Nikkei FT Communicable Diseases Conference
Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium

Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

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Overview of findings

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Survey overview

Goals and objectives

To identify important messages for helping the general public in Japan understand the “the threat of AMR” in Japanese to build awareness toward the threat of AMR and the risks of inappropriate antimicrobial and antibiotic usage in a manner that will facilitate awareness-building activities.

To identify what types of messages will have the greatest influence for each of the various groups of the general public, and to identify which communication channels will be best to use.

Survey design

This survey was conducted as a quantitative study via online questionnaire.

Participants

Random sampling was used to select 1,000 people representative of the total population of Japan in terms of age, sex, and region from the monitor panel of the research firm that conducted the survey.

Participants were 18 years of age or older and able to read and comprehend texts written in Japanese.

Survey period

December 2, 2021 to December 6, 2021

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

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Key survey findings

1. **Messaging can improve awareness among groups who were previously uninterested**

   Key messages must continue to be conveyed in a manner that enables each group to perceive AMR as an issue that directly affects them

2. **Younger people respond to data, while older people focus on personal impact**

   Messaging must take the characteristics of each generation into account

3. **There are three messages all generations viewed as important**

   (1) Global number of deaths (2) Depletion of therapeutics (3) Impact on elderly people

4. **It is important that media used to communicate medical information (information sources) feature explanations from healthcare professionals**

   It will be important for information to be disseminated by the entire medical community, not only physicians, with participation from pharmacists and other paramedical personnel

Information on AMR in the environment, animals, and food

1. **Interest in AMR in the environment increased with age**
2. **Respondents who felt that information on AMR in animals and food is important tended to have high interest in AMR in the environment**

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Recommendations for disseminating information regarding AMR bacteria

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Recommendations for disseminating information regarding AMR bacteria (1)

Messaging must take differences in interest among generations into account

- **Survey findings suggested messaging is an effective method of disseminating information, even among people who are not interested in AMR. In addition to past messaging efforts, it may be necessary to intensify messaging to build understanding among more citizens in the future.**

- **Younger people may be less interested in AMR because they may find it difficult to recognize AMR-related problems. It may be effective to use objective data in media that reaches younger people, such as social networks.**

- **When providing information to elderly people, it may be necessary to foster a sense of impending crisis toward AMR, such as by focusing on how AMR can affect personal health.**

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Recommendations for disseminating information regarding AMR bacteria (2)

The need for trust in healthcare professionals and education on AMR

- **Responses regarding respondents' preferred information channels showed that information from healthcare professionals is considered highly reliable, so it may be necessary for not only physicians but also pharmacists and other paramedical personnel to actively provide AMR-related information.**

- **One effective option may be to provide or expand education on AMR for healthcare professionals to create a system in which healthcare professionals provide correct information on AMR to patients and citizens.**

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Recommendations for disseminating information regarding AMR bacteria (3)

One Health

- **Interest in information related to AMR in the environment increased with age but did not match interest in environmental issues among younger respondents. This may be a sign they perceived problems related to AMR in the environment as health issues rather than environmental ones. These trends may also have been influenced by respondents' past experiences with pollution or drug-induced health incidents.**

- **It may be possible to heighten interest in all aspects of One Health by disseminating information on AMR in animals and food together with information on AMR in the environment.**

- **Evidence for information on AMR in the environment, animals, and food is insufficient, so in addition to building interest, it will also be important to communicate that there are many unclear aspects of impact on human health and to provide adequate risk communication.**

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Detailed survey findings

Demographic data (1)

Item	N	N = 1,000
Age	1,000	
18 – 24		79 / 1,000 (7.9%)
25 – 34		129 / 1,000 (12.9%)
35 – 44		169 / 1,000 (16.9%)
45 – 54		156 / 1,000 (15.6%)
55 – 64		149 / 1,000 (14.9%)
65 and over		318 / 1,000 (31.8%)
Gender	1,000	
Female		506 / 1,000 (50.6%)
Male		477 / 1,000 (47.7%)
Declined to respond		13 / 1,000 (1.3%)
Other		4 / 1,000 (0.4%)
Educational history	1,000	
Elementary school graduate		3 / 1,000 (0.3%)
Middle school graduate		25 / 1,000 (2.5%)
High school graduate		354 / 1,000 (35.4%)
Continued education past high school		618 / 1,000 (61.8%)
Employment type	1,000	
Health professional		60 / 1,000 (6.0%)
Not health professional		940 / 1,000 (94.0%)
Has a relative that is a health professional	1,000	
No		909 / 1,000 (90.9%)
Yes		91 / 1,000 (9.1%)

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Demographic data (2)

Item	N	N = 1,000
Place of residence	1,000	
City designated by government ordinance		398 / 1,000 (39.8%)
Other		602 / 1,000 (60.2%)
Health status	1,000	
Healthy		637 / 1,000 (63.7%)
Currently receiving treatment for a disease		291 / 1,000 (29.1%)
History of disease, including surgery		61 / 1,000 (6.1%)
Has experienced difficult-to-treat disease		11 / 1,000 (1.1%)
Resides with family members	1,000	
No		208 / 1,000 (20.8%)
Yes		792 / 1,000 (79.2%)
Annual income	1,000	
2.5 million yen or below		542 / 1,000 (54.2%)
2.51 million to 5.5 million yen		303 / 1,000 (30.3%)
5.51 million to 8.5 million yen		101 / 1,000 (10.1%)
8.51 million yen or above		54 / 1,000 (5.4%)

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(Reference) Messages respondents were asked to consider

1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
12	AMR bacteria that are present overseas may also be present in imported food products
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
15	Difficult-to-treat AMR bacteria can be found in sewage

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Messages considered most important by each age group

Younger people (ages 18 – 24) emphasized data

No.	Messages
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
15	Difficult-to-treat AMR bacteria can be found in sewage
12	AMR bacteria that are present overseas may also be present in imported food products
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage

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Older adults (age 65 and over) were concerned with personal health

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No.	Messages
5	**AMR infections in immunocompromised people and elderly people are more likely to be fatal**
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
12	AMR bacteria that are present overseas may also be present in imported food products
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
15	Difficult-to-treat AMR bacteria can be found in sewage
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Messages considered important across all age groups

No.	Messages
1	**Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer**
7	**Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future**
5	**AMR infections in immunocompromised people and elderly people are more likely to be fatal**
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
12	AMR bacteria that are present overseas may also be present in imported food products
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
15	Difficult-to-treat AMR bacteria can be found in sewage
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken

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Reference: Messages considered important among respondents ages 25 – 34

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No.	Messages
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
15	Difficult-to-treat AMR bacteria can be found in sewage
12	AMR bacteria that are present overseas may also be present in imported food products
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Reference: Messages considered important among respondents ages 35 – 44

