Smoking cessation

E-cigarette pilot study helps smokers quit

More than a third of smokers who completed a pilot study of e-cigarettes as a smoking cessation aid quit smoking.

A total of 1,022 smokers aged 18-84, average 45 years, who expressed a desire to quit were enrolled in the study in 2018, from a deprived area in the North West of England where smoking prevalence was high. Participants were supplied with an e-cigarette and liquid through community and pharmacy smoking cessation services which also provided advice and guidance on stopping smoking.

The primary outcome was a successful quit, corroborated by carbon monoxide (CO) readings, four weeks after the quit date. The secondary outcomes were the number of cigarettes smoked and CO readings.

Of the 1,022 smokers initially registered, 670 were still engaged with the programme by week 2 and 614 by week 4. It was assumed that the remaining 408 continued to smoke although some may have quit and not wanted to continue on the programme.

A total of 383 out of 614 stopped smoking tobacco, a quit rate of 37%. Quit rates were lower in older individuals (55-64 years) compared with younger individuals (18-24 years) and also in those who were unemployed or in the most deprived quintile. The quit rate was not affected by the quantity of cigarettes smoked at baseline or whether the stop smoking service was community or pharmacy based.

Of those who continued to smoke the reported number of cigarettes smoked had fallen from an average of 19.1/day to 8.7/day. This was accompanied by significant reductions in CO levels.

The authors point out that the fact that so many smokers had given up by the 2-week review emphasises the need to offer as much support as possible during this initial period.

They conclude: 'The conservative estimate of smoking cessation [37%] demonstrated that community and pharmacy providers were able to at least match (if not slightly exceed) NICE smoking cessation targets [35%].'

This was a pilot study and did not address the issue of continued nicotine use in those who quit tobacco and the possible adverse health effects. Also, the gender of participants was not stated.

The authors recommend further research to determine whether e-cigarette users are more likely to reduce their overall nicotine consumption in the longer term.

DR PETER SAUL

Coffey M, Cooper-Ryan AM, Houston L et al. Using e-cigarettes for smoking cessation: evaluation of a pilot project in the North West of England. *Perspect Public Health* 11 May 2020 Online ahead of print doi: 10.1177/1757913920912436

Gastrointestinal disease

Primary care intervention increases uptake of HCV testing

An electronic algorithm integrated with primary care clinical database systems achieved a modest increase in hepatitis C (HCV) case finding, a UK general practice-based study has found.

Overall 90 practices in Bristol, North Somerset and Gloucestershire were invited to take part in HepCATT (Hepatitis C Assessment Through to Treatment Trial) a pragmatic, cluster randomised controlled trial during April to December 2016.

A total of 45 practices agreed to participate; 22 were randomised to the intervention and 23 to the control arm. In the intervention group, an electronic algorithm and flag system were built onto practice databases to identify patients with HCV risk markers (e.g. history of opioid dependence and previous HCV test with no record of referral to hepatology).

Staff received training in HCV, and practice posters and leaflets were displayed to increase patient awareness.

Flagged patients were invited by letter for an HCV test (with one follow-up) and on-screen pop-ups used to encourage opportunistic testing. The intervention lasted one year. In the control group, opportunistic HCV case finding was carried out as usual.

Baseline HCV testing of patients flagged by the algorithm for the six months before the study commenced was 608/13,097 (4.6%) in intervention practices and 380/11,376 (3.3%) in control practices.

During the study year, 2,071 (16%) of flagged patients in the intervention practices and 1,163 (10%) in control practices were tested for HCV. This provided evidence of a higher rate of antibody testing in the intervention practices; adjusted rate ratio (RR) 1.59 (95% CI: 1.21-2.08; $P < 0.001$) compared with control practices.

HCV antibodies were detected in 129 patients from intervention practices and 51 patients from control practices; RR 2.24 (95% CI: 1.47-3.42), showing weak evidence of an increase in yield (6.2% vs 4.4%); RR 1.40 (95% CI: 0.99-1.95).

Referral and assessment increased significantly in intervention practices compared with control practices; RR 5.78 (95% CI: 1.6-21.6).

After exclusion of the training, software, and installation costs, the cost of case finding was £4.03 and the average cost per additional patient referred to hepatology for treatment was £3,165. The incremental cost effectiveness ratio was £6,212 per quality adjusted life year (QALY).

