INTERNATIONAL QUESTIONNAIRE SURVEY ON RISK PERCEPTION OF EMF AMONG THE GENERAL PUBLIC IN JAPAN, POLAND, AND GERMANY

Dr Chiyoji Ohkubo (Presenting) ohkubo@jeic-emf.jp, Japan EMF Information Center, Tokyo, Japan
Mr Christian Raupach craupach@bfs.de, Federal Office for Radiation Protection (BfS), Competence Centre for Electromagnetic Fields (KEMF), Cottbus, Germany
Prof Urszula Soler urszula.soler@kul.pl, The John Paul II Catholic University of Lublin, Lublin, Poland
Prof Andrzej Krawczyk ankra.new@gmail.com, Polish Society of Applied Electromagnetism, Warsaw, Poland
Mr Hiroaki Miyagi hiroaki.miyagi@hmresconsult.com, HM Research & Consulting Co., Ltd., Tokyo, Japan & University of Tsukuba, Tsukuba, Japan
Mr Lukas Gernand lgernand@bfs.de, Federal Office for Radiation Protection (BfS), Competence Centre for Electromagnetic Fields (KEMF), Cottbus, Germany

INTRODUCTION

While natural EMF sources exist, anthropogenic EMF exposure has increased significantly due to developments in electricity, telecommunications, and medical technologies. Common sources include power lines, household devices, mobile phones, and wireless networks, leading to public concern about potential health effects. The