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                                for the Indonesian Context
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Yogyakarta, 03 Desember 2024
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RESEARCH FINAL REPORT

Research summary between 250-500 words: research background, research objectives, stages of research methods, and targeted outputs. In this section, the researcher should describe the proposed research TKT.

SUMMARY

Not only is Indonesia one of the few countries that has not ratified the Framework Convention on Tobacco Control, but it is also the second most disaster-prone country in the world. Although tobacco control policies have been established in Indonesia, they have not been codified for the event of a disaster. This study aims to evaluate the gap between current knowledge and the need to improve tobacco control in disaster-prone regions, such as Indonesia. The review included studies examining the link between natural disasters—such as earthquakes, floods, hurricanes— and tobacco use. ScienceDirect, PubMed, and Google Scholar databases were searched, and 27 studies were included. Most studies focused on disasters in developed countries. Two-thirds of studies reported an increase in smoking rates following a disaster. Most (90%) of studies that examined the relationship between stress in disaster and smoking found a positive association. Not a single study evaluated tobacco control policies in the context of disasters. The dynamics underlying the distribution and use of cigarettes, particularly in emergencies, need to be further investigated. Furthermore, it is imperative to scrutinize the existing tactics utilized to govern the dissemination and intake of cigarettes during every phase of a calamity.

Keywords: maximum 5 keywords. Use semicolon punctuation (;) as a separator and written in alphabetical order.

Campaign; Instagram; Smoking; social media

Results and Discussion (1000-1500 words) containing: (i) the recent progress of research and the achievement, (ii) the recent data obtained, (iii) the results of data analysis, (iv) result discussion, and (v) the recent outputs achieved. The **data** and **research results** can be presented in figures, tables, graphs, etc., that are supported by relevant and up-to-date references. All reported results or achievements must be related to the research phase planned in the proposal.

RESEARCH RESULTS AND DISCUSSIONS

Figure 1 shows the PRISMA Flow Diagram of this scoping review. A total of 528 records were identified through database searching, with 486 records remaining after duplicates were removed. After screening, 436 records were excluded for not addressing tobacco-related outcomes or disaster contexts, leaving 50 full-text articles assessed for eligibility. Of these, 23 were excluded for similar reasons, resulting in 27 studies included in the final analysis.