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No.	Messages
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
12	AMR bacteria that are present overseas may also be present in imported food products
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
15	Difficult-to-treat AMR bacteria can be found in sewage
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Reference: Messages considered important among respondents ages 45 – 54

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No.	Messages
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
12	AMR bacteria that are present overseas may also be present in imported food products
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
15	Difficult-to-treat AMR bacteria can be found in sewage
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Reference: Messages considered important among respondents ages 55 – 64

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No.	Messages
1	Without further action, AMR infections could cause up to 10 million global deaths per year by 2050, which is more than cancer
7	Fewer antimicrobials and antibiotics to treat AMR infections are being developed, and some people are concerned we will run out of treatment options in the future
8	There are situations in which the antimicrobials and antibiotics needed to treat AMR infections are unavailable
15	Difficult-to-treat AMR bacteria can be found in sewage
12	AMR bacteria that are present overseas may also be present in imported food products
5	AMR infections in immunocompromised people and elderly people are more likely to be fatal
2	Estimates show AMR infections will cause 4.5 million deaths in the Asia-Pacific region in 2050
4	It is estimated that AMR infections cause about the same number of deaths in Japan as COVID-19
6	AMR bacteria can be carried in people's bodies and introduced to Japan from overseas
14	Antimicrobials and antibiotics used for people and animals and the AMR bacteria present in their bodies are excreted bodily waste and released into the environment, such as in sewage
9	AMR bacteria are transmitted from person to person, so it is important we prevent this from occurring through hand washing, vaccines, and other countermeasures
10	Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
13	Protecting human health from AMR bacteria means measures to protect the environment must also be taken
3	AMR infections are estimated to cause about 8,000 annual deaths in Japan
11	AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cook food thoroughly and take other general measures to prevent food poisoning

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Reference: Each age group considered completely different messages to be important

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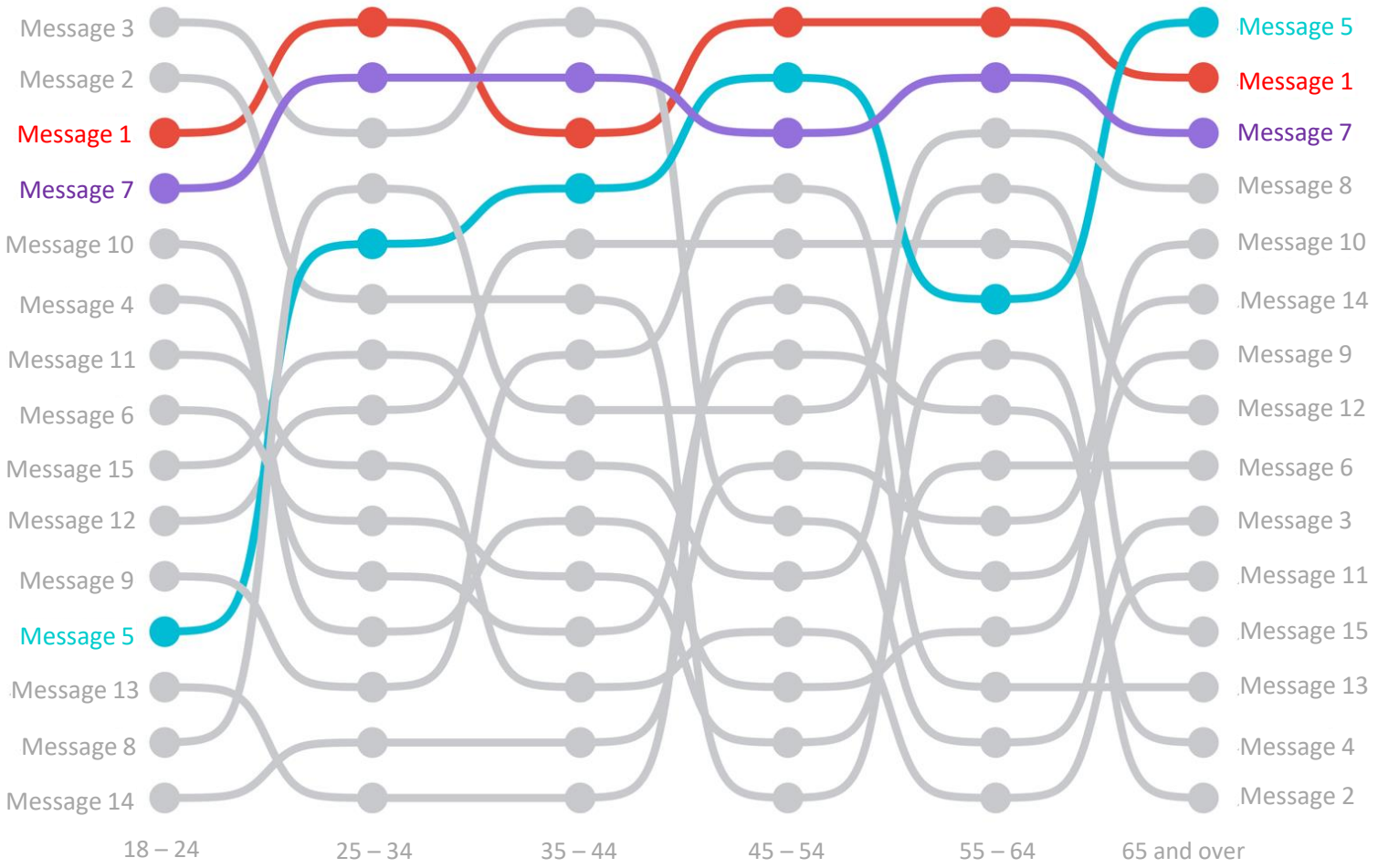
Differences in how each age group ranked which message left the deepest impression (top three are highlighted)



Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Antimicrobial-related knowledge

Questions on antimicrobial-related knowledge

Questions (True or false):

1. Antimicrobials and antibiotics can cure coughs or the common cold
2. Antimicrobials and antibiotics can kill bacteria
3. Antimicrobials and antibiotics can kill viruses
4. If you feel better, it is okay to stop taking your prescribed antimicrobials or antibiotics partway through the prescribed period
5. Failure to follow prescription instructions will make the antimicrobials or antibiotics less effective in the future
6. It is okay to keep leftover antimicrobials or antibiotics and use them when you are feeling unwell, without directions from a physician, nurse, or pharmacist
7. Diarrhea is a common side effect of antimicrobials and antibiotics

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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Over 40% of responses to **each question** on antimicrobial-related knowledge were **correct**

		Gender		Age					
Variable	Overall N = 983	Women N = 506	Men N = 477	18 – 24 N = 73	25 – 34 N = 127	35 – 44 N = 164	45 – 54 N = 155	55 – 64 N = 149	65 and over N = 315
Knowledge: Colds	463 (47%)	234 (46%)	229 (48%)	28 (38%)	60 (47%)	78 (48%)	74 (48%)	80 (54%)	143 (45%)
Knowledge: Bacteria	679 (69%)	359 (71%)	320 (67%)	48 (66%)	80 (63%)	102 (62%)	113 (73%)	111 (74%)	225 (71%)
Knowledge: Viruses	568 (58%)	279 (55%)	289 (61%)	36 (49%)	78 (61%)	96 (59%)	81 (52%)	101 (68%)	176 (56%)
Knowledge: Stopping treatment	794 (81%)	420 (83%)	374 (78%)	56 (77%)	103 (81%)	135 (82%)	127 (82%)	125 (84%)	248 (79%)
Knowledge: Compliance	619 (63%)	321 (63%)	298 (62%)	40 (55%)	72 (57%)	96 (59%)	100 (65%)	103 (69%)	208 (66%)
Knowledge: Lack of prescription	889 (90%)	466 (92%)	423 (89%)	61 (84%)	116 (91%)	150 (91%)	136 (88%)	140 (94%)	286 (91%)
Knowledge: Diarrhea	546 (56%)	303 (60%)	243 (51%)	36 (49%)	70 (55%)	97 (59%)	91 (59%)	89 (60%)	163 (52%)

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
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However, **under 20%** of respondents answered all three questions on basic antimicrobial knowledge correctly

Questions (True or false):

1. **Antimicrobials and antibiotics can cure coughs or the common cold**
2. **Antimicrobials and antibiotics can kill bacteria**
3. **Antimicrobials and antibiotics can kill viruses**
4. If you feel better, it is okay to stop taking your prescribed antimicrobials or antibiotics partway through the prescribed period
5. Failure to follow prescription instructions will make the antimicrobials or antibiotics less effective in the future
6. It is okay to keep leftover antimicrobials or antibiotics and use them when you are feeling unwell, without directions from a physician, nurse, or pharmacist
7. Diarrhea is a common side effect of antimicrobials and antibiotics

The correct response rate was particularly low among the youngest group (18 – 24)

			Age					
	N	Overall N = 1,000[1]	18 – 24 N = 79[1]	25 – 34 N = 129[1]	35 – 44 N = 169[1]	45 – 54 N = 156[1]	55 – 64 N = 149[1]	65 and over N = 318[1]
Knowledge: Answered 1 through 3 correctly	1,000							
1. Correct		187 (18.7%)	4 (5.1%)	19 (14.7%)	25 (14.8%)	31 (19.9%)	42 (28.2%)	66 (20.8%)
3. Incorrect		813 (81.3%)	75 (94.9%)	110 (85.3%)	144 (85.2%)	125 (80.1%)	107 (71.8%)	252 (79.2%)

[1] *Number of people and percentage who selected answer*

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan) Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Knowledgeable respondents also had high awareness toward issues

Question:
With regards the topics addressed by the messages (Messages 1 through 15), how much of a problem do you feel the topic addressed by each message is?
Please select the option that best fits your feeling toward each message (**from 1 to 5, with 1 not being a problem at all and 5 being an extremely serious problem**). (15 – 75 points total)

	Answered first three questions correctly N = 187[1]	Responded to one or more of first three questions incorrectly N = 813[1]	Difference[2]	95% CI[2,3]	p-value[2]
Awareness toward issues: Total points	61.19 (9.20)	56.41 (10.41)	4.8	3.3, 6.3	<0.001

[1] Mean (SD)
[2] Welch Two Sample t-test
[3] CI = Confidence Interval

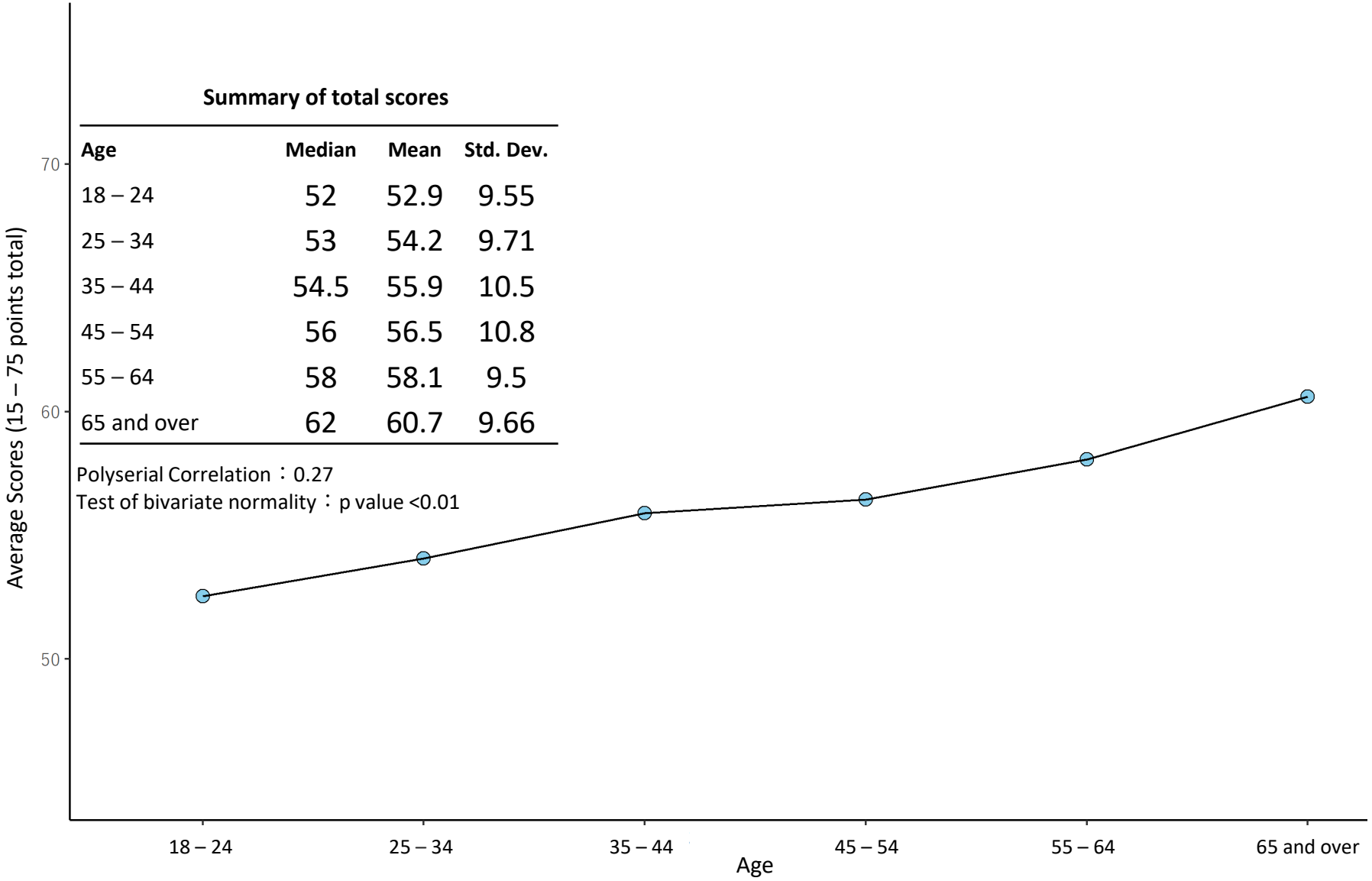
Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan) Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Awareness toward problems increased gradually with age

Summary of total scores

Age	Median	Mean	Std. Dev.
18 – 24	52	52.9	9.55
25 – 34	53	54.2	9.71
35 – 44	54.5	55.9	10.5
45 – 54	56	56.5	10.8
55 – 64	58	58.1	9.5
65 and over	62	60.7	9.66

Polyserial Correlation：0.27
Test of bivariate normality：p value <0.01

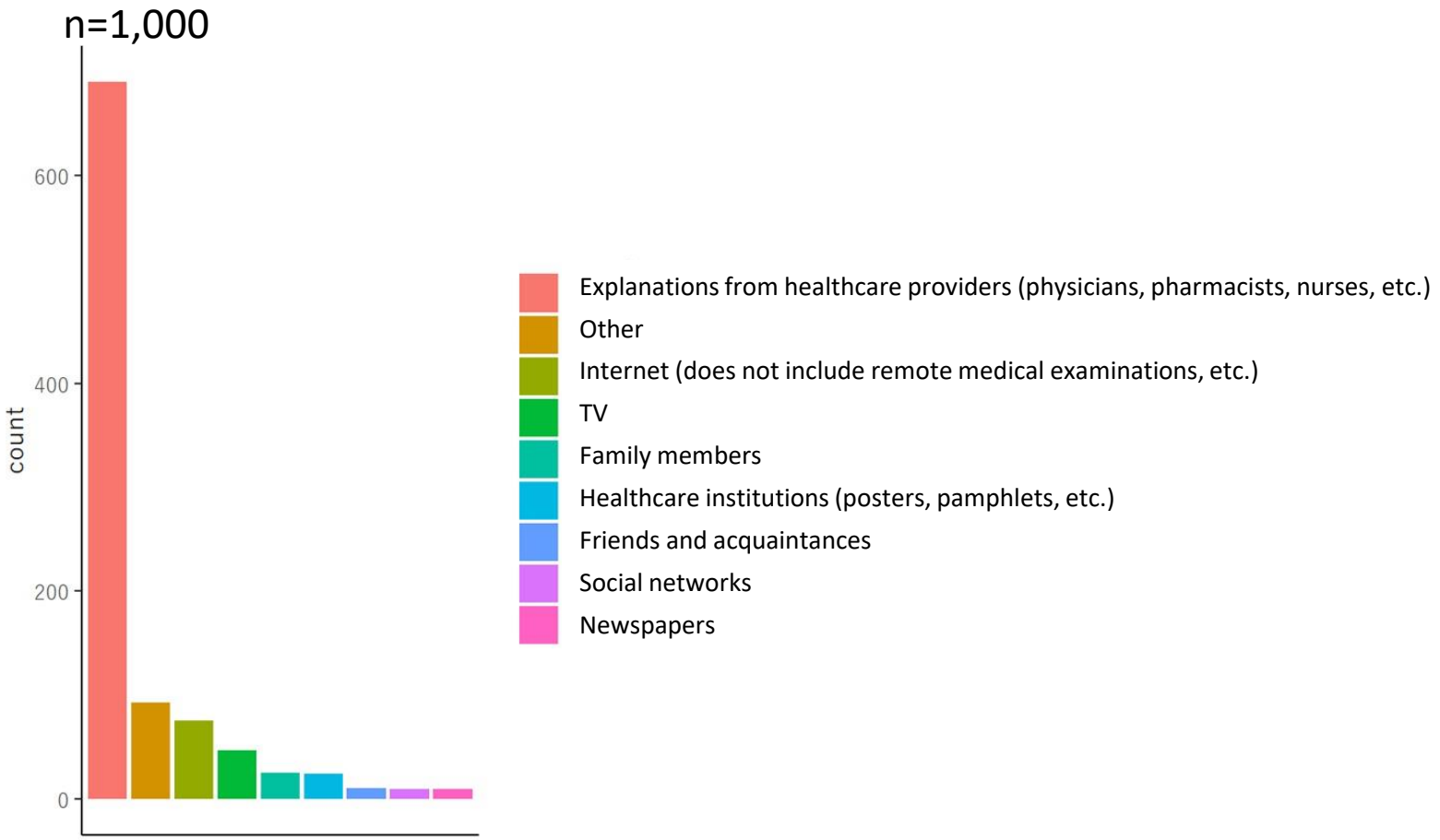


Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

The preferred source of healthcare-related information was “Explanations from healthcare professionals”

Q3: When looking for healthcare-related information, which of the following media or sources of information do you find most trustworthy? (Select one)

These results suggest social networks and similar services are used as supplementary sources of information, and are not recognized as trustworthy sources of healthcare information.



Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

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Disseminating messages on AMR can help improve awareness among people who were originally indifferent

Question: Did you become more concerned toward the problem of AMR?
(After responding to each message)

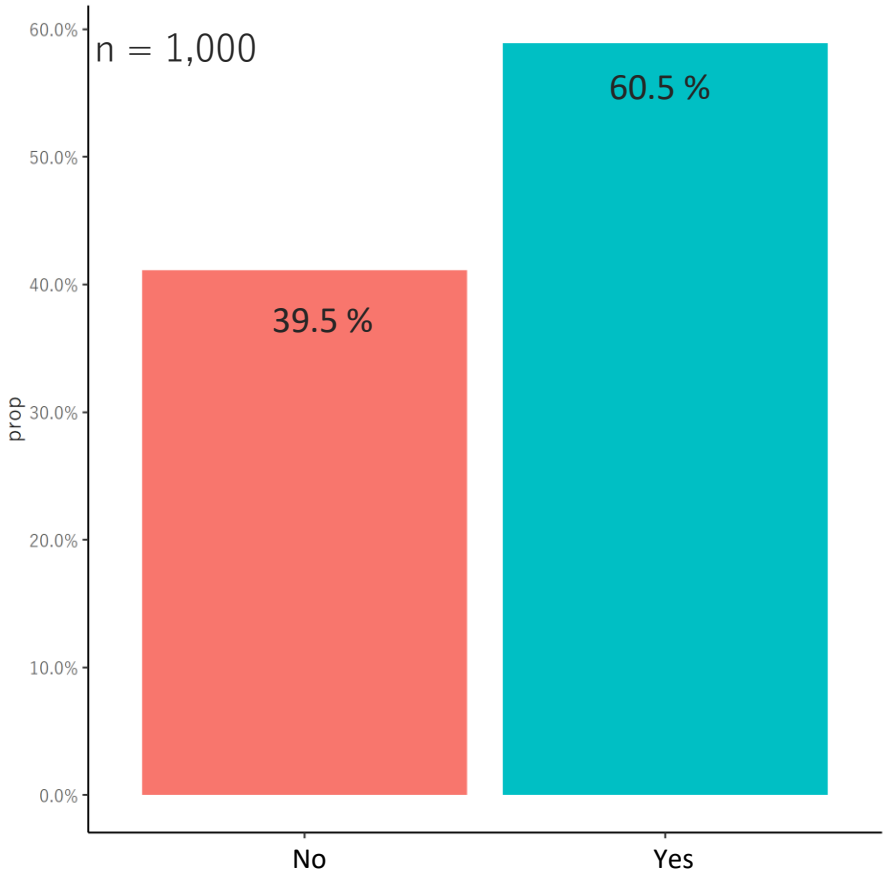
Concern **after responding**	Concern **before responding**	
	Yes N = 381	**No** N = 602
No	1 (0.3%)	129 (21%)
I became somewhat concerned	69 (18%)	300 (50%)
I became concerned	105 (28%)	119 (20%)
I became very concerned	125 (33%)	54 (9.0%)
I had already been concerned	81 (21%)	0 (0%)

