

Introduction

- Heat-not-burn tobacco products (HTPs) heat tobacco to a lower temperature than a combusted cigarette to create an aerosol that the user inhales.
- One such HTP device has recently been launched by the tobacco giant Philip Morris International, referred to as “IQOS”.
- At this point, little is known about the health effects of novel tobacco products on young people.
- In this study, data from the Taiwan Global Youth Tobacco Survey were used to determine the penetration of heated tobacco products (HTPs) into the youth market in Taiwan by identifying factors correlated with previous experience using IQOS and current usage by high school students.

Materials and Methods

- This study was based on data from the 2018 Taiwan Global Youth Tobacco Survey (GYTS), which is conducted annually in junior and senior high schools throughout the country by the Health Promotion Administration of Taiwan.
- The two dependent variables were the ever use and the current use of IQOS (within 30 days prior to survey completion).
- Independent variables included gender, grade, monthly income/allowance, use of traditional cigarettes and use of e-cigarettes during the previous 30 days, educational level of parents, smoking status of parents and close friends, access to free cigarettes, contact with cigarette advertisements, and exposure to anti-tobacco courses.
- Logistic regression was used to identify factors correlating with the ever use and the current use of IQOS by adolescents.
- All of the data used in this study were obtained by the Health Promotion Administration, Ministry of Health and Welfare, Taiwan.
- The data available to the authors had all of the links to personal information removed to ensure the anonymity of students.
- Ethical approval for the current study was granted by the Institutional Review Board of National Yang-Ming University (YM108025E).

Results

- Samples that were missing answers to the previous or current use of IQOS were excluded.
- After sample weighting, it was estimated that at the time of the survey, 1,498,502 students in Taiwan had answering previously used an IQOS product and 1,501,527 had answering currently using an IQOS product.
- At the time of the survey, 4.17% had tried IQOS and 2.33% were currently using IQOS.
- The factors associated with an elevated likelihood of ever IQOS use were as follows: boys(OR=1.29), current use of cigarettes (OR=3.40) or e-cigarettes (OR=1.98), close friends who smoke (OR=1.20), access to free cigarettes (OR=4.49), and participation in classes on the dangers of tobacco (OR=1.33).
- The factors associated with an elevated likelihood of currently IQOS use were as follows: boys(OR=1.36), current use of cigarettes (OR=4.09) or e-cigarettes (OR=6.18), close friends who smoke (OR=2.38), and access to free cigarettes (OR=2.50).

Table 1: Two logistic regression models illustrating the factors correlating with ever use of IQOS and current use of IQOS

Independent Variable	Y=Ever use IQOS			Y=Current use IQOS		
	aOR	95%CI	P	aOR	95%CI	P
Gender						
Boy	1.29	1.11 1.51	+	1.36	1.08 1.72	+
Girl	1			1		
Grade						
7	1			1		
8	0.88	0.64 1.23		0.81	0.55 1.19	
9	1.07	0.74 1.55		0.73	0.49 1.08	
10	0.94	0.67 1.32		0.66	0.47 0.94	*
11	0.72	0.51 1.04		0.43	0.29 0.64	‡
12	1.13	0.74 1.74		0.52	0.35 0.77	+
Monthly Allowance						
USD 0	1.03	0.76 1.40		1.01	0.66 1.53	
USD ≤50	0.73	0.59 0.91	+	0.66	0.49 0.88	+
USD 50-100	0.79	0.64 0.97	*	0.83	0.62 1.12	
USD ≥100	1			1		
Use of cigarettes in the previous month						
Yes	3.40	2.61 4.43	‡	4.09	2.94 5.68	‡
No	1			1		
Use of e-cigarettes in the previous month						
Yes	1.98	1.38 2.84	‡	6.18	4.29 8.90	‡
No	1			1		
Educational level of parents						
Junior high school and below	1			1		
Senior high school	0.87	0.67 1.13		1.06	0.78 1.46	
University or college	0.82	0.63 1.08		0.90	0.63 1.29	
Graduate school	0.84	0.61 1.17		0.96	0.60 1.56	
Smoking status at home						
Both parents smoke	1.03	0.81 1.32		0.82	0.54 1.23	
Only the father smokes	0.92	0.75 1.11		0.93	0.71 1.23	
Only the mother smokes	0.77	0.50 1.19		1.25	0.62 2.54	
Neither smokes	1			1		
Smoking status of close friends						
Yes	1.20	1.01 1.41	*	2.38	1.78 3.18	‡
No	1			1		
Access to free cigarettes						
Yes	4.49	3.34 6.03	‡	2.50	1.68 3.73	‡
No	1			1		
Exposure to cigarette advertisements						
Yes	1.10	0.94 1.30		1.09	0.84 1.42	
No	1			1		
Exposure to anti-tobacco courses						
Yes	1.33	1.14 1.55	‡	1.16	0.90 1.49	
No	1			1		

Conclusions

- Despite the fact that HTP products are not sold legally in Taiwan, the use of IQOS products by young people is far from negligible.
- We therefore recommended amending the “The Tobacco Hazards Prevention Act” to include regulations pertaining to the sale and marketing of HTPs.

This study was funded by the Health and Welfare Surcharge of Tobacco Products, the Health Promotion Administration, Ministry of Health and Welfare, Taiwan (No. G1071219-109).

Scan Me

