

Water pipe consumption (shisha smoking)

Introduction

Water pipes, often referred to as shishas, have been used for tobacco consumption for hundreds of years, particularly in the Eastern Mediterranean, in many Arab countries, and in parts of Asia (Knishkowsky, Amitai 2005). For a number of years now, shisha smoking has also been gaining in popularity in Western countries, particularly among young people (Akl et al. 2011; Maziak 2011; Kuntz et al. 2015). There is a widespread conception that tobacco consumption through shisha smoking is less damaging to health than smoking cigarettes due to a filter effect attributed to the water (Martinasek et al. 2011; Maziak 2014). However, a range of studies now exist which indicate a connection between shisha smoking and consequential health problems (Aslam et al. 2014; Blachman-Braun et al. 2014; Jukema et al. 2014). According to these studies, people who regularly smoke shisha have a higher risk of developing lung cancer, respiratory diseases, and cardiovascular diseases, as well as impairments to oral and dental health (Akl et al. 2010). Due to the nicotine that is also contained in tobacco smoke from shisha, we can assume that the risk of dependency and addiction is similar to that of cigarette smoking (Neergaard et al. 2007). The sweet, fruity taste of shisha smoke also makes water pipes attractive to young people who are inexperienced in tobacco consumption, meaning that water pipes could serve as a gateway to smoking cigarettes (Jensen et al. 2010; Maziak 2014).

Indicator

Data on water pipe consumption was collected via three questions in KiGGS Wave 1. First, to determine the lifetime prevalence of water pipe consumption, all adolescents aged between 12 and 17 were asked: “Have you ever smoked a water pipe or shisha?” (answer categories: “yes”, “no”). Next, adolescents who already had some experience in water pipe consumption were asked whether they had smoked a water pipe or shisha within the last 12 months (answer categories: “yes”, “no”). Finally, those who answered “yes” to the first two questions were asked: “Thinking back to the last 30 days, on how many days did you smoke a water pipe or shisha?” (Kuntz et al. 2015). The tables show the lifetime prevalence, the 12-month prevalence and the 30-day prevalence

of water pipe consumption among 12 to 17 year-old adolescents, broken down according to sex, age and social status.

Key results

- ▶ 28.9 % of 12 to 17 year-old adolescents have smoked a water pipe, with 20.6 % or 10.0 % respectively indicating that they had smoked a water pipe in the 12 months or 30 days prior to the survey.
- ▶ The prevalence of water pipe consumption rises significantly with increasing age.
- ▶ Boys are somewhat more likely to smoke a water pipe than girls.
- ▶ Although the prevalence of water pipe consumption is slightly higher among adolescents with a low social status as compared to their peers in the high social status category, the differences are not statistically significant.

Conclusion

While the general smoking rate, particularly cigarette smoking, has decreased considerably among adolescents in Germany in recent years (BZgA 2012; Lampert et al. 2014), shisha smoking has established itself as an alternative form of tobacco consumption (Kuntz et al. 2015). To date, regional studies on the prevalence of water pipe consumption among adolescents have been carried out in Berlin (Bezirksamt Friedrichshain-Kreuzberg 2007; Brünger 2012), in the Heidelberg region (Herth et al. 2009) and in the Rhine-Main area, Hochtaunus district, Giessen and Darmstadt (Schwarzer et al. 2015). Although these studies cannot be directly compared with the KiGGS data for methodological reasons, they also show that a considerable proportion of the surveyed adolescents has smoked a water pipe or shisha.

Nationwide data on shisha smoking has been available since 2007 on the basis of the regularly conducted representative studies of the Federal Centre for

Health Education (Bundeszentrale für gesundheitliche Aufklärung, BZgA) (BZgA 2012).