The review included 27 studies (5.6% of initially identified records). The characteristics of the included articles are presented in Table 3. These studies represent a wide range of regions, with a majority focused on disasters in Americas (33.3%) and Asia (29.6%), while the remaining studies covered Europe, Oceania, and other areas. The types of disasters studied were diverse, including earthquakes (44%), hurricanes (37%), and other events like wildfires, tsunamis, and volcanic eruptions (19%).
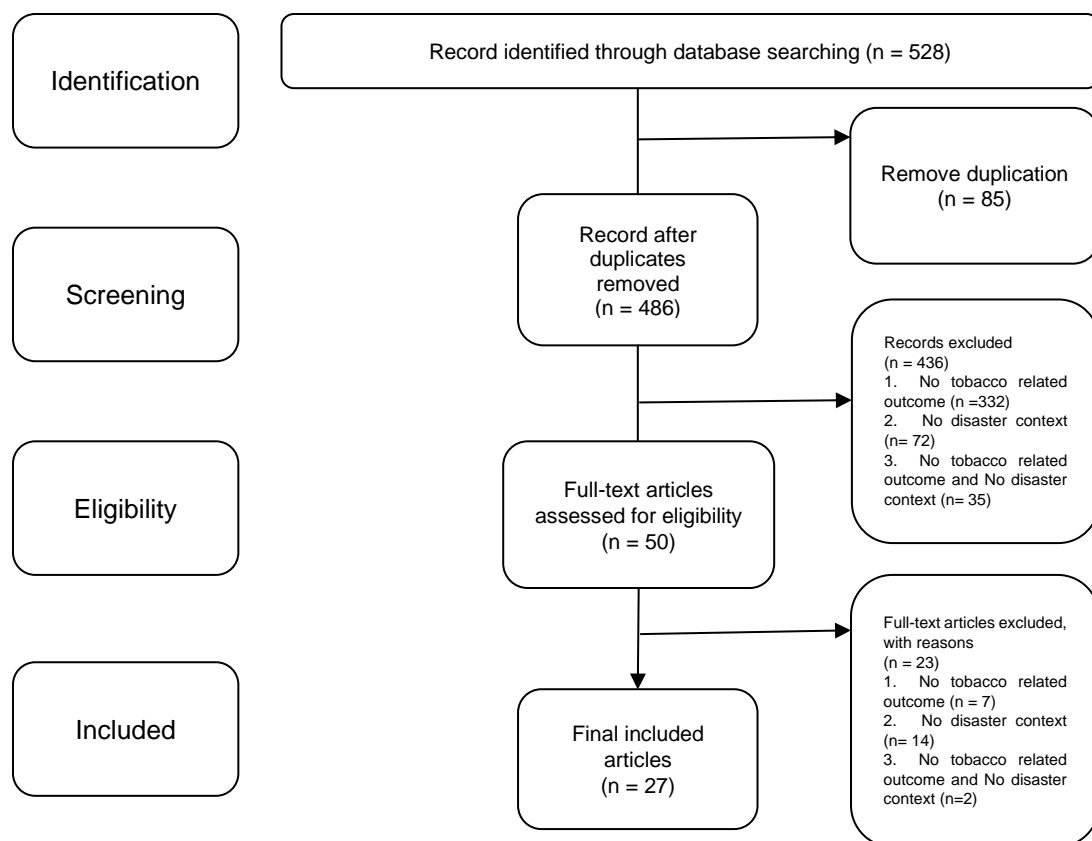
Figure 1. Scoping review of tobacco control in disaster context PRISMA Flow Diagram

Most studies, 88.9% (n=24), employed a cross-sectional or descriptive study design. These studies collected data at a single point in time, analyzing smoking behaviors and related health outcomes among disaster-affected populations. The remaining 7.4% (n=2) used longitudinal designs to observe changes in smoking behavior over time.

Table 3. Characteristics of the Included Article

No	Authors	Country (Continent)	Disaster Type	Type of Research	Population (Sample)	1	2	3
1	(Noel et al., 2021)	USA (North America)	Hurricane	Cross-sectional study	Hurricane Florence victims (n=403) and Hurricane Dorian victims (n=292)	↑	NA	x
2	(Koyama et al., 2021)	Japan (Asia)	Earthquake	Cross-sectional study	≥20 years old residence of Miyagi Prefecture (n = 2632)	↑	NA	NA
3	(Danielson et al., 2017)	USA (North America)	Tornado	Cross-sectional study	Teenagers affected by 2011 tornado in Northern Alabama (n=2,000)	↑	+	NA
4	(Mukherjee et al., 2017)	USA (North America)	Hurricane	Cross-sectional study	Louisiana residents affected by hurricanes Katrina and Rita (n=12,598)	≈	-	NA
5	(Medved et al., 2023)	Croatia (Europe)	Earthquake	Cross-sectional study	People with substance or behavioral addiction disorders, mental health (n=90)	↑	+	NA
6	(Flory et al., 2009)	USA (North America)	Hurricane	Cross-sectional study	Adult victims of Hurricane Katrina (n=209)	↑	+	NA

