and carers to quit smoking altogether. However, for those carers who cannot or who are not yet ready to quit, the next best option is to promote homes and cars that are completely smoke-free. It is important that complete smoking bans are introduced in households with children, rather than partial bans (such as smoking in one room, out of the window or 'by the back door'), as stopping short of making the home completely smoke-free is unlikely to have a significant impact on children's exposure (Wakefield et al., 2000). There is also evidence to suggest that smokers who implement SFH smoke fewer cigarettes, are more likely to make a quit attempt and to go on to successfully quit (Farkas et al., 1999, Hyland et al., 2009, Mills et al., 2009, Shields, 2007). Caregivers in deprived areas perceive stopping

smoking in the home as a positive and manageable first step in the complex process of quitting (Jones et al., 2011a). Children growing up in a smoke-free home are also less likely to take up smoking as adolescents (Farkas et al., 2000, Rainio and Rimpela, 2008) and are more likely to have a preference for living in a smoke-free environment once they leave home and live independently of their caregivers (Albers et al., 2009).

Parents and carers have been shown to employ numerous strategies in an attempt to protect their children from exposure to SHS in homes and cars. Qualitative work with 22 smoking caregivers (Jones et al., 2011a) highlighted that all carers reported having some form of rules around smoking in the home, typically restricting smoking to one or two rooms within the house. However, these rules were not rigidly enforced and when the situation within the home changed (e.g. the child was not there) then the rules would be broken (Phillips et al., 2007, Robinson and Kirkcaldy, 2007). This fluidity in home smoking rules is often accompanied by other strategies attempting to reduce or eliminate risks, such as using air fresheners and opening the windows, even though there is no evidence for their effectiveness (Wakefield et al., 2000).

How to help parents make their homes and cars completely smokefree

It is worth noting that smoking is a legitimate health topic and that parents and carers expect health professionals to raise this with them (Hinton et al., 2011). The fact that most smokers caring for children have some rules aimed at protecting their children from SHS underlines the fact that this is a discussion that they will be happy to engage in. Adapted from an evidence-based approach to deliver very brief advice on smoking by GPs (Aveyard

et al., 2012); very brief advice on secondhand smoke involves establishing if smoking occurs in the home, advising on the benefits of going smokefree and offering help and support (Figure 1).

Figure 1: Very brief advice on secondhand smoke



An online training module on how to intervene with smoking parents and carers

The National Centre for Smoking Cessation and Training (NCSCT) has developed a 30 minute online training module for health and social care professionals who work with children and families: *Very brief advice on secondhand smoke: promoting smokefree homes and cars*.

Designed with leading clinicians and academics this online training module has been developed to assist anyone working with children and families to raise the issue of secondhand smoke and promote action to reduce exposure in the home and car (www.ncsct.co.uk/SHS).

The training is based around short film clips demonstrating possible interactions with families, presenting key facts, figures and messages to help build knowledge and skills in this area. The module provides accessible information on:

- the harms caused by secondhand smoke;
- why it is important to raise the issue;
- how to Ask, Advise and Act;
- encouraging and supporting behaviour change.

There is also a short assessment (multiple choice questions) and certificate issued following successful completion. Over 5,400 people have accessed the NCSCT module since its launch on the 24th of April 2012, over 2600 have viewed the training film and over 940 have taken and passed the module assessment (data correct as of July 2012). An evaluation of the training module in terms of increased confidence and changes to practice is currently on-going.

Conclusion

Making their homes and cars smokefree is one of the most important things that parents and carers who smoke can do to improve the health of their children and prevent them from developing into smokers themselves. School nurses are well placed to raise the issue of SHS exposure, explain the benefits of creating smokefree environments and helping with practical advice. A free online training module (www.ncsct.co.uk/SHS) is available to equip school nurses with the knowledge and skills required to intervene effectively with anyone who smokes and cares for children.

Conflict of interest statement

Laura Jones has received travel funding from manufacturers of smoking cessation products (Pfizer Ltd). Andy McEwen receives a personal income from Cancer Research UK via University College London. He has received travel funding, honorariums and consultancy payments from manufacturers of smoking cessation products (Pfizer Ltd, Novartis UK and GSK Consumer Healthcare Ltd). He also receives payment for providing training to smoking cessation specialists; receives royalties from books on smoking cessation and has a share in a patent of a nicotine delivery device.

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