



HAL
open science

Response to Tsuda et al. “demonstrating the undermining of science and health policy after the Fukushima nuclear accident by applying the toolkit for detecting misused epidemiological methods”

Enora Clero, Claire Demoury, Bernd Grosche, Liudmila Liutsko, Yvon Motreff, Takashi Ohba, Deborah Oughton, Philippe Pirard, Agnès Rogel, Thierry Schneider, et al.

► To cite this version:

Enora Clero, Claire Demoury, Bernd Grosche, Liudmila Liutsko, Yvon Motreff, et al.. Response to Tsuda et al. “demonstrating the undermining of science and health policy after the Fukushima nuclear accident by applying the toolkit for detecting misused epidemiological methods”. *Environmental Health*, 2023, 22 (1), pp.17. 10.1186/s12940-023-00966-z . irsn-04074977

HAL Id: irsn-04074977

<https://irsn.hal.science/irsn-04074977>

Submitted on 19 Apr 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

COMMENT

Open Access



Response to Tsuda et al. “demonstrating the undermining of science and health policy after the Fukushima nuclear accident by applying the toolkit for detecting misused epidemiological methods”

Enora Cléro¹, Claire Demoury², Bernd Grosche³, Liudmila Liutsko^{4,5,6,7}, Yvon Motreff⁸, Takashi Ohba⁹, Deborah Oughton¹⁰, Philippe Pirard⁸, Agnès Rogel⁸, Thierry Schneider¹¹, An Van Nieuwenhuysse^{12,13}, Dominique Laurier¹ and Elisabeth Cardis^{4,5,6*}

Abstract

Background The SHAMISEN (Nuclear Emergency Situations - Improvement of Medical And Health Surveillance) European project was conducted in 2015-2017 to review the lessons learned from the experience of past nuclear accidents and develop recommendations for preparedness and health surveillance of populations affected by a nuclear accident. Using a toolkit approach, Tsuda et al. recently published a critical review of the article by Cléro et al. derived from the SHAMISEN project on thyroid cancer screening after nuclear accident.

Main body We address the main points of criticism of our publication on the SHAMISEN European project.

Conclusion We disagree with some of the arguments and criticisms mentioned by Tsuda et al. We continue to support the conclusions and recommendations of the SHAMISEN consortium, including the recommendation not to launch a mass thyroid cancer screening after a nuclear accident, but rather to make it available (with appropriate information counselling) to those who request it.

Keywords Epidemiological methods, Thyroid cancer, Screening, Overdiagnosis, Nuclear accident

*Correspondence:

Elisabeth Cardis
elisabeth.cardis@isgglobal.org

¹ Health and Environment Division, Institute for Radiological Protection and Nuclear Safety (IRSN), Fontenay-aux-Roses, France

² Risk and Health Impact Assessment Unit, Sciensano, Brussels, Belgium

³ Retired Federal Office for Radiation Protection (BfS), Munich, Germany

⁴ Institute for Global Health (ISGlobal), Barcelona, Spain

⁵ Pompeu Fabra University (UPF), Barcelona, Spain

⁶ Spanish Consortium for Research and Public Health (CIBERESP), Instituto de Salud Carlos III, Madrid, Spain

⁷ Unitat de Suport a la Recerca Metropolitana Nord, IDIAP Jordi Gol, Barcelona, Spain

⁸ Santé publique France, F-94415 Saint-Maurice, France

⁹ Fukushima Medical University, 1 Hikarigaoka, Fukushima, Fukushima 9601295, Japan

¹⁰ Norwegian University of Life Sciences (NMBU), Center for Environmental Radioactivity (CERAD), Aas, Norway

¹¹ Nuclear Protection Evaluation Centre (CEPN), Fontenay-aux-Roses, France

¹² Centre for Environment and Health, Department of Public Health and Primary Care, Leuven, Belgium

¹³ Department of Health Protection, Laboratoire National de Santé (LNS), Dudelange, Luxembourg



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Background

The article by Tsuda et al. [1] presents an interesting approach: using a published toolkit to detect the misuse of epidemiological methods. Unfortunately, this article demonstrates that such an approach does not prevent misinterpretation of scientific publications.

This article presents an accumulation of minor points of criticism, unfounded accusations and misinterpretation of our messages. It is not our intention to respond to each of these points, but rather to address the main points of criticism of the article by Cléro et al. [2] concerning the SHAMISEN (Nuclear Emergency Situations - Improvement of Medical And Health Surveillance) European project [3], in order to illustrate the erroneous and biased nature of these criticisms.

Response to criticism on SHAMISEN

First, Tsuda et al. [1] state the SHAMISEN consortium [2] misused epidemiology by deliberately not citing certain papers. The aim of the SHAMISEN project was to provide evidence-based recommendations to help improve health conditions of affected populations by addressing not only radiation protection and physical health, but also mental health, living conditions after a nuclear accident, communication, and ethical issues [3]. Therefore, the SHAMISEN paper [2] did not aim to be a systematic review of all papers published on the Chernobyl and Fukushima accidents, but aimed to present the lessons learned from thyroid cancer screening. Thus, only the most relevant articles were cited by the authors. We consider that the SHAMISEN paper [2] provides a good overview of the lessons learned from thyroid cancer screening after nuclear accident. This overview was presented to and discussed with a broad set of experts in this domain, notably during a workshop towards the end of the project.