7	Schwartz, et al. [24]	USA (North America)	Hurricane	Cross-sectional study	Adult population of the New York City metropolitan area (n=1,615)	↑	+	NA
8	(Parslow & Jorm, 2006)	Australia (Oceania)	Wildfire	Longitudinal Study	Young adults in the area affected by forest fires in Canberra, Australia (n=2063)	↑	+	NA
9	(Nakano et al., 2018)	Japan (Asia)	Earthquake	Cross-sectional study	Men and women aged ≥20 years who participated in the 2012 Fukushima Health Management. (n=58,755)	↓	+	NA
10	(Bianchini et al., 2015)	Italy (Europe)	Earthquake	Cross-sectional study	Students two years after the 2009 L'Aquila earthquake (n=411)	↑	+	NA
11	(Fergusson et al., 2014)	New Zealand (Oceania)	Earthquake	Longitudinal study	Birth cohort of New Zealand children (n=952)	↑	+	NA
12	(Fullerton et al., 2013)	USA (North America)	Hurricane	Cross-sectional study	Community health workers in Florida (n=2249)	↑	+	NA
13	(Uemura et al., 2022)	Japan (Asia)	Wildfire	Observational	Population of 13 municipalities between 2008 and 2010 (n=19,673)	↑	NA	NA
14	(Brown et al., 2021)	Canada (North America)	Earthquake	Cross-sectional study	Youth aged 11 to 19, specifically grades 7 to 12 in Fort McMurray, n=3,070 (2017), n=3,265 (2018), and n=3,041(2019)	≈	NA	NA
15	(Osaki et al., 2020)	Japan (Asia)	Earthquake	Cross-sectional study	Survivors of the Iwate and Miyagi Prefecture tsunami disaster. n=1978 (2012), n=1082 (2013), n=930 (2014)	↑	NA	NA
16	(Ishikuro et al., 2022)	Japan (Asia)	Earthquake	Cross-sectional study	Pregnant women and those who will give birth within one month, who live in Miyagi Prefecture and Iwate Prefecture. (n=73.529)	↑	+	NA
17	(Erskine et al., 2013)	New Zealand (Oceania)	Earthquake	Cross-sectional study	Christchurch, New Zealand citizen (n=1,001)	≈	+	NA
18	(Beaudoin, 2011)	USA (North America)	Hurricane	Cross-sectional study	Adults aged >18 years in the New Orleans metropolitan area (2004: n = 53,137; 2005: n = 51,500)	≈	+	NA
19	(Kamijo et al., 2020)	Japan (Asia)	Volcano Eruption	Cross-sectional study	Police officers and staff involved in disaster management (n = 213)	↑	+	NA
20	(Vetter et al., 2008)	Worldwide	Tsunami	Cross-sectional study	Users of the "Online Self Evaluation Tool" (ONSET) originated from 61 different countries.(n=2,921)	≈	+	NA
21	(Alexander et al., 2019a)	USA (America)	Hurricane	Cross-sectional study	New Orleans residents, adult ever smoker aged 18–74, (n=279)	≈	NA	NA
22	(Lanctot et al., 2008)	USA (America)	Hurricane	Cross-sectional study	All evacuees in Memphis ever smoked (n=35)	↑	NA	NA
23	(Amstadter et al., 2009)	USA (America)	Hurricane	Cross-sectional study	English and Spanish-speaking adults in Florida within 6–9 months of the 2004 Florida hurricane season (n=614)	≈	+	NA

24	(Van der Velden et al., 2007)	The Netherland (Europe)	Hurricane	Cross-sectional study	Adults' victims and residents (n=1188)	≈	x	NA
25	(Alexander et al., 2019)	USA (America)	Hurricane	Cross-sectional study	Adult smokers living in New Orleans (n=1,003) & Memphis (n=1,001)	↑	+	NA
26	(Alexander et al., 2019)	USA (America)	Hurricane	Cross-sectional study	Smokers from New Orleans (n=175) and smokers from Memphis (n=222)	↑	+	NA
27	(Ukai et al., 2022)	Japan (Asia)	Earthquake	Cross-sectional study	People aged ≥20 years who completed the Fukushima Health Management Study Survey (n=82,197)	↓	+	NA

[1] changes in smoking rates

[2] association between stress and smoking

[3] discussion of smoking policy in disaster context

NA= Not Available ↑=increased; ↓=decreased; ≈=similar/no difference, += positive association; -= negative association; x=no association

All studies examined changes in smoking rates. In 18 studies (66.7%), an increase in smoking rates was reported after the disaster. Seven studies (25.9%) showed no significant change in smoking rates when comparing the periods before and after the disaster. Only two studies (7.4%) recorded a decline in smoking rates following a disaster.

