

博士論文

INFLUENCE OF NEWS ARTICLES ON THE PUBLIC'S MOTIVATION
TO TAKE PREVENTIVE MEASURES DURING INFLUENZA PANDEMIC
(住民のインフルエンザパンデミック予防動機へのニュース記事の影響)

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ABSTRACT

Background and Objectives

Over the past few decades, the increased attention has been paid to health risk and crisis communication in health communication research. It is widely known that the mass media play an important role in this communication process. The purpose of this research was to explore the influence of the mass media on people's risk perception and motivation to take preventive measures during a public health crisis. The purpose of Study 1 was to describe the risk perception and media use among the general public and to explore a possible relation between them. The purpose of Study 2 was to analyze the content of the newspaper reports about a case of public health crisis (influenza pandemic) and to assess the extent to which they reported about preventive measures. Finally, Study 3 had two purposes. One was to evaluate how the threat appraisal, a combination of the perceived severity and the perceived vulnerability, would change by reading a series of news articles based on the protection motivation theory (PMT). The other goal was to assess how the news articles with and without a description of effective preventive measures influence people's protection motivation.

Study 1: Risk perception and media use

Methods

We performed an online survey on July 30 and 31, 2013 with 740 adult participants who registered as monitors in one of the largest online market research companies in Japan. Participants were asked about their perception about health-related risks: risk perception (how dangerous they perceive), risk anxiety (how worried they are), personal measures and social measures taken under non-crisis condition. Also, the frequency of the media access and utilization as information sources were asked in addition to socio-demographic variables. We conducted Mann-Whitney's U test to explore the differences in major variables by participants' characteristics and partial correlation analysis to examine the associations between the major variables, using IBM SPSS ver.21.

Results

The participants perceived more dangerous for the natural disasters than for the health-related risks such as infectious diseases and chronic diseases. The female participants were more worried than the males. The participants accessed less frequently to the non-mass media information sources such as the governments' and academic institutes' homepages, except for the direct talks with family, friends and acquaintances. Televised sources including news, tabloid shows and information programs are significantly associated with greater risk anxiety. Meanwhile, newspaper significantly influenced the

likelihood of taking personal preventive measures in those whose households were absent of illness.

Discussion

Our findings indicated that those with higher risk anxiety were more likely to take personal preventive measures. The study also confirmed that people relied heavily on the mass media as information sources and less frequently used the official information sources such as government homepages, suggesting that the importance of the mass media in the health risk communication process. Among the mass media, it is implied that the newspaper may be more influential in promoting the preventive measures than the televised information sources. On the other hand, the televised media are strongly associated with risk anxiety but not to personal measures. Based on these findings, we further explored how the text media reported a recent public health crisis.

Study 2: Actual presentation by mass media regarding influenza pandemic in 2009

Methods

We performed a content analysis of 2,237 articles in three nationwide Japanese newspapers on A/H1N1 flu pandemic in 2009. We used a χ^2 test to examine the differences in the topics by the five quarters from March 2009 to May 2010. IBM SPSS ver.20 was used.

Results

The content analysis revealed that 31.5% of the total articles appeared in May 2009. The most frequently covered topics were the governments and agencies actions (44.3%) followed by the transmission of flu (16.4%). The precautionary behaviors such as hands-washing and coughing manner (6.4%), and facial mask-wearing (8.4%) were less frequently covered. The number of articles about vaccine and vaccination was small and disproportionate weight was placed on the safety of the import vaccines rather than the effectiveness. In contrast, the articles about antiviral drugs disproportionately reported on the usefulness and effectiveness rather than the safety.

Discussion

This study showed that the topics related to the preventive measures were reported significantly fewer than the topics related to the factual information in the newspaper articles on influenza pandemic. It may indicate that even the text media, which is expected to be influential in promoting the personal preventive measures, does not report enough information about preventive measures that the individuals can take. Then, the next research questions of our study were to examine how the text mass media influence the public's motivation to take preventive measures based on the PMT.

Study 3: Influence of news articles on people's preventive motivation

Methods

Using the same sample of Study 1, we conducted an online RCT by assigning the 740 participants into two groups that read different newspaper articles. Outcome measures were perceived severity, perceived vulnerability, perceived response efficacy, and protection motivation, which are the constructs of the PMT. The participants in the both groups were asked to read 4 consecutive articles but the second and the fourth articles were differently manipulated between the groups (i.e. the experiment group read articles 1, 2a, 3, and 4a, while the control group read articles 1, 2b, 3, and 4b). Article 1 stated an outbreak of an imaginary flu in a distant foreign country. Article 2 introduced several preventive measures that an individual can take. Article 3 stated the first case in Japan. Article 4 introduced a vaccine development. The articles 2a and 4a for the experiment group reported the efficacy of the preventive measures, while the articles 2b and 4b for the control did not. Each participant first read an article and then answered to the outcome measures. The articles were created for this study, reviewed by a current journalist, and validated in a pilot study with 120 participants.

We used the mixed ANOVA to show an influence on the PMT constructs by time frame. Then, we used an independent t-test to examine the differences in the outcome measures between the groups. IBM SPSS ver.21 was used.

Ethical consideration

For Studies 1 and 3, we received an approval of Research Ethics Committee, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo on March 22, 2013 (No. 10082). The participants were informed that the answers would be collected anonymously and would not be identified individually, should be voluntarily and can be suspended any time and without any compensation if a participant wishes. We confirmed their agreement by checking their clicks on the agreement tab on the online questionnaire. We also consulted with the legal department of Macromill, Inc. in order to satisfy with their ethical consideration.

Results

There was a significant influence on PMT constructs by time frame. There was no significant difference in the perceived response efficacy and the protection motivation between the two groups with or without the reporting of high-efficacy of the preventive measures.

Discussion

This experiment was unique in that it showed a series of news articles according to the timeframe of the pandemic to examine its cumulative effects on people's risk

perceptions and protection motivation. The study showed that news articles may influence people's perceptions of threat and coping appraisals. When the outbreak or the first case of an imaginary flu was reported, the perceived severity was high. The perceived vulnerability, however, was low when the flu was in a distant foreign country and became high when it came in Japan. The perceived response efficacy was low when there was no statement of preventive measures and became high when the preventive measures were explained in details. It is noteworthy that the protection motivation showed a similar move to that of the perceived vulnerability. Although there was not a significant difference, the people living with children showed higher protection motivation when reading the news articles describing high efficacy of preventive behaviors.

Thus, the news articles in the beginning of crisis communication can manipulate the public's perceptions, though whether it reported the efficacy of the preventive measures didn't affect the response efficacy or protection motivation.

Limitations and future research

Several limitations should be noted in interpreting the results of these studies. First, the participants in Studies 1 and 3 were the monitors of an online market research company. They are daily Internet users and may not represent the general population in Japan. However, the participants of this research would become a representation of the future population, considering the fact that the ICT development would increase the number of the Internet users. Another limitation of the online survey was that we were not sure how thoroughly the participants read the news articles. Although the survey system confirmed that the news articles were clicked to open, the actual time spent to read the articles is not known. In a real life, however, people often read the news articles in a limited time without paying full attention. Thus, this experiment might be a plausible situation.

Conclusions

In conclusion, the risk anxiety is related to the televised media while the personal measures are related to the text media. In the real case of A/H1N1 flu pandemic, the newspapers reported more factual information, while the information about the preventive measures was less frequently reported despite its importance for the public. This research found that text mass media reporting could influence the protection motivation by affecting the public's risk perceptions, especially the perceived vulnerability and the perceived response efficacy.

1. Introduction

1.1 Background

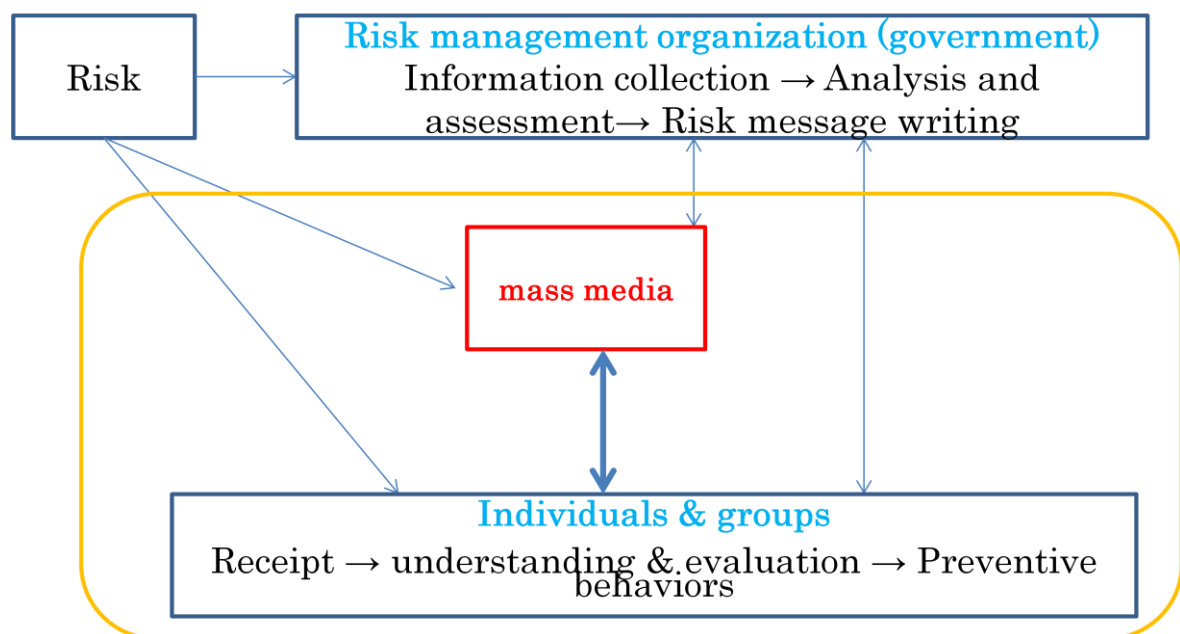
On April 25, 2009, World Health Organization (WHO) declared that A/H1N1 influenza virus is a public health emergency of international concern and raised the pandemic warning level from Phase 3 to Phase 4 on April 27 and to Phase 5 on the 29th. A number of patients continuously increased, especially in the south hemisphere in which the winter came. Following June 11th, WHO announced Phase 6 due to a global pandemic and assessed the virus with moderate pathogenicity not mild. The number of patients in the world became over 620,000 (announced by WHO on November 27, 2009) and the mortality was over 18,000 (announced by WHO on July 10, 2010). Its health damage followed the Spanish influenza, the global pandemic in 1918-19. In Japan, however, the mortality was 203 (announced by National Institute of Infectious Diseases, November 20, 2009) and the least among the industrial countries.

The first and major goal to minimize the mortality and the morbidity was thought to be achieved. In the report of the Review Meeting on Measures against Pandemic Influenza (A/H1N1) published on June 10, 2010, there are some recommendations in public relations and risk communication, stating operational issues “When an influenza outbreak occurs, it is extremely important to provide immediate and accurate information to the public. (*snip*) Particular attention will be required to avoid any malicious slander or harmful rumors due to public anxiety or inaccurate information” (MHLW, 2010).

Risk communication is an interactive process of exchange of information and opinion on risk among risk assessors, risk managers, and other interested parties. Risk communication is an integral and ongoing part of the risk analysis exercise, and ideally all stakeholder groups should be involved from the start. Risk communication makes

stakeholders aware of the process at each stage of the Risk Assessment (WHO, 2009). Risks can be natural disasters, terrorism, infection diseases, personal information violation, and assaults by stalkers. Crisis communication is a part of risk communication and takes place during crises. In contrast to non-crisis situation, a society is continuously exposed to the unexpected events and involves highly threatened or stressed groups and mass media targeting breaking news (Bennett, 1999). The communication process among the stakeholders is shown in Fig. 1.1 (Hirose, 2000). In this figure, mass media positions between the governments and the individuals and groups, playing a role of information transmission. News media among the mass media play a big role in communicating health risks to the people at large (Bennet, 1999; Lupton, 1995; Parrott, 1996).

Fig. 1.1 Risk communication process model (adapted from Hirose, 2000)



Mass media are crucial players in the construction of and communication about risk (Kitzinger 1999; Roche & Muskatvitch 2003; Ma 2005), and media coverage is a powerful factor in determining reaction to a perceived health crisis (Glik 2007). Much of what many people hear about health crises actually come from mass media (Lowrey 2006;

Williams & Olaniran 1998). Few people directly experience the modern risks in a real world. People know, or perceive, the social risk with low occurrence via mass media such as televisions and newspapers. Even personal risks including robbery, traffic accidents, and murders with higher occurrence in a society are reported by mass media.

Mass media are diversified media technologies that are intended to reach a large audience by mass communication. Broadcast media such as radio, recorded music, film and television transmit their information electronically. Print media use a physical object such as a newspaper, book, pamphlet or comics. The digital media comprises both Internet and mobile mass communication. The former includes email, websites, blogs and internet-based radio and television. The organizations that control these technologies, such as television stations or publishing companies, are also known as the mass media. In Japan, mass communication is also called as mass media (*Kojien*).

People become more dependent on the media as their major source of information. The evolution of the Internet communication technology allows them to access both mass and social media and then, let them expect for rapid dissemination of any information. The survey by Hashimoto et. al. showed that watching televisions was the primary information behavior since 1995 in non-crises, and was predominantly longer in comparison to other information behaviors (Hashimoto, 2011). Also, people choose televisions as the primary medium as to know the events and society in the world (promptness). People in their 30s and younger tended to choose the Internet as the primary medium. Thus, people in the different generations chose the different mass media.

To exam the influence of mass media on people's risk perception, Combs & Slovic compared the media reporting on risks and the people's perception against that risk

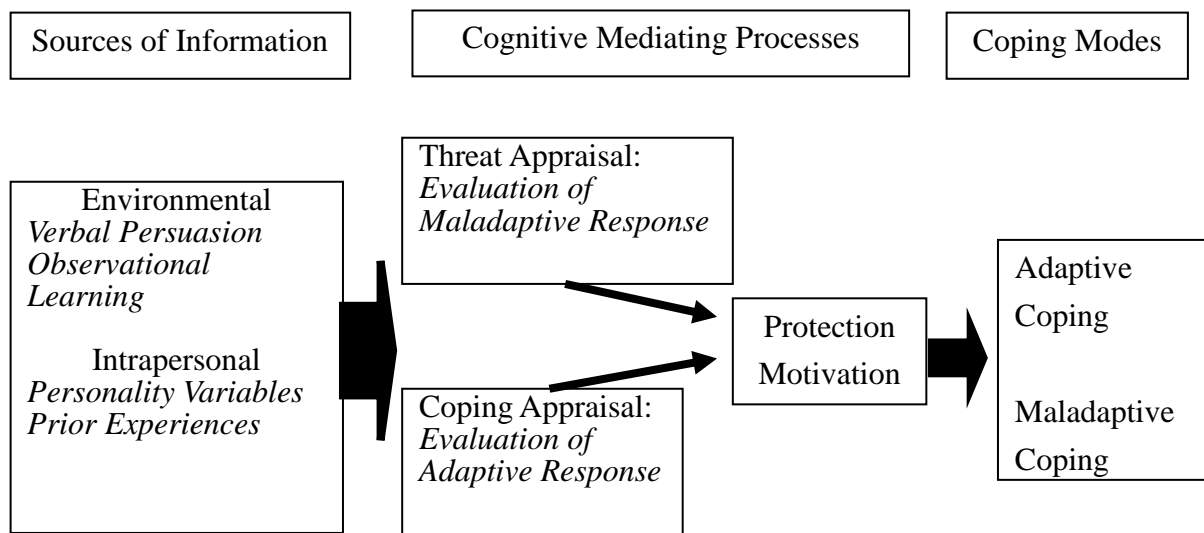
in the US (Combs & Slovic, 1979). They found that the media reporting was not associated with the occurrence *de facto* but was highly coincided with people's judge on the risk occurrence. Fukuda studied the relationship between the specific mass media use and people's risk anxiety. He found that televisions and Internet were positively associated with people's risk anxiety, in which the longer people watch those two media, the more anxious they became (Fukuda, 2010).

The surveys by Mishima and Hirakawa revealed how the people as the recipients of information reacted against influenza pandemic. Mishima found in a survey prior to A/H1N1 influenza pandemic in 2009 that many people obtained the information using mass media including televisions and newspapers (Mishima, 2010). What people wanted to know were "what my family and I should do not to get flu (preventive behaviors)" and "what we should do if my family or I get infected (handling)". Furthermore, Hirakawa found in her survey that the large volume of media reporting became an anxiety factor, though the information by the mass media was effective (Hirakawa, 2011). Kobe is the city where a high school student got infected as the first patient in Japan. Even though the fact was only one patient became a negative image in that Kobe city as a whole got infected due to the media reporting (Yamashita, 2011). These surveys inferred that the unbalanced contents rather than the volume of the media reporting could have influenced people's risk perception and preventive measures.

In security and health education, persuasive communication is often used to improve the educational effect by appealing the danger against the subjects. Persuasive communication was discussed in the research area of threat appeal. Threat appeal is defined as a persuasive communication intending to promote the recipient's understanding

for the specific coping behavior recommendation by threatening the recipient with the danger of that threat in order for a sender of the information to persuade the recipient (Fukada, 1988). There are various behavior change theories and models. Protection motivation theory, hereafter PMT, addressed by Rogers (1975, 1983) is better than other models in the following points. Firstly, PMT views threat appeal as one composed with several information sources. Then, PMT can multidimensionally assess the relationship between threat appeal and the effect of persuasion. Secondly, PMT tries to explain the details of persuasion effect by threat appeals using the cognitive mediating process model between threat appeals and persuasion effect by both promotion and inhibition factors. PMT is used not only in threat appeal research area but also in the security and health behaviors (Prentice-Dunn & Rogers, 1986). This research adopted PMT in the above advantages.

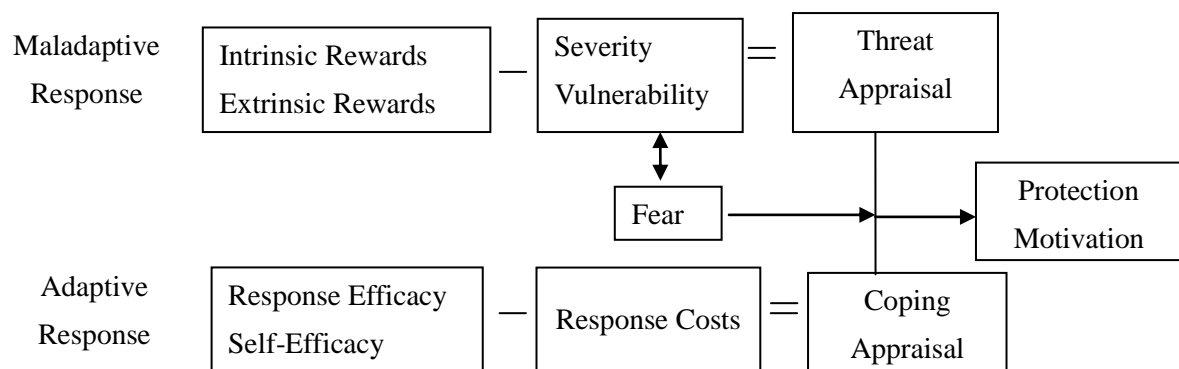
Fig. 1.2 Overall model of protection motivation theory (adapted from Rogers, 1975)



PMT is a theory that was originally created by Rogers and used Health Belief Model's emphasis on the cognitive processes mediating attitudinal and behavioral change

to help clarify fear appeals (Rogers, 1975) (Fig. 1.2). Rogers later modified the theory in 1983 where he extended the theory to a more general theory of persuasive communication (Rogers, 1983). PMT proposes that we protect ourselves based on four factors: the perceived severity of a threatening event, the perceived probability of the occurrence, or vulnerability, the efficacy of the recommended preventive behavior, and the perceived self efficacy. Protection motivation stems from both the threat appraisal and the coping appraisal (Fig. 1.3). The threat appraisal assesses the severity of the situation and examines how serious the situation is. The coping appraisal is how one responds to the situation. The coping appraisal consists of both efficacy and self-efficacy. Efficacy is the individual's expectancy that carrying out recommendations can remove the threat. Self-efficacy is the belief in one's ability to execute the recommended courses of action successfully. PMT is a potentially useful framework for understanding how people will respond to health threats such as pandemics (Rogers, 1983).

Fig.1.3 Cognitive mediating processes of protection motivation theory (adapted from Rogers, 1983)



Thus, the research problem is that mass media reporting during the novel influenza pandemic outbreak couldn't threaten the people so that they didn't take preventive measures by themselves.

1.2 Past researches on the problem

(1) Past researches on the relationship between the risk anxiety and preventive behavior and the mass media use

There are several researches on the influence of mass media as a factor of low vaccination rate of novel influenza vaccine in many countries. In Canada, Taha et. al. pointed out that the intention to vaccine the novel influenza vaccine was associated with the degree of trust on mass media (Taha, 2013). In Europe, one of the reasons not to vaccine among the Greek healthcare practitioners was the risk of adverse event when they received the safety of the novel influenza vaccine from the mass media (Bish, 2011). In Japan, Miyawaki concluded the media reporting about facial masks was not scientific based and discussed this resulted in the hyper-media reporting (Miyawaki, 2011). Kaigo et. al. pointed out that people's anxiety and importance of risk were heightened even the media reporting decreased. However, their active information seeking behavior and measures were not changed (Kaigo, 2011). In addition, Oikawa et. al. surveyed changes in perception, emotion and behaviors of college students in Tokyo at four points of time during pandemic outbreak (Oikawa, 2010). They found that the preventive behaviors were withheld even the risk was informed and the preventive measures were highly recommended due to emotional saturation and optimistic reducing caused by the repeat media reporting. Then, Oikawa also commented that communicating the risk information was not enough to encourage the preventive behaviors but to induce adverse effect. In the above research, the authors didn't categorize the risk information including mortality and morbidity, airport inspection, specific preventive behaviors and vaccine development. Until now, no research assessed the relationship between risk preventive measures, especially personal measures and the mass media reporting in non-crisis situation.