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

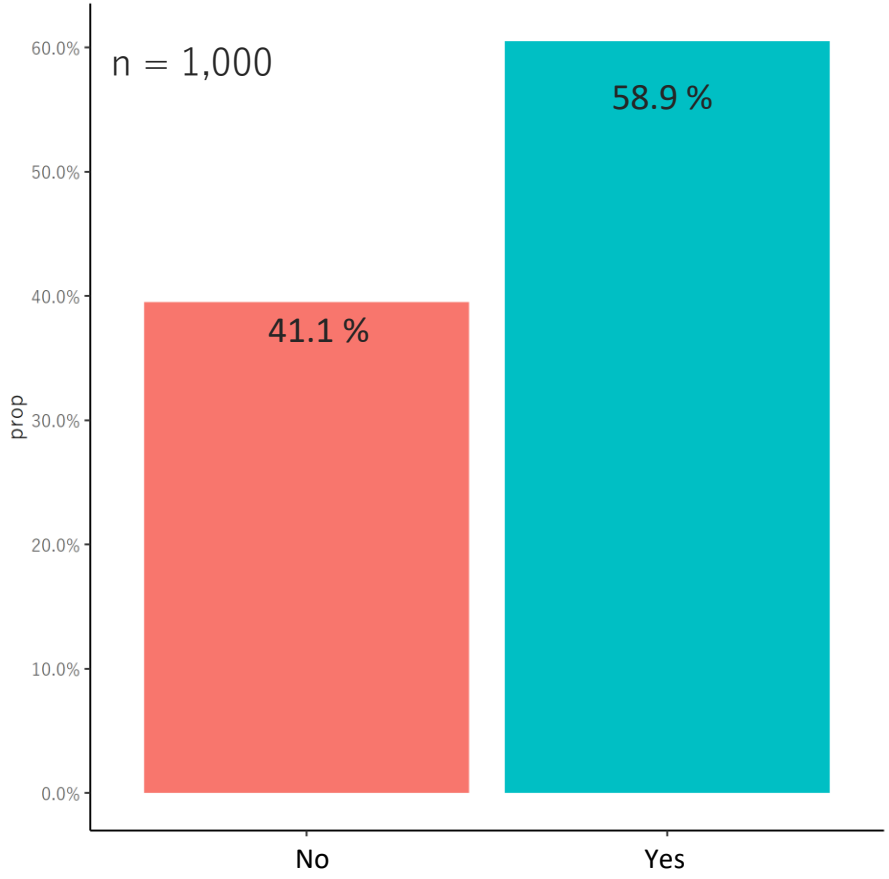
One Health :
Awareness toward AMR in the environment

Approximately 60% of respondents were concerned about AMR in the environment

"Are you concerned with the presence of AMR bacteria or residual antimicrobials and antibiotics in the environment?" (Yes or no)



"Do you think the environment has been polluted by antimicrobials and antibiotics used in humans and animals or AMR bacteria in a manner that will cause problems?" (Yes or no)

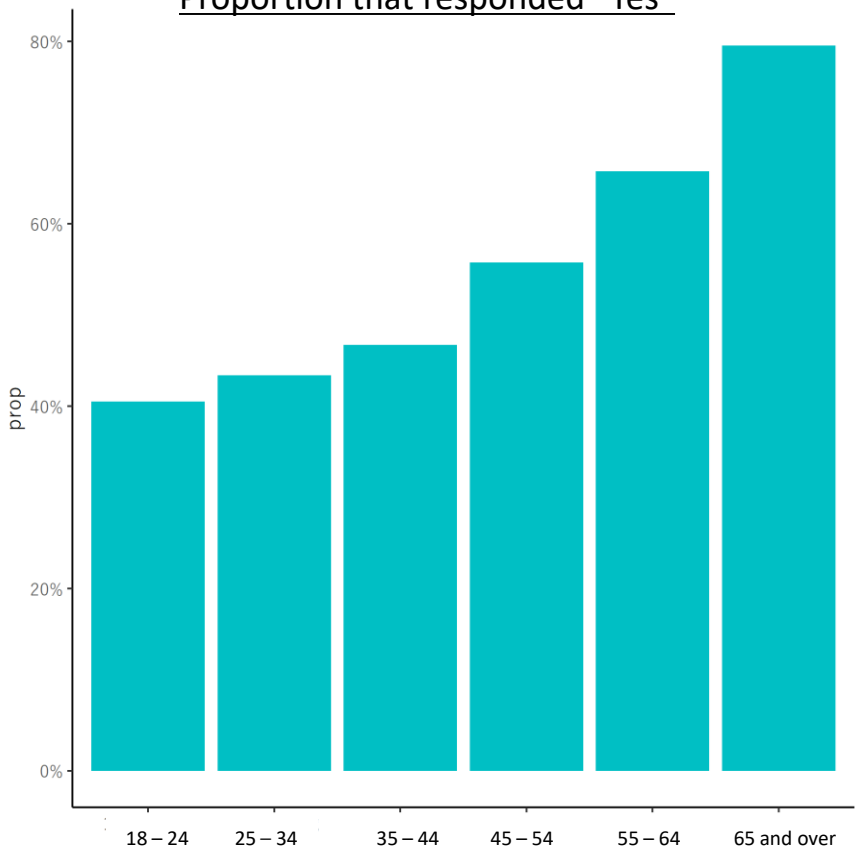


Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Concern toward AMR in the environment increased with age