Twenty studies assessed the relationship between stress and smoking. Out of them, 18 (90%) reported a positive correlation between stress and smoking, while 2 (10%) found no significant relationship between smoking and stress. Lastly, none of the included studies discussed tobacco control policies in disaster context.

4. Discussion

This scoping review examined the intersection of tobacco control and disaster. Our analysis of 27 studies revealed several key findings that warrant further discussion, particularly in the context of Indonesia. Firstly, the review highlighted a significant geographical bias in the existing research. Secondly, our findings suggest a strong association between natural disasters and increased tobacco use, as well as the strong association between stress and smoking after a disaster. Lastly, this review shows the lack of research on policies addressing smoking in the context of disaster management.

While Indonesia faces frequent and diverse natural disasters, about a third of studies in this review focused on the Americas. This geographical disparity underscores the need for more research in other disaster-prone regions, including Southeast Asia, to develop context-specific interventions. This geographical imbalance limits the generalizability of findings and underscores a need for research in other high-risk areas, such as Indonesia, which experiences frequent natural disasters. The second finding of our review revealed a significant connection between natural disasters and an increase in tobacco consumption. More than half of the studies reported increased tobacco consumption. Even though some of the studies argued that the disaster did not associate with smoking directly(Ukai et al., 2022), some circumstances deserve to get attention. Given that smoking is prevalent among Indonesian men(WHO, 2020), a high percentage of male disaster volunteers will exacerbate the increased smoking rates after a disaster in Indonesia. Unfortunately, the Disaster Management Agency, for example in South Sulawesi, exhibited a lack of gender-responsive practices, as evidenced by the persistent gender disparities observed in its operational phases, encompassing pre-disaster, disaster, and post-disaster stages (Yunus et al., 2022).

Therefore, the gender-segregated data of certified volunteers in the National Agency for Disaster Management (BNPB) is unavailable to date. (Badan Nasional Penanggulangan Bencana, 2020)

The third finding emphasizes the role of psychological stressors in influencing smoking behavior. Natural disasters often cause major disruptions to daily life, including displacement, loss of property, and loss of life, which can exacerbate existing health issues, including smoking habits, or even trigger smoking initiation in individuals who may not have smoked previously. Furthermore, the psychological stress induced by these traumatic events was found to be correlated with increased smoking. Stress and anxiety, common responses to disasters, can lead individuals to turn to smoking as a coping mechanism, which underscores the need for mental health interventions and smoking cessation support in disaster-stricken areas.

Research supports this association, particularly in the context of smoking relapses linked to mental health conditions exacerbated by natural disasters. Studies show that individuals suffering from post-traumatic stress disorder (PTSD) or depressive symptoms after a disaster are more likely to relapse into smoking (Alexander et al., 2019; Gloria Kang GJ et al., 2018). The psychological stress from the traumatic events, combined with the ongoing challenges of recovery, creates an environment where smoking becomes a frequent coping mechanism. This relapse can complicate both short- and long-term recovery efforts, as victims not only face the physical aftermath of the disaster but also the compounded health risks of tobacco-related illnesses. For example, (Osaki et al., 2020) found a significant increase in smoking rates among survivors of the Great East Japan Earthquake and Tsunami, as they faced high emotional and psychological pressure. Smoking in such cases served as a form of relief but exacerbated health risks, especially in areas where healthcare services were strained or inaccessible. Additionally, for individuals with pre-existing non-communicable diseases (NCDs), such as heart disease or chronic respiratory conditions, tobacco use further aggravated their health complications(Budreviciute et al., 2020).

