Heat-not-burn products: representative data on consumer behaviour and associated factors in the German population (the DEBRA study)

Univ.-Prof. Dr. Daniel Kotz, Dr. Sabrina Kastaun
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Heinrich-Heine-University Düsseldorf
Institute of General Practice
Addiction Research and Clinical Epidemiology Unit
Maastricht University | University College London | University of Edinburgh

www.daniel-kotz.de  @daniel_kotz
Conflicts of interest

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Heat-not-burn (HNB) products / Heated tobacco products

IQOS (Philip Morris)

Glo (BAT)

tobaccobusiness.com

tobaccoreporter.com

Ploom Tech (Japan Tobacco)
Heat-not-burn (HNB) products / Heated tobacco products

Recent systematic review:
Simonavicius et al. Heat-not-burn tobacco products: a systematic literature review. Tobacco Control 2018

IQOS (Philip Morris)
IQOS marketing Germany
IQOS marketing Germany
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90% weniger Schadstoffe
Durchschnittlich im Vergleich zu Zigaretten*

Nach unseren bisherigen Untersuchungsergebnissen ist ein kompletter Wechsel zu IQOS daher voraussichtlich weniger schädlich als weiter Zigaretten zu rauchen.

Wichtige Information: IQOS ist jedoch keinesfalls unschädlich oder ohne Risiko.

* Durch mündliche Inhalation der Konzentrationen bis zu einstündigen inhalativen Sitzungen kann sich das Risiko einer Lungenentzündung erhöhen. Die IQS-Markierung war zu fast 1m weit nach unten verschoben. Der IQS-Test ist unter der Testbedingung der IQS-Markierung durchgeführt worden. Die IQS-Markierung war zu fast 1m weit nach unten verschoben.
Harm reduction?

Compared with conventional cigarette IQOS emissions contain ...

• 65-83% nicotine [Simonavicius, Tobacco Control 2018]

• volatile organic compounds, polycyclic aromatic hydrocarbons, carbon monoxide, most in lower concentrations [Auer R, JAMA Intern Med 2017]

• lower levels of several (potentially) harmful constituents, higher levels of many others [St.Helen, Tobacco Control 2018]
"ERS cannot recommend any product that is damaging to the lungs and human health."

Heated tobacco products ...
1. Are harmful and addictive
2. Undermine smokers’ wish to quit
3. Undermine ex-smokers’ wish to stay smoke-free
4. Are a temptation for non-smokers and minors
5. Impose a risk of re-normalisation of smoking
6. Impose a risk of dual use with conventional cigarettes
Study aims

In the German population ...

- proportion of **smokers and recent ex-smokers using HNB (IQOS)**
- associated factors
- perceived health risks (among ever users)
Methods: data source

DEBRA
Deutsche Befragung
zum Rauchverhalten

German Study on Tobacco Use (DEBRA)
www.debra-study.info

Funded by
Methods: protocol & registration

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Study protocol of the German Study on Tobacco Use (DEBRA): a national household survey of smoking behaviour and cessation

Sabrina Kastaun1, Jamie Brown2, Leonie S. Brose3, Elena Ratschen4, Tobias Raupach5,6, Dennis Nowak7,8,9, Constanze Cholmakow-Bodechtel10, Lion Shahab5, Robert West5 and Daniel Kotz1,5,11

Study registration: DRKS00011322
Methods: sampling

• Multi-topic omnibus survey by market research institute Kantar Health
• Multi-stage, multi-stratified random probability sampling of German population 14+
• Bi-monthly representative sample N≈2,000, wave 1 = start of DEBRA: June 2016
• Weighting of data according to official census
Methods: items

- Items on HNB were added in wave 7 and 8
- General introduction:

"The next questions are about so-called HNB products (Tabakerhitzer). These are not e-cigarettes, but products which heat real tobacco without burning it. Known brands are IQOS and Marlboro HeatSticks"
Methods: items

Added in wave 7 of DEBRA, asked to current smokers + recent (<12m) ex-smokers:

"Have you ever used a HNB product (Tabakerhitzer) like IQOS, HeatSticks?"