European Commission conducted surveys on EMF risk perception in 2006 and 2010. With recent advancements like 5G and wireless power transfer, updated surveys are needed to assess current public perceptions and improve risk communication strategies. In 2023, organizations from Japan, Germany, and Poland signed a Memorandum of Understanding (MoU) to enhance international cooperation on EMF risk communication, and national surveys were conducted in 2024 under this framework.

METHODS

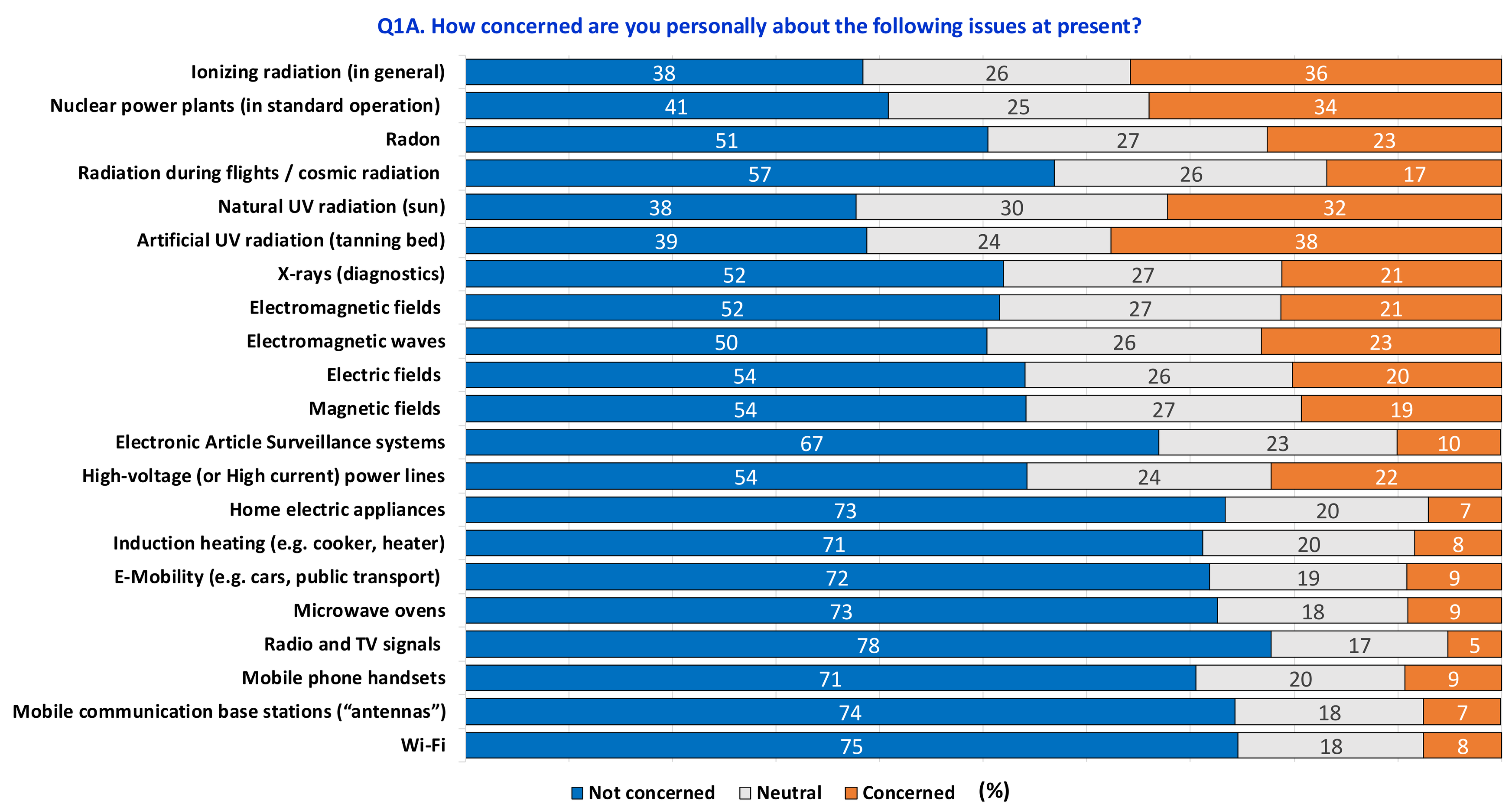
Japan: We conducted an internet survey using Computer-Assisted Web Interviewing (CAWI). The respondents were male and female in 10s to 70s and pregnant women in 20s and 30s (more than 100 in each category/gender), and the total number was 1822 (male: 765, female: 1057).
Poland: Poland did 1015 computer-assisted personal interviews (CAPI) conducted as part of a nationwide OMNIBUS survey.
Germany: Germany conducted its part of the survey using Computer-Assisted Telephone Interviewing (CATI).
MoU countries general: The questions are divided into a General Part (common to all three countries) and a Country-Specific Part; here, the questions in the General Part are outlined.