Our last finding was related to tobacco control policies in disaster settings. This is an emerging area of public health concern, particularly in countries like Indonesia, where frequent natural disasters can complicate the enforcement of regulations. While there were five priorities for disaster health response based on the Resilience in Survivors of Katrina (RISK) Project: trauma prevention, access to care, social services, strengthening community connections for survivors, and targeted long-term services, tobacco control, unfortunately, was not included (Raker et al., 2020). Similarly, the Sendai Framework for Disaster Risk Reduction was more focused on basic healthcare services, sexual and reproductive health, and food security and nutrition. There were limited guidelines on how tobacco control measures should be adapted during disasters, despite the disruption that these events can cause to public health infrastructure and services. However, Indonesia could learn from American Red Cross by prohibiting tobacco use in shelters (A.R., 2012).

Indonesia's high frequency of natural disasters, with over 5,400 in 2023 alone (A. Rosyida et al., 2024), presents significant challenges to tobacco control. While smoke-free area policies are crucial for public health, enforcing them during disasters, particularly in shelters and evacuation centers, proves difficult. This challenge is compounded by the tobacco industry's exploitation of such crises. These companies often engage in CSR providing aid that includes cigarettes, thus capitalizing on the disaster to promote smoking and build a positive image (Tandilittin & Luetge, 2015). This practice undermines public health messaging and efforts to reduce smoking prevalence.

Several factors contribute to this problem, including logistical challenges, resource allocation priorities during emergencies, and the lack of specific regulations prohibiting tobacco promotion

and sponsorship during disaster relief. The absence of clear guidelines allows the tobacco industry to operate with minimal resistance, normalizing smoking behavior and weakening the impact of anti-smoking campaigns. To address these issues, governments and international organizations must establish clear policies prohibiting tobacco distribution and promotion during disaster relief. Additionally, targeted communication campaigns are needed to counter the tobacco industry's greenwashing tactics and ensure the visibility and effectiveness of public health messaging. Strengthening tobacco control measures during emergencies is crucial to mitigate the long-term health risks of smoking and protect elderly populations from industry exploitation.

> **Output status,** containing the **type**, **identity,** and **the achievement of each mandatory output** and **additional output** as stated in the proposal. The researcher should attach the document indicating the current status of the output, such as publication, intellectual property (HKI), experiment results, etc., as stated in the proposal. Scientific papers, books, etc., should attach similarity test results with a maximum of 25%.

OUTPUT STATUS
The article was presented on 16th Annual AIWEST-DR 2024 Conference 08-09 November 2024

> The researcher should describe t**he role** of partners in the context of **cooperation realization** and **partner contributions** both *in-kind* and *in-cash* (for Applied Research and Development/ *Penelitian Terapan dan Pengembangan*). Supporting evidence/document of this cooperation realization and contribution based on the actual conditions should be attached.

PARTNER ROLE

-

> **Research Implementation Obstacles** contain difficulties or obstacles encountered during conducting research and achieving the promised outcomes

OBSTACLES DURING THE RESEARCH

-

> **The Next Plan** contains the researcher planning to complete the research considering the current achievements. In case there is a target that has not been reached until the research is done, in this section, the researcher allows to explain their plan to complete their target

NEXT PLAN
Our next plan is to send the article to https://www.sciencedirect.com/journal/international-journal-of-disaster-risk-reduction

> **The** reference is organized and written **based on a number system** according to cited order in the text. **Only references cited in the document should be listed—a minimum of 25 references.**

REFERENCES

A. Rosyida, M, A., Y, F., T, S., K.P, P., & F., K. (2024). *Data Bencana Indonesia 2023,*.

1. Alexander, A. C., Ward, K. D., Forde, D. R., & Stockton, M. (2019a). Are posttraumatic stress and depressive symptoms pathways to smoking relapse after a natural disaster? *Drug and Alcohol Dependence*, *195*(February 2019), 178–185. https://doi.org/10.1016/j.drugalcdep.2018.09.025

2. Alexander, A. C., Ward, K. D., Forde, D. R., & Stockton, M. (2019b). Are posttraumatic stress and depressive symptoms pathways to smoking relapse after a natural disaster? *Drug and Alcohol Dependence*, *195*, 178–185. https://doi.org/10.1016/j.drugalcdep.2018.09.025