A comparison of the BZgA data most recently collected in 2011 with the results of KiGGS Wave 1 shows a high level of agreement for the age group of 12 to 17 year-old adolescents. This applies to the lifetime prevalence (KiGGS: 28.9 %, BZgA: 29.3 %), the 12-month prevalence (20.6 % vs. 20.9 %) and the 30-day prevalence (10.0 % vs. 8.7 %). The KiGGS finding that boys are more likely than girls to smoke shisha is also supported by the BZgA data with respect to the lifetime and 12-month prevalence (BZgA 2012).

As a recent study proves, water pipe consumption is clearly not considered “smoking” by many adolescents: about a third of the occasional shisha smokers and one in eight regular shisha smokers identified as non-smokers in response to the general question on their smoking status (Schwarzer et al. 2015). In addition, water pipe consumption is classified as damaging to health by considerably fewer adolescents than cigarette smoking or passive smoking (BZgA 2012). In light of the fact that a statement from the Federal Institute for Risk Assessment (BfR) comes to the conclusion that the regular consumption of water pipes is “barely less damaging [...] than the regular consumption of cigarettes” and the “risk of becoming addicted [...] is comparable [...] to that of cigarettes” (BfR 2009), this is worrying. Therefore, tobacco prevention campaigns should also place a focus on health and addiction risks associated with water pipes, since these risks are systematically underestimated by a majority of adolescents and the public.

Note: A detailed description of the study as well as explanations on the method are available on the KiGGS study website, www.kiggs-studie.de, and in Lange et al. (2014).

Further results regarding water pipe consumption (shisha smoking) can be found in Kuntz et al. (2015).

Literature

- Akl EA, Gaddam S, Gunukula SK et al. (2010) The effects of waterpipe tobacco smoking on health outcomes: a systematic review. *Int J Epidemiol* 39 (3): 834–857
- Akl EA, Gunukula SK, Aleem S et al. (2011) The prevalence of waterpipe tobacco smoking among the general and specific populations: a systematic review. *BMC Public Health* 11: 244
- Aslam HM, Saleem S, German S et al. (2014) Harmful effects of shisha: literature review. *Int Arch Med* 7 (1): 16
- Bezirksamt Friedrichshain-Kreuzberg (2007) Vorsicht Wasserpfeife. 2., überarbeitete Auflage. Bezirksamt Friedrichshain-Kreuzberg, Berlin
- Blachman-Braun R, Del Mazo-Rodriguez RL, Lopez-Samano G et al. (2014) Hookah, is it really harmless? *Respir Med* 108 (5): 661–667
- Brünger M (2012) Zigarette und Wasserpfeife bei Jugendlichen: Wie unterscheiden sich Schüler deutscher, türkischer und arabischer Herkunft? disserta Verlag, Hamburg
- Bundesinstitut für Risikobewertung (2009) Gesundheits- und Suchtgefahren durch Wasserpfeifen. Aktualisierte Gesundheitliche Bewertung Nr. 011/2009 des BfR vom 26. März 2009 BfR, Berlin
www.bfr.bund.de (Accessed: 25.03.2015)
- Bundeszentrale für gesundheitliche Aufklärung (2012) Die Drogenaffinität Jugendlicher in der Bundesrepublik Deutschland 2011. Teilband Rauchen. BZgA, Köln
www.bzga.de (Accessed: 23.03.2015)
- Herth FJF, Kappes J, Ehmann M et al. (2009) Wasserpfeife – Wie häufig wird sie von Jugendlichen benutzt? *Pneumologie* 63 (S 01): V47
- Jensen PD, Cortes R, Engholm G et al. (2010) Waterpipe use predicts progression to regular cigarette smoking among Danish youth. *Subst Use Misuse* 45 (7/8): 1245–1261
- Jukema JB, Bagnasco DE, Jukema RA (2014) Waterpipe smoking: not necessarily less hazardous than cigarette smoking: Possible consequences for (cardiovascular) disease. *Neth Heart J* 22 (3): 91–99
- Knishkowsky B, Amitai Y (2005) Water-pipe (narghile) smoking: an emerging health risk behavior. *Pediatrics* 116 (1): e113–119
- Kuntz B, Lampert T, KiGGS Study Group (2015) Wasserpfeifenkonsum (Shisha-Rauchen) bei Jugendlichen in Deutschland. Ergebnisse aus KiGGS Welle 1 (2009-2012). Bundesgesundheitsbl – Gesundheitsforsch – Gesundheitsschutz: 1–7
- Lampert T, Kuntz B, KiGGS Study Group (2014) Tabak- und Alkoholkonsum bei 11- bis 17-jährigen Jugendlichen. Ergebnisse der KiGGS-Studie – Erste Folgebefragung (KiGGS Welle 1). Bundesgesundheitsbl – Gesundheitsforsch – Gesundheitsschutz 57 (7): 830–839
- Martinasek MP, McDermott RJ, Martini L (2011) Waterpipe (hookah) tobacco smoking among youth. *Curr Probl Pediatr Adolesc Health Care* 41 (2): 34–57
- Maziak W (2011) The global epidemic of waterpipe smoking. *Addict Behav* 36 (1-2): 1–5
- Maziak W (2014) The waterpipe: A new way of hooking youth on tobacco. *Am J Addict* 23 (2): 103–107
- Neergaard J, Singh P, Job J et al. (2007) Waterpipe smoking and nicotine exposure: a review of the current evidence. *Nicotine Tob Res* 9 (10): 987–994
- Schwarzer M, Thomas J, Nedela-Morales M et al. (2015) Zur Selbsteinschätzung des Wasserpfeifenkonsums von Jugendlichen. *Psychiatr Prax* 42 (1): 47–49

