phagocytosis was quantified using fluorimetry. Release of TNFα, CXCL8 and IL-6 was measured by ELISA. Expression of macrophage receptor with collagenous structure (MARCO) and toll-like receptors (TLRs) 2 and 4 was measured by flow cytometry.

Results Neither CSE nor any of the e-CVEs had any significant effect on cell viability. In addition, none of the exposures produced any significant effect on phagocytosis, though higher concentrations of CSE displayed a trend towards reduced phagocytosis.

CSE significantly reduced TNFα release (by approximately 70%; $p < 0.05$). Tobacco- and banoffee pie-flavoured e-CVEs also caused significant reductions in TNFα release (by 30–50%; $p < 0.05$), while nicotine and the e-liquid vehicle had no effect. Minimal effects were observed on CXCL8 and IL-6 release (0–30% reduction; $p > 0.05$) with CSE and e-CVEs. Expression of MARCO and TLR4 were unaffected by all cell treatments. TLR2 expression appeared to be slightly increased by e-CVEs, but was not statistically significant.

Conclusion Effects of e-CVEs on MDMs differed from those of CSE. E-liquid flavourings appeared to be responsible for changes in MDM function, while the e-liquid vehicle and nicotine solution had minimal effects. More research is needed to improve understanding of the biological effects of e-cigarette flavourings.

S124 THE EFFECTIVENESS OF "IN-CLINIC" SMOKING CESSATION SUPPORT IN THE SETTING OF SECONDARY CARE RESPIRATORY OUTPATIENT SERVICES

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Introduction and aims Although two thirds of smokers wish to quit, referral, uptake and engagement with smoking cessation (SC) services are frequently poor. In Leicester, uptake of smoking cessation referred from secondary care is approximately 20% with successful quit rate at four weeks of 10%. Provision of immediate support through smoking cessation specialist advice provided at the point of clinical assessment in outpatients might enhance referral uptake and quit rates. We assessed the value of this "in-clinic" approach in specialist respiratory outpatient clinics in two secondary care centres.

Methods Provision of immediate smoking cessation advice was implemented in two outpatient clinic services providing specialist care for patients with complex, chronic obstructive pulmonary disease (COPD); an Acute General Hospital (Peterborough City Hospital, PCH) and a Tertiary Care Hospital (Glenfield Hospital, GH). All current smokers were referred to an on-site smoking cessation specialist advisor by the physician, or clinic nurse, as part of their outpatient review on the same day of their clinic visit.

In the Glenfield service SC was provided by a smoking cessation specialist, using a harm reduction approach with a guided patient-led tailored programme and the possibility of direct supply treatment at the initial assessment.

In the PCH service, SC using psychosocial and/or pharmacological therapy was undertaken by a dedicated smoking cessation officer

Follow-up visits and telephone calls were arranged separately by the smoking service and data including demographics, treatment uptake and quit rates after 4 weeks were analysed.

Results A population of 122 smokers with a diagnosis of COPD were assessed for in-clinic SC over a period of twelve months in both centres.

Demographic details of both cohorts, outcomes of both SC strategies including treatment uptake and quit rates are disclosed in Table 1.

Conclusions Providing "in-clinic", expert smoking cessation advice results in favourable referral uptake and four week quit rates when compared with locally available data from paper based referral routes. Reinforcing physician delivered smoking cessation advice through immediate provision of proactive cessation support may be an effective means to enhance quit rates in secondary care.

Abstract S124 Table 1 Smoking cessation outcomes

	In-Clinic SC Approach at Peterborough Hospital	In-Clinic SC Approach at Glenfield Hospital
N patients referred	65	57
Age (years) (mean, [SD])	61.3 [9]	61.1 [9]
Gender	53% Male	53% Male
Approach to SC	Conventional	Harm Reduction
Treatment Uptake (% of N)	32 (49%)	29 (50%)
SC managed after 4 weeks (% of N)	29 (44%)	16 (28%)

S125 SMOKING CESSATION KNOWLEDGE, BELIEFS AND CURRENT PRACTICES AMONG UK CHILD HEALTH PROFESSIONALS

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Introduction and objectives Two million children in the UK are regularly exposed to second-hand smoke (SHS) in the home and many more are exposed in other settings. The consequences of this are well recognised and include higher incidences of: numerous acute illnesses; hospital admissions; school absences and increased smoking rates in later life. Together these result in significant costs to the NHS and wider economy.

Barriers to improved practice have been reported in other professional groups in the UK and in Child Health Doctors and Nurses in other countries. We could find no previously published data from the UK on this topic with which to inform and improve our own staff training and support.

Methods An electronic questionnaire was developed, covering beliefs, knowledge and current practice. The survey was distributed through professional groups, training and healthcare delivery organisations.

