

# Should dental teams be doing more to make adolescents aware of the health risks of water pipe tobacco smoking (shisha)?

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## In brief

Highlights the increasing trend in the use of shisha among adolescents.

Suggests some reasons for this increase in the use of shisha.

Describes the health risks associated with shisha smoking.

Discusses the role of the dental team in shisha cessation.

The prevalence of waterpipe tobacco smoking (also known as shisha, hookah, narghile or hubble bubble) is increasing worldwide and is especially popular among adolescents of all cultures, ethnicities and socio-economic backgrounds. This increased prevalence is thought to be due to a number of factors including the relationship between the social aspect of waterpipe smoking and a thriving café culture, lack of regulatory or policy framework specific to waterpipe use, the perception of reduced harm and the evolution of social media. This opinion paper discusses the prevalence of shisha use among adolescents, associated risks and oral health conditions and effective shisha cessation interventions. The implications for the dental team are also discussed.

## Introduction

There have been several studies to show that the prevalence of waterpipe tobacco smoking (also known as shisha, hookah, narghile or hubble bubble) is increasing worldwide. It is especially popular among adolescents of all cultures, ethnicities and socio-economic backgrounds.<sup>1-4</sup> This increased prevalence is thought to be due to a number of factors including the relationship between the social aspect of water pipe smoking and a thriving café culture, the introduction of flavoured tobacco, lack of regulatory or policy framework specific to waterpipe use, the perception of reduced harm and the evolution of social media.<sup>5</sup>

## Risks associated with shisha

The waterpipe device works by heating tobacco underneath hot coals, the smoke from this passes through a bowl of water into a rubber pipe for inhalation. There are several risks associated with smoking shisha which can be categorised as the health effects, the addictive potential and the cross infection risk of sharing a pipe. Depending on the amount and type of tobacco and how the waterpipe is smoked, the level of harm can vary.<sup>6</sup> Some studies have suggested that waterpipe tobacco smoking is associated with developing lung, gastric and oesophageal cancer, and chronic respiratory disease.<sup>7-9</sup> Studies on the oral effects are scarce but risks to the oral cavity that have been described include periodontal disease, dry sockets after extractions and oral cancer.<sup>7,10,11</sup> Despite a perceived notion that the water 'filtering' is protective, water pipe smoking is thought to be more harmful than cigarette smoking.<sup>12,13</sup> It is estimated that the average shisha session lasting one hour delivers ten times the amount of nicotine as a cigarette and involves inhaling 100–200 times the volume of smoke as a single cigarette.<sup>12,14</sup> In addition to this, the shisha smoke contains high levels of

heavy metals such as cobalt, lead and nickel.<sup>6</sup> A further problem is the amount of carbon monoxide produced by the glowing charcoal.<sup>12</sup> There are a number of case reports in the literature of patients presenting at emergency departments with symptoms relating to carbon monoxide poisoning from shisha smoking.<sup>15,16</sup> Some studies have shown that shisha use can lead to nicotine/tobacco dependency, with users experiencing withdrawal symptoms and having difficulty quitting the habit.<sup>9,17-20</sup> A further risk of waterpipe use is the possibility of transmitting infections, such as tuberculosis, between users.<sup>21-23</sup> Despite the limitations of some of the study designs there appears to be enough evidence in the literature to suggest that shisha use is harmful to general and oral health.

## Use of shisha among adolescents

Longitudinal data show a rise in shisha popularity worldwide, in particular in younger users.<sup>5</sup> There are several reasons that might explain this rise, including globalisation and industrialised production of the tobacco used in a shisha pipe.<sup>3</sup> A study at a UK university showed that 38% of students had tried shisha.<sup>24</sup> Reasons for

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trying shisha for the first time seem to differ from cigarette smoking, as there is a communal aspect to its use.<sup>25</sup> Users listed the social aspect, curiosity and novelty as reasons to smoke shisha.<sup>26</sup> The same study showed that users believed there were no health risks, as no public health messages were known and therefore the assumption was made that it was safe.