3. Alexander, A. C., Ward, K. D., Forde, D. R., Stockton, M., & Read, M. C. (2019). Do current smokers use more cigarettes and become more dependent on nicotine because of psychological distress after a natural disaster? *Addictive Behaviors*, *93*(June 2019), 129–134. https://doi.org/10.1016/j.addbeh.2019.01.030

4. Amstadter, A. B., Nugent, N. R., Koenen, K. C., Ruggiero, K. J., Acierno, R., Galea, S., Kilpatrick, D. G., & Gelernter, J. (2009). Association between COMT, PTSD, and increased smoking following hurricane exposure in an epidemiologic sample. *Psychiatry*, *72*(4), 360–369. https://doi.org/10.1521/psyc.2009.72.4.360

5. A.R., C. (2012). *Sheltering Handbook:disaster services,*.

6. Badan Nasional Penanggulangan Bencana. (2020). *Rencana nasional penanggulangan bencana 2020-2024 (The National Disaster Management Plan 2020-2024)*.

7. Beaudoin, C. E. (2011). Hurricane Katrina: Addictive behavior trends and predictors. *Public Health Reports*, *126*(3), 400–409. https://doi.org/10.1177/003335491112600314

8. Bianchini, V., Roncone, R., Giusti, L., Casacchia, M., Cifone, M. G., & Pollice, R. (2015). Send Orders for Reprints to reprints@benthamscience.ae PTSD Growth and Substance Abuse Among a College Student Community: Coping Strategies after 2009 L'aquila Earthquake. *Clinical Practice & Epidemiology in Mental Health*, *11*, 140–143.

9. Brown, M. R. G., Pazderka, H., Agyapong, V. I. O., Greenshaw, A. J., Cribben, I., Brett-MacLean, P., Drolet, J., McDonald-Harker, C. B., Omeje, J., Lee, B., Mankowsi, M., Noble, S., Kitching, D. T., & Silverstone, P. H. (2021). Mental Health Symptoms Unexpectedly Increased in Students Aged 11–19 Years During the 3.5 Years After the 2016 Fort McMurray Wildfire: Findings From 9,376 Survey Responses. *Frontiers in Psychiatry*, *12*(May), 1–17. https://doi.org/10.3389/fpsyt.2021.676256

10. Budreviciute, A., Damiati, S., Sabir, D. K., Onder, K., Schuller-Goetzburg, P., Plakys, G., Katileviciute, A., Khoja, S., & Kodzius, R. (2020). Management and Prevention Strategies for Non-communicable Diseases (NCDs) and Their Risk Factors. In *Frontiers in Public Health* (Vol. 8). Frontiers Media S.A. https://doi.org/10.3389/fpubh.2020.574111

11. Danielson, C. K., Sumner, J. A., Adams, Z. W., McCauley, J. L., Carpenter, M., Amstadter, A. B., & Ruggiero, K. J. (2017). Adolescent Substance Use Following a Deadly U.S. Tornado Outbreak: A Population-Based Study of 2,000 Families. *Journal of Clinical Child and Adolescent Psychology*, *46*(5), 732–745. https://doi.org/10.1080/15374416.2015.1079780

12. Erskine, N., Daley, V., Stevenson, S., Rhodes, B., & Beckert, L. (2013). *Canterbury Earthquakes*. *2013*, 0–4.

13. Fergusson, D. M., Horwood, L. J., Boden, J. M., & Mulder, R. T. (2014). Impact of a major disaster on the mental health of a well-studied cohort. *JAMA Psychiatry*, *71*(9), 1025–1031. https://doi.org/10.1001/jamapsychiatry.2014.652

14. Flory, K., Hankin, B. L., Kloos, B., Cheely, C., & Turecki, G. (2009). Alcohol and cigarette use and misuse among hurricane Katrina survivors: Psychosocial risk and protective factors. *Substance Use and Misuse*, *44*(12), 1711–1724. https://doi.org/10.3109/10826080902962128