Secondly, Tsuda et al. [1] claim the SHAMISEN consortium [2] failed to point out that most of the publications showing overdiagnosis of thyroid cancer after screening concern unexposed adults and not children. However, evidence suggests that overdiagnosis is similar in children and adults [4]. Vaccarella et al. [4] concluded that “*the pattern of thyroid cancer incidence in children and adolescents mirrors the pattern seen in adults, suggesting a major role for overdiagnosis*” in several countries of the world. We reaffirm the SHAMISEN conclusion that thyroid cancer screening among children and adolescents leads to overdiagnosis [2].

With regard to the authors’ declarations of interest, these have a transparency objective. The example of D Laurier is used by Tsuda et al. [1] as an argument suggesting a “*failing to disclose a conflicting interest*”. In

the reports of international agencies such as IARC or WHO, the criteria for declaration are often explicitly extended to institutional funding sources. This is why it is stated in the IARC report [5] “*Dr Dominique Laurier reports that his institution, Institute for Radiological Protection and Nuclear Safety [IRSN], benefits from research funding from Areva and EDF [French nuclear operators]*”. Such funding is not surprising for a national research and expert body such as IRSN, which has had a charter of ethics and deontology since 2013. In the publication by Cléro et al. in the journal “*Environment International*” [2], only potential conflicts and individual funding sources are considered. That is why the authors of the article, including D Laurier, stated that “*The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper*”. We maintain there is no “*failing to disclose a conflicting interest*” in the SHAMISEN project.

Finally, Tsuda et al. [1] suggest that the authors of the SHAMISEN paper [2] ignore the difference between a cohort and an ecological epidemiological design. We would like to remind the definition of an ecological study, which is an observational study defined by the level at which the data is analyzed, i.e. at the population or group level, rather than the individual level (see for example [6] for definition). Clearly, the analysis published by Tsuda et al. in 2016 [7] is of ecological nature as also highlighted by Jorgensen [8], and not a cohort study as Tsuda et al. believe.

Conclusion

In conclusion, we disagree with some of the arguments and criticisms mentioned by Tsuda et al. [1]. We strongly confirm the conclusions and the recommendations derived from the European project SHAMISEN [2, 3].

Abbreviations

Areva	French nuclear operator conducting activities related to the uranium fuel cycle (today Orano, formerly Cogema then Areva)
EDF	Electricité De France, French nuclear operator producing and supplying electricity
IARC	International Agency for Research on Cancer
IRSN	Institute for Radiological Protection and Nuclear Safety
SHAMISEN	Nuclear Emergency Situations - Improvement of Medical And Health Surveillance
WHO	World Health Organization.

Authors’ contributions

All authors contributed to this response and approved the final manuscript.

Funding

No funding was received for the development and production of this response.

Declarations

Competing interests

The authors have no competing interests as defined by BMC.

Received: 5 January 2023 Accepted: 14 January 2023

Published online: 17 February 2023

References

1. Tsuda T, Miyano Y, Yamamoto E. Demonstrating the undermining of science and health policy after the Fukushima nuclear accident by applying the toolkit for detecting misused epidemiological methods. *Environ Health*. 2022;21(1):77.
2. Cléro E, Ostroumova E, Demoury C, Grosche B, Kesminiene A, Liutsko L, et al. Lessons learned from Chernobyl and Fukushima on thyroid cancer screening and recommendations in case of a future nuclear accident. *Environ Int*. 2021;146:106230.
3. Takashi O, Liutsko L, Schneider T, Barquinero JF, Crouaïl P, Fattibene P, et al. The SHAMISEN project: challenging historical recommendations for preparedness, response and surveillance of health and well-being in case of nuclear accidents: lessons learnt from Chernobyl and Fukushima. *Environ Int*. 2021;146:106200.
4. Vaccarella S, Lortet-Tieulent J, Colombet M, Davies L, Stiller CA, Schüz J, et al. Global patterns and trends in incidence and mortality of thyroid cancer in children and adolescents: a population-based study. *Lancet Diabetes Endocrinol*. 2021;9:144–52.
5. IARC Expert group on thyroid health monitoring after nuclear accidents. Thyroid health monitoring after nuclear accidents. IARC technical publication no. 46. Geneva: World Health Organization; 2018. <https://publications.iarc.fr/Book-And-Report-Series/Iarc-Technical-Publications/Thyroid-Health-Monitoring-After-Nuclear-Accidents-2018>. Accessed Sept 2022.
6. Morgenstern H. Ecologic studies in epidemiology: concepts, principles, and methods. *Annu Rev Public Health*. 1995;16:61–81.
7. Tsuda T, Tokinobu A, Yamamoto E, Suzuki E. Thyroid cancer detection by ultrasound among residents ages 18 years and younger in Fukushima, Japan: 2011 to 2014. *Epidemiology*. 2016;27(3):316–22.
8. Jorgensen TJ. Re: thyroid Cancer among young people in Fukushima. *Epidemiology*. 2016;27(3):e17.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions