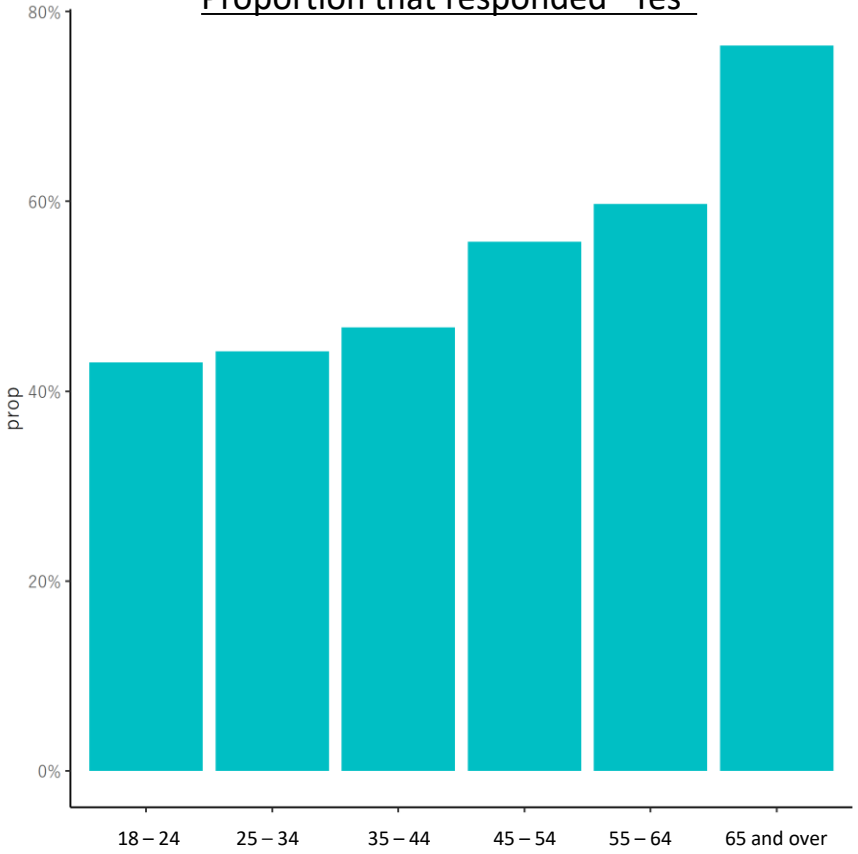
"Are you concerned with the presence of AMR bacteria or residual antimicrobials and antibiotics in the environment?"

Proportion that responded "Yes"



"Do you think the environment has been polluted by antimicrobials and antibiotics used in humans and animals or AMR bacteria in a manner that will cause problems?" (Yes or no)

Proportion that responded "Yes"

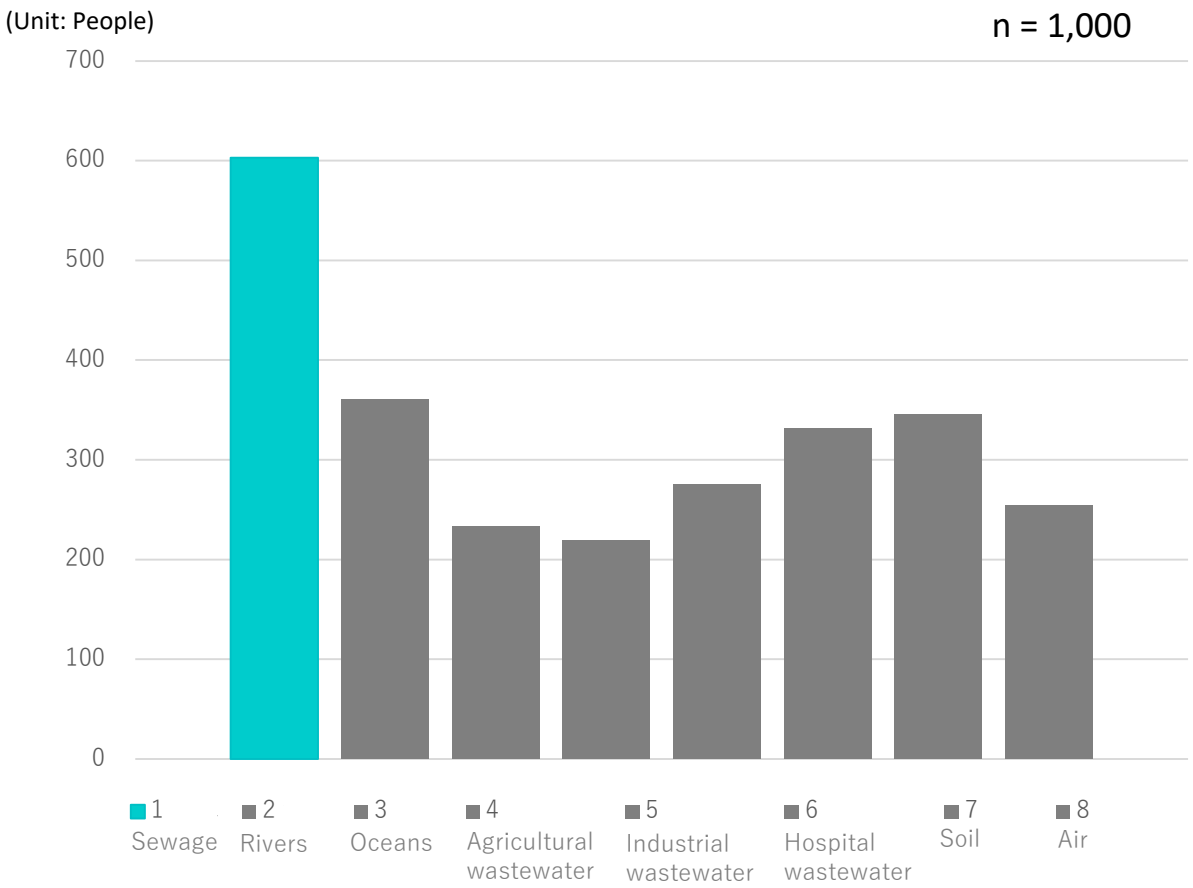


Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Messages on AMR in the environment: The item of greatest concern was sewage, which is close to our daily lives

Where in the environment do you think the presence of AMR bacteria and residual antimicrobials or antibiotics is a problem?