15. Fullerton, C. S., McKibben, J. B. A., Reissman, D. B., Scharf, T., Kowalski-Trakofler, K. M., Shultz, J. M., & Ursano, R. J. (2013). Posttraumatic stress disorder, depression, and alcohol and tobacco use in public health workers after the 2004 Florida hurricanes. *Disaster Medicine and Public Health Preparedness*, *7*(1), 89–95. https://doi.org/10.1017/dmp.2013.6

16. Gloria Kang GJ, Ewing-Nelson SR, Mackey L, Schlitt JT, Marathe A, Abbas KM, & Swarup S. (2018). Racial Differences in Posttraumatic Stress Disorder Vulnerability Following Hurricane Katrina Among a Sample of Adult Ever Smokers from New Orleans. *Physiology & Behavior*, *176*(1), 139–148. https://doi.org/10.1007/s40615-015-0206-8.Racial

17. Ishikuro, M., Noda, A., Murakami, K., Onuma, T., Matsuzaki, F., Ueno, F., Kikuya, M., Metoki, H., Tomita, H., Obara, T., Yaegashi, N., & Kuriyama, S. (2022). Families' Health after the Great East Japan Earthquake: Findings from the Tohoku Medical Megabank Project Birth and Three-Generation Cohort Study. *Tohoku Journal of Experimental Medicine*, *256*(2), 93–101. https://doi.org/10.1620/tjem.256.93

18. Kamijo, T., Tsukahara, T., Shimazu, A., & Nomiyama, T. (2020). Risk factors for duty-related posttraumatic stress disorder among police officers in the Mt. Ontake eruption disaster-support task force. *International Journal of Environmental Research and Public Health*, *17*(9). https://doi.org/10.3390/ijerph17093134

19. Koyama, S., Tabuchi, T., Aida, J., Osaka, K., & Miyashiro, I. (2021). Determinants of Increased Tobacco Consumption following a Major Disaster. *Disaster Medicine and Public Health Preparedness*, *15*(1), 20–24. https://doi.org/10.1017/dmp.2019.160

20. Lanctot, J. Q., Stockton, M. B., Mzayek, F., Read, M., McDevitt-Murphy, M., & Ward, K. (2008). Effects of disasters on smoking and relapse: An exploratory study of hurricane katrina victims. *American Journal of Health Education*, *39*(2), 91–94. https://doi.org/10.1080/19325037.2008.10599020

21. Medved, S., Palavra, I. R., Gerlach, J., Levaj, S., Shields-Zeeman, L., Bolinski, F., Bradaš, Z., Madžarac, Z., Filipčić, I., & Rojnić Kuzman, M. (2023). Changes in substance use and engagement in gaming/gambling in persons with severe mental illness during the COVID-19 pandemic and earthquakes: a community study in two points. *Frontiers in Psychiatry*, *14*(December), 1–10. https://doi.org/10.3389/fpsyt.2023.1264875

22. Mukherjee, S., Canterberry, M., Yore, J. B., Ledford, E. C., & Carton, T. W. (2017). Assessing the Relationship Between Mental Distress and Tobacco Use in Post-Katrina and Rita Louisiana. *Substance Use and Misuse*, *52*(10), 1275–1282. https://doi.org/10.1080/10826084.2016.1273956

23. Nakano, H., Ohira, T., Maeda, M., Yabe, H., Ohtsuru, A., Suzuki, Y., Harigane, M., Horikoshi, N., Nagai, M., Zhang, W., Takahashi, H., Yasumura, S., Iso, H., & Kamiya, K. (2018). Associations of disaster-related and psychosocial factors with changes in smoking status after a disaster: A cross-sectional survey after the Great East Japan Earthquake. *BMJ Open*, *8*(6), 1–10. https://doi.org/10.1136/bmjopen-2017-018943

24. Noel, N. E., van Swearingen, K. M., Urch, M. A., Crews, F. S., Espinosa-Hernandez, G., McCool, M. W., & Jackson, L. A. (2021). Alcohol and other substance use by faculty,

staff, and students in a university community during two hurricanes: Lessons for preventing risky misuse. *Journal of Community Psychology*, *49*(6), 1554–1567. https://doi.org/10.1002/jcop.22631