Results 140 responses were received, from Consultants (22%), trainee Paediatricians (32%), Nurses (34%) and others (11%), including Physiotherapists, Pharmacists, Healthcare Assistants and Play Therapists. Respondents came from 19/21 UK regions.

Respondents believe it is important to support smoking cessation for the parents of their patients but are likely to perceive the barriers to this as arising from the smokers more than from deficiencies in their own knowledge and skills (see Table 1). However, we identified significant knowledge gaps. When asked if 7 facts about SHS and cessation were true or false, incorrect answers ranged from 2–41% and 'don't know' from 10–46%. Only 41% knew how to make a referral to their local cessation service. 63% of respondents last had training about smoking cessation more than 5 years ago.

Abstract S125 Table 1 Respondents' assessment of the impact of parental smoking and barriers to aiding with smoking cessation, where 0 = no impact or not a barrier and 10 = very significant impact or barrier

	Mean (range)
How much of an impact do you think parental smoking has on children's current respiratory health?	8.54 (5–10)
How significant is the impact of parental smoking on a child's overall health later in life?	8.20 (3–10)
How significant do you think is the impact of a parent stopping smoking on their child's current respiratory health?	8.59 (2–10)
It is not worthwhile to try and change smoking behaviours as the chance of making an impact is so small	2.64 (0–9)
You lack knowledge or information to explain to parents how SHS exposure can affect their child's health	3.10 (0–10)
You lack motivational interviewing (or similar) skills to help smokers see how they could change their behaviour	5.21 (0–10)
Smokers may become defensive or aggressive if given advice about the consequences of smoking or the benefits of stopping smoking	6.28 (0–10)
Smokers are not willing to accept that their behaviour has health consequences	6.16 (0–10)
Smokers are not motivated to stop smoking	6.28 (0–10)
Many smokers have other, more significant challenges, to deal with such as: mental health problems, social isolation, poverty, under-employment, insecure housing etc.	6.47 (0–10)

Conclusions Our findings show that Child Health Professionals' beliefs about the impact of smoking and the importance of smoking cessation are not borne out in their practice. This is likely to be due to a lack of knowledge and training, despite the existence of high quality and easily accessible national resources.[1] We believe that every Child Health organisation should appoint smoking cessation champions who can build links with local specialist services in order to promote training and good practice among their colleagues.

REFERENCE

1 National Centre for Smoking Cessation and Training (NCSCT). http://www.ncsct.co.uk

S126 HOW DOES KNOWLEDGE, PERCEPTIONS AND ATTITUDES TOWARDS SHISHA PIPE SMOKING VARY AMONGST UNIVERSITY STUDENTS?

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Background and introduction Despite clear evidence for the harms of shisha pipe smoking (SPS) its use is increasing amongst university students worldwide. This review explores the evidence for the reasons behind this trend by considering students' perceptions, attitudes towards and knowledge of SPS.

Review question 'How does knowledge, perceptions and attitudes towards SPS vary amongst university students?'

This question will examine the rationale for students' shisha use and address their perceptions regarding its addictive properties.

Literature searches Three electronic databases were accessed: MEDLINE, EMBASE and CINAHL. Examples of search terms included "shisha" (and its alternatives), "university", "perceptions".

Inclusion criteria

1. January 1990–April 2016
2. English language
3. Human studies

57 articles were initially identified, with 21 articles included in the final review after abstract and full-text screening.

Throughout this process, three common themes emerged

Reasons for and attitude towards SPS.

Perceptions regarding health hazards of SPS.

Perceptions regarding addictive properties and ability to quit SPS.

Each theme was explored in detail, in order to answer the review question.

Review findings

Socio-cultural and peer influences are major contributors in students initiating SPS.

SPS 'addiction' has two components: physiological and social. This is compounded by the general perception that SPS is a safer, i.e., less harmful and addictive, and sociable alternative to cigarette smoking.

Students believe quitting SPS is 'easy', yet few are able to do so successfully.

Conclusion Policy change is fundamental in tackling the SPS pandemic amongst university students. Interventions, within institutions directly or via social media campaigns, must de-glamorise shisha and highlight its harmful effects. Prior to this, additional longitudinal studies are necessitated to build on existing cross-sectional data and understand temporal changes in students' beliefs to allow better, targeted health promotion.

S127 EFFECT OF CANNABIS SMOKING ON THE DEVELOPMENT OF BULLOUS LUNG DISEASE: A STRUCTURED LITERATURE REVIEW

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Background With increasing cannabis use, physicians need to know more about its respiratory effects. However, there are few long term studies of cannabis smoking, mostly due to legality issues and the confounding effects of tobacco.

Aims We reviewed the effect of chronic cannabis use on bullous lung disease.

Methods 18 out of 69 English-language publications, prior to April 2016, from MEDLINE, Scopus, and Web of Science