

ABSTRACT

Background: Overactive bladder (OAB) is a clinical diagnosis with a symptom syndrome of urgency usually accompanied by frequency and/or nocturia, with or without urgency urinary incontinence (UUI) as defined by the International Continence Society (ICS) and International Urogynecological Association. The prevalence of OAB symptoms with “at least moderate bother” was found to be 35% among women attending non urology or gynecology clinics in a university medical center (1). Several studies have identified associations between certain lifestyle factors and OAB, setting the stage for behavioral interventions as first line treatments of OAB (2). Waterpipe (also known as Hubble-Bubble) smoking has gained popularity in the past few years, and what used to be a cultural practice in certain countries has now become a worldwide public health problem (3). In Lebanon, It has been shown that 15% of adults and 28% of university students smoke waterpipe (3). Although the association between OAB and cigarettes smoking has been established, no previously published study has aimed to assess the association of OAB with waterpipe smoking.

Aim: To evaluate the association of specific lifestyle factors, including waterpipe smoking, with the symptoms of OAB and the degree of bother by the symptoms, using validated methods among nulliparous young females.

METHODS

A cross sectional study of adult healthy female university students, aged ≥ 18 , registered at the corresponding universities in a Mediterranean Capital was conducted using an anonymous lime survey. Age and Body Mass Index (BMI), along with other demographics were recorded. Cigarette smoking, waterpipe smoking, consumption of carbonated beverages, caffeinated beverages, alcoholic beverages, “energy drinks”, and artificial sweeteners were recorded, in addition to frequency and patterns of consumption. The presence and degree of bother of urgency, urgency urinary incontinence, frequency and nocturia were evaluated. In this analysis, descriptive statistics are used, in addition to unadjusted logistic regression analysis between representative indicators of lifestyle factors and each of the following: frequency bother, urgency bother, nocturia as ≥ 2 /night, and urgency urinary incontinence. The limited selected exposure and outcome indicators were used as surrogates in view of the large number of variables compared to the number of returned surveys.

RESULTS

Between October 2017 and December 2018, 2900 female students received an email invitation to participate in the study, out of whom 252 returned a fully answered survey amenable to analysis, giving a response rate of 8.6%. The research is still in progress. The incidence of OAB was found to be 23.2% as defined by “Having to rush to the toilet to urinate: sometimes/most of the time/all the time” in our questionnaire. Of the respondents, 30.2% reported ever trying waterpipe smoking. 15.9% responded yes to ever smoking 100 cigarettes during their lifetime, of whom 72.5% smoked cigarettes regularly. 66.2% of participants reported drinking ≥ 1 caffeinated beverage per day. 29.8% of participants use artificial sweeteners. 37% have never consumed alcohol, while alcohol consumption within the last month was reported by 22.2%. Only 10% have tried energy drinks in the past. There was no statistically significant association between BMI and any of the studied urinary symptoms (table 2). No statistically significant association was found between any of the studied lifestyle factors and OAB symptoms (table 2). In particular, no significant association was found between waterpipe (Hubble-Bubble) smoking and any of the evaluated urinary symptoms (table 2).

FIGURE 1

Table 1 Unadjusted odds ratios and 95% confidence intervals showing associations between urinary symptoms and risk characteristics

	Bothered by frequency (vs. no)			Bothered by Urgency (vs. no)			Nocturia (≥ 2 vs less)			Urgency urinary incontinence (vs. never)		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
BMI (kg/m^2)												
<25												
≥ 25	1.16	0.59-2.26	0.655	1.03	0.46-2.30	0.928	0.61	0.13-2.78	0.524	1.19	0.59-2.40	0.621
Smoked waterpipe at least once per month for 3 consecutive months												
Never smokers (Ref)												
Yes	0.68	0.28-1.63	0.393	1.25	0.46-3.36	0.659	1.05	0.22-5.03	0.943	1.16	0.49-2.72	0.721
No	1.1	0.56-2.16	0.771	1.56	0.62-3.88	0.337	1.08	0.28-4.06	0.905	1.07	0.52-2.21	0.849
Lifetime regular cigarette smoking												
No (Ref)												
Yes	1.42	0.64-3.13	0.383	2.67	0.85-8.40	0.092	(-)	(-)		2.04	0.91-4.53	0.079
Artificial Sweeteners Use with coffee/tea												
No (Ref)												
Yes	0.92	0.49-1.73	0.809	0.9	0.38-2.13	0.822	0.94	0.28-3.12	0.92	1.06	0.54-2.07	0.856
Past-month alcohol drinking												
Never drinker (Ref)												
Yes	0.57	0.27-1.22	0.152	1.18	0.47-2.99	0.713	0.4	0.08-1.97	0.263	1.87	0.89-3.9	0.097
No/special occasion only	1.26	0.70-2.25	0.435	1.05	0.50-2.20	0.877	0.65	0.21-1.96	0.452	1.52	0.79-2.92	0.208
Energy Drinks intake (with/without alcohol)												
No (Ref)												
Yes	0.72	0.29-1.81	0.497	0.86	0.31-2.38	0.782	1.29	0.27-6.07	0.74	1.55	0.65-3.70	0.318

(-) indicates empty cells

CONCLUSIONS

Based on the preliminary results of our study, no statistically significant association was found between BMI and OAB indicators. In addition, the lifestyle factors evaluated, including waterpipe smoking, were not found to affect OAB symptoms among nulliparous university students in a Mediterranean capital. These results may not be extrapolated to women in different age groups or to parous women.

REFERENCES

- Ghandour L, Minassian V, Al-Badr A, Abou ghaida R, Geagea S, Bazi T. “Prevalence and degree of bother of pelvic floor disorders symptoms among women from primary care and specialty clinics in Lebanon: an exploratory study”. Ghandour L, et al. Int Urogynecol J. 2017 jan;28(1):105-118
- Christofi N, Hextall A. “An evidence-based approach to lifestyle interventions in urogynaecology”. Menopause Int. 2007 Dec;13(4):154-8.
- Akl E, Gunukula S, Aleem S, Obeid R, Abou jaoude P, honeine R and Irani J. “The prevalence of waterpipe tobacco smoking among the general and specific populations: a systematic review”. Akl et al. BMC Public Health 2011, 11:244