Table 1
Prevalence of water pipe consumption among 12 to 17 year-old girls by age and social status

	Lifetime prevalence	12-month prevalence	30-day prevalence
	% (95%-CI)	% (95%-CI)	% (95%-CI)
Girls	26.5 (23.7–29.4)	18.6 (16.1–21.4)	8.3 (6.6–10.3)
Age			
12–13 Years	4.9 (3.1–7.9)	3.7 (2.0–6.6)	1.9 (0.7–4.9)
14–17 Years	37.3 (33.7–41.1)	26.2 (22.7–30.0)	11.5 (9.1–14.3)
Social status			
Low	27.3 (20.3–35.7)	17.7 (12.1–25.1)	9.7 (5.5–16.5)
Middle	27.3 (24.1–30.7)	19.6 (16.7–22.9)	8.6 (6.8–10.9)
High	22.7 (18.4–27.7)	17.6 (13.9–22.1)	4.9 (2.9–8.1)
Total (girls and boys)	28.9 (26.9–31.0)	20.6 (18.8–22.6)	10.0 (8.6–11.6)

Table 2
Prevalence of water pipe consumption among 12 to 17 year-old boys by age and social status

	Lifetime prevalence	12-month prevalence	30-day prevalence
	% (95%-CI)	% (95%-CI)	% (95%-CI)
Boys	31.3 (28.6–34.1)	22.6 (20.3–25.0)	11.7 (9.8–13.9)
Age			
12–13 Years	9.0 (6.2–13.0)	3.8 (1.9–7.3)	0.8 (0.3–2.7)
14–17 Years	42.7 (39.1–46.4)	32.2 (29.2–35.4)	17.3 (14.5–20.4)
Social status			
Low	40.5 (33.5–47.9)	27.5 (21.5–34.3)	14.7 (10.0–21.1)
Middle	27.2 (24.2–30.3)	20.5 (18.0–23.4)	10.3 (8.2–12.9)
High	29.2 (24.8–33.9)	20.5 (16.7–25.0)	9.6 (7.0–13.2)
Total (girls and boys)	28.9 (26.9–31.0)	20.6 (18.8–22.6)	10.0 (8.6–11.6)

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