- Yes, I've used them until to date [current]
- Yes, I used them regularly, but not any more [past-regular]
- Yes, I tried them in the past, but don't use them any more [past-tried]
- No, I have never used them [never]
Methods: items

Added in **wave 8** of DEBRA, asked to **ever** HNB users: [current + past-regular + past-tried]

"How harmful to your health do you think HNB products are, compared with conventional cigarettes?"

- Much less harmful than cigarettes
- Somewhat less harmful than cigarettes
- Equally harmful as cigarettes
- Somewhat more harmful than cigarettes
- Much more harmful than cigarettes
Methods: samples size current analysis (unweighted)

- 6 waves (covering a 12-month period)
  2017: June/July + August/September + Oct./Nov.
  2018: January + February/March + April/May

- $N = 12,239$ total
- $N = 3,555$ current + recent (<12m) ex-smokers
- $N = 3,546$ responded to HNB question (99.7%)
- $N = 199$ ever users
- $N = 155$ ever users (waves 8-12)
Use of HNB among smokers and recent (<12m) ex-smokers

Aggregated, weighted data (Jun '17 - May '18)

- Current: 0.8% (0.3% - 0.7%)
- Past-regular: 0.4% (0.5% - 1.2%)
- Past-trying: 4.3% (3.7% - 4.3%)
- Never: 94.0% (93.2% - 94.8%)

(0.5% no response)
Rough (unscientific) estimation
number of current users in Germany

N population 15+ = 70,688,000

% current + recent ex-smokers 15+ = 0.292669

% current HNB users, lower bound = 0.002555

% current HNB users, upper bound = 0.007243

➢ approximately 53,000 to 150,000 current users in Germany

¹Federal Statistical Office / Destatis
²DEBRA
Use of HNB among smokers and recent (<12m) ex-smokers

Aggregated, weighted data (Jun '17 - May '18)
(0.5% no response)
Ever use of HNB by sex

N.S. = statistically not significant
Ever use of HNB by age categories

14-17: 7.0%  
18-24: 7.8%  
25-39: 8.2%  
40-64: 4.4%  
65+: 2.1%  

*** p<0.001
Ever use of HNB by education

*** p=0.001

Level of education:
- No qualification: 4.5%
- Junior high school (Hauptschule): 4.5%
- Secondary school (Realschule): 4.5%
- Advance tech. college (Fachhochschule): 5.1%
- High school (Hochschule): 8.6%
Ever use of HNB by income

*** p<0.001

Net income of the household

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

< €1,000 €1,000 < €2,000 €2,000 < €3,000 €3,000 < €4,000 €4,000 < €5,000 > €5,000

3.4% 6.2% 3.8% 5.3% 9.7% 7.3%
Perceived health risks HNB vs. cigarettes

[N = 155 current + recent ex-smokers who ever used HNB]

How harmful are HNB compared with cigarettes?

- 49.0% "less harmful" (40.9% - 57.2%)
- 35.4%
- 13.3%
- 45.0%
- 2.1%
- 2.2%

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Medizinische Fakultät
Discussion of key findings

In Germany, current use of HNB seems relatively low: 0.4% (0.3%-0.7%) among current and recent ex-smokers

– lower than in Japan (3.6% of population, >10% of smokers), available since 2014 [Tabuchi, Tob Control 2017]

– lower than in GB (0.8% of population), available since 2016 [Brose, Tob Reg Sci 2018]
Discussion of key findings

In Germany, HNB seem to be used more frequently by people who are younger, higher educated and have higher incomes

– difficult to compare with other studies (sample of current + recent ex-smokers)

– potential explanations:
  • marketing strategy (trendy lifestyle product)
  • diffusion theory: people from higher social background more open to innovations / more resources [Pamper, Soc Sci Res 2005]

– if true: higher socioeconomic people benefit from this "harm reduction product" – for the moment
Discussion of key findings

• Approximately **half of ever users think HNB are less harmful** than conventional cigarettes

  – other studies on HNB?
  – recent study from Germany: [Eichler, Dtsch Arztebl Int 2016] vs. cigarettes, **e-cigarettes perceived by** 21% as less dangerous
    16% as more dangerous
Acknowledgements

Dr. Sabrina Kastaun

KANTAR HEALTH

www.daniel-kotz.de  @daniel_kotz