(2) Past researches on media reporting of A/H1N1 influenza pandemic in 2009

Hilton et. al. performed content analysis of news articles of UK serious and tabloid newspapers and demonstrated that the news articles were based on the facts at that time and were not the writing scientifically incorrect (Hilton, 2011). The number of news articles was high and skewed in the early pandemic outbreak stage. Goodall et. al. performed content analysis of 6 national papers and online papers during the first five months of pandemic outbreak in the US and proposed the process of threat appraisal message forming (Goodall, 2012). In Australia, Forgaty et. al. performed content analysis of the Australian television news and found that about 63% of news was seriousness of pandemic, about 13% was advice for the viewers and about 24% was assurances by the government (Forgaty, 2011). In Japan, Kaigo et. al. pointed out the change in news articles of Asahi Shimbun from May to September of 2009 (Kaigo, 2011), but didn't involve the contents of media reporting. Nakamura, a journalist of Asahi Shimbun, concluded that her company's newspaper articles included four important items as a skill of crisis communication: clarity, easiness, specificity, and communicating negative message with positive message. Both researches didn't analyze the media reporting contents quantitatively and thus, we still don't know the contents of news media reporting during the novel influenza pandemic outbreak in 2009 in Japan.

(3) Past researches on protection motivation theory in public health

Social-cognitive models of health behavior emphasize the importance of cognitive processes in health-related decision-making, and have proven useful in identifying psychological factors underlying motivation to perform healthy behaviors (Maddux, 1993). Meta-analytic reviews of the PMT and health-related behaviors such as smoking cessation,

cancer screening, and nutrition have found the PMT moderately successful in accounting for health-related intentions and behavior (e.g. overall mean effect size of .52; Floyd, Prentice-Dunn, & Rogers, 2000), with coping appraisal being the strongest associations (Floyd et al., 2000; Milne, Sheeran, & Orbell, 2000).

PMT has been used for predicting various health issues. They include reducing alcohol use (Stainback & Rogers, 1983), cervical screening (Orbell & Sheeran, 1998), breast self-examinations (Rippetoe & Rogers, 1987), testicle self-examinations (Steffen, 1990), condom use (Tanner, Days & Crask, 1989; Tanner, Hunt & Eppright, 1991; Eppright, Tanner & Hunt, 1994), safe-sex practices (Block & Keller, 1998; Van der Velde & Van der Pligt, 1991), insulin use (Palardy, Greening, Ott, Dolderby & Atchison, 1998) cigarette smoking (Maddox & Rogers, 1983; Greening, 1997), hearing protection (Rabinowitz, Melamed, Feiner, Weisber & Ribak, 1996) and physical exercise (Stanley & Maddux, 1986; Fruin, Pratt & Owen, 1991). PMT has been also used in other issues. Purchasing insurance (Beck, 1984), preventing nuclear war (Wolf, Gregory & Stephan, 1986), and nuclear disarmament activism (Axelrod & Newton, 1991).

PMT has been used in infectious disease issues, too. Risk perception of severe acute respiratory syndrome (SARS) was studied in Hong Kong during the outbreak in ten rounds of surveys (Lau, 2003). During the initial phase of the epidemic when the new cases increased, there was a sharp increase in preventive measures. After SARS emerged in one Asian country, the perceived threat of SARS in that country was higher than that in European countries (de Zwart, 2009). Seven consecutive surveys in the Netherlands revealed that perceived severity of avian influenza maintained high during 12 months, while the knowledge about avian influenza diminished over a year (de Zwart, 2010).

In Japan, PMT was used and supported in the study of factors of AIDS preventive behaviors (Kimura, 1996), the study of AIDS information influence on HIV preventive behaviors (Takamoto, 2010), the study of effectiveness of health educational program for breast cancer self-check and mammography (Mizuki, 2012), smoking cessation (Higashi, 2005), and the study of preventive behavior motivation among the high school students against smoking, drinking and drug use (Watanabe, 2000). However, no study assessed if the news media on which people depend, as a persuasive communication, promote the preventive behavior motivation during an outbreak of an infectious disease such as novel influenza.

1.3 Purpose

The purpose of this research was to assess if news articles by mass media are able to increase the residents' protection motivation during an influenza pandemic. In the first study of the research, a descriptive survey was used to find out whether influenza risk perception and anxiety and personal preventive measures were related to media use with 740 Japanese adults. At the same time, a content analysis of newspaper articles on the H1N1 influenza pandemic in 2009 was used to show a tendency of mass media's attention. Finally, a gender- and age-stratified randomized survey was used with 740 adults to test the Protection Motivation Theory to assess if an influenza protection motivation was influenced by perceived severity, perceived vulnerability and perceived effectiveness of preventive measures in mass media reporting setting.

1.4 Research Questions and hypotheses

There are three components of this research.

Study 1: People depend on the mass media reporting during the crisis. Were people's risk anxiety and personal measures influenced by the mass media reporting?

H1a: People have anxiety against a variety of health risks.

H1b: Taking personal measures is influenced by the mass media.

Study 2: What contents did the Japanese general newspapers report during the 2009 A/H1N1 influenza pandemic?

H2a: The trend of overall news articles had a peak during the early outbreak and declined as time passed.

H2b: There were few news articles writing about specific preventive behaviors. In other words, there were more threat appraisal messages than coping appraisal messages.

Study 3: Can the media reporting, especially news articles, be the factors to promote people's preventive behaviors?

H3a: In high threat appraisal (outbreak of influenza) situation, the influence of media reporting (persuasive message) on people's protection motivation can be explained by the protection motivation theory by perceived severity, perceived vulnerability and perceived response efficacy.

H3b: When there are same level of perceived severity and perceived vulnerability, the protection motivation is increased by the news article with higher perceived response efficacy.

1.5 Significance of this research

There are two significances: academic and practical. First, Japan has less amount of crisis communication research in association with mass media than the western countries. This research would add how the mass media influence the people during the crisis communication in the field of public health. Second, this research examined the present situation of mass media presentation on one of the global infectious pandemic in the decades. Study 1 will reveal the relevance of mass media and risk perception and anxiety, which leads to better understanding how important the mass media is in Japan even though social media developed rapidly. The result of study 2 would point out the tendency and characteristics of mass media reporting the emerging and re-emerging infectious disease in the future. Stakeholders in crisis communication including the public health officers and the residents as well as mass media would realize the real-life reporting. Study 3 would suggest how people react to a series of the news articles, even in hypothetical environment.

2. Study 1: Risks and mass media

2.1 Background and Objectives

The modern society is a society in which various risks are presented (Fukuda, 2010). However, not all risks are seen directly by the individuals. Mass media play a role in presenting risks which people cannot know directly. Therefore, one's risk perception would depend on how much he or she accesses to the media. During 2009 influenza pandemic, the mass media reported about the pandemic repeatedly, resulting in the possible inappropriate mask-buying behavior and defamation of the high schools for their preventive measures in Japan (Nakamura, 2010, Miyawaki, 2011). It was pointed out that people's anxiety and importance of risk were heightened even the media reporting decreased. However, their active information seeking behavior and measures were not changed (Kaigo, 2011). Oikawa et. al. surveyed changes in perception, emotion and behaviors of college students in metro Tokyo at four points of time during pandemic outbreak (Oikawa, 2010). They found that the preventive behaviors were withheld even the risk was informed and the preventive measures were highly recommended due to emotional saturation and optimistic reducing caused by the repeating media reporting. Then, Oikawa also commented that communicating the risk information was not enough to encourage the preventive behaviors but to induce adverse effect. In the above research, the authors didn't categorize the risk information including mortality and morbidity, airport inspection, specific preventive behaviors and vaccine development.

In this study, a descriptive survey was used to find out whether influenza risk perception and anxiety and personal preventive measures were related to media use with 740 Japanese adults. Were people's risk anxiety and personal measures influenced by the mass media reporting?

H1a: People have anxiety against a variety of health risks.

H1b: Taking personal measures is influenced by the mass media.

2.2 Methods

We conducted an online survey with adults who registered in one of the largest Japanese online survey companies. First, a screening questionnaire of two items was e-mailed to the monitors. Those who answered yes for both questions; 1) do you live with somebody? and 2) do you watch or read news online everyday? were pooled for the further survey. Next, the URL of the survey questionnaire was sent to the screened people on July 30, 2013. Then, we used a gender and age stratified-sampling to collect 740 participants. The survey included the risk perception and anxiety against various risks. It also included the personal measure that a participant takes and the perceived social measures that a participant evaluates. Further demographic information is presented in Table 1.1. Data were collected with an electronic questionnaire developed by Macromil Inc., originally created by the author (Appendices B and C).

2.2.1 Measures

(1) Risk perception

Risk perceptions against infectious diseases were obtained by asking respondents how dangerous they felt about 11 major risks in modern society (Fukuda, 2004): (i) big earthquake, tornados, typhoons, heavy rain & snow, landslide, (ii) nuclear plant accidents, (iii) bio/chemical terror attacks, (iv) fire, (v) traffic accidents, (vi) falling & tripping, (vii) health hazard from pharmaceutical products and vaccines (side effects), (viii) food poisoning, (ix) safety of drinking water, (x) infectious and contagious diseases, (xi)

respiratory, cardiovascular, metabolic diseases, cancer, kidney failure (chronic diseases).

The participants were asked to rate how dangerous they felt on a 4-point likert scale ranging from 1 (not at all) to 4 (very dangerous).

Table 1.1 Participants (N=740)

		N (N=740)	%
Gender	Male	370	50.0
Age	Mean	44.8 (20-82)	
Education			
	Junior high school	7	0.9
	High school	184	24.9
	Vocational school	84	11.4
	Two-year college	101	13.6
	University	333	45.0
	Graduate school	29	3.9
	other	2	0.3
Household			
No. of people in a household	2	158	21.4
	3	242	32.7
	4	184	24.9
	5	97	13.1
	6~	59	7.9
Living with children (≤ 12)	No	572	77.3
	Yes	168	22.7
Living with elders (≥ 65)	No	509	68.8
	Yes	231	31.2
Basic illness	No	463	62.6
	Yes	277	37.4

(2) Risk anxiety

Risk anxiety is the extent to which the participants worry about each of the above 11 major risks, rated on a 4-point likert scale ranging from 1(not at all) to 4 (very worried).

(3) Personal and social measures

The participants were asked how much they personally took measures against each of the risks (“personal measures”) and how much they thought measures were taken in Japanese society (“social measures”) by rating a 4-point likert scale ranging from 1(not at all) to 4 (perfect).

(4) Media use per day

Respondents were asked how many hours per day they spent for the Internet (on PCs and smart phones), televisions (on PCs and smart phones), and newspaper (on paper and web) by choosing 1 (not using), 2 (less than 15 min.), 3 (15 to 30 min.), 4 (30 to 60 min.), 5 (1 to 2 hours), 6 (2 to 3 hours), 7 (3 to 4 hours), 8 (4 to 5 hours) or 9 (more than 5 hours).

(5) Access to information sources

The participants were asked how often they accessed to the following 12 different information sources: (i) televised news (including watching on TV, smart phones, mobile phones), (ii) televised tabloid shows (same as above), (iii) televised information program (same as above), (iv) radio (including listening on PCs, smart phones, mobile phones), (v) newspaper (paper or web), (vi) news website (including reading and watching on PCs, smart phones, mobile phones), (vii) homepages of the national and local governments, (viii) homepages of academic institutes (research institutes and universities), (ix) other websites or portals, (x) social media (including reading and watching on PC, smart phones, mobile phones), (xi) talks of family, friends and acquaintances (direct conversations, e-mails and phones), and (xii) in-house magazines, pamphlets and leaflets by the national and local governments. They were asked to rate from 1 (not using), 2 (1 to 2 days per week), 3 (3 to 4 days per week), 4 (5 to 6 days a week), 5 (everyday).

2.2.2 Ethical consideration

Prior to the pilot study and main study, we received an approval of Research Ethics Committee, Graduate School of Medicine and Faculty of Medicine, The University

of Tokyo on March 22, 2013 (No. 10082). The participants were informed that the answers would be collected anonymously and would not be identified individually, should be voluntarily and can be suspended any time and without any compensation if a participant wishes. We confirmed their agreement by checking their clicks on the agreement tab on the online questionnaire. We also consulted with the legal department of Macromill, Inc. in order to satisfy with their ethical consideration.

2.3 Results

(1) The participants

The demographics of the participants were shown in Table 1.1. The gender- and age-stratified sampling produced 74 people per each gender and age category. There was a significant difference in education between males and females ($\chi^2=100.04$, $p<.01$), which there were more than 60% of males with higher education comparing to females (34.6%). Although there was no difference in the number of people in household, those living with children or those suffering from basic illness, the number of those living with elders (65 years or older) in males (129, 34.9%) was more than in females (102, 27.6%).

(2) Risk perception and risk anxiety against various risks

Table 1.2 shows the risk perception. People's perception varied among the risks. When the damage is expected to be social, the perception rose. 67.2% of total respondents feel very dangerous about natural disasters such as big earthquake, tornados, typhoons, heavy rain and snow, and landslide. When combined with the group of "a little dangerous", more than 94% feel dangerous about the natural disasters. 60.5% of total respondents feel very dangerous about nuclear plant accidents. About 86% of respondents feel dangerous

with significant difference between males and females. 76.9% of total respondents feel dangerous about bio/chemical terror attacks.

Table 1.2 Risk perception (N=740, %)

	gender	not at all	less dangerous	a little dangerous	very dangerous	z
Natural disasters	total	0.3	5.4	27.2	67.2	
	female	0.0	4.6	20.8	74.6	-4.22**
	male	0.5	6.2	33.5	59.7	
Fire	total	0.9	10.0	43.4	45.7	
	female	0.8	8.1	40.8	50.3	-2.69**
	male	1.1	11.9	45.9	41.1	
Bio/chemical terror attacks	total	3.1	20.0	25.1	51.8	
	female	1.6	15.4	25.4	57.6	-3.89**
	male	4.6	24.6	24.9	45.9	
Nuclear power plant accidents	total	2.2	11.9	25.4	60.5	
	female	0.5	8.6	23.5	67.3	-4.24**
	male	3.8	15.1	27.3	53.8	
Traffic accidents	total	0.7	6.6	48.6	44.1	
	female	0.5	5.1	45.9	48.4	-2.59*
	male	0.8	8.1	51.4	39.7	
Falling& tripping	total	5.5	33.1	51.6	9.7	
	female	4.1	28.9	55.9	11.1	-3.22**
	male	7.0	37.3	47.3	8.4	
Side effects	total	3.1	23.1	45.1	28.6	
	female	1.9	16.8	45.1	36.2	-5.58**
	male	4.3	29.5	45.1	21.1	
Food poisoning	total	2.7	27.0	50.4	19.9	
	female	1.9	21.1	53.0	24.1	-4.31**
	male	3.5	33.0	47.8	15.7	
Safety of drinking water	total	8.0	39.5	35.1	17.4	
	female	4.6	37.6	37.0	20.8	-3.65**
	male	11.4	41.4	33.2	14.1	
Infectious & contagious diseases	total	1.8	20.4	43.0	34.9	
	female	1.1	15.1	44.3	39.5	-3.78**
	male	2.4	25.7	41.6	30.3	
Chronic diseases	total	2.2	18.5	48.0	31.4	
	female	2.4	14.1	48.1	35.4	-3.03**
	male	1.9	23.0	47.8	27.3	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

In the group with basic illness in their household, the health risks such as health hazards from pharmaceutical drugs or vaccines (side effects) ($z=2.62$, $p < .01$), infectious & contagious diseases ($z=2.46$, $p < .05$), and chronic diseases ($z=2.77$, $p < .01$) were highly perceived dangerous (Table 1.3).

Table 1.3 Risk perception in the group with basic illness (N=740, %)

	Basic illness	not at all	less dangerous	a little dangerous	very dangerous	z
Side effects	Yes (N=277)	2.9	17.3	47.7	32.1	-2.62**
	No (N=463)	3.2	26.6	43.6	26.6	
Food poisoning	Yes	2.9	22.0	53.8	21.3	-1.86
	No	2.6	30.0	48.4	19.0	
Safety of drinking water	Yes	8.7	35.0	37.5	18.8	-1.23
	No	7.6	42.1	33.7	16.6	
Infectious & contagious diseases	Yes	2.2	15.9	42.2	39.7	-2.46*
	No	1.5	23.1	43.4	32.0	
Chronic diseases	Yes	1.4	11.6	53.4	33.6	-2.77**
	No	2.6	22.7	44.7	30.0	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

Table 1.4 shows the summary of risk anxiety. The participants were very worried about big earthquake, tornados, typhoons, heavy rain & snow, landslide (43.6%) and a little worried (43.1%). Thus, 86.7% were worried about the natural disaster. Comparing to the natural disaster, the bio/chemical terror attacks worried them less (49.3%). Nuclear power plant accidents worried more the female (81.1%) than the male (65.4%). For more personal risks such as falling & tripping, and health hazard from pharmaceutical products and vaccines, the participants were less worried. 60.5% of the participants were either not worried or less worried about the safety of drinking water, while about 60% were worried about infectious and contagious diseases and chronic diseases. Overall, the females were more worried than the males.

In contrast to risk perception, the group with basic illness in the household felt worried more against the chronic diseases ($z=2.301$, $p < .05$). For other risks including other health risks, they were similarly worried as the other group was.

Table 1.4 Risk anxiety (N=740, %)

	gender	Not worried at all	less worried	A little worried	Very worried	z
Natural disasters	total	0.4	12.8	43.1	43.6	-3.54**
	female	0.3	9.7	40.5	49.5	
	male	0.5	15.9	45.7	37.8	
Fire	total	2.0	31.4	49.6	17.0	-3.19**
	female	1.4	27.3	51.1	20.3	
	male	2.7	35.4	48.1	13.8	
Bio/chemical terror attacks	total	5.0	44.3	33.0	17.7	-4.58**
	female	3.0	38.1	37.8	21.1	
	male	7.0	50.5	28.1	14.3	
Nuclear power plant accidents	total	3.2	23.5	39.1	34.2	-5.06**
	female	1.9	17.0	40.3	40.8	
	male	4.6	30.0	37.8	27.6	
Traffic accidents	total	0.9	20.4	55.0	23.6	-2.73**
	female	0.5	18.4	53.2	27.8	
	male	1.4	22.4	56.8	19.5	
Falling & tripping	total	10.3	45.4	36.9	7.4	-3.91**
	female	7.0	42.2	42.2	8.6	
	male	13.5	48.6	31.6	6.2	
Side effects	total	5.8	43.8	39.2	11.2	-5.87**
	female	3.2	37.0	43.5	16.2	
	male	8.4	50.5	34.9	6.2	
Food poisoning	total	4.3	41.1	43.0	11.6	-3.99**
	female	3.2	34.9	48.1	13.8	
	male	5.4	47.3	37.8	9.5	
Safety of drinking water	total	11.4	49.1	28.9	10.7	-3.76**
	female	8.6	45.4	33.2	12.7	
	male	14.1	52.7	24.6	8.6	
Infectious & contagious diseases	total	4.2	36.6	41.9	17.3	-4.89**
	female	2.7	30.0	45.4	21.9	
	male	5.7	43.2	38.4	12.7	
Chronic diseases	total	3.9	28.5	46.5	21.1	-3.59**
	female	3.0	24.1	47.8	25.1	
	male	4.9	33.0	45.1	17.0	

Mann-Whitney's U-test

** $p < .01$

(3) Taking personal measures

Table 1.5 shows the likelihood the participants to take personal measures for the above risks. For the human-causing risks such as bio/chemical terror attacks and nuclear power plant accidents, the participants don't take personal measures (74.9% and 69.7%). 53.6% of the participants don't take personal measures against hazard from pharmaceutical products and vaccines.

Table 1.5 Likelihood of taking personal measures (N=740, %)

	gender	Not at all	little	A little	Perfect	z
Natural disasters	total	22.6	37.8	38.8	0.8	
	female	19.5	39.7	40.3	0.5	-1.36
	male	25.7	35.9	37.3	1.1	
Fire	total	23.1	43.2	31.2	2.4	
	female	20.3	45.1	30.5	4.1	-1.58
	male	25.9	41.4	31.9	0.8	
Bio/chemical terror attacks	total	74.9	23.1	1.8	0.3	
	female	72.7	25.7	1.6	0.0	-1.26
	male	77.0	20.5	1.9	0.5	
Nuclear power plant accidents	total	69.7	26.8	3.2	0.3	
	female	67.3	28.9	3.5	0.3	-1.43
	male	72.2	24.6	3.0	0.3	
Traffic accidents	total	19.2	36.6	41.6	2.6	
	female	18.1	40.5	39.5	1.9	-0.97
	male	20.3	32.7	43.8	3.2	
Falling & tripping	total	35.4	39.5	23.9	1.2	
	female	31.4	40.3	26.8	1.6	-2.61**
	male	39.5	38.6	21.1	0.8	
Side effects	total	53.6	36.1	9.5	0.8	
	female	48.9	36.5	13.8	0.8	-3.28**
	male	58.4	35.7	5.1	0.8	
Food poisoning	total	19.5	32.6	44.5	3.5	
	female	11.9	26.5	56.8	4.9	-7.62**
	male	27.0	38.6	32.2	2.2	
Safety of drinking water	total	31.4	35.5	28.6	4.5	
	female	25.4	35.1	34.1	5.4	-4.15**
	male	37.3	35.9	23.2	3.5	
Infectious & contagious diseases	total	32.2	43.5	23.4	0.9	
	female	26.2	40.0	32.2	1.6	-5.54**
	male	38.1	47.0	14.6	0.3	
Chronic diseases	total	27.2	43.5	28.1	1.2	
	female	24.6	43.0	30.5	1.9	-2.13*
	male	29.7	44.1	25.7	0.5	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

People with basic illness or living with someone with basic illness reported that they took personal measures against the health risks, especially chronic diseases ($z=3.087$, $p < .01$) and side effects ($z=2.382$, $p < .05$) shown in Table 1.6.

Table 1.6 Personal measures by people with or without basic illness in the household (N=740, %)

	Basic illness	Not at all	little	A little	Perfect	z
Side effects	Yes (N=277)	48.7	37.9	12.3	1.1	-2.382*
	No (N=463)	56.6	35.0	7.8	0.6	
Food poisoning	Yes	17.3	32.9	47.7	2.2	-0.736
	No	20.7	32.4	42.5	4.3	
Safety of drinking water	Yes	32.1	35.4	28.2	4.3	-0.368
	No	30.9	35.6	28.9	4.5	
Infectious & contagious diseases	Yes	28.9	44.0	26.4	0.7	-1.665
	No	34.1	43.2	21.6	1.1	
Chronic diseases	Yes	22.0	42.6	34.3	1.1	-3.087**
	No	30.2	44.1	24.4	1.3	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

(4) Media use and access to information sources

Table 1.7 shows how many hours per day the participants' access to the Internet, televisions, and newspapers. 46.2% of the participants accessed television for 1 to 3 hours per day. The females spent more than the males, and even 15.4% of the females watched television more than five hours per day. Meanwhile, the male internet users spent more hours than the female counterparts (24.0% versus 19.2% for more than 4 hour users).

People with basic illness in their household spent more hours to use mass media; the Internet ($z=2.260$, $p < .05$), televisions ($z=2.204$, $p < .05$), and newspapers ($z=2.867$, $p < .01$).

Table 1.8 shows how many days per week the participants use the information sources. News website was most frequently used by the participants (81.9% for more than 5 days), followed by the televised news (80.7%) and newspaper (60.9%). The users of newspaper were divided into two groups: daily users (52.7%) and rare users (25.7%). Meanwhile, the percentages of the rare users of news website and televised news were

Table 1.7 Media use per day (N=740, %)

	gender	rare	<15 min.	15~<30 min.	30~<60 min.	1~<2 hours	2~<3 hours	3~<4 hours	4~<5 hours	5 hours and more	z
Internet	total	0.4	2.0	5.4	13.0	26.1	18.0	13.5	7.6	14.1	
	female	0.5	2.2	7.0	11.6	27.0	17.6	14.9	6.5	12.7	-1.14
	male	0.3	1.9	3.8	14.3	25.1	18.4	12.2	8.6	15.4	
television	total	4.3	3.4	4.1	14.2	26.6	19.6	9.9	6.5	11.5	
	female	3.2	3.5	4.1	9.2	23.0	20.3	11.6	9.7	15.4	-5.60**
	male	5.4	3.2	4.1	19.2	30.3	18.9	8.1	3.2	7.6	
newspaper	total	23.4	20.1	21.9	24.6	8.4	0.9	0.3	0.1	0.3	
	female	27.6	22.4	19.2	22.7	6.2	1.4	0.3	0.0	0.3	-3.33**
	male	19.2	17.8	24.6	26.5	10.5	0.5	0.3	0.3	0.3	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

Table 1.8 Access to information sources per week (N=740, %)

	gender	rare	1-2 days	3-4 days	5-6 days	7 days	z
televised news	total	6.1	5.9	7.3	11.5	69.2	
	female	4.6	3.2	6.5	10.3	75.4	-3.86**
	male	7.6	8.6	8.1	12.7	63.0	
televised tabloid shows	total	32.0	27.0	11.8	8.6	20.5	
	female	25.4	24.1	13.5	10.5	26.5	-5.34**
	male	38.6	30.0	10.0	6.8	14.6	
televised information program	total	16.1	36.6	15.0	10.8	21.5	
	female	12.7	30.5	17.3	12.2	27.3	-5.07**
	male	19.5	42.7	12.7	9.5	15.7	
radio	total	60.8	15.1	5.7	7.0	11.4	
	female	71.6	11.6	4.3	3.8	8.6	-5.89**
	male	50.0	18.6	7.0	10.3	14.1	
newspaper	total	25.7	7.6	5.8	8.2	52.7	
	female	30.3	6.5	4.6	7.0	51.6	-1.54
	male	21.1	8.6	7.0	9.5	53.8	
news website	total	4.7	5.4	8.0	13.0	68.9	
	female	4.6	4.9	6.5	10.8	73.2	-2.36*
	male	4.9	5.9	9.5	15.1	64.6	
homepages of the national and local governments	total	80.3	16.2	2.2	0.5	0.8	
	female	79.7	17.0	1.1	1.1	1.1	-0.34
	male	80.8	15.4	3.2	0.0	0.5	
homepages of academic institutes	total	90.0	7.2	1.9	0.4	0.5	
	female	91.4	5.7	1.9	0.8	0.3	-1.18
	male	88.6	8.6	1.9	0.0	0.8	
other websites or portals	total	44.3	18.6	6.9	6.9	23.2	
	female	49.2	15.7	5.4	7.8	21.9	-2.00*
	male	39.5	21.6	8.4	5.9	24.6	
social media	total	48.6	16.6	7.6	5.1	22.0	
	female	50.5	13.2	7.6	5.4	23.2	-0.18
	male	46.8	20.0	7.6	4.9	20.8	
talks of family, friends and acquaintances	total	16.5	24.9	12.4	9.3	36.9	
	female	10.3	25.4	11.4	8.4	44.6	-4.75**
	male	22.7	24.3	13.5	10.3	29.2	
in-house magazines, pamphlets and leaflets by the national and local governments	total	74.2	23.5	0.7	0.8	0.8	
	female	69.7	27.3	0.8	1.1	1.1	-2.81**
	male	78.6	19.7	0.5	0.5	0.5	

Mann-Whitney's U-test

* $p < .05$, ** $p < .01$

about 10%. Females mainly used the news website (85.7% for more than 5 days), the televised news (84.1%), newspaper (58.6%) and the talks with the family and friends (53.0%). The female used the televised tabloid shows and information program significantly more than the males, however, a large number of rare users of the above information sources were also found in the females. The females used the talks of the family and friends more than the males (25.1%). The females used the televised information program significantly more than the males. The males used the radio about twice more than the females. The females used the televised tabloid shows significantly more than the males.

People with basic illness in their household spent significantly more days in watching TV tabloid shows ($z=2.291$, $p<.05$), listening to radio ($z=2.724$, $p<.01$), reading newspapers ($z=2.497$, $p<.01$), and watching news sites ($z=2.497$, $p<.05$). Multiple regression analysis showed that presence of basic illness in the household influenced an access to the Internet (Table 1. 9) but not to other media.

Table 1.9 Influence of presence of basic illness in the household on access to Internet (Multiple regression analysis)

Access to Internet	β	t
gender	-0.041	1.110
age	-0.059	1.588
education	0.038	1.014
Presence of basic illness in the household	0.092	2.469*

Adj.R²=0.008, F=2.58, $p<.05$

N=738¹ Control variables: gender, age, education, * $p<.05$

¹Two cases with education “other” were omitted.

Table 1.10 summarized the differences in the access to information sources by age and education. The older participants more frequently used the televised news and information program, radio, newspaper, news website and in-house magazines, pamphlets

and leaflets by the national and local governments, while less frequently used social media and talks of family, friends and acquaintances. The lower level of education was associated with more frequent use of televised tabloid shows and information program.

Table 1.10 Bivariate correlations between the access to information sources and the participants' age and education (N=738***)

	age	education
televised news	.283**	-.064
televised tabloid shows	.062	-.144**
televised information program	.101**	-.105**
radio	.144**	.062
newspaper	.349**	.007
news website	.092*	-.076*
homepages of the national and local governments	.016	.028
homepages of academic institutes	-.021	.088*
other websites or portals	-.017	.046
social media	-.262**	.065
talks of family, friends and acquaintances	-.080*	.040
in-house magazines, pamphlets and leaflets by the national and local governments	.111**	-.046

* $p < .05$, ** $p < .01$, *** Two cases with education "other" were omitted.

(5) Relationship between risk perception and the access to information sources

Risk perception, whether the risk is perceived as dangerous or not, was mostly associated with the access to talks of family, friends and acquaintances as information source. News website, although more than 80% used this information source for hours, was not associated with risk perception (Table 1.11).

Table 1.11 Partial correlations between risk perception and the access to information sources (N=738***)

	televised news	televised tabloid shows	televised information program	radio	News- paper	news website	national & local governments websites	academic institutes websites	other websites or portals	social media	talks of family, friends	in-house magazine
Natural disasters	.112**	.056	.024	-.030	.063	.064	.045	-.006	.060	.071	.108**	.055
Fire	.059	.019	.001	.047	.037	.047	-.027	-.013	-.019	.023	.131**	.033
Bio/chemical terror attacks	.034	-.014	-.004	.044	.081	.036	.018	.030	.027	.059	.147**	.090*
Nuclear power plant accidents	.118**	-.008	-.017	.042	.095*	.033	-.011	.007	.028	.030	.089*	.021
Traffic accidents	.019	.028	.013	.071	.003	.016	-.036	-.041	-.084	.025	.074*	.031
Falling & tripping	.012	.055	.003	-.010	.014	.040	.048	.069	-.013	.033	.064	.113**
Side effects	.083*	.029	.026	.064	.036	.043	.023	.022	.004	.081*	.132**	.059
Food poisoning	.046	.032	.002	.084*	.003	.025	.044	.030	-.031	.068	.138**	.072
Safety of drinking water	.026	.062	.019	.024	.000	.043	.053	.084*	-.046	.021	.042	.066
Infectious & contagious diseases	.073*	.014	.003	.059	.021	.018	.051	.054	.000	.068	.098**	.072
Chronic diseases	.042	.007	.029	.008	-.021	.026	-.035	-.034	-.001	.031	.098**	.000

Control variables: gender, age and education

* $p < .05$, ** $p < .01$, *** Two cases with education “other” were omitted.

(6) Relationship between risk anxiety and the access to information sources

Table 1.12 shows the association between risk anxiety and 12 information sources. Televised tabloid shows and televised information program were highly associated with risk anxiety of all risks except for infectious and contagious diseases and chronic diseases.

(7) Relationship between personal measures and media use

Table 1.13 shows that taking personal measures was influenced by newspaper. This feature was confirmed in the group without basic illness in the household, but was not confirmed in the group with basic illness in the household.

Table 1.12 Partial correlations between risk anxiety and access to information sources (N=738***)

	televised news	televised tabloid shows	televised information program	radio	News- paper	news website	national and local governm ents	academic institutes	other websites or portals	social media	talks of family, friends	in-house magazine s
Natural disasters	.142**	.083*	.108**	.020	.024	.001	.090*	.038	.002	.066	.068	.091*
Fire	.046	.093*	.097**	.046	.002	-.007	.023	.049	-.114**	.021	.061	.044
Bio/chemical terror attacks	.016	.032	.053	.086*	.004	-.040	.120**	.051	-.098**	.026	.027	.120**
Nuclear power plant accidents	.091*	.031	.038	.151**	.013	.023	.024	.053	-.023	.033	.044	.048
Traffic accidents	.065	.068	.075*	.062	.001	-.010	.062	.068	-.121**	-.033	.051	.084*
Falling & tripping	.008	.113**	.098**	.040	.014	.011	.066	.058	-.101**	.026	.025	.090*
Side effects	.069	.103**	.075*	.062	.001	-.062	.076*	.044	-.099**	.025	.057	.077*
Food poisoning	.071	.102**	.074*	.060	.000	.005	.090*	.070	-.052	.046	.058	.107**
Safety of drinking water	.060	.104**	.085*	.075*	.005	-.019	.118**	.082*	-.096*	.017	.011	.087*
Infectious & contagious diseases	.088*	.047	.067	.091*	.006	.003	.093*	.078*	-.097**	-.004	.073*	.072
Chronic diseases	.030	.040	.069	.069	-.033	.002	.071	.040	-.067	-.007	.084*	.063

Control variables: gender, age, education,

*<.05, **<.01, *** Two cases with education “other” were omitted.

Table 1.13 Influence of media use on the personal measures in those with or without presence of illness in the household (multiple regression analysis)

	Total (N=738)		Without basic illness (N=461)		With basic illness (N=277)	
	β	t	β	t	β	t
gender	.201	5.456**	.208	4.291**	.204	3.487**
age	.214	5.534**	.175	3.552**	.255	4.094**
education	.065	1.825	.081	1.767	.047	.809
Internet	.013	.362	.006	.122	.024	.396
TV	-.031	-.814	-.057	-1.147	-.002	-.029
newspaper	.111	2.845**	.128	2.537*	.084	1.375
	Adj.R ² =0.096		Adj.R ² =0.078		Adj.R ² =0.106	
	F=14.11, $p<.01$		F=7.51, $p<.01$		F=6.45, $p<.01$	

Control variables: gender, age, education

* $p<.05$, ** $p<.01$

2.4 Discussion

(1) Risk perception and anxiety among the Internet users

In this survey, natural disasters including big earthquakes, tornados, typhoons, heavy rain & snow, landslide were perceived as the largest risk for the people in Japan. As Japan recently experienced big earthquakes in the east area and annually experiences the typhoons and heavy rain, the probability for the residents to experience them directly seems to be high. In the previous survey by Fukuda in 2004, the percentage of people who felt dangerous for big earthquakes was 84.3% (Fukuda, 2004) while that in this survey was 94.4%. Also, the nuclear power plant accidents gave different perception (34.5% in 2004, and 85.9% in 2013). The accident in 2011 and the consecutive news topics provided people with higher perception of danger. Falling & tripping, and the safety of drinking water were neither highly perceived nor anxious. Meanwhile, the infectious diseases were perceived dangerous similar to the chronic diseases but were perceived less worried.

One factor to influence people's risk perception and anxiety was gender. Females perceived more dangerous for most of the risks and felt worried for all risks in this study. Natural disasters made the participants feel dangerous, however didn't make them too

worried. Meanwhile, high hazard and less likelihood risks such as bio/chemical terror attacks were perceived dangerous but were not worried much than the nuclear power plant accident which had occurred in Japan in 2011.

Presence or absence of basic illness in the household was another factor in risk perception and anxiety. Those with basic illness in the household felt more dangerous for side effects, infectious & contagious diseases and chronic diseases than those without it. However, they didn't feel worried more than the other group except for chronic diseases. Risk perception is considered as a product of "dangerousness" as the first factor and "unknown" as the second factor in risk perception two factors model (Nakayachi, 2012). Although they know what side effects or chronic diseases are, those with basic illness in the household acknowledge these health risks as dangerous because they are in the environment where they access to these health risks on daily basis. On the other hand, risk anxiety was only found in the chronic disease, possibly due to the risk close to them.

(2) Media use among the Internet users

This study revealed the information behavior among the current Internet users. There was a significant difference in the time duration used for each media. One of the participant screening criteria for this survey was one's daily use of the online news. The medians of the hours of the female and male Internet users were both 2 to 3 hours per day. Compared to the previous survey (Hashimoto, 2010), which was 93.8 min. on average; these participants used the Internet for longer hours. The medians of the hours of the female and male television users were 2 to 3 hours and 1 to 2 hours, respectively. Comparing to the previous survey, which was 202.8 min. for the females and 163.7 min. for the males, the participants in this survey used the televisions for fewer hours. It must be noted that there were heavy users (5 hours and more) in the females who used the Internet

(12.70%) and the television (15.40%), while there were heavy Internet users in the males (15.40%). Meanwhile, the newspaper users both in paper and on the website were small portions of the participants in both genders. 23.40% of the participants were rare users while 66.60% read it at least for ~ 1 hour per day.

Presence of basic illness in the household significantly influenced the access to the Internet. The most used information sources for health and medical information by general public were televisions (27.0%), PC websites (17.1%), and newspapers (10.8%) (Hashimoto, 2011). Our survey added the influence of being with basic illness in the household to the Japanese information behavior.

(3) Influence of media access on the taking personal measures

Among the mass media, access to newspapers on paper or on website alone influenced the likelihood of taking personal measures. Although a small portion of the participants used the national and local governments' and academic institutes' websites, and public in-house magazines, those information sources use were significantly related to taking personal measures. For the health risks, partial correlation between the personal measures and mass media sources were not significant.

Televisions including televised news, tabloid shows and information program were partially correlated with risk anxiety against the certain risks. The anxiety against infectious & contagious diseases and chronic diseases were not significantly correlated with mass media information sources. Both risk perception and anxiety against these two diseases were not correlated with mass media information sources. Whether the information about these risks was not presented well by the mass media should be studied in the future.

There were several limitations of this survey. One was that it was an online survey

for the registered monitors in a private company. It had both advantages and disadvantages. The advantages were the participants' perception would not be affected by an unexpected event because all the participants answered within two days. There was not a big event or accidents in Japan nationwide. Another advantage was that there was no vacant or double answer because the participant could not move to the next question until he or she answers. On the other hand, its disadvantage was there were the Internet users with at least some experience. Thus, this sample of the participants may not have represented the features of the mass population in Japan. Recent Internet Communication Technology development, however, offered more opportunities for the youth and the seniors to access to the Internet easily so that there were more daily users in every generation.

3. STUDY 2: COVERAGE OF PUBLIC HEALTH CRISIS NEWS ARTICLES

3.1 Background and Objectives

News coverage is likely to influence public perception and understanding of the public health risks as the mass media are a key source for health-related information. Often the media has been accused of exaggerating risks, and contributing to public worry and misunderstanding of public health research evidence, and a decrease in the trust in scientific evidence.

A case with influenza A/H1N1 in Veracruz, Mexico first was reported to World Health Organization (WHO) on April 12, 2009 and quickly spread across the world through international transportation, infecting many in more than 213 countries and territories with at least 18,449 deaths (WHO, 2009). In the last week of April, WHO declared Pandemic Phases 4 and 5 in two days. On June 11, WHO finally declared Pandemic Phase 6. Japanese government first took measures in all international ports by quarantine. In Japan, three high school students who came back from Canada were confirmed to be infected with influenza A/H1N1 at Narita Airport on May 9, 2009. Then, on May 16, 2009, the first domestic case who has never been abroad was confirmed. Later on, the infection has rapidly spread including high school students in Hyogo and Osaka, the west side of Japan. By August 15, 2009, there were 9,776 cases in Japan. (MHLW, 2010) The first death case was found on August 15. By March 30, 2010, 201 death cases have been confirmed.

Novel influenza

Influenza A/H1N1 virus is the subtype of influenza A virus that was most common cause of human influenza in 2009. In June 2009, WHO declared the new strain of swine-origin H1N1 as a pandemic. This strain is often called swine flu by the public media.

Swine influenza virus is common throughout pig populations worldwide and does not always lead to human influenza. When transmission causes human influenza, people with regular exposure to pigs are at increased risk of swine flu infection. These strains of swine flu rarely pass human to human. Symptoms are similar to those of other influenza including fever, sore throat, muscle pains, and headache. In the 2009 pandemic, most of the infected people recovered without serious damage.

However, there are some populations at high risk when they have basic illness such as chronic respiratory illness, chronic cardiac illness, metabolic illness like diabetes, kidney dysfunction, and immune dysfunction from steroids. Furthermore, pregnant women, infants and elderly people were also at risk for becoming severe. This virus was named as swine-origin A/H1N1 influenza virus (S-OIV) first, which was then changed to A/H1N1swl, A/H1N1v, A/H1N1pdm by WHO. Now, it is named as A/H1N1pdm. In Japan, the translation of this pandemic influenza was novel influenza. However, it is considered adequate to be named pandemic instead of novel.

Medical system in Japan

The fever consultation center is one of the Japanese government ad hoc organizations and a telephone consultation window in local public health departments temporarily set to prevent from novel influenza epidemic. Its goal is for individuals with suspected infection of novel influenza to call before visiting medical clinics to make sure it is necessary to visit and they take any necessary preparation such as wearing facial masks. In some places, the staff of the public health departments received about 600 calls every day at 14 telephone lines. In other places, the phones were always busy and were not supporting the challenged people.

Another medical institution is called fever clinic. The physicians at fever clinics performed triage to decide if an individual required hospitalization depending on his or her symptoms. At the early stage of epidemic, a certain number of fever clinics were open in the designated medical institutions for specified infectious diseases. At the peak of epidemic, almost all medical institutions were requested to open fever clinics. While some medical institutions were open for 24 hours and bore a great burden, other general medical clinics seemed to refuse the medical visits by the individuals with suspected influenza. Wada et. al. described the details in their book (Wada, 2011).

Mass media in Japan

Mass media are diversified media technologies that are intended to reach a large audience by mass communication, such as television, radio and newspaper. In Japan, newspapers are usually subscribed at households and are considered to be highly trusted by the people. Major nationwide newspapers are Yomiuri shimbun, Asahi shimbun, Mainichi shimbun and Sankei shimbun. As a financial newspaper, there is Nihon Keizai shimbun. The uniqueness of Japanese media is the presence of press club (called *Kisha club*). Press club is a voluntary organization composed with major mass media companies to continue their interviews and visits at governments, public sectors and corporate industries. Press releases and press conferences by the Ministry of Health, Labour, and Welfare (MHLW) are usually set and offered at the MHLW press club. People can see the video messages and other information uploaded on the MHLW homepage due to Internet Communication Technology development. However, the recent studies showed many people in general access to the information by mass media (Hashimoto, 2010; Mishima, 2011; Hirakawa, 2011).

It is consistent that the news coverage volume was high during the pandemic in

every country, especially in spring and summer of 2009. In Europe, proactive engagement with mass media by both international and local public health authorities resulted in factual, non-alarming reporting of the early stages of the pandemic (Duncan, 2009). In UK, the news coverage reflected genuine scientific uncertainties about the future course of the pandemic; there was little evidence of the newspapers and magazines distorting the risks of A/H1N1 flu (Hilton, 2011). In US, a content analysis of print and electronic news of the first 5 months of pandemic suggested that most stories referred to the threat of the H1N1 virus, sometimes overemphasizing and sensationalizing virus-related death. Regarding efficacy, approximately half of the news mentioned actions which individuals or organizations/communities could take to protect themselves from the virus, but almost none provided evidence that such methods are effective, and some explicitly questioned their effectiveness (Goodall, 2012).

In Japan, several researches on the association of news coverage on H1N1 flu pandemic with the public's behavior are reported. No facial mask was available at the stores in big cities in the middle of May. Mass media kept reporting of facial-mask wearing in spite of its preventive effectiveness is not scientifically proved (Miyawaki, 2011). Questionnaire survey with 150 college students resulted their anxiety and importance against H1N1 flu higher in September than in May (Kaigo, 2011). Until now, no in-depth content of news covered in Japanese newspapers has been analyzed and published in English. What contents did the Japanese general newspapers report during the 2009 A/H1N1 influenza pandemic?

- H2a: The trend of overall news articles had a peak during the early outbreak and declined as time passed.
- H2b: There were few news articles writing about specific preventive behaviors. In other words, there were more threat appraisal messages than coping appraisal messages.

3.2 Methods

Newspaper article selection

We selected 3 national newspapers in Japan which are the top three high circulation figures and a range of readership profiles (<http://www.pressnet.or.jp>). Our research period was from 1 March 2009 to 30 May 2010. This timeframe starts just before the initial emergence of new type of influenza (A/H1N1) in Mexico and ends in Japan. The databases to select the relevant articles are “Asahi Shimbun Digital News Archives “KIKUZOU II Visual” for Asahi Shimbun, “Mainichi News Pack” for Mainichi Shimbun, and “YOMIDAS REKISHIKAN” for Yomiuri Shimbun. The search criteria were as follows. The search keywords were either “new influenza” or “swine flu” in Japanese. We included “swine flu” because initially it was called in that word. The articles were on the nation-wide edition, in the morning edition, and were published in Tokyo.

This search identified a total of 3,344 articles (Asahi 1123, Mainichi 1091, Yomiuri 1130). All articles were exported into Word files. Each article was scrutinized by MK to establish whether it met two inclusion criteria. The first criterion was that new type influenza was the primary focus of articles. This was defined as more than 50% of an article talked about new type influenza. The second criterion was that the articles were written by the newspaper journalists. Hence, the letters from readers, the contributed articles, poetries, and company’s advertisement and announcement were excluded. Using these criteria, 2,237 articles were classed as eligible for further detailed coding and analysis.

Coding

We accommodated the coding frame which was developed by Hilton and her colleagues (Hilton, 2011). We used it in order to compare the difference of news topics

between by UK newspapers and Japanese nationwide newspapers. Yet, the additional topics were added to adjust to the news articles by the Japanese national newspapers. The coding manual was translated into Japanese by the author, MK, and validated by HI. The coding of the articles was carried out by three coders. MK checked and validated each coder's work. The coding framework recorded the name of the newspaper, publication date, section, word count and whether there was a table, a graph, or a photo. The tones of the headline and the all text were categorized into "alarmist", "reassuring" or "neither".

To test the inter-coder reliability of all aspects of coding, 247 of 2237 articles (11%) were double coded by MK independently of the coders. Using Cohen's k coefficient we found an inter-rater agreement of $k=0.685$. This corresponds to a substantial level of agreement as found in the previous study ($k=0.62$).

Analysis

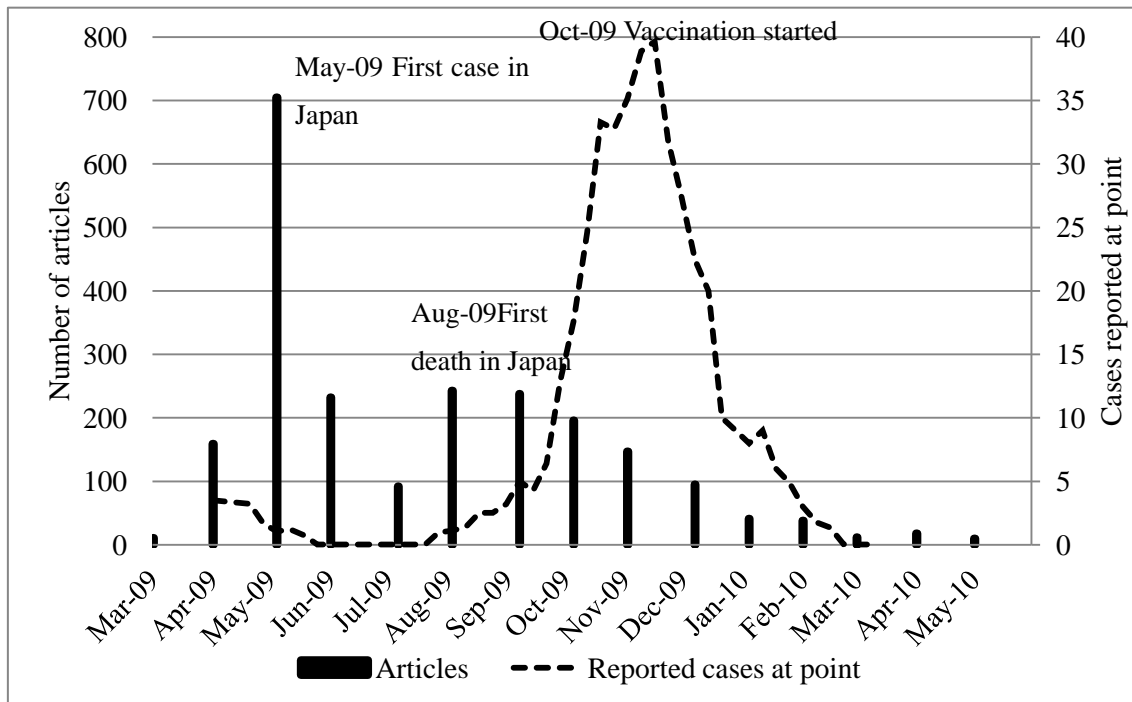
Newspaper articles were analyzed for manifest content. Manifest content refers to what is explicitly stated and thus draws on the objective and replicable qualities of quantitative methods. A coder read each article line by line and indicated whether or not each of 54 thematic categories in the coding frame was mentioned. These data were entered into IBM SPSS Statistics 20. We tested using Chi-square tests whether any particular topics were emphasized or less represented.

3.3 Results

During the period from March 2009 to May 2010, 2,237 news articles referred to the influenza H1N1 outbreak and its related events. The peak was May 2009 with 705 articles (31.5%). The number of articles decreased over time with the lower point ($n=92$, 4.1%) in July 2009, then increased again in August ($n=243$, 10.9%) and September ($n=238$,

10.6%), and decreased again gradually to the lowest of 10 articles in May 2010 (0.4%) (Fig.2.1). Reported case numbers at point were also plotted in the same figure. Reported case numbers at point mean that the average reported case numbers per one medical institution.

Fig. 2.1 Japanese newspaper coverage and H1N1 flu cases from March 2009 to May 2010



Overall, the more covered topics were “the Japanese national and local governments’ actions”(n=992, 44.3%), followed by “transmission of H1N1 flu”(n=366, 16.4%), “WHO or CDC’s actions”(n=339, 15.2%), “symptoms (coughing, fever)”(n=285, 12.7%), “number of cases in Japan”(n=240, 10.7%), “H1N1 can cause death”(n=234, 10.5%), and “People with health problems are at higher risk”(n=216, 9.7%). (Table 2.1) However, the well-covered topics were changing overtime in the studied time frame. In April 2009 when WHO officially reported the emerging flu in Mexico, the most covered topics were “Japanese national and local governments’ actions”, “WHO or CDC actions”,

Table 2.1 Key aspects of Japanese newspaper covering H1N1 flu by quarter of publication

	2009 Mar - May		2009 Jun - Aug		2009 Sep - Nov		2009 Dec - 2010 Feb		2010 Mar-May		total	χ^2	p^*
	N	%	N	%	N	%	N	%	N	%	N		
Total number of articles	875	39.1	567	25.3	581	26.0	174	7.8	40	1.8	2237		
EPIDEMIOLOGY													
No. JP deaths	1	0.1	27	4.8	66	11.4	12	6.9	3	7.5	109	131.32	<.01
No. JP cases	76	8.7	104	18.3	37	6.4	20	11.5	3	7.5	240	142.71	<.01
No. deaths worldwide	92	10.5	44	7.8	22	3.8	11	6.3	3	7.5	172	148.17	<.01
No. cases worldwide	118	13.5	50	8.8	5	0.9	4	2.3	0	0.0	177	288.11	<.01
Predicted epidemic in JP	28	3.2	43	7.6	23	4.0	2	1.1	0	0.0	96	68.90	<.01
Predicted epidemic worldwide	30	3.4	8	1.4	0	0.0	0	0.0	0	0.0	38	88.84	<.01
Symptoms are usually mild	54	6.2	22	3.9	16	2.8	0	0.0	1	2.5	93	103.61	<.01
H1N1 not as bad as predicted	29	3.3	21	3.7	1	0.2	1	0.6	3	7.5	55	71.46	<.01
NATURE OF DISEASE													
H1N1 can cause death	85	9.7	56	9.9	81	13.9	10	5.7	2	5.0	234	129.80	<.01
H1N1 as pandemic	53	6.1	37	6.5	5	0.9	11	6.3	5	12.5	111	84.90	<.01
Modes of transmission	158	18.1	120	21.2	66	11.4	19	10.9	3	7.5	366	236.32	<.01
Symptoms(fever, cough)	134	15.3	69	12.2	69	11.9	8	4.6	5	12.5	285	198.63	<.01
GROUPS AT HIGHER RISK													
Pregnant women	23	2.6	55	9.7	77	13.3	5	2.9	0	0.0	160	137.13	<.01
People with health problems	38	4.3	68	12.0	97	16.7	11	6.3	2	5.0	216	145.16	<.01
Children	6	0.7	34	6.0	97	16.7	18	10.3	6	15.0	161	179.40	<.01
VACCINES&VACCINATION													
New vaccine is being developed	28	3.2	18	3.2	11	1.9	5	2.9	3	7.5	65	32.15	<.01
Importance of vaccination	3	0.3	9	1.6	18	3.1	5	2.9	0	0.0	35	27.71	<.01
vaccine volume for JP people	3	0.3	12	2.1	16	2.8	14	8.0	5	12.5	50	13.00	<.05
H1N1 vaccine import	2	0.2	15	2.6	54	9.3	27	15.5	8	20.0	106	79.76	<.01
Relief System for Injury to Health with Vaccination	0	0.0	3	0.5	20	3.4	7	4.0	1	2.5	31	43.03	<.01
Adverse events	5	0.6	8	1.4	47	8.1	14	8.0	2	5.0	76	88.34	<.01

H1N1 vaccine is safe	2	0.2	0	0.0	1	0.2	1	0.6	1	2.5	5	2.00	0.74
<i>(Continued)</i>													
	2009 Mar. to May		2009 Jun. to Aug.		2009 Sep. to Nov.		2009 Dec. to 2010 Feb.		2010 Mar. to May		total	χ^2	p^*
	N	%	N	%	N	%	N	%	N	%	N		
ANTIVIRALS in H1N1 flu treatment													
Helpful	77	8.8	44	7.8	42	7.2	11	6.3	0	0.0	174	106.17	<.01
Effective	34	3.9	10	1.8	18	3.1	7	4.0	0	0.0	69	49.04	<.01
Side effects	6	0.7	4	0.7	3	0.5	3	1.7	0	0.0	16	5.88	0.21
Resistance	9	1.0	16	2.8	11	1.9	5	2.9	2	5.0	43	13.63	<.01
AUTHORITIES													
JP national and local governments actions	419	47.9	179	31.6	279	48.0	92	52.9	23	57.5	992	492.05	<.01
WHO or CDC actions	209	23.9	70	12.3	31	5.3	21	12.1	8	20.0	339	399.16	<.01
INFECTION CONTROL													
School closure	60	6.9	41	7.2	55	9.5	12	6.9	3	7.5	171	76.34	<.01
Workplace actions	92	10.5	64	11.3	33	5.7	4	2.3	5	12.5	198	147.71	<.01
Event or sport games restriction	61	7.0	12	2.1	16	2.8	6	3.4	0	0.0	95	123.79	<.01
Travel restriction	45	5.1	10	1.8	1	0.2	2	1.1	0	0.0	58	125.62	<.01
Facial masks	130	14.9	36	6.3	19	3.3	3	1.7	1	2.5	189	302.19	<.01
Personal prevention behaviors (e.g. cover mouth sneezing, wash hands)	78	8.9	31	5.5	30	5.2	4	2.3	0	0.0	143	135.36	<.01
PERSONAL STORIES & CELEBRITIES													
Alarming personal stories	20	2.3	17	3.0	23	4.0	3	1.7	1	2.5	64	31.94	<.01
Reassuring personal stories	4	0.5	2	0.4	1	0.2	0	0.0	0	0.0	7	8.00	0.09
Celebrities contracting H1N1	0	0.0	36	6.3	15	2.6	2	1.1	0	0.0	53	62.09	<.01

* χ^2 -test to show the difference in the number of news articles among the quarters.

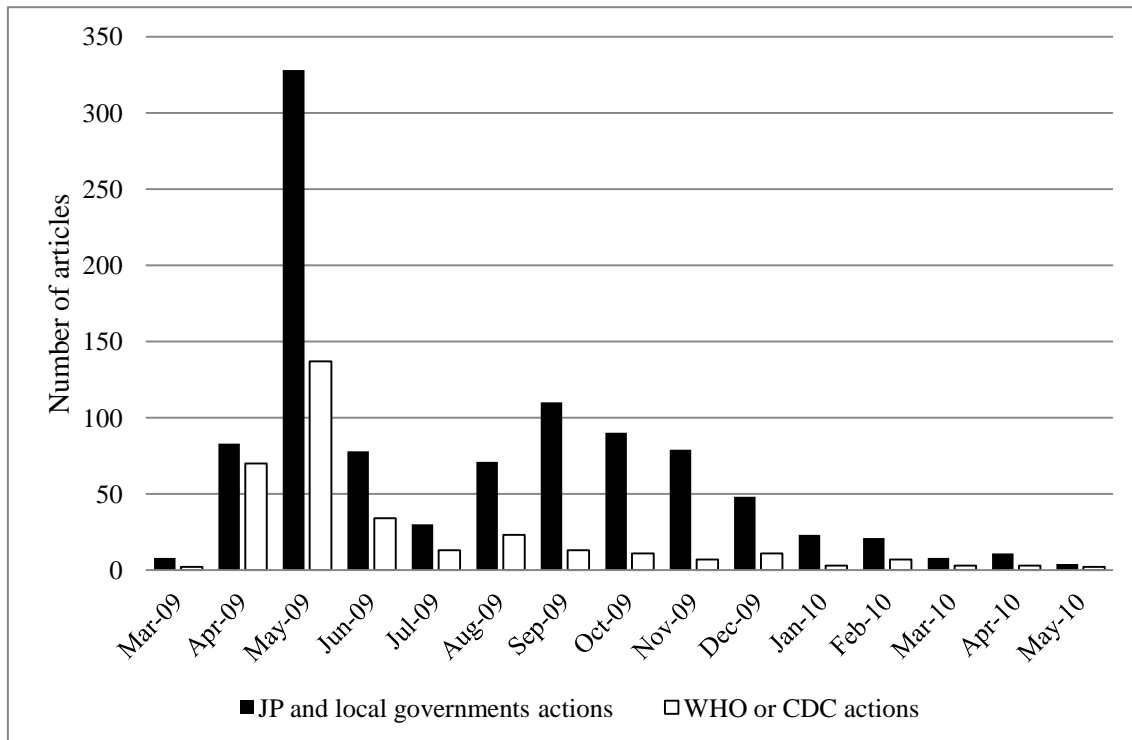
“transmission of H1N1 flu”, “H1N1 flu can cause death” and “the deaths in worldwide”. In May 2009, “Japanese national and local governments’ actions”, “WHO or CDC actions” were more dominant with “transmission of H1N1 flu”, at the same time, the messages that “symptoms (coughing, fever)” and “facial masks” were also disseminated. Besides Japanese and local governments’ actions, the cases in Japan were more covered in June 2009. At this time, the H1N1 was informed as pandemic. In August, September and October 2009, news coverage paid attention to the people at higher risk. Although they showed that symptoms are mild, the certain group of people, people with health problems, pregnant women and children, are at higher risk. In November 2009, the alarming message “H1N1 can cause death” appeared more in daily news coverage. In December 2009, the news coverage paid attention to H1N1 flu vaccine import and its related events. In January, February, March and April 2010, more news articles were on H1N1 vaccine and vaccination. In May 2010, the news articles summarized the 2009 outbreak.

Topics

(1) Japanese national and local governments’ actions

The trend of reporting is similar to that of total news articles. Covering WHO or CDC actions was focused during the first two months after the first case was found in Mexico. Alarming phases of countermeasures against influenza were more covered. On the other hand, the Japanese national governments’ actions include the quarantine at the international airports were covered frequently in April and May 2009, especially in the Golden Week (the long holiday season in Japan). Those articles usually started “Ministry of Health, Labor and Welfare said” or “According to Ministry” (Fig.2.2).

Fig. 2.2 News articles on decision makers (authorities) and their related actions



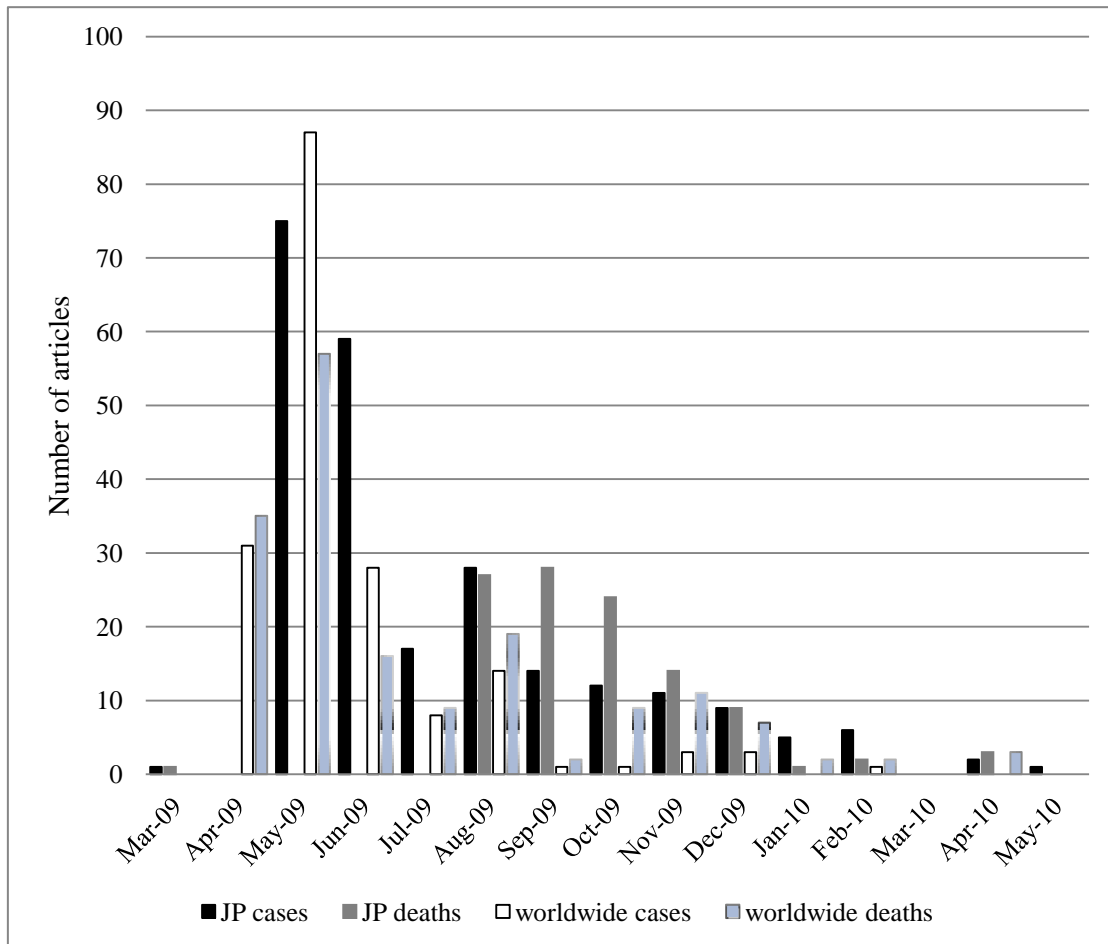
(2) H1N1 flu cases and deaths in Japan and in the world

Numbers of cases in the world as well as in Japan were covered in May 2009. Then they decreased gradually over time with the lower point in July 2009. In August 2009, the number of death in Japan was covered for the first time while that in the world was mainly covered in May 2009 (Fig.2.3).

(3) People at higher risk

News articles giving cautions or stating the risk factors of H1N1 flu were more covered in August, September and October of 2009 (about 20%). It corresponded to the fact that the number of cases actually increased in August. During the outbreak in May 2009,

Fig.2.3 News articles on H1N1 flu cases and deaths in Japan and the world



the news covered the people with health problems and pregnant women are at higher risk as well, although the proportion to the total articles of May 2009 is much smaller (4.7%, 3.3% respectively) (Fig.2.4).

(4) Vaccine or vaccination-related topics

Total number of articles which mentioned vaccine or vaccination was 337. The peak was in October 2009 (n=75) followed by September 2009 (n=70) (Fig.2.5). In this category, “import of vaccine” (n=106, 4.7%) and “adverse event of vaccine” (n=76, 3.4%) were more covered. This trend also occurred in October 2009 when the Japanese government made contract with overseas companies upon vaccine import and

Fig.2.4 News articles on cautions to people at higher risk

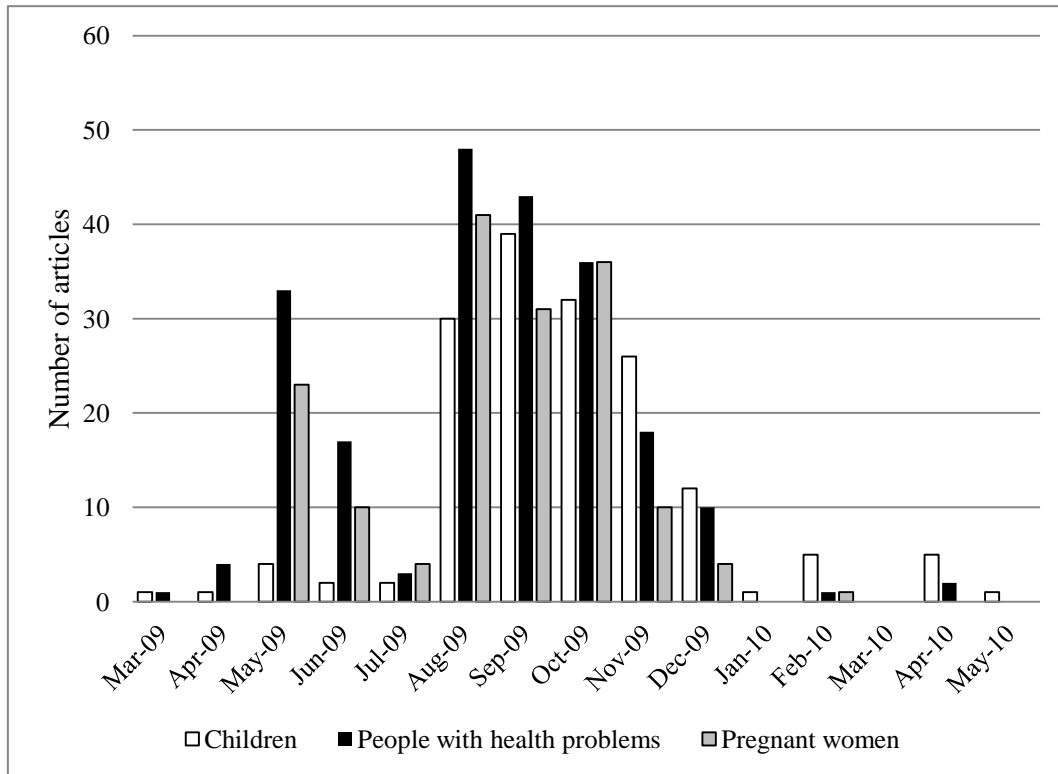
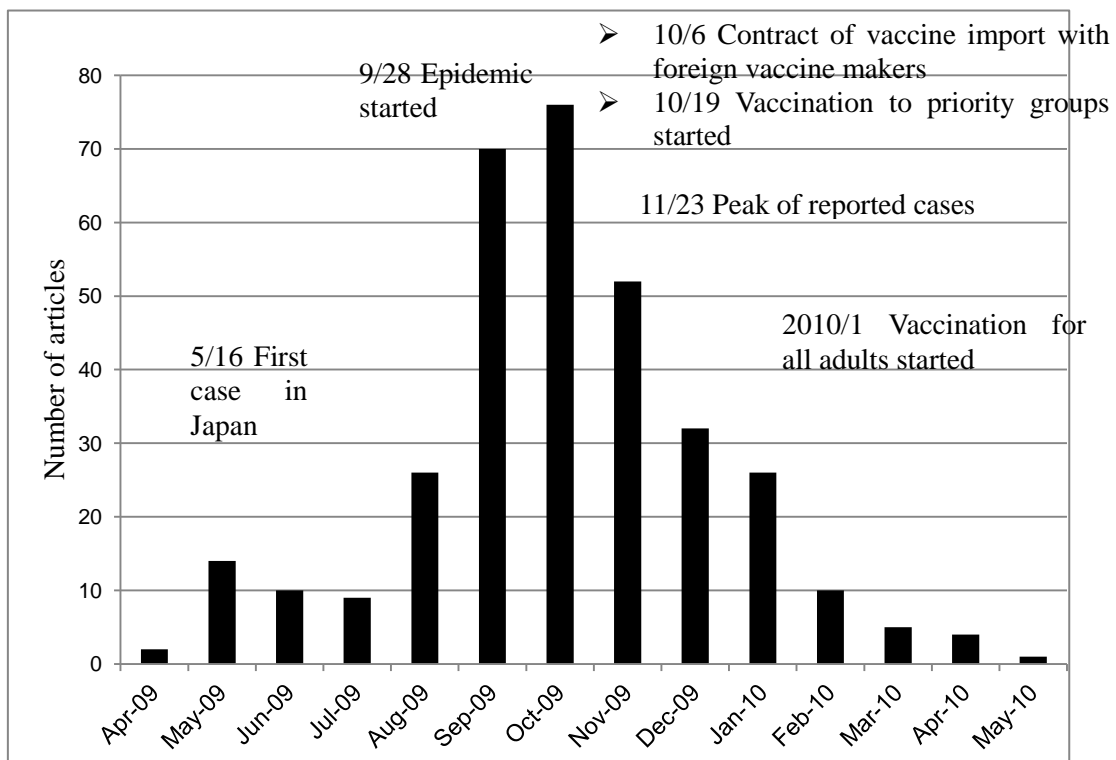
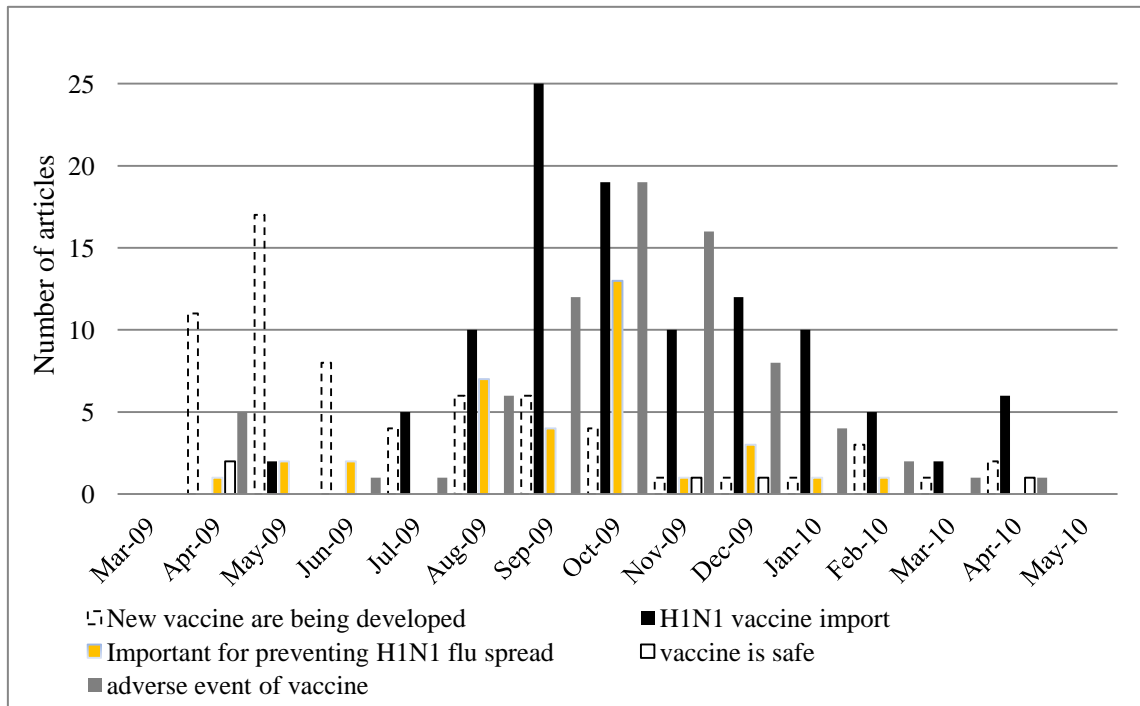


Fig.2.5 Trend in the number of articles regarding vaccines and vaccination



vaccination started for the priority groups including people at higher risk. The news about “vaccine is safe” (n=5, 0.2%) and “the importance of vaccine in H1N1 flu pandemic” (n=35, 1.6%) were less covered (Fig.2.6). Overall, the risk of vaccination was more covered than its benefit.

Fig.2.6 Topics related to vaccines or vaccination over time



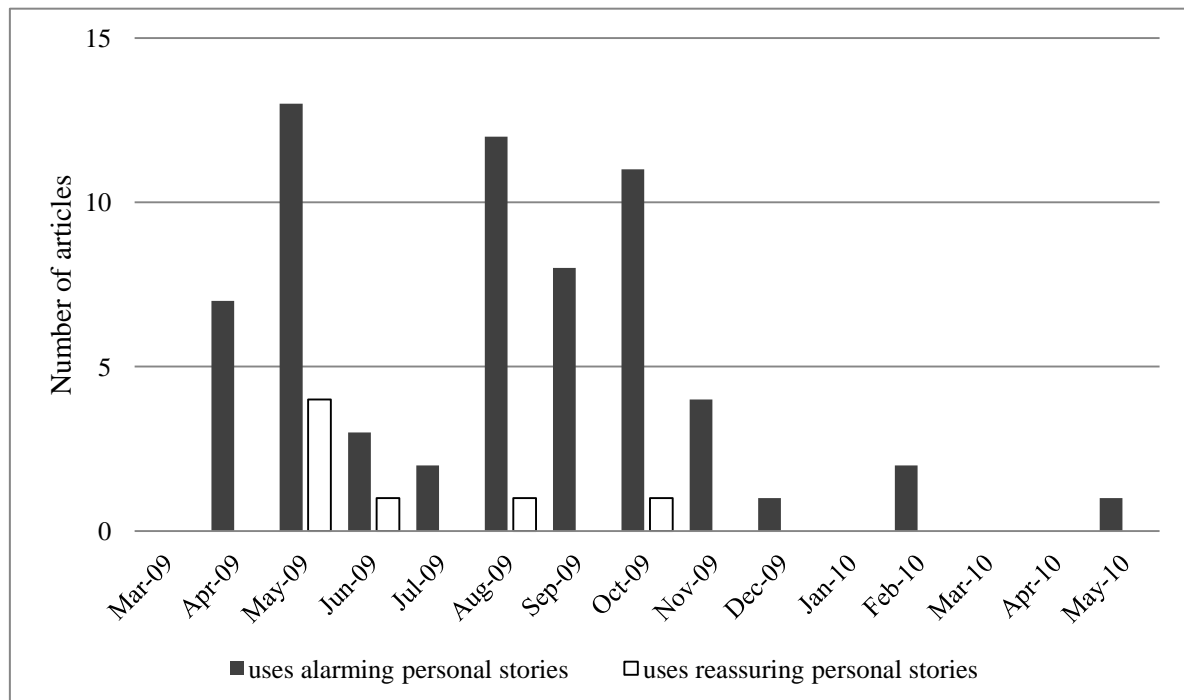
(5) Antiviral drugs

In contrast to vaccines and vaccination, there were more news articles on the treatment with antiviral drugs. There were more news articles on “antiviral drugs help in the treatment of H1N1 flu”(n=174, 7.8%) and “antiviral drugs are effective”(n=69, 3.1%) than “side effect”(n=16, 0.7%) and “resistance of antiviral drugs”(n=43, 1.9%). There were product names of Tamiflu and Relenza mentioned in the news articles. Overall, the benefit of antiviral drugs was more covered than their risks.

(6) *Personal stories to alarm or reassure*

Newspapers sometimes state their opinions in stories with personal situation. Fig. 2.7 shows that most personal stories were alarming. More alarming stories (n=64, 2.9%) were covered than reassuring stories (n=7, 0.3%) in total.

Fig.2.7 News articles using alarming or reassuring personal stories



3.4 Discussion

This is the first in-depth examination of the content analysis of the 2009 A/H1N1 flu pandemic in Japanese major national newspapers. In Japan, newspapers are highly trusted and have good subscription. Their circulation sums up to 50,437,000, and the number of papers per 1000 adults is 459.1 (Japan Newspaper Publishers and Editors Association, 2010). Recent spread of the Internet may change the readers' medium from paper to digital. Still, people show their interest to news by major newspaper companies and news wires via news sections on the newspaper companies' homepages and various search engines (Hashimoto, 2011).

A/H1N1 influenza 2009 was an infectious disease with globally influence that no one has seen in the past. The development of international transport system of men and goods gives every country the same situation, where a new influenza with unknown severity and contagiousness will come into own country except Mexico. Thus, it is the feature of mass media that influences how they report the event in own country. Reporting by newspapers is based on papers. The number of articles per daily papers, the word counts per article, the attachment of photos, illustration, figures and tables, the newspaper sections all shape the image of A/H1N1 flu and its pandemic in the readers' mind.

This research was to explore how the Japanese representative newspapers presented A/H1N1 flu pandemic to their readers. There were four findings.

First, the information transmission was the main role of the newspapers at the early stage of pandemic. They conveyed the information by Ministry of Health, Labour and Welfare, WHO and CDC to the readers with photos of the minister of MHLW, the Japanese-American spokesperson of WHO, and people wearing facial masks at Narita Airport. This is one of the roles of mass media; to disseminate the current event in the society to many people. Therefore, newspapers transmitted the information by the authorities without validation/verification, which is another role of mass media.

Second finding is the high volume of news articles during the early stage of pandemic, overseas outbreak to domestic outbreak. From 4/25 to 5/31, 18.2% of all 675 articles on front pages were about A/H1N1 flu. Events during this period had lower appearance than flu. It gives two issues. One is people refrain from pre-cautious measures due to saturation of fear and reduction of optimism by repeated information presentation. In the research with 79 college students, they tend to refrain from taking preventive measures even they were informed about the clear risk, when the related information was repeatedly presented (Oikawa, 2010). The other point is the importance and priority of

events. While one event is dominantly reported, people cannot know about other events (McCombs, 2004).

Little coverage on specific preventive measures is the third finding. The Internet survey with 1016 Japanese in 2008, prior to A/H1N1 flu pandemic in 2009, revealed people wanted to know “what I should do if my family and/or I get infected”(70.5%) and “what my family and I should do before epidemic occurs”(68.0%) (Mishima, 2010).

We found that there were 189 articles (8.4% of total articles) for facial-mask wearing and 143 articles (6.4%) covering other personal precautionary behaviors such as cough etiquette, gargle, and hands-washing. Social precautionary behaviors including measures at schools and workplaces, cancelation of events and sport games were reported in less than 10% of total A/H1N1 flu news articles.

Thus, specific social and personal precautionary behaviors were promoted less when people perceived vulnerability by an increasing number of patients. Meanwhile, the news articles for people at higher risk were a few (7.2%). This group includes people underlying medical problems, pregnant women, and children. In the coverage trend, news articles to give cautions were mainly posted in the middle of May (the first case in Japan), and August (start of the epidemic) to October (just before the epidemic peak). It shows that the newspapers gave cautions continuously for the target group when needed even with fewer articles.

The last finding was the difference of media approach between the antiviral drugs and the vaccine. In the early stage of pandemic, the vaccine development was illustrated that it would take several months to be available in the market. However, what people wanted to know was the treatment when infected. Newspapers have been reporting along with the public opinion. They covered about the antiviral drugs, an only available solution at that time.

Since 2005 when neuropsychiatric adverse events were found in Japanese pediatric patients who received Tamiflu, MHLW advised the healthcare professionals in Japan not to use it for pediatric patients. At that time, the Japanese newspapers reported Tamiflu paired with side effects of neuropsychiatric adverse events. In 2009 A/H1N1 flu pandemic, the newspapers mainly reported its efficacy and only 16 articles reported on its side effects, partially due to the overseas examination and validation of its efficacy.

In the late stage of pandemic, the A/H1N1 flu vaccine was dominantly reported. Major topics were the volume of vaccine for all Japanese to be secured, the need to import vaccines due to shortage of locally-manufactured vaccines and the safety of imported vaccines. The number of articles on the imported vaccines was 106 (4.7% of vaccine articles) with a majority of 76 articles (71.7% of imported vaccine articles) on the safety of the imported vaccines. It suggests that the Japanese media showed extreme interest on the imported vaccines.

We cannot simply compare our results to those found in UK (Hilton, 2011). Hilton et al. collected news articles of 8 newspapers various from serious ones to tabloids, while we collected from 3 major nationwide newspapers. UK had about 400 articles in May 2009 while Japan had more than 700, approximately 1.7 times more. The comparison of overall coverage trend found three peaks in May (the outbreak), July and October in UK. In July, UK experienced the first peak of the patients in July with about 550 articles, followed by the second peak in October with 200 articles, much fewer than that of the first peak. Japan had only one peak in November with not outstanding number of news articles. Rather, there was a threshold of number of articles in May from the overseas outbreak to the first case in Japan. The number of articles was decreased by one third in June and by one seventh in July. The comparison of news topics found UK reported “H1N1 flu may cause death” twice more than Japan (23.4% in UK, 10.5% in JP).

One of the similarities between UK and Japanese news articles was that the number of news articles didn't increase automatically along with an increase of patients. Another similarity is to focus on cases and deaths in own countries once the first case was found in their countries. That may decrease the opportunity to see the global epidemic in a view of internationally-shared problem.

Limitations and Future Research

We analyzed newspaper articles of three major nationwide newspapers in Japan. They are most representative mass media in Japan, although the public health crises are reported largely by televisions, radios, newspapers, magazines and internet news. There are also sports newspapers which are even quoted and explained on televised news programs every day. Those newspapers usually cover top stories of the day as well as sports and entertainment. This study didn't include those newspapers because they are usually sensational and their target readers are limited.

Reporting personal and societal preventive measures in April to August of 2009 could have contributed to the people's motivation to take precautionary behaviors, because there were fewer patients (Fig. 2.1). At the same time, however, fear may have promoted the people to take precautionary behaviors due to a large volume of reporting on the flu cases.

Many say that mass media often exaggerate the factual event and then scare the readers and audiences. It should be important to explore how stories by mass media influence the public's perception against risk and the following intention to take precautionary behaviors.

4. STUDY3: INFLUENCE OF NEWS ARTICLES ON PREVENTION MOTIVATION: AN INTERVENTION BASED ON PROTECTION MOTIVATION THEORY

4.1 Background and Objectives

In security and health education, persuasive communication is often used to improve the educational effect by appealing the danger against the subjects. Persuasive communication was discussed in the research area of threat appeal. Threat appeal is defined as a persuasive communication intending to promote the recipient's understanding for the specific coping behavior recommendation by threatening the recipient with the danger of that threat in order for a sender of the information to persuade the recipient (Fukada, 1988). There are various behavior change theories and models. Protection motivation theory (PMT) addressed by Rogers (1975, 1983) is better than other models in the following points. Firstly, PMT views threat appeal as one composed with several information sources. Then, PMT can multidimensionally assess the relationship between threat appeal and the effect of persuasion. Secondly, PMT tries to explain the details of persuasion effect by threat appeals using the cognitive mediating process model between threat appeals and persuasion effect by both promotion and inhibition factors. PMT is used not only in threat appeal research area but also in the security and health behaviors (Prentice-Dunn & Rogers, 1986). Thus, this research adopted PMT in the above advantages.

PMT has been used in infectious disease issues. Risk perception of severe acute respiratory syndrome (SARS) was studied in Hong Kong during the outbreak in ten rounds of surveys (Lau, 2003). During the initial phase of the epidemic when the new cases increased, there was a sharp increase in preventive measures. After SARS emerged in one Asian country, the perceived threat of SARS in that country was higher than that in

European countries (de Zwart, 2009). Seven consecutive surveys in the Netherlands revealed that perceived severity of avian influenza maintained high during 12 months, while the knowledge about avian influenza diminished over a year (de Zwart, 2010).

However, no study assessed if the news media on which people depend, as a persuasive communication, promote the preventive behavior motivation during an outbreak of an infectious disease such as novel influenza. Then, are news contents, especially news articles, the factor to promote preventive behaviors? To answer to the above question, two hypotheses were made.

- H3a: Under the circumstances of raised threat such as influenza outbreak, the effect of news reporting (persuasive messages) on people's protection motivation (independent variables) can be explained by the protection motivation theory via dependent variables including perceived severity, perceived vulnerability and perceived response efficacy.
- H3b: The protection motivation is increased by the news articles with higher response efficacy when there are same degree of severity and vulnerability.

4.2 Methods

We performed an online survey with the adult Internet users in Japan.

4.2.1 Participants and design

The study participants were same as the study 1 by the gender and age stratified sampling. A gender and age stratified randomized study with two arms was used to evaluate the effect of one manipulated variable, response efficacy, on the dependent variable of interest: protection motivation. Following the survey of study 1, the participants were asked to read the news articles and answer the subsequent questions.

4.2.2 News articles and stimulus

A series of four news articles were created for the experiment. The news articles were formulated as online news and were typical in the first two weeks from the outbreak. The created articles were assessed by a current journalist of one of the nationwide newspapers. The first article reported an outbreak of artificial flu in a foreign country (1). The second article explained the preventive measures which could be taken by individuals (2). The third article reported the first case in Japan (3). Then, the fourth article explained the vaccine development (4). Articles 2 and 4 had two levels of response efficacy. 2a and 4a included high level of response efficacy, while 2b and 4b stated low level.

Participants in the experiment group read articles 1, 2a, 3, and 4a. Participants in the control group read articles 1, 2b, 3, and 4b. All participants first read an article and then answered to a series of protection motivation dependent variables each by each.

At the beginning of the experimental session, the participants were provided with the guidance in the header of the online questionnaire that there were created news articles on an artificial infectious disease. At the end of the session, they were debriefed of the purpose of the study and again provided with the guidance that the hazards mentioned in the articles didn't exist.

4.2.3 Measures

4.2.3.1 Outcome measure

Protection motivation

Motivation to take measures, or intention to act, was assessed by asking the participants to report the likelihood of taking measures. There were 8 preventive measures. (1) I wash hands more frequently with or without going out. (2) I gargle. (3) I wear facial masks in the crowd. (4) I avoid the crowd. (5) I get a seasonal flu vaccination. (6) I receive

more balanced nutrition than usual. (7) I sleep better than usual. (8) I collect information more. In order to avoid the casual evaluation, we inserted two preventive measures which were not stated in the articles: “I am away from cows and bulls” and “I do not eat beef.” Responses ranged from 1 (never do) to 4 (definitely will do).

4.2.3.2 Independent measures

Perceived severity

Participants were asked to rate from 1 (not at all) to 4 (very severe) for the question: “How severe do you think about the flu?”

Perceived vulnerability

Participants were asked to rate from 1 (not at all) to 4 (very likely) for the question: “How likely do you think to get infected with the flu?”

Perceived comparative vulnerability

Participants were asked to rate from 1 (not at all) to 4 (very likely) for the question: “How likely do you think to get infected with the flu comparing to those in your age and gender?”

Perceived response efficacy

Participants were asked to rate from 1 (not at all) to 4 (very effective) for the question: “How effective do you think to take this preventive measure?” There were 8 preventive measures. (1) I wash hands more frequently with or without going out. (2) I gargle. (3) I wear facial masks in the crowd. (4) I avoid the crowd. (5) I get a seasonal flu vaccination. (6) I receive more balanced nutrition than usual. (7) I sleep better than usual.

(8) I collect information more. In order to avoid the casual evaluation, we inserted two preventive measures which were not stated in the articles: “I am away from cows and bulls” and “I do not eat beef.”

4.2.3.3 Other variables

Understanding the news

Participants were asked to choose true or false for the five questions by reading the created news articles. (1) There are influenza viruses which don't transmit from human to human. (2) The feature of this influenza is that the elders and children are the main patients. (3) The quarantine at the airports has limitations to prevent this influenza virus from entering. (4) The vaccines for this influenza are available one month later. (5) The purpose of this influenza vaccine is to prevent the vaccinated person from getting this infectious disease.

4.2.3.4 Sample size

In order to assess the significant difference in protection motivation between two groups, we performed a pre-test. 60 male and 60 female adult participants aged 20 to 73 answered an online questionnaire on June 18 to 19, 2013. The difference in the protection motivation of eight preventive measures at time 1 and time 4 was analyzed by independent t-test. The average difference in eight preventive measures in the experiment group and control were 2.98 (SD 3.54) and 2.13(SD 3.63). T-value was 1.30 ($p=0.197$). There, we planned a study of a continuous response variable from independent control and experimental subjects with 1 control per experimental subject. In a previous study the response within each subject group was normally distributed with standard deviation 3.54. If the true difference in the experimental and control means is 0.85, we needed to study

273 experimental subjects and 273 control subjects to be able to reject the null hypothesis that the population means of the experimental and control groups were equal with probability (power) 0.8. The Type I error probability associated with this test of this null hypothesis was 0.05. Thus, we decided to perform a survey with 700 participants.

4.2.3.5 Statistical analysis

We used multiple regressions to assess the demographic and other factors influencing the independent and dependent variables. We used mixed ANOVA to assess how perceived severity, perceived vulnerability, perceived response efficacy and protection motivation change according to a series of news articles. We used independent t-test to evaluate the influence of news articles on protection motivation between groups. IBM SPSS ver.21 was used for the above statistical analysis.

4.2.3.6 Ethical consideration

Prior to the pilot study and main study, we received an approval of Research Ethics Committee, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo on March 22, 2013 (No. 10082).