Survey category
1) Risk perception related to EMF
2) Levels of scientific understanding on EMF
3) Levels of trustworthiness of EMF risk information
4) Expectations towards the sources/organizations/persons of EMF risk information
5) Risk perception other than EMF
6) Other characteristics

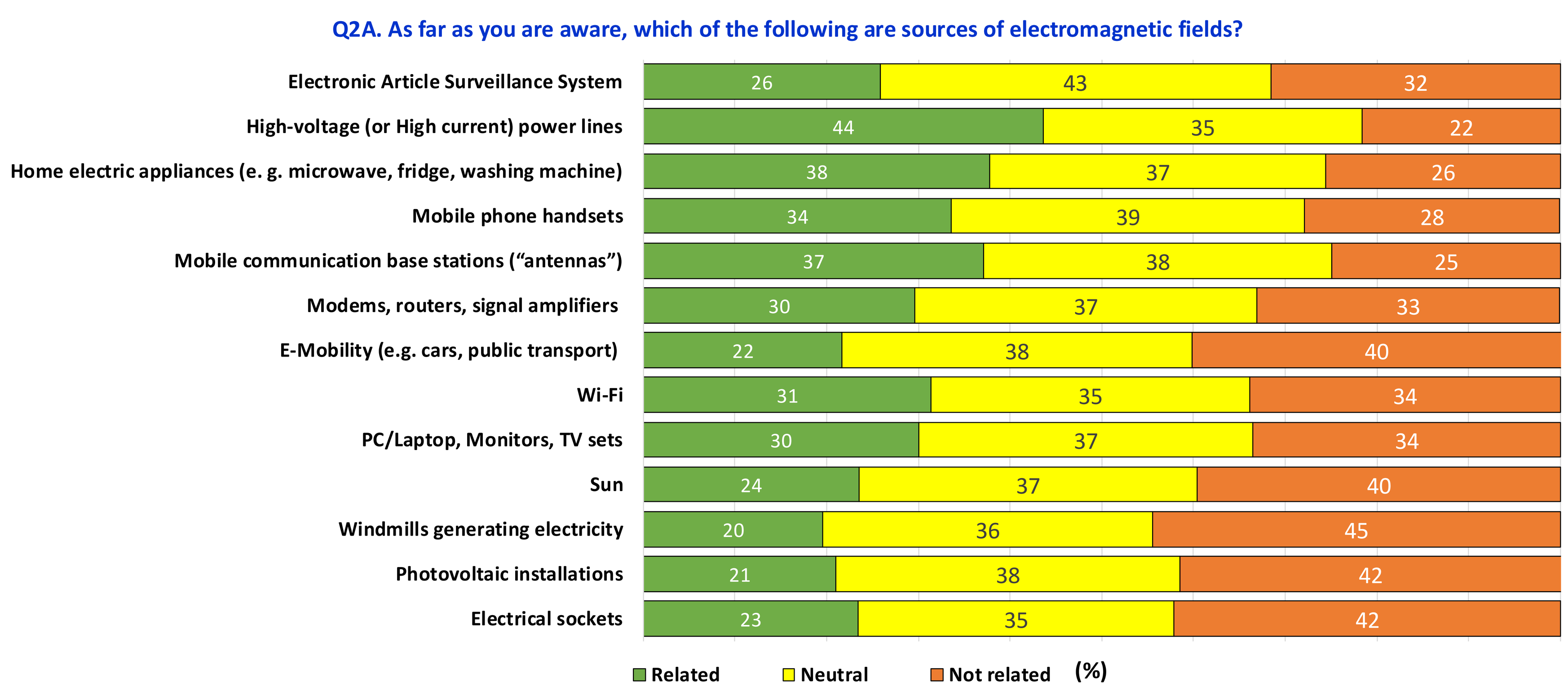
Respondents were asked to rate their perceived level of risk for each survey item using a 1–5 numerical scale based on a visual analogue scale (VAS) , where:1 = "I am not concerned at all", 2–4 = Increasing levels of concern, 5 = "I am very concerned". Additionally, two extra response options were provided: 6 = "Cannot determine the degree of risk" and 7 = "Do not understand the question." The present analysis of risk perception relies on the results of the web-based survey (CAWI) in Japan and compares perceived risk levels using only the VAS responses, with options 6 and 7 excluded.