25. Osaki, Y., Maesato, H., Minobe, R., Kinjo, A., Kuwabara, Y., Imamoto, A., Myoga, Y., Matsushita, S., & Higuchi, S. (2020). Changes in smoking behavior among victims after the great East Japan earthquake and tsunami. *Environmental Health and Preventive Medicine*, *25*(1), 1–11. https://doi.org/10.1186/s12199-020-00858-5

26. Parslow, R. A., & Jorm, A. F. (2006). Tobacco use after experiencing a major natural disaster: Analysis of a longitudinal study of 2063 young adults. *Addiction*, *101*(7), 1044–1050. https://doi.org/10.1111/j.1360-0443.2006.01481.x

27. Raker, E. J., Arcaya, M. C., Lowe, S. R., Zacher, M., Rhodes, J., & Waters, M. C. (2020). Mitigating health disparities after natural disasters: Lessons from the risk project. *Health Affairs*, *39*(12), 2128–2135. https://doi.org/10.1377/hlthaff.2020.01161

28. Tandilittin, H., & Luetge, C. (2015). CSR activity of tobacco companies in Indonesia: Is it a genuine social responsibility? *Online Journal of Health Ethics*, *11*. https://doi.org/10.18785/ojhe.1101.03

29. Uemura, M. Y., Ohira, T., Yasumura, S., Sakai, A., Takahashi, A., Hosoya, M., Nagao, M., Nakano, H., Ohto, H., & Kamiya, K. (2022). Association Between Lifestyle Habits and the Prevalence of Abdominal Obesity After the Great East Japan Earthquake: The Fukushima Health Management Survey. *Journal of Epidemiology*, *32*(11), 496–501. https://doi.org/10.2188/jea.JE20200597

30. Ukai, T., Tabuchi, T., Ohira, T., Nakano, H., Maeda, M., Yabe, H., Takahashi, A., Yasumura, S., Iso, H., & Kamiya, K. (2022). Associations between the perception of risk in radiation exposure and changes in smoking and drinking status after a disaster: The Fukushima Health Management Survey. *Preventive Medicine Reports*, *30*(June), 102054. https://doi.org/10.1016/j.pmedr.2022.102054

31. Van der Velden, P. G., Grievink, L., Olff, M., R Gersons, B. P., & Kleber, R. J. (2007). Smoking as a Risk Factor for Mental Health Disturbances After a Disaster: A Prospective Comparative Study. In *J Clin Psychiatry* (Vol. 68).

32. Vetter, S., Rossegger, A., Rossler, W., Bisson, J. I., & Endrass, J. (2008). Exposure to the tsunami disaster, PTSD symptoms and increased substance use - An Internet based survey of male and female residents of Switzerland. *BMC Public Health*, *8*, 6–11. https://doi.org/10.1186/1471-2458-8-92

33. WHO. (2020). *WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025*. World Health Organization.

34. Yunus, M., Tenri, A., & Thaba, A. (2022). Evaluation of Gender Variables in Disaster Management Systems in Indonesia. *Environment and Ecology Research*, *10*(5), 572–579. https://doi.org/10.13189/eer.2022.100505

APPENDICES:

   a. **Proof of publication**

Strengthening Tobacco Control in Disaster-Prone Region: A Scoping Review for the Indonesian Context

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Abstract. Not only is Indonesia one of the few countries that has not ratified the Framework Convention on Tobacco Control, but it is also the second most disaster-prone country out of 193. Although strategies to limit tobacco use have been established in Indonesia, they have not been incorporated in the event of a disaster. This study attempts to assess and examine the discrepancy between what is understood today and what is genuinely required to enhance tobacco control in regions vulnerable to natural disaster like Indonesia. The population, intervention, comparator, and outcome (PICO) framework directs the systematic review's focus. PubMed, and Google Scholar databases were thoroughly searched. According to the analysis, there is still a dearth of research on tobacco control in the context of crisis management. The lack of explicit laws controlling

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