The participants were informed that the answers would be collected anonymously and would not be identified individually, should be voluntarily and can be suspended any time and without any compensation if a participant wishes. We confirmed their agreement by checking their clicks on the agreement tab on the online questionnaire. We also consulted with the legal department of Macromill, Inc. in order to satisfy with their ethical consideration.

4.3 Results

4.3.1 Background of participants

Table 3.1 showed the characteristics of participants by the group status. There was no significant difference in the participants' characteristics between the two groups. Also, the psychometric factors such as risk perception and anxiety were not significantly different between two groups. The score of understanding the news articles was higher in females ($\beta=0.12$, $t=3.15$, $p<0.01$) and was higher in higher education ($\beta=0.13$, $t=3.54$, $p<0.001$), but there was no significant difference between the two groups.

Table 3.1 Participants

	Experiment (N=370)	Control (N=370)	χ^2	p
GENDER				
Male	185(50.0%)	185(50.0%)	n.a.	n.a.
Female	185(50.0%)	185(50.0%)		
AGE (mean)	44.7	44.9	0.20	0.84
EDUCATION			9.34	0.16
Junior high school	6(1.6%)	1(0.3%)		
High school	93(25.1%)	91(24.6%)		
Vocational school	42(11.4%)	42(11.4%)		
Two-year college	42(11.4%)	59(15.9%)		
University	168(45.4%)	165(44.6%)		
Graduate school	17(4.6%)	12(3.2%)		
other	2(0.5%)	0(0.0%)		
No. of HOUSEHOLDS			10.81	0.37
2	82(22.2%)	76(20.5%)		
3	113(30.5%)	129(34.9%)		
4	94(25.4%)	90(24.3%)		
5~	81(10.9%)	75(10.1%)		
Children (≤ 12)	84(22.7%)	84(22.7%)	n.a.	n.a.
Elders (≥ 65)	120(32.4%)	111(30.0%)	0.51	0.48
Basic illness	146(39.5%)	131(35.4%)	1.30	0.26
Psychometric attitudes	Mean(SD)	Mean(SD)	t	p
Risk perception	34.44(5.77)	34.26(6.06)	.416	.677
Risk anxiety	30.26(6.03)	30.46(6.45)	-.436	.663
Personal measures	21.07(5.40)	20.99(5.35)	.205	.837
Social measures	25.75(5.28)	25.72(5.64)	.054	.957

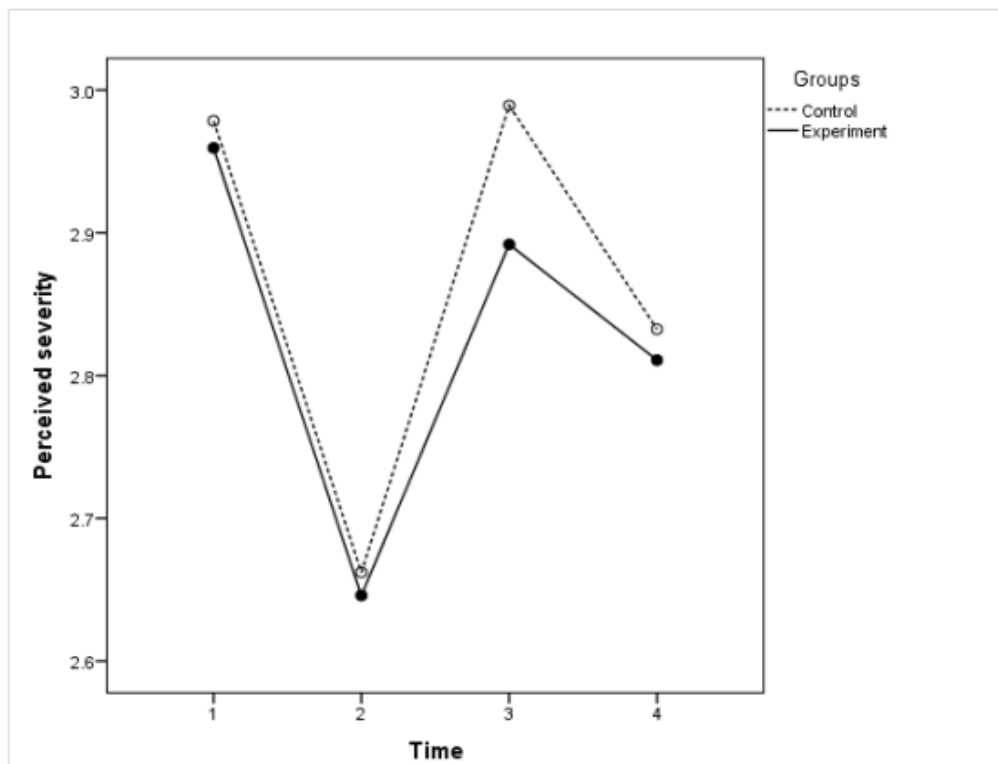
4.3.2 People's protection motivation by protection motivation theory

At an imaginary influenza outbreak, the effect of news reporting at Times 1,2,3, and 4 on three PMT constructs and protection motivation were assessed. Mixed ANOVA showed both the change of variables in timeline and the effect of writing difference. The perceived severity was significantly influenced by time/articles ($MS=15.17$, $F=62.60$, $p<0.01$) (Fig.3.1).

Fig. 3.1 Mixed ANOVA of perceived severity

	df	MS	F
Between groups			
Group	1	1.1	0.59
Error:S	738	1.87	
Within group			
Time1,2,3,4	3	15.17	62.60**
Interaction	3	0.29	1.18
Error	2214	0.24	

** $p<.01$



In this study, the writing of severity had not been manipulated on purpose. Thus,

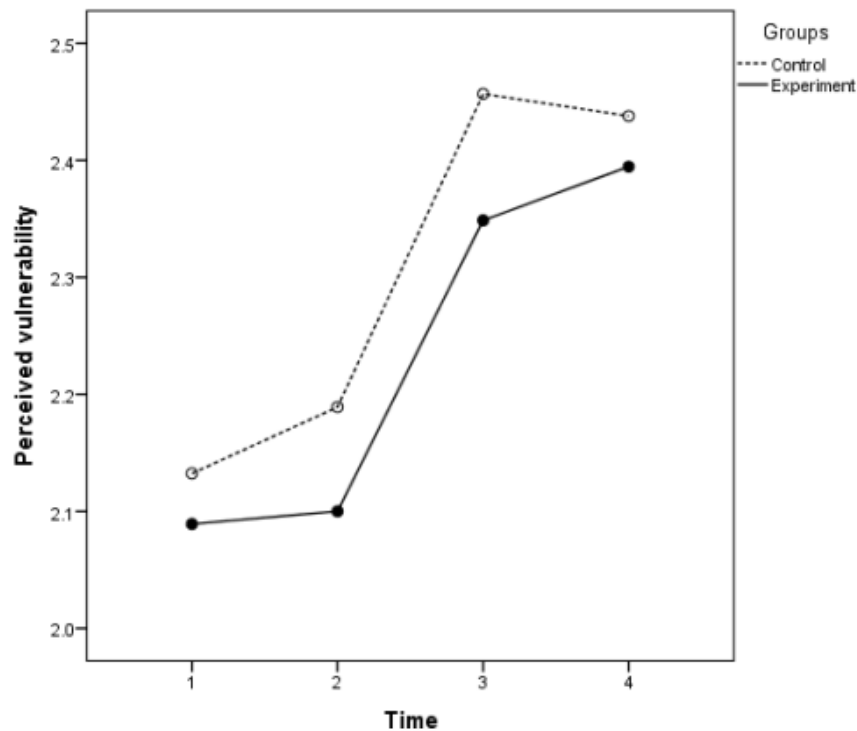
there was no significant difference between two groups. It was noted that the mean of perceived severity at Times 1 through 4 in the experiment group were lower than those in the control group (Table 3.2). At Times 1 and 3 without any preventive measures, the perceived severity was high in both groups.

The perceived vulnerability was influenced by time ($MS=19.75$, $F=113.72$, $p<0.01$) (Fig.3.2). Stimuli by news articles in line with the outbreak were well confirmed in this experiment. Perceived vulnerability was lower in the experiment group than in the control group at Times 2 and 3 (Table 3.2).

Fig. 3.2 Mixed ANOVA of perceived vulnerability

	df	MS	F
Between groups			
Group	1	3.73	2.96
Error:S	738	1.26	
Within group			
Time1,2,3,4	3	19.75	113.72**
Interaction	3	0.20	1.15
Error	2214	0.17	

** $p<.01$

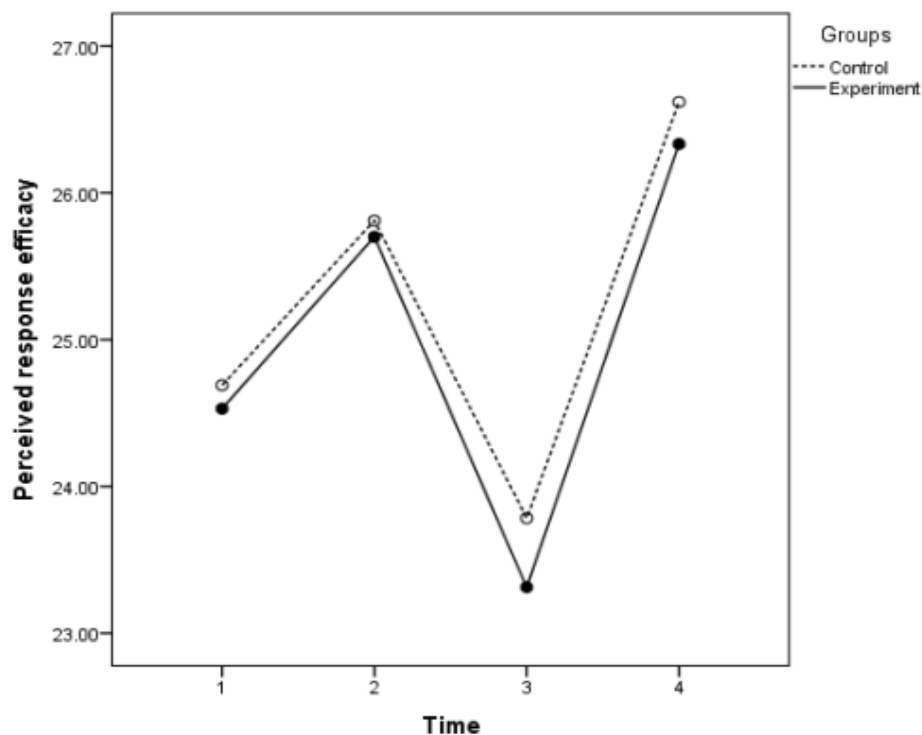


The perceived response efficacy was influenced by time significantly (MS=1225.77, $F=248.43$, $p<0.01$) (Fig. 3.3). At Times 2 and 4, the preventive measures were presented in the news articles. The perceived response efficacy, then, was confirmed high at Times 2 and 4, too. In this study, the perceived response efficacy represented a coping appraisal because the news articles during the outbreak were not supposed to encourage or discourage the self-efficacy, the other construct of coping appraisal (Fig. 1.3). There was no significant difference between the groups, but the perception was lower in the experiment group than in the control group.

Fig. 3.3 Mixed ANOVA of the perceived response efficacy of preventive measures

	df	MS	F
Between groups			
Group	1	48.78	0.77
Error:S	738	63.80	
Within group			
Time1,2,3,4	3	1225.77	248.43**
Interaction	3	4.76	0.97
Error	2214	4.93	

** $p<0.01$



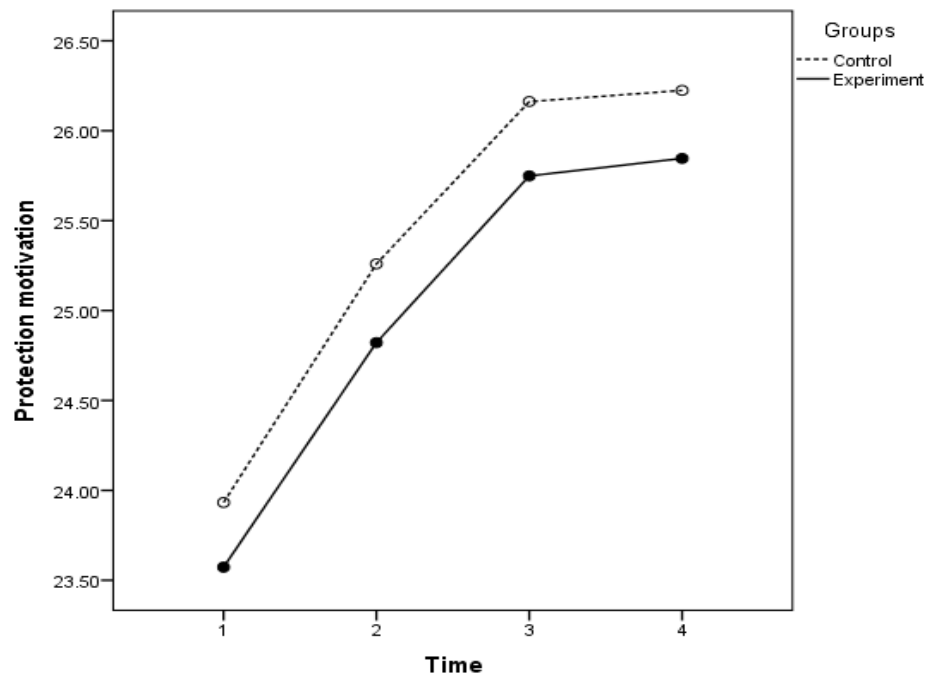
The participants in the experiment group showed lower protection motivation than those in the control group from Time 1 to 4 (Fig. 3.4). Protection motivation increased in

both groups dramatically between Time 1 (experiment: $M=23.57$, $SD=4.88$, versus control: $M=23.93$, $SD=5.15$) to 2 ($M=24.82$, $SD=5.06$, versus $M=25.26$, $SD=5.17$) and Time 2 to 3 ($M=25.75$, $SD=5.03$, versus $M=26.16$, $SD=4.98$), while there was a slight increase in Time 3 to 4 ($M=25.85$, $SD=5.02$, versus $M=26.22$, $SD=5.25$) (Table 3.3).

Fig. 3.4 Mixed ANOVA of Protection motivation

	df	MS	F
Between groups			
Group	1	116.81	1.32 ($p=0.25$)
Error: S	738	88.30	
Within group			
Time1,2,3,4	3	8.5.74	173.62*
interaction	3	0.23	0.05 ($p=0.99$)
Error	2214	4.81	

* $<.05$



Multiple regression analysis with protection motivation as dependent variable and perceived severity, perceived vulnerability and perceived response efficacy as independent variables showed that all three independent variables positively associate with protection motivation at all four time points at Time 1 through 4 (Table 3.2).

Table 3.2 Multiple regression analysis: influence of PMT constructs on protection motivation at Time 1,2,3 and 4 (N=738¹)

		β	t
Time 1	gender	.051	2.057*
	age	.056	2.313*
	education	.003	.126
	Perceived severity	.167	5.976**
	Perceived vulnerability	.075	2.779**
	Perceived response efficacy	.646	24.560**
	Adj. R ² =0.576, F=167.65, $p<.01$		
Time 2	gender	.032	1.554
	age	.072	3.679**
	education	.007	.367
	Perceived severity	.054	2.212*
	Perceived vulnerability	.082	3.512**
	Perceived response efficacy	.786	35.309**
	Adj. R ² =0.718, F=314.38, $p<.01$		
Time 3	gender	.019	.998
	age	.056	3.058**
	education	.013	.680
	Perceived severity	.051	2.092*
	Perceived vulnerability	.052	2.289*
	Perceived response efficacy	.817	37.347**
	Adj. R ² =0.754, F=378.37, $p<.01$		
Time 4	gender	.037	2.171*
	age	.049	2.998**
	education	-.003	-.166
	Perceived severity	.048	2.143*
	Perceived vulnerability	.052	2.451*
	Perceived response efficacy	.839	43.357**
	Adj. R ² =0.804, F=503.79, $p<.01$		

¹Two cases with education “other” were omitted.

Control variables: gender, age, and education

* $p<.05$, ** $p<.01$

4.3.3 Effect of response efficacy in the news articles

Each PMT construct was analyzed statistically using t-test. Table 3.3 showed the mean of each PMT construct at four time periods. Mixed ANOVA with all variables showed there was no significant difference between two groups. We also used t-test to assess the effect of response efficacy in the writing. There was no significant difference between Time 1 and 2, between Time 1 and 3, and between Time 1 and 4 (Data were not shown).

Table 3.3 PMT constructs and protection motivation at Time 1, 2, 3 and 4 (independent t-test)

	Control (N=370)		Experiment (N=370)		
Perceived severity	Mean	SD	Mean	SD	t
Time 1	2.98	.833	2.96	.810	.313
Time 2	2.66	.780	2.65	.801	.279
Time 3	2.99	.813	2.89	.806	1.635
Time 4	2.83	.806	2.81	.798	.367
Perceived vulnerability					
Time 1	2.13	.651	2.09	.625	.922
Time 2	2.19	.626	2.10	.606	1.969*
Time 3	2.46	.706	2.35	.691	2.106*
Time 4	2.44	.716	2.39	.707	.827
Perceived response efficacy of preventive measures					
Time 1	24.69	4.22	24.53	4.16	.517
Time 2	25.81	4.69	25.70	4.68	.322
Time 3	23.78	3.83	23.31	4.25	1.582
Time 4	26.62	4.81	26.33	4.73	.817
Protection motivation					
Time 1	23.93	5.15	23.57	4.88	.975
Time 2	25.26	5.17	24.82	5.06	1.165
Time 3	26.16	4.98	25.75	5.03	1.123
Time 4	26.22	5.25	25.85	5.02	1.002

* $p < .05$

4.3.4 Demographic factors to influence protection motivation

Gender or age alone wasn't a factor to influence protection motivation. Living with children was not a significant factor to influence the protection motivation by mixed ANOVA, however, the means of protection motivation in the experiment group was always higher than those in the control group, which was a reverse event in the those who didn't live with children (Table 3.4).

Table 3.4 Influence of living with children on protection motivation (descriptive statistics)

	Without children				With children			
	Experiment		Control		Experiment		Control	
	(N=285)		(N=286)		(N=83)		(N=84)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Time 1	23.29	4.93	23.86	5.10	24.55	4.58	24.17	5.32
Time 2	24.60	5.01	25.32	5.07	25.61	5.18	25.05	5.52
Time 3	25.54	5.15	26.26	4.95	26.46	4.59	25.85	5.10
Time 4	25.65	5.12	26.38	5.16	26.54	4.68	25.68	5.54

No significant difference was found by other factors including living with seniors, and living with those with basic illness in the household.

4.4 Discussion

4.4.1 The influence of a series of news articles on the perceived severity, perceived vulnerability and perceived response efficacy, leading to protection motivation

Even in this hypothetical experiment, the news articles on an imaginary influenza could influence people's perceived severity, perceived vulnerability, and perceived response efficacy. All three PMT constructs significantly influenced the protection motivation, in that the news articles were the persuasive messages of threat and coping appraisals in protection motivation theory. In the past researches with social psychological experiments, the threat messages were created in a pamphlet or a poster (Kimura, 1999; Tozuka & Fukada, 2005). This experiment had two unique points. First, in our experiment, both the threat and coping messages were created in a form of news articles and were assessed based on the protection motivation theory. Second, an immediate cognitive reaction after reading news articles showed the perceptions of severity, vulnerability, and response efficacy changed in the timeline. At an outbreak of an infectious disease, the news

articles tend to include the threat messages. This experiment showed the importance of coping messages following to the threat messages.

In the previous research, the perceived vulnerability to and perceived severity of the diseases and greater belief in the effectiveness of recommended behaviors to protect against the disease are important predictors of behavior (Bish & Michie, 2010). This study explained this association using protection motivation theory.

4.4.2 The influence of writing of news articles with or without high response efficacy

Although the pretest's result was promising, there was no significant difference between two groups. There were several reasons to consider. One was a slight difference in writing. Both articles at Times 2 and 4 stated the preventive measures. The wordings in all six news articles were validated by an acting journalist and were pre-tested by 120 Internet users. However, the difference in two writings must have been subtle. In practice, the news articles cannot exaggerate the efficacy of a preventive measure without any scientific background and many preventive measures used in these writings didn't show the scientific facts such as numbers and figures. The participants in this study might have knowledge or previous experiences and beliefs. It was possible that the news articles were not easily understood because they were shown only in text. The visual aids could help the people's perceived response efficacy. Also, it could be possible for the participants to read the articles without any specific attention. They reminded their experience in 2009 and could have answered the questions with their experience and belief. It was a limitation of this social psychological experiment.

5. CONCLUSIONS AND FUTURE RESEARCH

Limitations and future research

Several limitations should be noted in interpreting the results of these studies. First, the participants in Studies 1 and 3 were the monitors of an online market research company. They are daily Internet users and may not represent the general population in Japan. However, the participants of this research would become a representation of the future population, considering the fact that the ICT development would increase the number of the Internet users. Another limitation of the online survey was that we were not sure how thoroughly the participants read the news articles. Although the survey system confirmed that the news articles were clicked to open, the actual time spent to read the articles is not known. In a real life, however, people often read the news articles in a limited time without paying full attention. Thus, this experiment might be a plausible situation.

Conclusions

In conclusion, the risk anxiety is related to the televised media while the personal measures are related to the text media. In the real case of A/H1N1 flu pandemic, the newspapers reported more factual information, while the information about the preventive measures was less frequently reported despite its importance for the public. This research found that text mass media reporting could influence the protection motivation by affecting the public's risk perceptions, especially the perceived vulnerability and the perceived response efficacy based on the protection motivation theory.

