

Regulating Electronic Cigarettes: A Content Analysis of Indonesian News Articles

Zahratul Laili¹, Suci Puspita Ratih^{2,*}, Dien Anshari³, Rita Damayanti⁴,

Hilal Salim Al Shamsi⁵, Abdullah Ghthaith Almutairi⁶, Sulaiman⁷

¹ Department of Public Health, Faculty of Sport Science, Universitas Negeri Malang, Malang, Indonesia

² Department of Public Health, Faculty of Sport Science, Universitas Negeri Malang, Malang, Indonesia

³ Department of Health Education and Behavioural Sciences, Faculty of Public Health, Universitas Indonesia, Depok, Indonesia

⁴ Department of Health Education and Behavioural Sciences, Faculty of Public Health Universitas Indonesia, Depok, Indonesia

⁵ Directorate of Planning and Studies Directorate General of Planning and Studies Ministry of Health Al-Buraimi, Oman

⁶ Quality Department Prince Nasser Hospital Ministry of Health Al-Ghat, Saudi Arabia

⁷ Directorate of Planning and Studies Directorate General of Planning and Studies Ministry of Health Al-Buraimi, Oman

* Corresponding author Email: puspita.ratih.fik@um.ac.id

ABSTRACT

Electronic cigarettes (e-cigarettes) are not harmless as stated by World Health Organization (WHO). Several countries have applied regulations on e-cigarette and some others have banned e-cigarette sell. Indonesia has applied tax on e-liquid but there is no comprehensive regulation on the devices. This study aimed to analyse how Indonesian Media portray e-cigarette regulation. This study used a quantitative content-analysis method in online news articles published by four most popular online news media in Indonesia from 2012 to 2017. The news articles were obtained from the media websites and Google Advance Search, resulted in 418 articles. The result showed that amongst all articles talking about electronic cigarettes, 26.6% articles (n=85) focusing on e-cigarettes regulations. Story about e-cigarette regulations is increasing significantly in articles that talk about domestic events over the studied period. Types of regulations related to e-cigarettes mentioned in the articles include simply calling for e-cigarette regulation (26.7%), taxes (25.7%), total ban (18.1%), smoke-free policies/vaping restriction (14.3%) and limiting access to teenagers/children (13.3%). In conclusion, Indonesian online news media often talk about regulations when portraying stories about electronic cigarettes. E-cigarette regulations mentioned in the articles are varied and mostly found in article with negative frame towards the devices.

Keywords: Vaping, Smoking, Regulation, Media framing, Content analysis.

1. INTRODUCTION

The electronic cigarette is one of the most common product categories of Electronic Nicotine Delivery Systems (ENDS). ENDS is a device that heats a liquid to make aerosols that will be inhaled by the user. The liquid contains propylene glycol or glycerol (glycerin) and nicotine [1]. The common types of electronic cigarette are the one that can refill and inhale evaporated liquids. It is called Vaping. Vaping almost resembles tobacco smoking method but it does not contain tobacco tar and carbon monoxide [2].

Several studies have shown that e-cigarettes might be less dangerous than tobacco cigarettes. Some people even use e-cigarette as their smoking substitute. However, the nicotine in an e-cigarette as well as conventional cigarette is an addictive liquid. Research conducted by Sleiman, et al. states that e-liquid that is

evaporated by users contain a variety of toxic chemicals that cause carcinogens and respiratory irritation [3]. E-cigarette, which is a substitute for a tobacco cigarette, has been refuted by a cohort study conducted by Weaver et al. The study states that there is no evidence from the use of e-cigarette among adult smokers to stop smoking activities [4].

WHO Report on The Global Tobacco Epidemic (2019), reports that there is an increase in the use of e-cigarette in young people by 1.5% to 20.8% between 2011 and 2018. The use of e-cigarettes in young people which exposed to nicotine can cause long-term effects on the developing brain and the risk of addiction [5]. Various scents found in an e-cigarette can attract young people to try it. Andrea stated that the use of tobacco products has the highest diversity of scents in adolescents. It is equal to 80% in the age range of 12-17

years [6]. The teenagers stated that there are some exciting effect in using an e-cigarette. First, E-cigarette can make thick steam (63%). Then, it can improve taste (38.7%), and produce a stronger throat blow together with the emergence of pleasant feeling that the steam creates when the throat contracts (27.7%) [7].