RESULTS AND DISCUSSION

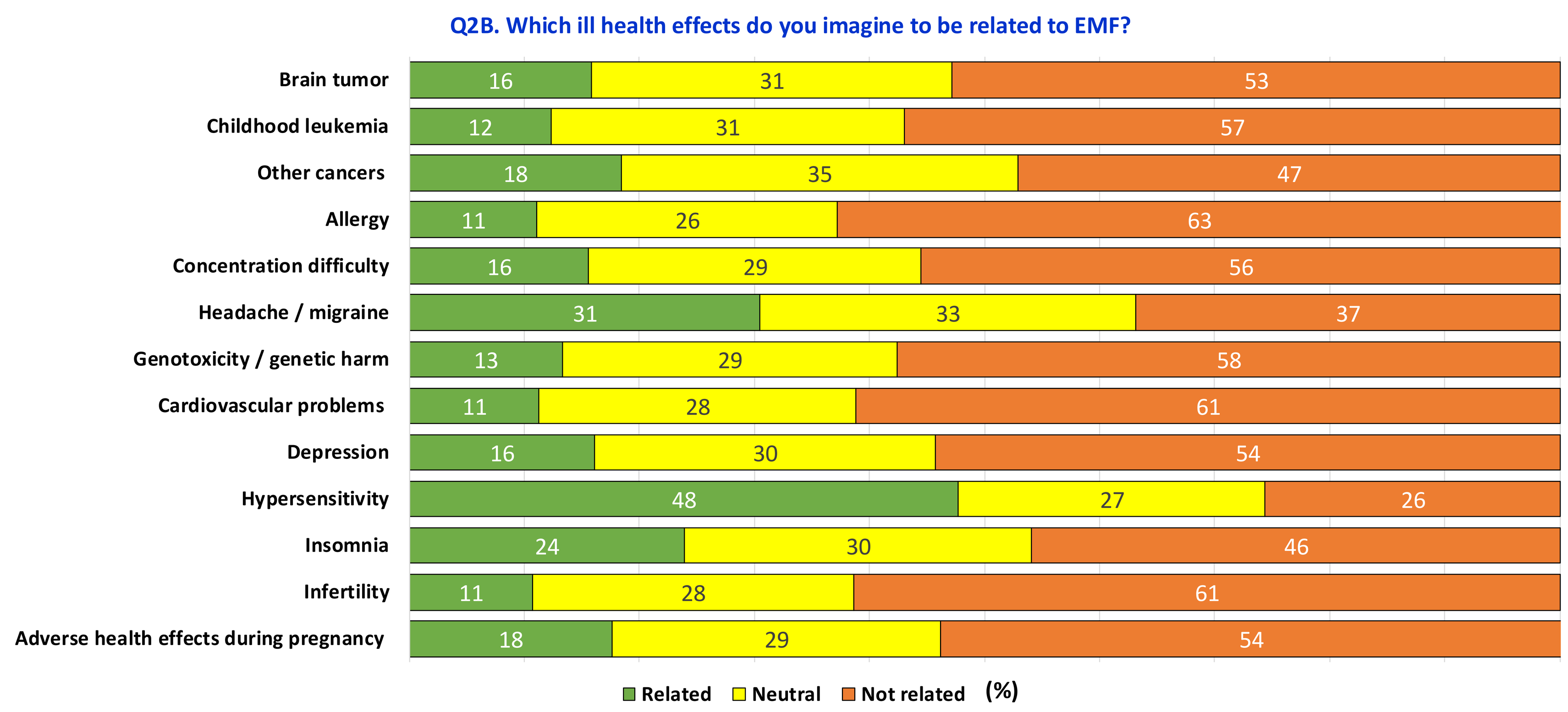
1. Risk perception related to EMF



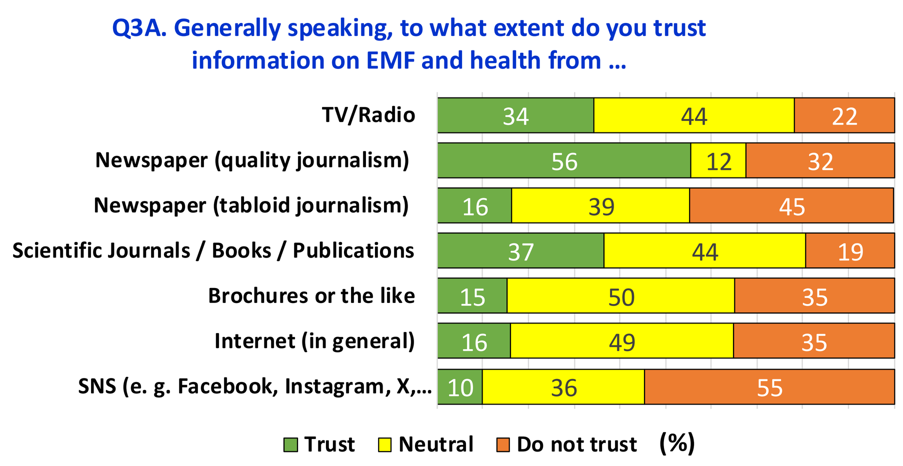
2. Levels of scientific understanding on EMF