BIBLIOGRAPHY

Axelrod LJ, Newton JW. Preventing nuclear war: Beliefs and attitudes as predictors of disarmist and deterrentist behavior. *Journal of Applied Social Psychology*, 21 (1):29-40.1991

Bennett P. Understanding responses to risk: some basic findings. In *Risk Communication and Public Health*. New York: Oxford University Press (Bennett P, Calnan K, eds.). 1999

Bennett P, Coles D, MacDonald A. Risk communication as a decision process. In *Risk Communication and Public Health*. New York: Oxford University Press (Bennett P, Calnan K, eds.).1999

Beck KH. The effect of risk probability, outcome severity, efficacy of protection and access to protection on decision making: A further test of protection motivation theory. *Social Behavior and Personality*, 12(2), 121-125.1984

Bish A, Michie S. Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. *British Journal of Health Psychology*. 15(4):797-824. 2010

Bish A, Yardleyb L, Nicollic A, Michiea S. Factors associated with uptake of vaccination against pandemic influenza: A systematic review. *Vaccine* 29(38): 6472– 6484. 2011

Block LG, Keller PA. Beyond protection motivation: An integrative theory of health appeals. *Journal of Applied Social Psychology*, 28(17):1584-1608. 1998

Combs B, Slovic P. Newspaper coverage of causes of death. *Journalism Quarterly*. 56(4):837-43. 1979

de Zwart O, Veldhuijzen IK, Richardus JH, Brug J. Monitoring of risk perceptions and correlates of precautionary behavior related to human avian influenza during 2006 - 2007 in the Netherlands: results of seven consecutive surveys. *BMC Infectious Diseases*. 10(1)114-128. 2010

de Zwart O, Veldhuijzen IK, Elam G, Aro AR, Abraham T, Bishop GD, Voeten HACM, Richardus JH, Brug J. Perceived Threat, Risk Perception, and Efficacy Beliefs Related to SARS and Other (Emerging) Infectious Diseases: Results of an International Survey. *Int. J. Behav. Med*. 16(1):30–40. 2009

Duncan, B. How the media reported the first days of the pandemic (H1N1) 2009: results of EU-wide media analysis *Eurosurveillance* 14(30):19286. 2009

Eppright DR, Tanner JF, Hunt JB. Knowledge and the ordered protection motivation model: Tools for preventing AIDS. *Journal of Business Research*, 30, 13-24. 1994

Floyd D, Prentice-Dunn S, Rogers RW. A meta-analysis of research on protection motivation theory. *Journal of Applied Social Psychology*. 30(2):407-429. 2000

Forgaty AS, Holland K, Imison M, Blood RW, Chapman S, Holding S. Communicating uncertainty- how Australian television reported H1N1 risk in 2009: a content analysis. *BMC Public Health*. 11:181. 2011

Fruin DJ, Pratt C, Owen N. Protection motivation theory and adolescents' perceptions of exercise. *Journal of Applied Social Psychology*, 22(1), 55-69. 1991

Fukada H. Persuasion and behavior change: threat appraisal communication research. *Kitaoji Publishing*. 1988 [in Japanese]

Fukuda M. Risk Communication and Media: Social investigation approach Hokuju publishing, Tokyo, 2010 [in Japanese]

Glik DC. Risk Communication for Public Health Emergencies. *Annu. Rev. Public Health*. 28:33-54. 2007

Goodall, C, Sabo, J, Cline, R., Egbert N. Threat, Efficacy, and Uncertainty in the First 5 Months of National Print and Electronic News Coverage of the H1N1 Virus, *Journal of Health Communication: International Perspectives*, 17:3, 338-355. 2012

Greening L. Adolescents' cognitive appraisals of cigarette smoking: An application of protection motivation theory. *Journal of Applied Social Psychology*, 27(22):1972-1985. 1997

Hashimoto Y, ed. Information Behavior 2010 in Japan. Research survey reports in information studies interfaculty initiative in information studies, the University of Tokyo. 2011

Higashi S, Maeda C, Yamaguchi S. Fundamental research on smoking cessation among the people with difficulty: Based on protection motivation theory. *Bulletin of the School of Health Sciences*,

Faculty of Medicine, Kagoshima University. 15:1-10. 2005[in Japanese]

Hilton S, Hunt K. UK newspapers' representations of the 2009-10 outbreak of swine flu: one health scare not over-hyped by the media? *J Epidemiol Community Health*, 65(10):941-6. 2011

Hirakawa S. Risk communication measures in health risk management: based on the lesson from measures against the novel influenza (A/H1N1) [in Japanese]. *Journal of Mitsubishi Research Institute* (54), 48-69, 2011

Hirose H. Risk communication process and the trust of senders. The Society for Risk Analysis Japan ed. Risk. *Hankyu Communications*. 2000

Holmesa BJ, Henrichb N, Hancockb S, Lestouc V. Communicating with the public during health crises: experts' experiences and opinions. *Journal of Risk Research* 12(6) 793–807. 2009

Japan Newspaper Publishers and Editors Association. 2010

<http://www.pressnet.or.jp/english/data/>

Kaigo M, Kang X, Cai, L, Matsueda S, Uchiyama M, Kim Y, Eva J, Yang S. The effects of Japanese news coverage on the H1N1 Influenza A virus.[in Japanese] *Area Studies Tsukuba* 32:59-80. 2011

Kimura K. Determinants of HIV-preventive intentions among university students : Examination based on protection motivation theory. *Japanese Journal of Social Psychology* (Before 1996, Research in Social Psychology) 12(2):86-96. 1996

Kimura K. Effects of threat appeals on persuasion: an examination from the viewpoint of the Protection Motivation Theory. *Japanese Journal of Experimental Social Psychology*. 39(2):135-149. 1999

Kitzinger J. Researching risk and the media. *Health, Risk and Society* 1: 55–69. 1999.

Lau JT, Yang X, Tsui H, Kim JH. Monitoring community responses to the SARS epidemic in Hong Kong: from day10 to day 62. *Journal of Epidemiology Community Health*, 57(11):864-70. 2003

Lowrey W, Gower K, Evans W, Mackay J. Assessing newspaper preparedness for public health

emergencies. *Journalism and Mass Communication Quarterly* 83: 362–80. 2006

Lupton D. Medical and health stories on the Sydney Morning Herald's front page. *Australian Journal of Public Health*. 19(5):501-508. 1995

Ma R. Media, crisis and SARS: An introduction. *Asian Journal of Communication* 15:241–6. 2005

Maddux JE, Rogers RW. Protection motivation theory and self-efficacy: A revised theory of fear appeals and attitude change. *Journal of Experimental Social Psychology*, 19, 469-479.1983

McCombs M. Setting the agenda: The mass media and public opinion Blackwell Publishing Inc. 2004

Milne S, Sheeran P, Orbell S. Prediction and Intervention in Health-Related Behavior: A Meta-Analytic Review of Protection Motivation Theory. *Journal of Applied Social Psychology*. 30(1): 106-143. 2000

Ministry of Health, Labour and Welfare. Report of the Review Meeting on Measures against Pandemic Influenza (A/H1N1). 2010.

Retrieved from <http://www.mhlw.go.jp/english/topics/influenza>

Mishima K. Public Risk Cognition of Pandemic Flu and Direction for Risk Communication, [in Japanese].*Japanese journal of risk analysis* 20(1), 59-68. 2010

Miyawaki K. The Media Coverage in Risk : Analyzing the Mask Coverage of H1N1 Influenza [in Japanese]. *Shobi journal of policy studies*, Shobi University 13:55-71. 2011

Miyawaki K. A Study of Public Relations and Their Influence in Sendai City Concerning H1N1 Influenza in 2009 [in Japanese]. *Seikei Kenkyu*. Nihon University 49(4):551-577. 2013

Mizuki N, Sato J, Kurosawa M, The Effects of Health Educational Programs on Behaviors toward Breast Self Examination and Mammography: Influence of the Program using Protection Motivation Theory on Knowledge and Cognition. *Journal of Japanese Academy of Human Care Science*. 5(1):24-36. 2012 [in Japanese]

Nakamura M. How mass media have reported “Pandemic Flu”? *Japanese Journal of Disaster Medicine*. 15(2):182-186. 2010

Nakayachi K. The social psychology of risk: toward a better understanding of judgment and trust. Yuhikaku Publishing. 2012 [in Japanese]

Oikawa H, Oikawa M. Cognitive, affective and behavioral changes in crisis: preventing swine flu infection. *The Japanese Journal of Psychology* 81:4:420-5. 2010

Orbell S, Sheeran P. Inclined abstainers: A problem for predicting health-related behavior. *British Journal of Social Psychology*, 37:151-165. 1998

Palardy N, Greening L, Ott J, Dolderby A, Atchison J. Adolescents' health attitudes and adherence to treatment for insulin-dependent diabetes mellitus. *Developmental and Behavioral Pediatrics*, 19(1):31-37. 1998

Parrott R. Advocate or adversary?: The self - reflexive roles of media messages for health. *Critical Studies in Mass Communication*. 13(3):266-278. 1996

Prentice-Dunn S, Rogers RW. Protection motivation theory and preventive health: beyond the Health Belief Model. *Public Health & Epidemiology*. 1(3):153-161. 1986

Rabinowitz S, Melamed S, Feiner M, Weisberg E, Ribak J. Hostility and hearing protection behavior: The mediating role of personal beliefs and low frustration tolerance. *Journal of Occupational Health Psychology*, 1(4):375-381. 1996

Rippetoe PA, Rogers RW. Effects of components of protection-motivation theory on adaptive and maladaptive coping with a health threat. *Journal of Personality and Social Psychology*, 52(3):596-604. 1987

Roche J, Muskatvitch M. Limited precision in print media communication of West Nile virus risks. *Science Communication* 24: 353–65.2003

Rogers RW. A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91, 93-114. 1975

Rogers RW. Cognitive and physiological processes in fear appeals and attitude change: A Revised theory of protection motivation. In J. Cacioppo & R. Petty (Eds.), *Social Psychophysiology*. New York: Guilford Press. 1983

Stainback RD, Rogers RW. Identifying effective components of alcohol abuse prevention programs: effects of fear appeals, messages style and source expertise, *International Journal of Addictions*, 18, 393-405.1983

Stanley MA, Maddux JE. Cognitive processes in health enhancement: investigation of a combined protection motivation and self-efficacy model. *Basic and Applied Social Psychology*, 7, 101-13. 1986

Taha AT, Kimberly M, Hymie A. The 2009 H1N1 Influenza Pandemic: The Role of Threat, Coping, and Media Trust on Vaccination Intentions in Canada. *Journal of Health Communication*. 18:278-290, 2013

Takamoto Y. Influence of AIDS education on HIV coping intentions : Analysis based on revised protection motivation theory and collective protection motivation model. *Bulletin of the Graduate School of Education, Hiroshima University*. Part. III, Education and Human Science 55:267-276. 2007

Tanner JF, Day E, Crask MR. Protection motivation theory: An extension of fear appeal theory in communication. *Journal of Business Research*, 19, 267-276.1989

Tanner JF, Hunt JB, Eppright DR. The protection motivation model: A normative model of fear appeals. *Journal of Marketing*, 55, 36-45. 1991

Tozuka T, Fukada H. A test of collective protection motivation theory in threat appeal persuasion. *Japanese Journal of Experimental Social Psychology*. 44(1): 54-61. 2005

Van der velde FW, Van der Plight J. AIDS-related health behavior: Coping, protection, motivation, and previous behavior. *Journal of Behavioral Medicine*, 14, 429-451.1991

Wada, K. Pandemic (H1N1) 2009 in Japan. Chuo houki Publishing. 2011

Watanabe M. Threat appraisal, coping appraisal and preventive behavior intention against smoking, alcohol, drug use among the high school students: based on the protection motivation theory. *Japanese Journal of Health Behavioral Science*. 15:115-129. 2000 [in Japanese]

Williams D, Olaniran B. Expanding the crisis planning function: Introducing elements of risk

communication to crisis communication practice. *Public Relations Review* 24: 387–400. 1998

Wolf S, Gregory GL, Stephan WG. Protection motivation theory: Prediction of intentions in anti-nuclear war behaviors. *Journal of Applied Social Psychology*, 16(4), 310-321. 1986

World Health Organization. Pandemic (H1N1) 2009. 2009.

Retrieved from <http://www.who.int/csr/disease/swineflu/en>

Yamashita T. Survey of consumer behavior during an outbreak of influenza A(H1N1) in Kobe. *Bulletin of Ryutsu Kagaku University*. 23(2):37-61. 2011 [in Japanese]

Appendix A: Coding manual used in Study 2

コーディングマニュアル

1. コーダーは、新聞記事を 1 本ずつ読み、以下のカテゴリーに沿って、別紙のエクセルファイルにまとめる。
 - (ア) 新聞記事の見出しを記入する。
 - (イ) 見出しが「警戒心をあおったり不安にさせたりする」ものであれば1、「安心させる」ものであれば2、「中立的な」ものであれば3を記入する。
 - (ウ) 新聞名「朝日新聞」1、「読売新聞」2、「毎日新聞」3のいずれかを記入する。
 - (エ) 発行年月日を YYYYMMDD の表記で記入する。
 - (オ) 文字数を記入する。
 - (カ) 図や表、写真が有れば1、無ければ 0 を記入する。
 - (キ) その記事が掲載されている新聞面(例えば、社会、政治など)を記入する。新聞社データベースで使用されている面の名をそのまま使うこと。アルファベットはそのまま記入する。ただし数字は除く。(例、国際 A=>国際 A、3社会=>社会)
 - (ク) 新型インフルエンザに関連して、設問の事がらが書かれていれば1、書かれていなければ0を記入する。
 - (ケ) 最後に、記事全体を見て、「警戒心を高めたり不安にさせたりする」ものであれば1、「安心させる」ものであれば2、「中立的な」ものであれば3を記入する。

コーディングシート


	見出し
	見出しの印象(1:警戒心をあおる、2:安心させる、3:いずれでもない)
	新聞名(1:朝日新聞、2:読売新聞、3:毎日新聞)
	発行年月日(YYYYMMDD)
	文字数
	図や表の有無(1:有り、0:無し)
	新聞面
新型インフルエンザに関する情報	日本国内の死亡数(統計)が書かれていますか(1:有り、0:無し)
	日本国内の発症数(統計)が書かれていますか(1:有り、0:無し)
	世界での死亡数(統計)が書かれていますか(1:有り、0:無し)
	世界での発症数(統計)が書かれていますか(1:有り、0:無し)
	日本国内での新型インフルエンザ発生の急増の予測が書かれていますか(1:有り、0:無し)
	世界での新型インフルエンザ発生が急増するとの予測が書かれていますか(1:有り、0:無し)
	新型インフルエンザの症状について、たいい毒性は強くないと書かれていますか(1:

	有り、0:無し)
	新型インフルエンザによって死亡することがある、と書かれていますか(1:有り、0:無し)
	新型インフルエンザの発生を「エpidemick」または「伝染病」と表記されていますか(1:有り、0:無し)
	新型インフルエンザの発生を「パンデミック」または「大流行」と表記されていますか(1:有り、0:無し)
	新型インフルエンザの感染について書かれていますか(1:有り、0:無し)
	新型インフルエンザの症状(高熱や咳)について書かれていますか(1:有り、0:無し)
リスク因子	妊婦にとっては新型インフルエンザのリスクが高いことが書かれていますか(1:有り、0:無し)
	基礎疾患のある人にとっては新型インフルエンザのリスクが高いことが書かれていますか(1:有り、0:無し) 例、慢性の肺疾患、心疾患、腎疾患、肝疾患、神経疾患、糖尿病、免疫阻害または免疫抑制
新型インフル エンザワクチ ン全般	新型インフルエンザの新しいワクチンが開発中であること、もしくは開発されたことについて書かれていますか(1:有り、0:無し)
	季節型インフルエンザのワクチンは新型インフルエンザには効かないことが書かれていますか(1:有り、0:無し)
	ワクチンがなぜ新型インフルエンザの広がりを防ぐのに重要なのか書かれていますか(1:有り、0:無し)
	どのくらいの数量の新型インフルエンザのワクチンが日本政府によって注文されたのかについて書かれていますか(1:有り、0:無し)
	新型インフルエンザワクチンの輸入について書かれていますか(1:有り、0:無し)
	新型インフルエンザワクチンによる健康被害救済制度について書かれていますか(1:有り、0:無し)
新型インフル エンザの安全 性	新型インフルエンザワクチンの副作用(副反応)について書かれていますか(1:有り、0:無し) 例、発熱、頭痛、筋肉痛、注射部位の腫れ
	新型インフルエンザワクチンは安全であると書かれていますか(1:有り、0:無し)
	新型インフルエンザワクチンが適切に治験(臨床試験)されたと書かれていますか(1:有り、0:無し)
	新型インフルエンザワクチンが適切に治験(臨床試験)されなかったと書かれていますか(1:有り、0:無し)
新型インフル エンザワクチ ンのリスク	新型インフルエンザワクチンは妊婦にとって安全であると書かれていますか(1:有り、0:無し)
	アレルギー(例えば、ゴムや卵)をもつ人にとってはワクチンは安全でないと書かれていますか(1:有り、0:無し)

因子	
製薬会社	次の製薬会社の社名が書かれていますか (1:有り、0:無し) グラクソスミスクライン、ロシュ、サノフィ・アベンティス、サノフィパスツール、ノバルティス、バクスター、中外製薬、第一三共
	新型インフルエンザのワクチンの商品名が書かれていますか(1:有り、0:無し)
	新型インフルエンザのために、製薬会社の利益が増加すると書かれていますか(1:有り、0:無し)
	新型インフルエンザのワクチンを販売することに関して、製薬会社を非難していますか(1:有り、0:無し)
意思決定	当初予測していたよりも新型インフルエンザの毒性は強くはないと書かれていますか(1:有り、0:無し)
	日本政府や自治体の対策状況について書かれていますか(1:有り、0:無し)
	新型インフルエンザの罹患について過度に重く予想したとして、日本政府を非難していますか(1:有り、0:無し)
	新型インフルエンザの罹患について過度に重く予想したとして、保健当局や関連する研究機関(例えば、国立感染症研究所など)を非難していますか(1:有り、0:無し)
エピソード	新型インフルエンザについて警戒心を高めるような個人のエピソードを使っていますか(1:有り、0:無し)
	新型インフルエンザについて安心させるような個人のエピソードを使っていますか(1:有り、0:無し)
タミフル および リレンザ	抗ウイルス薬(タミフルやリレンザ)が新型インフルエンザの治療に役立つと書かれていますか(1:有り、0:無し)
	タミフルやリレンザが新型インフルエンザの有効な治療薬であると書かれていますか(1:有り、0:無し)
	タミフルやリレンザが新型インフルエンザの有効な治療薬ではないと書かれていますか(1:有り、0:無し)
	タミフルやリレンザの副作用について書かれていますか(1:有り、0:無し)
	タミフルやリレンザの耐性について書かれていますか(1:有り、0:無し)
国内の感 染予防	国内において、休校、休園の措置について書かれていますか(1:有り、0:無し)
	国内において、職場(企業、医療現場、国会、スポーツチームを含む)の対策状況について書かれていますか(1:有り、0:無し)
	旅行(海外出張や観光など)の制限について書かれていますか(1:有り、0:無し)
	イベントやスポーツの試合の制限について書かれていますか(1:有り、1:無し)
	マスク着用について書かれていますか(1:有り、0:無し)
	一人ひとりがどのように感染を防止できるのかについて書かれていますか(例えば、くしゃみをするときに口を覆う、手を洗うなど) (1:有り、0:無し)
その他	新型インフルエンザに罹ったセレブ(有名人、スポーツ選手、タレントなど)について書か

	れていますか(1:有り、0:無し)
	新型インフルエンザの予防接種を拒否した医療関係者について書かれていますか(1:有り、0:無し)
	過去のインフルエンザ(スペイン風邪、SARS など)の発生について書かれていますか(1:有り、0:無し)
	小児に特定した注意表現がありますか(1:有り、0:無し)
	WHO や CDC の動向について書かれていますか(1:有り、0:無し)
	国内において、対策グッズなど特定商品の販売増や旅行ツアーのキャンセルによる売り上げ減などの経済効果や影響について書かれていますか(1:有り、0:無し)
	本文記事全体の印象(1:警戒心をあおる、2:安心させる、3:いずれでもない)

Appendix B: Screening for Online survey (Studies 1 & 3)



ご自身に関するアンケート

下記アンケートにご協力をお願いいたします。

当アンケートの回答者の皆様へお願い

マクロミルモニタの皆様にはモニタ規約にて「調査についての守秘義務」の徹底をお願いしています。

当アンケートの内容および当アンケートで知り得た情報については、決して第三者に口外しないよう(掲示板やホームページへの書き込みを含む)、ご協力をお願いします。

Q1 あなたと同居している方を全てお答えください。(いくつでも)
※あなたから見た続柄でお答えください。

【必須入力】

☐ 1. 配偶者・パートナー

☐ 2. 子供

☐ 3. 自分(配偶者)の親

☐ 4. 自分(配偶者)の兄弟姉妹

☐ 5. 自分(配偶者)の祖父母

☐ 6. 孫

☐ 7. その他

☐ 8. 同居していない(ひとり暮らし)

Q2 あなたは、インターネットを利用して以下のサイトやサービスを閲覧／利用していますか。
閲覧／利用している方は、その頻度として最もあてはまるものをお答えください。
※パソコンや携帯電話、スマートフォンなど使用機器は問わずお答えください。

【必須入力】

	1 毎日	2 週 4「 6 日 程 度	3 週 1「 3 日 程 度	4 1 ヶ 月 に 1「 3 日 程 度	5 2「 3 ヶ 月 に 1 日 程 度	6 半 年 に 1 日 程 度	7 それ 以下	8 ほ ぼ 関 心 ／ 利 用 し な い
1. 情報検索	→ ○	○	○	○	○	○	○	○
2. ニュース	→ ○	○	○	○	○	○	○	○
3. 地図	→ ○	○	○	○	○	○	○	○
4. ブログ・SNS	→ ○	○	○	○	○	○	○	○
5. 動画	→ ○	○	○	○	○	○	○	○
6. ネットショッピング	→ ○	○	○	○	○	○	○	○

■アンケート内容

このアンケート調査は、社会における自然災害や事件、事故、伝染病などによるさまざまなリスクが人々にどのように認識されているか、そしてマスメディアの報道が人々にどのように影響をもたらすかを明らかにするために、実施するものです。

そこで、本調査では、ご自身のマスメディアや健康に関するスキルや認識についてお伺いします。その後、4本の文章をお読みいただき、それぞれについて、ご感想を伺います。**これらの文章は調査用に作成されたものであり、架空や虚偽の内容が含まれますので、ご了承ください。**

※この調査は、学術調査として実施いたします。
調査の結果は特定の個人が識別できないよう統計的に処理し、
研究以外の目的で使用することはありません。

※抽選により対象にならない場合もございます。予めご了承ください。
※希望数に達した場合、アンケートは早期終了する場合がございます。

Q3 上記のようなアンケートに回答いただくことは可能ですか？ 【必須入力】

- ☐ 1. 回答できる
- ☐ 2. 回答できない
- ☐ 3. わからない

アンケートは以上で終わりです。ご協力ありがとうございました。
回答もれがないか確認し、よろしければ「送信」ボタンをクリックしてください。

送 信

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あなたの意識に関するアンケート

このたびはアンケート調査にご協力くださり、誠にありがとうございます。

このアンケート調査は、社会における自然災害や事件、事故、伝染病などによるさまざまなリスクが人々にどのように認識されているか、そしてマスメディアの報道が人々にどのように影響をもたらすかを明らかにするために、実施するものです。