### Knowledge and use of shisha

The authors recently carried out a study to identify the levels of shisha use in students in a further education college in London. A convenience sampling methodology was used where all students present on the day over a one week period were invited to take part in the study. Students aged 16-19 were asked to complete a questionnaire. They were asked about their water pipe use including frequency, duration of use, age and circumstance of initiation, reasons for use, attitudes, knowledge and beliefs about water pipe smoking. Responses were received from 97 students. Sixty-three percent of the respondents had used shisha, 19% used it three to four times a month, 35% spent over 45 minutes in one session and 58% first tried shisha between ages 14-16. The majority (82%) first tried shisha when they were with friends and 71% use it because of the taste. Thirty-nine percent did not know about the health risks of shisha and 34% thought that shisha is less harmful than smoking cigarettes. In our study, many of the participants enquired why the questionnaire did not cover the use of shisha-pens, which many students described as using. There is little evidence in the literature about prevalence and health risks of shisha-pen use, therefore it may be an important area for further research. The authors acknowledge that being a convenience sample the findings may not necessarily be representative of the study population.

Another study, a qualitative study on knowledge, attitudes and beliefs towards shisha use among young adults in London, found that most were aware of the health risks but many accepted these risks.<sup>27</sup>

### Effective cessation interventions

Currently there is very little evidence regarding smoking cessation interventions specific to shisha use. A systematic review of effective interventions concluded that the literature on waterpipe cessation is sparse, but suggested that there are opportunities to build on the vast experience on the smoking cessation interventions in cigarette smokers. The review also suggested including

components and assessment tools that address the specific aspects of waterpipe smoking, such as social dimension and unique experiences. Shisha cessation interventions typically involve behavioural, pharmacological (through nicotine replacement therapy or Bupropion), or a combination of both.<sup>28</sup>

A study exploring the effectiveness of health warnings for waterpipe smoking among college students concluded that placing waterpipe-specific labels on waterpipe devices maybe an effective tool to curb waterpipe smoking.<sup>29</sup> Another study was carried out to explore the impact of social media campaigns on the dangers of waterpipe smoking. The 'ShishAware' campaign included Facebook, Twitter and YouTube. The study found that while Facebook attracted campaign supporters, YouTube attracted opposers and concluded that a more detailed evaluation particularly among adolescents is needed.<sup>30</sup>

To the best of our knowledge there are few dedicated shisha cessation services in England. Shisha users view their habit very differently to how cigarette smokers view their habit. Shisha smokers view the habit as pleasurable, social and cultured while cigarette smokers view the habit as addictive and mundane.<sup>31</sup> These differences in attitudes mean that different cessation interventions are likely to be needed. In England, if shisha smokers would like to quit they would be referred to smoking cessation services rather than to a specific shisha cessation service. Treating the nicotine addiction is necessary but the cultural and social aspects of shisha smoking should also be considered. More research is needed to develop specific shisha cessation programmes that take into account the unique motivators involved in this habit.

### The role of dental teams

Dental teams should be encouraged to apply the 'Making Every Contact Count' approach where they use opportunities arising during routine interactions with patients to have brief conversations on how they might make positive improvements to their health and wellbeing. Reducing tobacco use is an important element of *Delivering better oral health – an evidence based toolkit for prevention*.<sup>32</sup> It contains advice on the use of waterpipe smoking. One of the key recommendations in *Smokefree and smiling – helping dental patients to quit tobacco – is that dental teams are routinely proactive in engaging users of tobacco and encourages them to ask patients about shisha use*.<sup>33</sup> While the focus has so far been on cigarette smoking, and in some

cases smokeless tobacco or paan use, this should routinely be extended to shisha use. It is now accepted that dentists should routinely record smoking status and provide brief advice for those who wish to quit. A new dental contract is being developed in England with a focus on prevention.<sup>34</sup> The oral health assessment tool should provide an opportunity for dental teams to also collect information on shisha use. In addition to recording shisha use, particularly by adolescents, dental teams could provide brief advice and be aware of the services offered locally and how to refer to them. As dental teams are now increasingly being encouraged to promote health through community events and other outreach activities they could play a role in creating awareness of the health risks of shisha in educational institutions and among adolescent groups.

### Conclusion

With the increasing use of shisha among adolescents and lack of knowledge about the health risks, many believe that shisha use in now a public health problem. Dental teams, schools, colleges and universities can play a role in addressing this problem.

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