	Overall, N = 1000
Sewage	603
Rivers	361
Oceans	233
Agricultural wastewater	219
Industrial wastewater	275
Hospital wastewater	331
Soil	346
Air	254



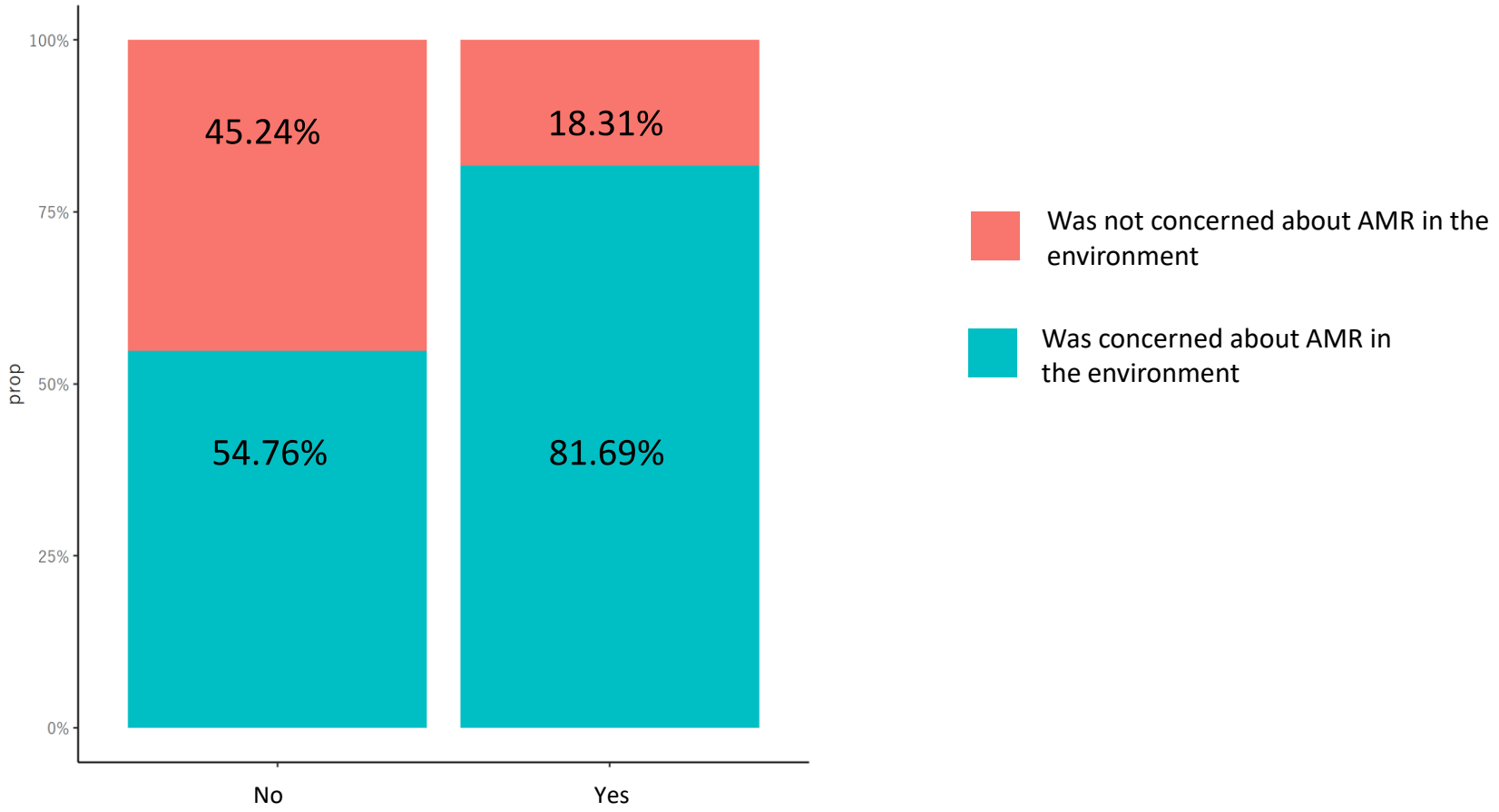
Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

One Health:
Awareness toward AMR in animals and food

People who were highly concerned toward AMR in the environment also felt that messages regarding animals and food are also important

People who were concerned toward AMR in the environment said messages regarding animals and food also left an impression

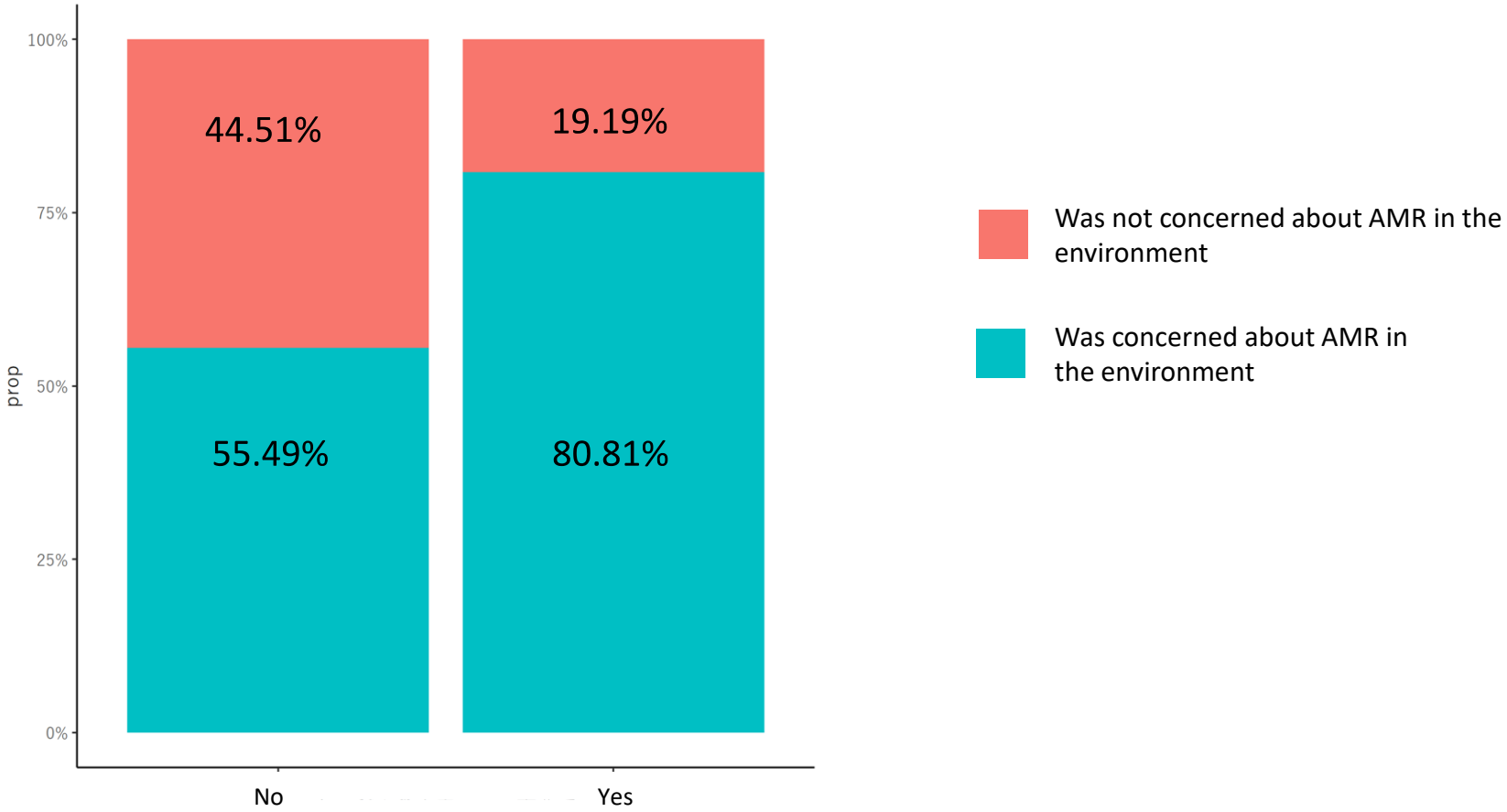
Messages that left an impression:
Pets also carry AMR bacteria that can be transmitted to their owners, so it is important to prevent this by avoiding excessive contact, hand washing, and proper waste disposal, especially for pets who live indoors
(Select “Yes” or “No”)



Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

People who were concerned toward AMR in the environment said messages regarding animals and food also left an impression

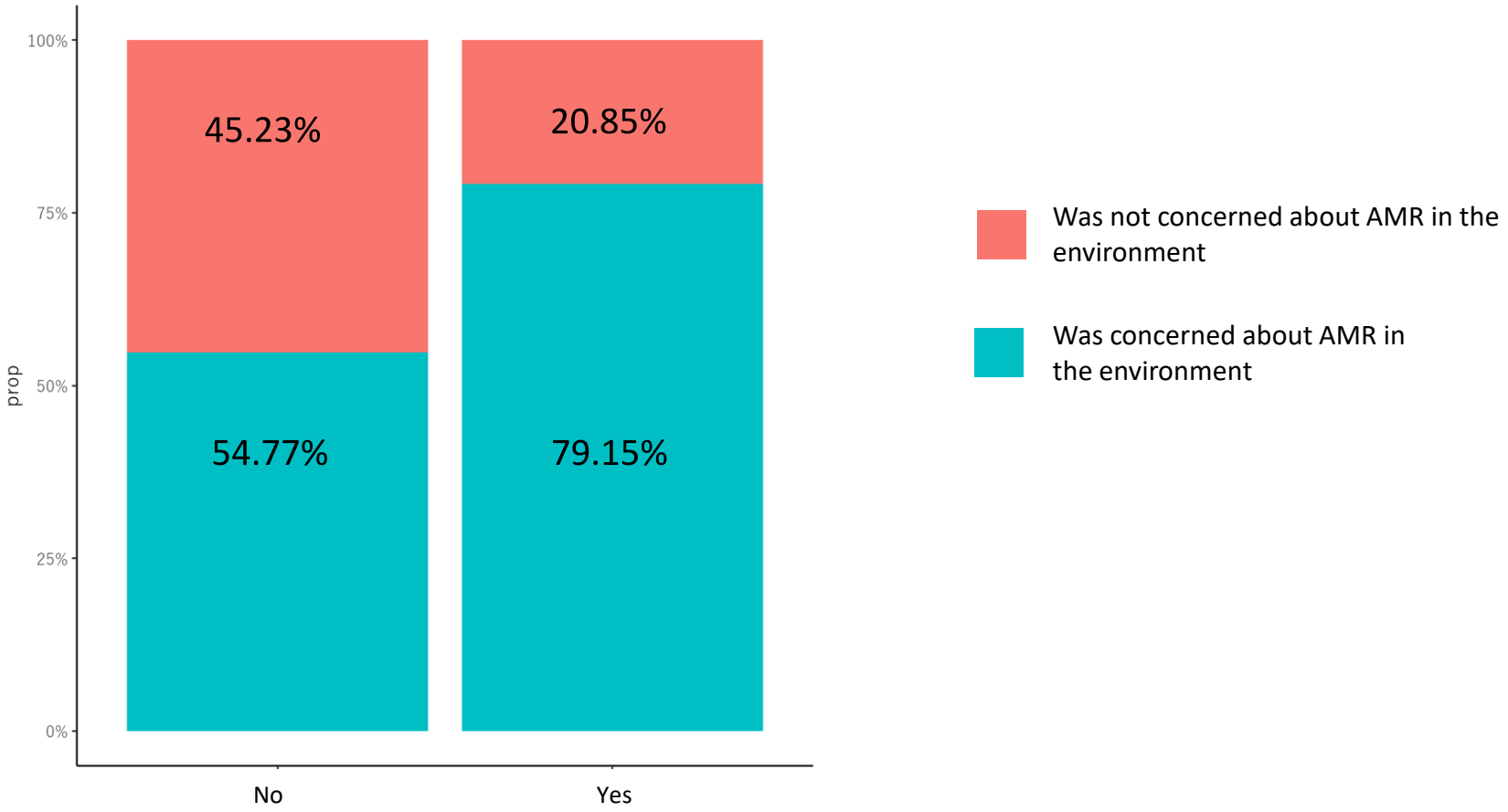
Messages that left an impression:
AMR bacteria are also present in livestock and can be transmitted to humans through food, so it is important to cooking food thoroughly and take other general measures to prevent food poisoning
(Select “Yes” or “No”)



Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

People who were concerned toward AMR in the environment said messages regarding animals and food also left an impression

Messages that left an impression:
AMR bacteria that are present overseas may also be present in imported food products
(Select “Yes” or “No”)



Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

Those who expressed concern about environmental AMR said messages about animals and food are also important

"Are you concerned with the presence of AMR bacteria, antimicrobials, and antibiotics in the environment?"
(Yes or no)

"Do you think the environment has been polluted by antimicrobials and antibiotics used in humans and animals or AMR bacteria in a manner that will cause problems?"
(Yes or no)

	N	Yes, N = 605[1]	No, N = 395[1]	p-value[2]	Yes, N = 589[1]	No, N = 411[1]	p-value[2]
Pets	1,000			<0.001			<0.001
Yes		174 (81.69%)	39 (18.31%)		166 (77.93%)	47 (22.07%)	
No		431 (54.76%)	356 (45.24%)		423 (53.75%)	364 (46.25%)	
Food poisoning	1,000			<0.001			<0.001
Yes		160 (80.81%)	38 (19.19%)		146 (73.74%)	52 (26.26%)	
No		445 (55.49%)	357 (44.51%)		443 (55.24%)	359 (44.76%)	
Food imports	1,000			<0.001			<0.001
Yes		186 (79.15%)	49 (20.85%)		175 (74.47%)	60 (25.53%)	
No		419 (54.77%)	346 (45.23%)		414 (54.12%)	351 (45.88%)	

[1] n (%)

[2] Pearson's Chi-squared test

Source: Nikkei FT Communicable Diseases Conference Asia Africa Medical Innovation Consortium (AMIC) AMR Consortium (Secretariat: AMR Alliance Japan)
Survey on identifying key messages to build understanding in the general public toward the threat of antimicrobial resistance (AMR)

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