HCV infection is a major cause of chronic liver disease and cirrhosis in the UK and is mainly acquired through injecting drug use. Chronic HCV infection can be cured in the vast majority of patients with a short course (typically 8-12 weeks) of direct acting oral antiviral agents. The World Health Organization (WHO) has set

targets for reducing the prevalence of HCV by 80% and HCV related mortality by 65% by 2030. NHS England aims to achieve the WHO goals by 2025. Screening for HCV infection in primary care will contribute to achieving these goals.

Though the size of the effect of the interventions on HCV infection case finding was relatively modest, the interventions were low cost, and this research demonstrates that with the right infrastructure primary care can make a valuable contribution to the elimination of HCV infection in the UK.

The study authors conclude: 'Our intervention was highly cost effective but increased HCV testing by only a modest amount. The overall findings are strong enough for us to recommend optimisation as part of implementation across primary care in the UK.'

They add: 'An alternative, and possibly complementary, approach is to conduct birth cohort screening, whereby all patients born between specific years (such as 1945 to 1965 as recommended by the Centers for Disease Control and Prevention in the US) are invited to be screened for HCV.'

DR JEZ THOMPSON

Roberts K, Macleod J, Metcalfe C et al. Cost effectiveness of an intervention to increase uptake of hepatitis C virus testing and treatment (HepCATT): cluster randomised controlled trial in primary care. *BMJ* 2020;368:m322

We welcome your feedback

If you would like to comment on any of the clinical reviews write to: **editor@thepractitioner.co.uk**

Paediatrics

Siblings of infants with sudden unexpected death at increased risk

An observational study using clinical case records has found a ten-fold increased risk of sudden unexpected death in infancy (SUDI) in siblings of SUDI cases.

The Care of Next Infant (CONI) programme in the UK maintains a database of infants of families where there has been a previous SUDI. Data were analysed on liveborn infants born, and enrolled on the CONI database, between 2000 and 2015. CONI provides support to families who have experienced SUDI in caring for their subsequent children through enhanced health visitor contact, provision of apnoea monitors, basic life support training, symptom diaries and weight charts.

There were 6,608 infants registered on the CONI database during the study period, including 171 who were first born infants to mothers whose male partner had previously had an unexplained infant death.

There were 29 unexpected infant deaths following the index death. These deaths occurred in 26 families; 23 with two deaths and three with three deaths. In each case the first death had been in an infant born to the same mother.

The cause of death was unexplained for 19 first and 15 CONI deaths. Accidental asphyxia accounted for two first and six CONI deaths; medical causes for three first and four CONI deaths; and homicide for two first and four CONI deaths. There were child protection concerns in ten families.

The SUDI rate for infants born in families with one previous SUDI was 3.93 (95% CI: 2.7-5.8) per 1,000 live births. The risk of a third death in a family with two previous cases of SUDI was 115 (95% CI: 40-290) per 1,000 live births.

When deaths caused by asphyxia, homicide and medical causes were excluded, this gave an unexplained infant death rate for infants born in families with a previous SUDI of 2.27 (95% CI: 1.4-3.7) per 1,000 live births.

Potentially modifiable risk factors for SUDI include maternal smoking before and after the birth; maternal mental health problems; unsafe sleeping practices such as the parent sharing a bed or sofa with the infant; and child abuse/neglect.

There were concerns about child abuse or poor parenting in more than half of CONI deaths. Most mothers smoked in pregnancy, and a third of CONI cases died in hazardous co-sleeping situations.

This study concluded that repeat SUDI within families is rare, with only 29 deaths reported in 26 families over a 16-year period. However, the repeat SUDI rate of 3.93 per 1,000 live births is more than ten times higher than the UK rate of unexplained infant deaths of 0.31 per 1,000 live births in 2016 down from 0.43 per 1,000 live births in 2006. Covert homicide occurred in two families, and only became apparent following the second death.

There were limitations to this study because factors such as low birthweight and prematurity were not considered and entry onto the database was voluntary.

The study authors conclude: 'Although our findings should provide reassurance to professionals dealing with a sibling SUDI case about the small possibility of homicide, it is important not to be complacent.

'The risk of repeat SUDI in a family is ten times that of the general population, reflecting both inherent genetic risks as well as environmental factors such as maternal smoking and unsafe sleeping.'

DR PETER SAUL

Garstang JJ, Campbell MJ, Cohen MC et al. Recurrent sudden unexpected death in infancy: a case series of sibling deaths. *Arch Dis Child* Epub ahead of print 10 June 2020 doi:10.1136/archdischild-2019-318379