Indonesia is a country with the highest tobacco consumption in the world, now is facing new challenges. The trends of consuming e-cigarette instead of conventional cigarette do not reduce the prevalence of non-communicable diseases due to smoking [8]. E-cigarettes marketed through various media such as television, the internet, and other print media. It shows healthier alternatives to tobacco smoking. The e-cigarette is useful to stop smoking and reduce cigarette consumption [9]. The internet is the fastest media to spread information about e-cigarettes. Emery et al. (2014) reported that the internet is the most used media to search for e- cigarettes, which have 80%. The other platform is social media such as Facebook (15%), online news sources (12%), youtube (11%), and Twitter (7%) [10].

The e-cigarette has become one of the most controversial topics of public discussion. It generates policy debate and varied regulatory responses throughout the world. The opinion about the good of e-cigarette can influence some people to support it. It can also affect the people who are against the e- cigarette. According to WHO, the dangers of an e-cigarette are clear [5]. However, some countries stated that e-cigarette is legal. Some other nations believe that it is illegal. This regulation depends on their various rules and conditions in each country.

The WHO statement above can work as a basis of a country in making regulation and considering the long-term impact of e-cigarettes. In Indonesia, the e-cigarette has been widely traded and promoted without precise control from the government. Do the opinions from the mainstream media can work as a basis for Indonesia in making regulation? Therefore, it is necessary to provide further analysis of content about e-cigarette in mainstream media to answer some of the doubts from people of Indonesia.

2. METHOD

This study used a quantitative content-analysis method. The methodology used in this study is similar to previous studies analysing how e-cigarette issues were framed in the news media in The U.S. and South Korea [11][12][13].

The data were obtained from articles published by credible Indonesian online media. There are four top online news media that met the criteria and were selected for this study: 1) Liputan6.com, 2) Detik.com, 3) Kompas.com, and 4) Tempo.co. At the beginning of identification, researchers conducted a structured search of the articles in the selected media sites and the Google

Advance Search using the most popular key search terms adopted from the previous study by Kim et al., as follow: (“*rokok elektrik*” (Indonesian term for e-cigarette) OR “e-cigarette” OR “vape” OR “vaping”) [13]. The search was limited to articles published on 1 January 2012 to 15 November 2017 as we stopped searching and started the next phase. This systematic search resulted in 600 articles that were filtered further based on duplication, broken page, photo/video only sites, focus of the stories. This stage resulted in 320 articles.

There were four coders who reviewed and coded the article contents using a coding sheet as a guide. Coding variables in this study were determined based on a combination of deductive and inductive approaches similar to the coding method by Kim et al. [13]. Deductively, initial variables are developed from the coding variables used by Kim et al. and were identified through the literature review of e- cigarette [13]. The intercoder-reliability test was performed to evaluate the reliability of the data. The test showed that all measured variables were considered reliable with Krippendorff’s alpha 0.7 or more.

3. RESULTS AND DISCUSSION

3.1 The Trend of the Regulations Regarding Electronic Cigarettes

Electronic cigarette regulation has become the most prominent topic and is widely discussed from the messages in articles as well as being a central point in this problem so that further analysis is required in regulatory measurement. In this study, out of 320 articles, 105 articles focus on mentioning regulations, regulatory plans, or what are called regulations on electronic cigarettes in Indonesia, other countries, both countries or locations that are unspecified/ unknown. News about the applied regulations, regulatory plans, or the so-called electronic cigarette regulations that show domestic news increased dramatically from zero in 2012-2013 to 37 articles in 2016-2017 (63.8%). Likewise, the number of articles mentioning topics related to electronic cigarette regulation both in domestic and international media or unspecified locations increased significantly from only 1 article to 10 articles during the studied period. Additionally, the number of articles that display electronic cigarette regulations on international media fluctuated from 2012 to 2017. In 2012-2013, international news was dominant (80%), and there were no domestic ones. In 2014-2015, there was more balanced proportion between international and domestic articles (respectively 46.7% and 42.2%). Whereas in 2016-2017, articles that presented international news significantly declined (14.5%). Trends in articles that mention electronic cigarette regulations throughout the period under study can be seen in the picture.

