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Hookah steam stones: smoking vapour expands from electronic cigarettes to waterpipes

Youn Ok Lee, Arnab Mukherjea, and Rachel Grana

Center for Tobacco Control Research and Education, University of California, San Francisco, California, USA

A hookah is a waterpipe (also known as narghile or shisha) used to smoke flavoured tobacco. It is estimated that the hookah is used daily by more than 100 million people globally.¹ Further, hookah smoking appears to be increasing both worldwide and in the USA.^{2–5}

A limited number of studies suggest that health risks associated with hookah smoking are similar to those of cigarette smoking.⁶⁷ A single session of hookah smoking can last 30–60 min, with over 100 inhalations.⁸⁹ Despite data demonstrating potential health risks, smokers perceive hookah use as less harmful than cigarettes¹⁰ because of its sweet smell and taste, and the belief that water ‘filters’ the smoke, reducing toxicant exposure⁵¹¹¹² and is, therefore, less addictive than cigarettes.⁵ Moreover, existing legal protections for non-smokers do not apply to hookah since most public venues for waterpipe use are exempt from clean indoor air legislation.¹³

A new product, called ‘steam stones,’ is being introduced as a tobacco alternative for use in hookahs (see figure 1). These heat-treated porous materials are soaked in fluid—usually glycerin—and heated in hookahs, where the tobacco would normally be placed, to create a smoke-like vapour. A cursory search of sales of steam stones found that distributors largely export these items from Germany and the UK. Steam stones can be found in tobacco outlets—often specialising in niche products—as well as bars and cafes in Europe, Asia and North America (<http://www.shiazo.eu/stores.php>). Steam stones have been advertised in other retail environments; for instance, a convenience store in California was observed with an advertisement for a popular brand (see figure 4; *photo credit: MariaElena Gonzalez*). These tobacco substitutes appear to be garnering popularity as evidenced by their introduction into major retail merchandise tradeshows and their growing presence on mainstream web vendors, such as Amazon and eBay, at prices comparable with those of similarly sized hookah tobacco products (eg, \$10.00 for 100 g) (<http://www.toptenwholesale.com/news/new-products-asd-las-vegas-15035.html>).

Steam stones are marketed as a ‘replace[ment of] the tobacco leaf medium with a 100% natural, extremely pure, raw mineral’ with ‘no solids and no fine dust are generated but only fine liquid particles as steam’, and claim to contain ‘no nicotine’ (see figure 2). (<http://www.shiazo.us>) A steam stone vendor who also markets electronic cigarettes,

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Correspondence to: Dr Youn Ok Lee, Postdoctoral Scholar, Center for Tobacco Control Research and Education, University of California, San Francisco, 530 Parnassus Avenue, Suite 366, San Francisco, CA 94143-1390, USA; younok.lee@ucsf.edu.

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SquareSmoke, claims that steam stones are ‘the next generation of hookah’ and ‘free of the tar, carcinogens, carbon monoxide and guilt that come with traditional hookah tobacco.’¹⁴ Others advertise that steam stones do not fall under tobacco regulation, such as taxes, licensing and age limits. These hookah industry activities parallel those of the electronic cigarette and tobacco industries.¹⁵

Virtually nothing is known about potential health risks of inhaling vapour from use of steam stones in a hookah. The most detailed information available come from an industry website indicating that steam stones ‘carbonize at the temperature found in a hookah and, therefore, release (sic) pyrolysis’ and emit fog from “1,2-propanediol or glycerol.” (<http://www.steam-stones.info>) In addition, smoking steam stones in most hookahs involves using charcoal as the heat source resulting in the inhalation of charcoal smoke, a major source of carbon monoxide (CO) and carcinogenic polyaromatic hydrocarbons (PAH).¹⁶

Steam stone manufacturers appear to be capitalising on the concept of harm reduction currently debated in the field of tobacco control. Particularly, these vendors appear to be aligning their marketing strategies with those of electronic cigarette vendors. One company explicitly markets their steam stones as being ‘based on the same concept as electronic cigarettes.’¹⁴ A brief review of hookah forums showed that hookah users are interested in the product and reviewed them positively as an alternative to tobacco (<http://www.hookahforum.com/topic/45588-shiazo-steam-stones-inquiry/>), and expressed interest in how they might be used to get around smoking bans (<http://www.hookahforum.com/topic/44356-bar-with-steam-stones-to-get-around-smoking-ban/>). User reviews of the product on YouTube appear to be generally positive (although it is important to note that many reviewers state that they were sent samples of the product for free). Reviews on YouTube focused on demonstrating and commenting on the large amount of vapour produced, and expressed mixed opinions of the taste and flavours.

The introduction of this largely untested product must be countered by an evidence-based public health response. Of particular concern is the fact that steam stones are marketed in an array of candy-like flavours, such as bubble gum and chocolate, that may appeal to youth (figure 3). Similar to other emerging products claiming reduced harm, independent research on toxicants, youth initiation, impacts on cessation and dual use with tobacco products is paramount to ensuring that public health policies and practices successfully neutralise adverse marketing and promotion strategies.

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Figure 1.

Steam stones are used in place of tobacco in hookahs. Pure brand steam stone marketing refers to steam stones as “the healthy way to shisha”.

Figure 2.
Shiazoo brand steam stone marketing positions this product as an alternative to smoking.

Figure 3.

Steam stones are marketed with candy-like flavours such as bubble gum, chocolate, and fruit punch.

Figure 4.
Steam stones advertised for sale at a convenience store in Redwood City, California.