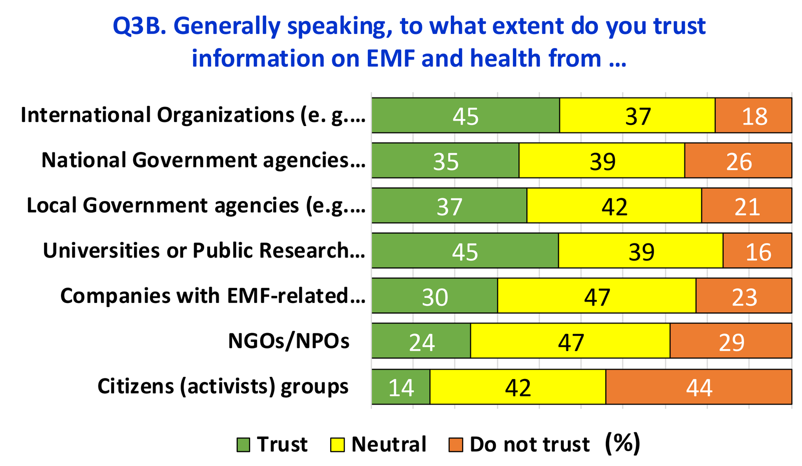


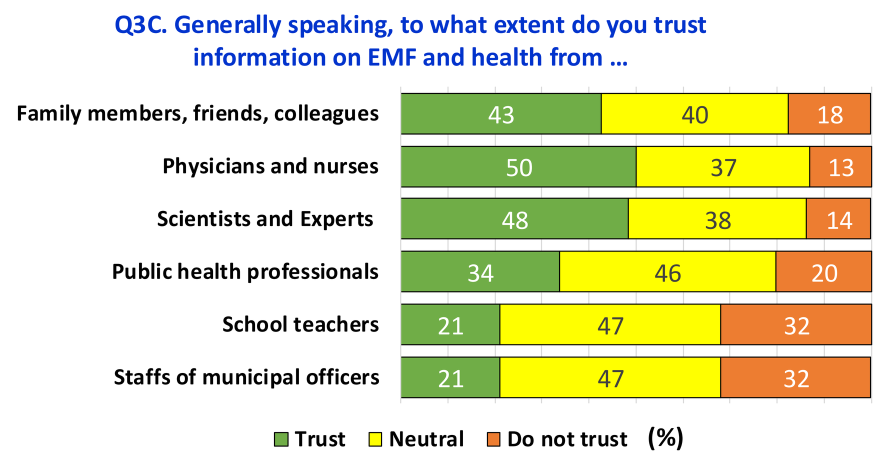
2. Levels of scientific understanding on EMF (continued)

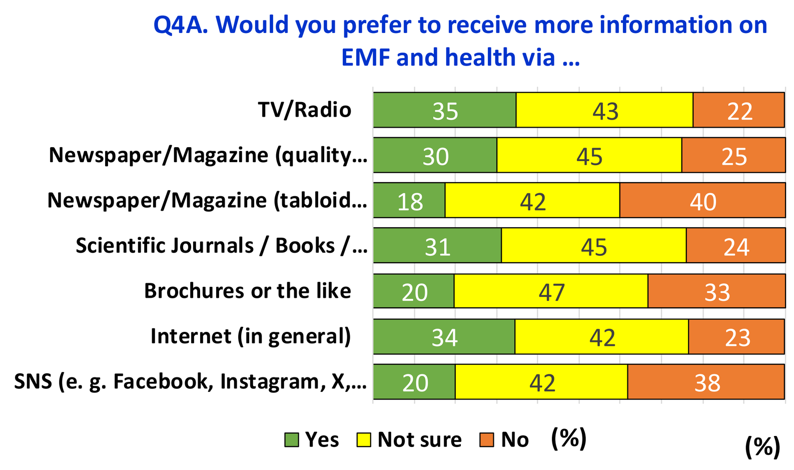


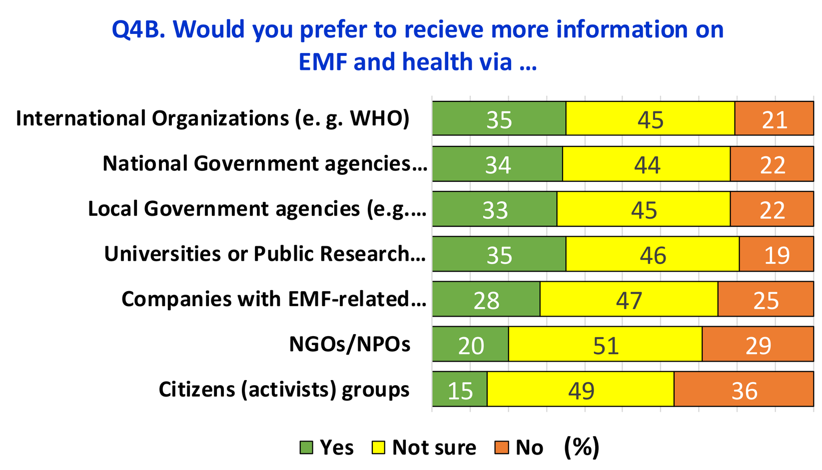
3. Levels of trustworthiness of EMF risk information &
4. Expectations towards the sources/organizations/persons of EMF risk information