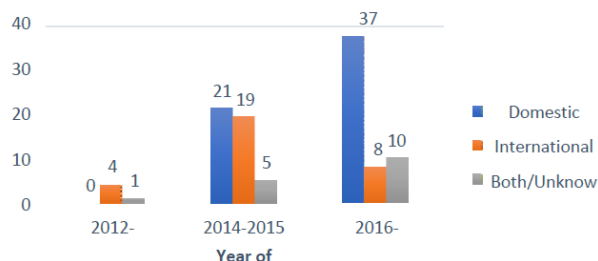


Figure. 1 Trend of e-cigarette regulations mentioned in domestic, international, both origin and unknown sources across the studied periods

3.2 Types of Regulation

Overall, the types of regulations mentioned in the article during the period studied were between 2012 and 2017 published articles on electronic cigarettes regulation (26.7%), tax application (25.7%), complete ban of electronic cigarettes (18.1%), smoke-free zoning and vaping restrictions indoors and / or public spaces (14.3%), and access restriction for teenagers / children (13.3%). The electronic cigarette regulations are evenly mentioned in domestic and international articles (39.3%). However, the application of the electronic cigarette tax is mostly mentioned in domestic articles (96.3%). Meanwhile, the complete ban on electronic cigarettes represented 47.4% of international articles and 26.3% domestic ones. Likewise, the smoke-free zoning and vaping restrictions indoors and/or public spaces are mentioned respectively 53.3% and 33.3% in international and domestic articles.

In 2012 and 2013, the regulation topic that was only discussed in the article only revolved around the adoption of a total electronic cigarette ban (40%) and electronic cigarette regulations (60%). Likewise, the 2014 to 2015 period was dominated by the same topic (33%) followed by articles on smoke-free zoning or vape restrictions in rooms and public spaces (17.8%) and access restrictions to youths/children (15.6%). Concerning the restrictions on vape or e-cigarettes in several e-cigarette articles, several countries including England, Wales and California have restricted the use of electronic cigarettes or similar devices in offices, restaurants, beaches and bars or pubs. Whereas during the period of 2016 to 2017, taxes (49.1%), electronic cigarette regulation (18.2%), and limiting access to adolescents/children were the most discussed topics in published articles. The 2016 to 2017 period is the period in which discussions about electronic cigarette taxes began. Types of regulations mentioned in the articles over the studied periods can be seen in table 1

Table 1. Types of regulations mentioned in the articles over the studied period

Types of Regulation	2012-2013 <i>n (%)</i>	2014-2015 <i>n (%)</i>	2016-2017 <i>n (%)</i>	Total <i>n (%)</i>
Simply calling for e- cigarette regulation (not specified)	3 (60.0)	15 (33.3)	10 (18.2)	28 (26.7)
Taxes	0 (0.0)	0 (0.0)	27 (49.1)	27 (25.7)
Total ban	2 (40.0)	15 (33.3)	2 (3.6)	19 (18.1)
Smoke-free zoning; vaping restriction in indoors and/or public spaces	0 (0.0)	8 (17.8)	7 (12.7)	15 (14.3)
Limiting access to teenagers/children	0 (0.0)	7 (15.6)	7 (12.7)	14 (13.3)
Regulating nicotine liquid	0 (0.0)	4 (8.9)	4 (7.3)	8 (7.6)
Comprehensive regulations	0 (0.0)	5 (11.1)	3 (5.5)	8 (7.6)
Marketing/Promotion	0 (0.0)	4 (8.9)	2 (3.6)	6 (5.7)
Content labels and packaging	0 (0.0)	1 (2.2)	2 (3.6)	3 (2.9)
Others	0 (0.0)	1 (2.2)	3 (3.6)	3 (2.9)
Total	5 (100.0)	45 (100.0)	55 (100.0)	105 (100.0)

3.2.1 Regulation of Electronic Cigarettes

The controversial debate about electronic cigarettes is accompanied by articles presenting various opinions among policymakers, experts, and consumers of electronic cigarettes. The regulation became a trending topic annually in the articles studied both domestically, internationally, and both. Each country has unique regulations following its custom. The Global Tobacco Control explains the list of regulations on

electronic cigarettes from each country, one of which is Brazil. Brazil classifies electronic cigarettes as tobacco products which in its regulations prohibit the sale, promotion and advertising, distribution and import of e-cigarettes [14]. At least if the regulations exist, a country can filter out which activities negatively impact public health. While in Indonesia, regulations regarding electronic cigarettes do not yet exist specifically, and there is only the Minister of Finance Regulation (*Peraturan Menteri Keuangan / PMK*) No. 146 of 2017 concerning Excise Tax Rates on tobacco.

3.2.2 Taxes

Articles that discuss the new electronic cigarette tax regulation appeared in between 2016 to 2017 according to the literature review. This is caused by domestic news that inform the new policy updates regarding taxes imposed on e-liquid. In the world of taxations, several countries apparently have imposed taxes on electronic cigarette with a purpose to control the prevalence of electronic smokers. Research conducted by Raymond (2018) reports that broadcasting the tax increase helps maintain the cessation of electronic cigarettes (AOR = 12.3, 95% CI 7.5-20.1). The study results show that significant tax increases are effective in encouraging smoking cessation even when compared to strong tobacco control measures, such as banning indoor smoking, mass media campaigns, and universal access to withdrawal support [15].

3.2.3 Total Ban

The ban on electronic cigarette is also trending articles which always present in the studied period and is found in domestic, international, or both. On the other hand, non-profit organizations such as WHO and FDA are mostly found in articles with a negative framework. These organizations have recognized these e-cigarettes since the early period when these products were entering the market excessively. The FDA has expressed serious concerns about the safety of electronic cigarette consumption since 2010 [16]. It can be concluded that there are huge concerns about the prevalence of electronic cigarettes. The WHO even supports e-smoking bans in Southeast Asia that recognize the adverse effects of ENDS on human health that sustain and perpetuate nicotine addiction and decide to take action in accordance with obligations under Article 5.2 (b) WHO FCTC to prevent and reduce nicotine addiction by banning ENDS [17]. However, in Indonesia, there is no prohibition on electronic cigarettes due to the absence of legal regulation from the government.

3.2.4 Smoke-free zoning; vaping restriction in indoors and/or public spaces

Smoke-free zoning; restrictions of vaping indoors and / or public spaces are crucial to implement by every government. Research conducted by Hanna (2018) reports that Southern California youths freely consume e-cigarettes because they can use them in places where

smoking is prohibited [18]. That problem also occurs in Indonesia, regulations on electronic cigarettes do not yet exist, only the provisions of Law No. 36/2009 article 115 on No-Smoking Zones without explicitly explain about e-smoking zones or restrictions on Vaping. Therefore, electronic cigarette users will freely consume electronic cigarettes at will even though they use e-cigarettes in places where smoking should have been prohibited (30.7% vs. 18.3%; all $p < 0.05$) [18].

3.2.5 Limiting access to teenagers/children

Limiting access to adolescents / children should be accompanied with intensive supervision as promotional media or advertisements can influence teenagers and children to try electronic cigarettes. Some studies suggest that the most exposed actor to electronic cigarettes is the adolescent group. In Australia, the number of teenage boys reaches 76% as consumers of electronic cigarettes [19]. The WHO Report On The Global Tobacco Epidemic (2019), reports that there is an increase in the use of e-cigarettes among youths by 1.5% to 20.8% between 2011 and 2018 [1].

Factors that influence teenagers to consume electronic cigarettes are the various flavors available in electronic cigarettes (56.6%), assuming electronic cigarettes are not harmful compared to tobacco cigarettes (50.1%), can be directly consumed by non-tobacco users (38%), and absence of smoking restriction in certain places (public spaces) (30.7%) [18]. Teenagers claim that they consume electronic cigarettes because of their peers' influence, advertisements, family, peers, social media, the Internet, and perceive electronic cigarettes as a safe alternative to tobacco.

4. CONCLUSION

Indonesian online news media often talk about regulations when describing stories about electronic cigarettes. The type of regulation that is mostly mentioned in the studied articles is simply calling for regulations towards electronic cigarettes. Followed by an electronic cigarette tax, a total ban, smoke-free zoning, restrictions on vaping indoors and / or public spaces and limiting access to teenagers/ children are also trending topics under the studied articles. The results of this research represent a new challenge in generating a bright spot for Indonesian in taking action on electronic cigarettes to protect its citizens' public health. This information can also be a reference for the media to understand deeper on how online news reproduce their stories.

REFERENCES

- [1] S Food and Drug Administration, "Vaporizers, E-Cigarettes, and other Electronic Nicotine Delivery Systems (ENDS)" in Report by FDA, 2019 June 19, [Retrieved from <https://www.fda.gov/tobaccoproducts/products->