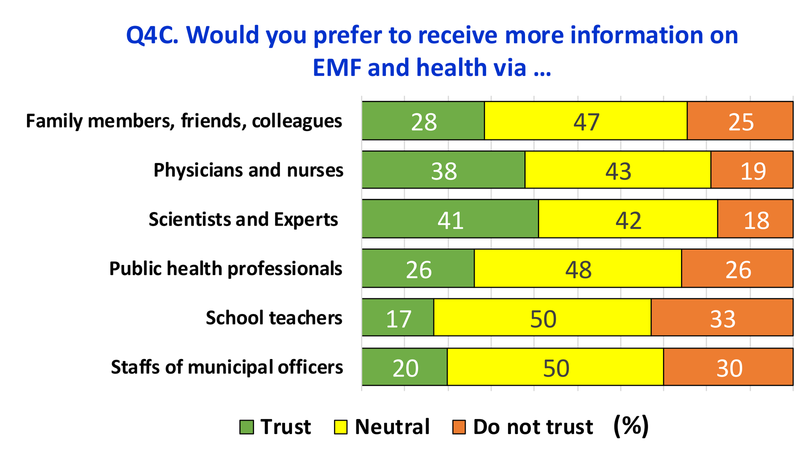




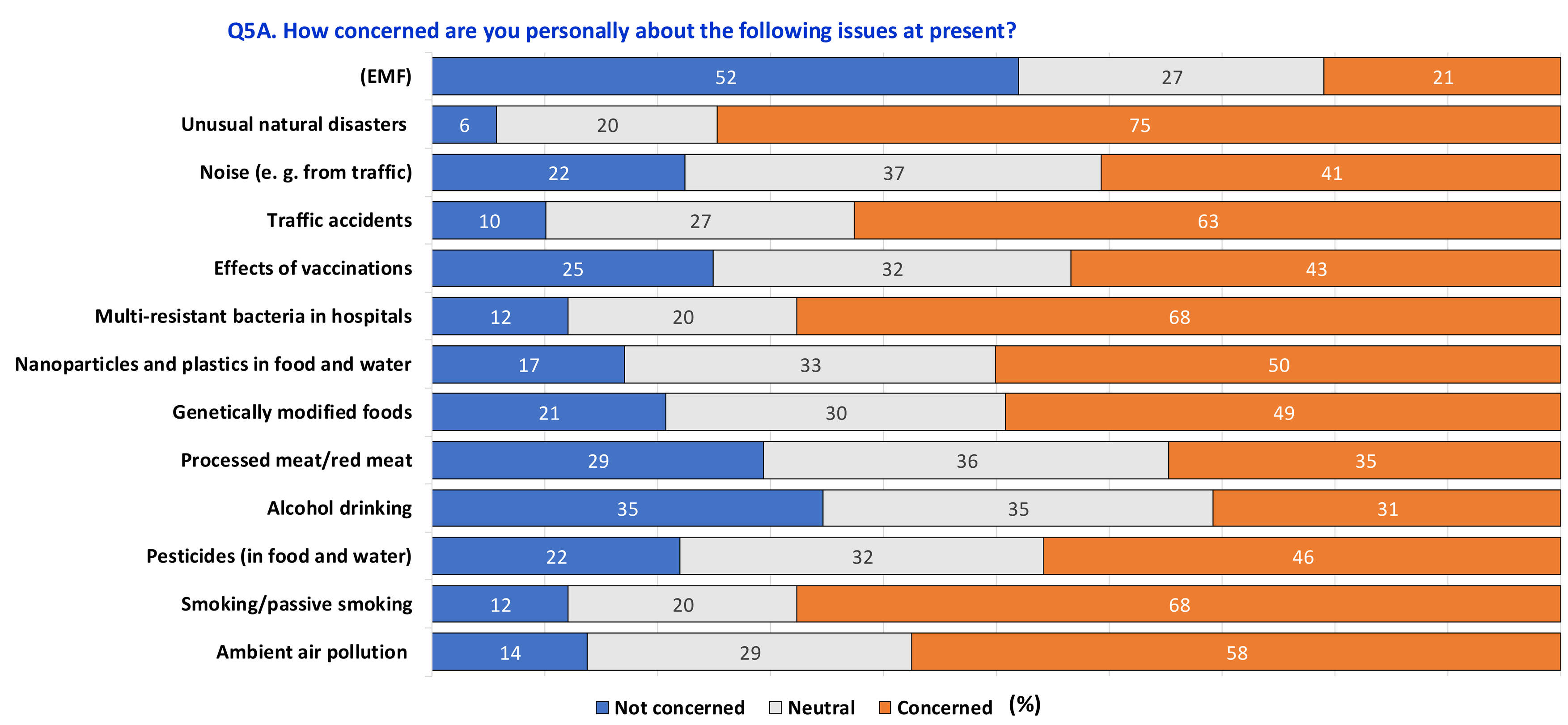








5. Risk perception other than EMF



CONCLUSION

In general, the level of concern regarding electromagnetic fields (EMF) was not particularly high among respondents. Participants expressed relatively high levels of trust in international organizations (e.g., WHO), governmental agencies, universities and public research institutes, healthcare professionals (physicians and nurses), and scientific experts. Gender-based differences in risk perception were observed, with male respondents reporting lower levels of concern about EMF than female respondents (data not shown).

BioEM

BioEM 2025 Rennes - France

Japan EMF Information Center
JEIC
https://www.jeic-emf.jp

PB-67(3)