- ingredients- components/vaporizers-e-cigarettes-and-other-electronic-nicotine- delivery-systems-ends, on 2019, August 3]
- [2] Tobacco Free Initiative (TFI), “Electronic Nicotine Delivery Systems and Electronic Non-Nicotine Delivery Systems (ENDS/ENNDS)” in Report by WHO, 2017 January 23 [Retrieved from <https://www.who.int/tobacco/communications/statements/electronic-cigarettes-january-2017/en/>, on 2019, August 1]
 - [3] Sleiman M, Logue JM, Montesinos VN, Russell ML, Litter MI, Gundel LA, Destailhats H., “Emissions from Electronic Cigarettes: Key Parameters Affecting the Release of Harmful Chemicals” in *Circulation* 2016 September 6; PMID: 27461870 DOI: 10.1021/acs.est.6b01741
 - [4] Weaver SR, Huang J, Pechacek TF, Heath JW, Ashley DL, Eriksen MP., “Are electronic nicotine delivery systems helping cigarette smokers quit? Evidence from a prospective cohort study of U.S. adult smokers, 2015- 2016” in *Circulation* 2018 July 9; PMID : 29985947; PMCID:PMC6037369;DOI:10.1371/journal.pone.0198047
 - [5] World Health Organization, “WHO Report On The Global Tobacco Epidemic” in Report by WHO, 2019 [Retrieved from https://www.who.int/tobacco/global_report/en/ on 2019, August 1]
 - [6] Andrea C. Villanti, Amanda L. Johnson, MHS, Bridget K. Ambrose, K. Michael Cummings, Cassandra A. Stanton, Shyanika W. Rose, Shari P. Feirman, Cindy Tworek, Allison M. Glasser, Jennifer L. Pearson, PhD, Amy M. Cohn, Kevin P. Conway, , Raymond S. Niaura, Maansi Bansal-Travers, , and Andrew Hyland, “Flavored Tobacco Product Use in Youth and Adults: Findings From the First Wave of the PATH Study (2013–2014)” in *Circulation* 2017 August 1; PMCID: PMC5522636 NIHMSID: NIHMS859968 PMID: 28318902
 - [7] National Institute of Drug Abuse, “Electronic Cigarettes (E-cigarettes)”, 2018 [Retrieved from <https://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes#ref> on 2019, August 1]
 - [8] World Health Organization, National Institute of Health Research and Development Ministry of Health, and CDC Foundation, “Global Adult Tobacco Survey: Indonesia Report 2011”, 2012 [Retrieved from www.searo.who.int/tobacco/data/gats_indonesia_2011.pdf on 2019 August 3]
 - [9] Grana, R.A, Pamela M. Ling, Neal Benowitz, and Stanton Glantz., “Electronic Cigarettes” in *Circulation* 2014 Jun 28; PMCID: PMC4074376; NIHMSID: NIHMS595094; PMID: 24821830
 - [10] Emery, S.L., Vera, L., Huang, I., and Szczypka, G., “Wanna know about vaping? Patterns of message exposure, seeking and sharing information about e-cigarettes across media platforms” in *Circulation* 2014 Jul 23; PMCID: PMC4078680 NIHMSID: NIHMS608205 PMID: 24935893
 - [11] Yates, K., Friedman, K., Slater, M. D., Berman, M., Paskett, E., & Ferketich, A. K. “A content analysis of electronic cigarette portrayal in newspapers” *Tob Regul Sci*, 1(1), 94-102, 2015
 - [12] Wu, L., & Gibson, R., “Control frames dominate E-cigarette news articles” *Newspaper Research Journal*, 38(2), 245-258, 2017
 - [13] Kim, S.-H., Thrasher, J. F., Kang, M.-H., Cho, Y. J., & Kim, J. K., “News Media Presentations of Electronic Cigarettes: A Content Analysis of News Coverage in South Korea” *Journalism & Mass Communication Quarterly*, 1077699017696881, 2017
 - [14] Institute for Global Tobacco Control, “ Country Laws Regulation E- cigarettes: A Policy Scan” in Report by Global Tobacco Control [Retrieved from <https://www.globaltobaccocontrol.org/e-cigarette/country-laws/view-on-August-2019>, 4
 - [15] Boylea, R.G., Stantonb, C.A., Sharma, E., Tang, Z., “Examining quit attempts and successful quitting after recent cigarette tax increases” *Preventive Medicine Journal* homepage: www.elsevier.com/locate/ypmed, 118, 226-231, 2019
 - [16] Flouris, A. D., & Oikonomou, D. N. (2010). Electronic cigarettes: miracle or menace?. *BMJ*, 340, c311
 - [17] World Health Organization, “WHO position on ENDS (e-cigarettes) A critique of the use of science and communication of risk” in Report by WHO, 2014 [Retrieved from <https://www.who.int/fctc/publications/en/>, on 2019, August 2]
 - [18] Hong, H., McConnell, R., Liu, F., Urman, R., Barrington, J.L-Trimis, “The impact of local regulation on reasons for electronic cigarette use among Southern California young adults”, *Addictive Behaviors Journal* homepage: www.elsevier.com/locate/addictbeh, 2018
 - [19] Fraser, D., Weier, M., Keane, H., Gartner, C., “Vapers’ perspectives on electronic cigarette regulation in Australia”, *International Journal of Drug Policy*, 26, 589-594, 2015