このアンケートから得られた結果は、個々ではなく、全体的にコンピュータによる統計処理を行います。調査データは厳重に管理し、皆様の個人情報が外部に漏れることは一切ありませんのでご安心ください。

なお、ひとつでも無回答や誤回答があると、全体の調査結果に影響を与えますので、必ずすべての質問にお答えくださいますよう、よろしくお願いいたします。

アンケートは20分ほどで終了します。

※参加に際してのご注意

このアンケート調査は、社会における自然災害や事件、事故、伝染病などによるさまざまなリスクが人々にどのように認識されているか、そしてマスメディアの報道が人々にどのように影響をもたらすかを明らかにするために、実施するものです。

そこで、本調査では、ご自身のマスメディアや健康に関するスキルや認識についてお伺いします。その後、4本の文章をお読みいただき、それぞれについて、ご感想をお伺いします。

これらの文章は調査用に作成されたものであり、架空や虚偽の内容が含まれますので、ご了承ください。

回答をしたくないと判断された場合はお手数ですが、「回答をやめる」ボタン、あるいはブラウザを閉じて、アンケートを終了してください。

お忙しいところ恐れ入りますが、下記アンケートにご協力をお願いいたします。

当アンケートの回答者の皆様へお願い

マクロミルモニタの皆様にはモニタ規約にて「調査についての守秘義務」の徹底をお願いしています。

当アンケートの内容および当アンケートで知り得た情報については、決して第三者に口外しないよう（掲示板やホームページへの書き込みを含む）、ご協力をお願いします。

Q1 以下の項目について、あなたはどの程度「危険だ」と感じますか。
それぞれ1つずつ選んでください。
【必須入力】

		1 まったく危険と 感じない	2 あまり危険と 感じない	3 やや危険と 感じる	4 非常に危険と 感じる
1. 大地震、竜巻や台風、豪雨、豪雪、地滑り	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 火事	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 生物・化学テロ(炭疽菌、サリンなど)	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 原子力発電所の事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 交通事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 転倒・つまづき	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 医薬品やワクチンによる健康被害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 食中毒	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 飲料水の安全性	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. 感染症、伝染病	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 呼吸器疾患、心疾患、がん、糖尿病などの代謝性疾患、腎機能障害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2 以下の項目について、あなたはどの程度不安を感じていますか。
それぞれ1つずつ選んでください。
【必須入力】

		1 まったく不安 ではない	2 あまり不安 ではない	3 やや不安 である	4 非常に不安 である
1. 大地震、竜巻や台風、豪雨、豪雪、地滑り	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 火事	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 生物・化学テロ(炭疽菌、サリンなど)	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 原子力発電所の事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 交通事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 転倒・つまづき	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 医薬品やワクチンによる健康被害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 食中毒	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 飲料水の安全性	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. 感染症、伝染病	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 呼吸器疾患、心疾患、がん、糖尿病などの代謝性疾患、腎機能障害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 あなたは、以下の項目に対して、どの程度、個人的に対策をとっていますか。
それぞれ1つずつ選んでください。

【必須入力】

		1 まったく 対策して いない	2 あまり 対策して いない	3 少し 対策を とっている	4 対策は 万全で ある
1. 大地震、竜巻や台風、豪雨、豪雪、地滑り	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 火事	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 生物・化学テロ(炭疽菌、サリンなど)	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 原子力発電所の事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 交通事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 転倒・つまづき	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 医薬品やワクチンによる健康被害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 食中毒	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 飲料水の安全性	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. 感染症、伝染病	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 呼吸器疾患、心疾患、がん、糖尿病などの代謝性疾患、腎機能障害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 以下の項目に対して、日本社会ではどの程度対策が整備されていると感じますか。
それぞれ1つずつ選んでください。

【必須入力】

		1 まったく 対策して いない	2 あまり 対策して いない	3 少し 対策を とっている	4 対策は 万全で ある
1. 大地震、竜巻や台風、豪雨、豪雪、地滑り	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 火事	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 生物・化学テロ(炭疽菌、サリンなど)	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 原子力発電所の事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 交通事故	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 転倒・つまづき	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 医薬品やワクチンによる健康被害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 食中毒	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 飲料水の安全性	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. 感染症、伝染病	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 呼吸器疾患、心疾患、がん、糖尿病などの代謝性疾患、腎機能障害	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Q5** あなたは、1日にどのくらいの時間、以下のメディアにアクセスしていますか。
 自宅、学校、職場、通勤・通学などでの利用をすべて含めて、
 それぞれ、以下からあてはまるものを1つだけ選んでください。
【必須入力】

	1 (ほとんど)利用しない	2 15分未満	3 15分～30分未満	4 30分～1時間未満	5 1～2時間未満	6 2～3時間未満	7 3～4時間未満	8 4～5時間未満	9 5時間以上
1. インターネット(PC、スマートフォン等での視聴を含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. テレビ(PC、スマートフォン等での視聴を含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 新聞(紙またはウェブを含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Q6** あなたは、以下の情報媒体について、普段どれくらい利用していますか。
 それぞれ1つずつ選んでください。
【必須入力】

	1 (ほとんど)利用しない	2 週に1～2日利用する	3 週に3～4日利用する	4 週に5～6日利用する	5 毎日利用する
1. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)のニュース	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)のワイドショー	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)の情報番組	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. ラジオ(PC、スマートフォン、携帯電話等での視聴を含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 新聞(紙またはウェブ)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. ニュースサイト(PC、スマートフォン、携帯電話等での視聴を含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 政府や自治体のホームページ	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 学術機関(研究所や大学など)のホームページ	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. その他のサイト、ポータルサイト	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. ソーシャルメディア(PC、スマートフォン、携帯電話等での視聴を含む)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 家族、友人、知人等の話(直接、メールや電話等)	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. 政府・自治体の広報誌、パンフレット、ちらしなど	→ <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 あなたは、以下の情報媒体について、どれくらい信用しますか。
それぞれ1つずつ選んでください。
【必須入力】

	1	2	3	4	5
	まったく信用していない	あまり信用していない	どちらでもない	やや信用している	とても信用している
1. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)のニュース	→ ○	○	○	○	○
2. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)のワイドショー	→ ○	○	○	○	○
3. テレビ(TV、スマートフォン、携帯電話等での視聴を含む)の情報番組	→ ○	○	○	○	○
4. ラジオ(PC、スマートフォン、携帯電話等での視聴を含む)	→ ○	○	○	○	○
5. 新聞(紙またはウェブ)	→ ○	○	○	○	○
6. ニュースサイト(PC、スマートフォン、携帯電話等での視聴を含む)	→ ○	○	○	○	○
7. 政府や自治体のホームページ	→ ○	○	○	○	○
8. 学術機関(研究所や大学など)のホームページ	→ ○	○	○	○	○
9. その他のサイト、ポータルサイト	→ ○	○	○	○	○
10. ソーシャルメディア(PC、スマートフォン、携帯電話等での視聴を含む)	→ ○	○	○	○	○
11. 家族、友人、知人等の話(直接、メールや電話等)	→ ○	○	○	○	○
12. 政府・自治体の広報誌、パンフレット、ちらしなど	→ ○	○	○	○	○

Q8 あなたは、病気や健康に関連した情報を自分自身で探したり利用したりすることができると思いますか。
以下のそれぞれの質問について、あなたの考えに最も近いものを選んでください。
【必須入力】

	1	2	3	4	5
	まったくそう思わない	あまりそう思わない	どちらでもない	まあそう思う	強くそう思う
1. 新聞、本、テレビ、インターネットなど、いろいろな情報源から情報を集められる。	→ ○	○	○	○	○
2. たくさんある情報の中から、自分の求める情報を選び出せる。	→ ○	○	○	○	○
3. 情報を理解し、人に伝えることができる。	→ ○	○	○	○	○
4. 情報がどの程度信頼できるかを判断できる。	→ ○	○	○	○	○
5. 情報をもとに健康改善のための計画や行動を決めることができる。	→ ○	○	○	○	○

Q9

以下のそれぞれの質問について、あなたの考えにもっとも近いものを選んでください。
【必須入力】

	1 まったくあてはまらない	2 ややあてはまらない	3 どちらともいえない	4 ややあてはまる	5 よくあてはまる
1. 自分の行動がいかに社会に影響を与えているのかを考えることがある。	→ ○	○	○	○	○
2. 自分が暮らす社会全体のことについて考えることがある。	→ ○	○	○	○	○
3. 社会がいかに成り立っているかということについて考えることがある。	→ ○	○	○	○	○
4. 自分の行動が、同じ社会に暮らすほかの人々にいかなる影響を及ぼすかを考えることがある。	→ ○	○	○	○	○
5. 社会全体がどのような方向に動いているかということに関心がある。	→ ○	○	○	○	○
6. 自分の暮らす社会が将来どのようなようになっていくのか気になる。	→ ○	○	○	○	○
7. 社会の変化が、自分の生活にどのような影響を与えるのかを考えることがある。	→ ○	○	○	○	○
8. 自分の行動が、同じ社会に暮らすほかの人々にどのように受け取られるかを考えることがある。	→ ○	○	○	○	○
9. 自分の暮らす社会で今なにが問題になっているのか気になる。	→ ○	○	○	○	○
10. 自分の生活と社会の仕組みがどのように関連しているのかを考えることがある。	→ ○	○	○	○	○
11. 社会の中で、自分がどのような立場におかれているかを考えることがある。	→ ○	○	○	○	○
12. 社会の中で、自分とは異なる立場にいる人々のことについて考えることがある。	→ ○	○	○	○	○

あなたは今、日本国内に住んでいます。

今日、ある感染症の報道があったと想定して、その記事をお読みください。

■以下の記事をお読みください。

牛インフルエンザか、80人死亡 メキシコ、感染の疑い1000件 米では人・人感染確認

世界保健機関(WHO)は25日、牛インフルエンザによりメキシコ国内で80人が死亡した可能性があると発表した。一方、米疾病対策センター(CDC)は同日、7月以降、カリフォルニア州とニューメキシコ州で確認された牛インフルエンザウイルスについて、人から人に感染するウイルスであると断定した。

WHOの発表によると、メキシコでは人への感染が疑われる例が7月末以降数百件発生し、80人が死亡した可能性がある。メキシコ市周辺で1000件超の感染の疑いが報告され、このうち67人が死亡した。

インフルエンザで死亡する場合、一般的には肺炎などを引き起こす。患者の多くは、普段病気になることが少ない青年層だという。AFP通信によると、26日はメキシコ市の学校の多くが休校になる。

ロイター通信によると、メキシコ政府は感染を広げないために集会を避けたり、列車やバスの使用を避けたりするよう呼びかけている。

米国の感染について、CDCは「ウイルスは牛から牛、牛から人に感染するだけでなく、人から人へ拡大することが確認された」としている。ただ、「現時点では、どれほど容易に感染が広がるかはわからない」という。米国内の10人の患者はいずれも回復しているが、ロイター通信によるとCDCの報道官は「非常に懸念している」と述べた。

今回、米国で見つかった牛インフルエンザウイルスは、牛と人のそれぞれに感染するウイルスの遺伝子が混じった未知の構造の遺伝子を持っており、遺伝子が増えたことで、人への感染力を持つ新型ウイルスになった可能性がある。

日本政府は25日、人から人へ感染し、大流行を引き起こす懸念があるとして、この牛インフルエンザを新型インフルエンザ等対策特別措置法に基づき「新型インフルエンザ」と認定した。

厚生労働省の担当者は26日、深夜まで情報収集に追われた。担当部署の結核感染症課の職員は、WHOやCDCの情報をホームページで確認したり、関係機関に問い合わせたりした。

※設問ページに移った後は、記事を読み返すことはできません。

以下のそれぞれの質問について、あなたの考えに最も近いもの一つだけ選んでください。

Q10 この感染症に感染することは、**今**、あなたにとってどのくらい深刻ですか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| まったく深刻でない | あまり深刻でない | やや深刻である | 大変深刻である |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q11 あなたはどのくらいの確率で、**今**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| ほとんどないと思う | あまり確率が高くないと思う | やや高い確率であると思う | 高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q12 日本にいる、あなたと同性の同世代の人に比べて、
あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1
ほとんどないと思う | 2
あまり確率が高くないと思う | 3
やや高い確率であると思う | 4
高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q13 あなたは次の行動が、**全**、感染予防に効果があると思いますか？
【必須入力】

- | | | 1
まったく
そう
思わない | 2
あまり
そう
思わない | 3
やや
そう
思う | 4
大変
そう
思う |
|------------------------|---|-------------------------|------------------------|-----------------------|-----------------------|
| 1. 外出後以外でもこまめに手を洗う | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. うがいをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. 牛に近づかない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. 混み合った場所でマスクをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. 牛肉を食べない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. 人ごみを避ける | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. 季節性インフルエンザワクチンを接種する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. いつもよりバランスのよい栄養をとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. いつもより睡眠を十分にとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. もっと情報を収集する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q14 あなたはこの感染症にかからないように、**全**、次の行動をとりますか？
【必須入力】

- | | | 1
まったく
行
わない | 2
あまり
行
わない | 3
やや
高い
確
率
で
行
う | 4
高
い
確
率
で
行
う |
|------------------------|---|-----------------------|-----------------------|--|--------------------------------------|
| 1. 外出後以外でもこまめに手を洗う | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. うがいをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. 牛に近づかない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. 混み合った場所でマスクをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. 牛肉を食べない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. 人ごみを避ける | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. 季節性インフルエンザワクチンを接種する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. いつもよりバランスのよい栄養をとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. いつもより睡眠を十分にとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. もっと情報を収集する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

■次の記事をお読みください。

牛インフル警戒 個人でできることは

牛インフルエンザが人を襲った。人から人へ感染する能力をもち、メキシコ、米国で感染が広がっている。しかし、一人ひとりの予防意識を高めれば、感染拡大は食い止められる。

今回の新型インフルエンザは、多くの症例が軽症であると報告されている。つまり、季節性のインフルエンザに類似の、発熱、せき、のどの痛み、筋肉痛等である。米国では感染者の20～25%で下痢、嘔吐(おうと)などの消化器症状がみられると報告されている。

インフルエンザは本来、急速に感染が拡大するのがその特徴の一つともいえる病気だ。症状がほとんど自覚されないような軽症であっても、その人から他の人への感染はみられるので、流行を一部の地域に限定して封じ込めることは容易ではない。そのため、一人ひとりが予防方法を実施することによって、感染の広がりを遅くしたり、被害を小さくしたりすることが重要である。

かからないために、かかっても重くならないために

- 発生地域などに関する情報に注意し、収集する。
- 症状が通常の季節性インフルエンザとよく似ているので、すぐに新型インフルエンザにかかったと考えず、冷静な判断が必要。
- 人混みを避ける。
- 正しい手洗いの仕方を復習し、外出後以外でもこまめに手を洗う。
- 予防に一定の効果があるので、不織布製のマスクを着用する。
- 感染を予防というより、のどを清浄に保つ効果があるので、うがいをする。
- 適切な栄養と睡眠をとって体力を維持する。
- ハイリスク者に当てはまる人は、特に以上の予防行動に留意する。
- インフルエンザ以外の感染症で、予防接種で予防できるもの(例えば、はしかなど)は予防しておく。

※設問ページに移った後は、記事を読み返すことはできません。

<Control group>

■ 次の記事をお読みください。

牛インフル警戒 個人でできることは

牛インフルエンザが人を襲った。人から人へ感染する能力をもち、メキシコ、米国で感染が広がっている。一人ひとりの予防意識で感染拡大は食い止められるのか。

今回の新型インフルエンザは、多くの症例が軽症であると報告されている。つまり、季節性のインフルエンザに類似の、発熱、せき、のどの痛み、筋肉痛等である。米国では感染者の20～25%で下痢、嘔吐（おうと）などの消化器症状がみられると報告されている。

インフルエンザは本来、急速に感染が拡大するのがその特徴の一つともいえる病気だ。症状がほとんど自覚されないような軽症であっても、その人から他の人への感染はみられるので、流行を一部の地域に限定して封じ込めることは容易ではない。

かからないために、かかっても重くならないために

- 発生地域などに関する情報に注意する。
- 症状が通常の季節性インフルエンザとよく似ているので、すぐに新型インフルエンザにかかったとせず、冷静な判断が必要。
- 可能な限り人混みを避ける。
- 手洗いを心がける。
- 不織布製のマスクは完全ではないが、予防に一定の効果がある。
- うがい、必ずしも感染を予防できないが、のどを清浄に保つ効果がある。
- 通常の季節性インフルエンザに対する予防と同様に、適切な栄養と睡眠をとって一般的な体力を維持する。
- 季節性インフルエンザのハイリスク者に当てはまる人は、特に上述のことに留意する。
- インフルエンザ以外の感染症で、予防接種で予防できるもの（例えば、はしかなど）は予防しておく。

※設問ページに移った後は、記事を読み返すことはできません。

以下のそれぞれの質問について、あなたの考えに最も近いもの一つだけ選んでください。

Q15 この感染症に感染することは、**全**、あなたにとってどのくらい深刻ですか？
【必須入力】

- | | | | |
|---|--|---------------------------------------|---------------------------------------|
| 1
まったく深刻でない
<input type="radio"/> | 2
あまり深刻でない
<input type="radio"/> | 3
やや深刻である
<input type="radio"/> | 4
大変深刻である
<input type="radio"/> |
|---|--|---------------------------------------|---------------------------------------|

Q16 あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|---|---|--|--|
| 1
ほとんどないと思う
<input type="radio"/> | 2
あまり確率が高くないと思う
<input type="radio"/> | 3
やや高い確率であると思う
<input type="radio"/> | 4
高い確率であると思う
<input type="radio"/> |
|---|---|--|--|

Q17 日本にいる、あなたと同性の同世代の人に比べて、あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|---|---|--|--|
| 1
ほとんどないと思う
<input type="radio"/> | 2
あまり確率が高くないと思う
<input type="radio"/> | 3
やや高い確率であると思う
<input type="radio"/> | 4
高い確率であると思う
<input type="radio"/> |
|---|---|--|--|

Q18 あなたは次の行動が、**全**、感染予防に効果があると思いますか？
【必須入力】

- | | | 1
まったくそう
思わない | 2
あまりそう
思わない | 3
ややそう
思う | 4
大変そう
思う |
|------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. 外出後以外でもこまめに手を洗う | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. うがいをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. 牛に近づかない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. 混み合った場所でマスクをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. 牛肉を食べない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. 人ごみを避ける | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. 季節性インフルエンザワクチンを接種する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. いつもよりバランスのよい栄養をとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. いつもより睡眠を十分にとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. もっと情報を収集する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q19 あなたはこの感染症にかからないように、**全**、次の行動をとりますか？
【必須入力】

		1 まったく行わない	2 あまり行わない	3 やや高い確率で行う	4 高い確率で行う
1. 外出後以外でもこまめに手を洗う	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. うがいをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 牛に近づかない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 混み合った場所でマスクをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 牛肉を食べない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 人ごみを避ける	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 季節性インフルエンザワクチンを接種する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. いつもよりバランスのよい栄養をとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. いつもより睡眠を十分にとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. もっと情報を収集する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

■次の記事をお読みください。

ついに国内感染か 成田空港検疫で

メキシコやアメリカで多くの死亡者を出している新型インフルエンザの感染が拡大している問題で、カナダ・トロント発成田行きのカナディアン航空1便で成田空港に帰国した関西地方に住む女子高生(17)ら5人が29日、新型インフルエンザに感染していることがわかった。日本人として初の感染例。5人は腹痛などを訴えているが、命に別条はない模様。すぐに空港近くの成田日赤病院に運ばれた。

メキシコで人から人に感染する新型インフルエンザの発生が確認されてから約2週間。成田空港の「水際対策」で日本人感染者が見されたが、感染患者5人のうち2人は機内検疫で見つけられず、近くの席にいた人を足止めできなかったなど、検疫の限界が露呈した。この女子高生は28日午後11時、成田空港の検疫検査場に下りる階段の手前で腹痛を訴えた。別室で調べたところ、新型インフルエンザの疑いがあると診断された。国内で初めて牛インフルエンザへの感染が確認された5人のうち、5人目が見つかった瞬間だった。

先に機内検疫で症状を把握され、簡易検査で「疑い患者」とされた引率教員(39)と別の生徒(17)と同じ語学研修旅行で約2週間をカナダで過ごしていた。

機内検疫では感染が疑われる乗客がいた場合、同行者がいれば「濃厚接触者」として足止めの対象にするのが原則だが、女子生徒は離れている場所に座っていたため、先に機外へ出ていた。

その後、検疫官が教員から聞き取りをしたところ、研修旅行の同行者が別にいることに気付いた。検疫官が慌てて機外へ追いかけた。

機外に出た女子生徒は機内検疫の質問票で、せきの症状があると書いていた。しかし検疫官は、発熱がなかったためインフルエンザと疑わなかったという。「せきだけで疑えば対象者が増える。迅速な検疫の実施とのバランスを考慮すると、線引きが難しい」と厚生省はいう。

症状で見分けられない場合以外にも、検疫には構造的な限界がある。感染していても発熱など症状が出ない「潜伏期間」があるためだ。新型の潜伏期間は1～7日ほどとみられる。海外で感染してこの間に帰国すれば、結果的に検疫をすり抜ける形となる。

厚生労働省は世界保健機関(WHO)が新型への警戒度を引き上げた後から、検疫法に基づき、新型インフルを対象に検疫を強化。対象を内規で「新型インフルが蔓延(まんえん)している国や地域」とした。その定義は原則として、流行地への渡航歴がないのに、誰から感染したのかわからない患者が1人以上確定している場合であり、現在は、メキシコ、米国本土、カナダとみなしている。同省結核感染症課はウイルスの感染の広がりや重症度により、対象国も変更する予定だ。

今後、日本国内に感染者が広がることが予想される。

※設問ページに移った後は、記事を読み返すことはできません。

以下のそれぞれの質問について、あなたの考えに最も近いもの一つだけ選んでください。

Q20 この感染症に感染することは、**全**、あなたにとってどのくらい深刻ですか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| まったく深刻でない | あまり深刻でない | やや深刻である | 大変深刻である |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q21 あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| ほとんどないと思う | あまり確率が高くないと思う | やや高い確率であると思う | 高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q22 日本にいる、あなたと同性の同世代の人に比べて、あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| ほとんどないと思う | あまり確率が高くないと思う | やや高い確率であると思う | 高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q23 あなたは次の行動が、**全**、感染予防に効果があると思いますか？
【必須入力】

- | | 1
まったくそう
思わない | 2
あまりそう
思わない | 3
ややそう
思う | 4
大変そう
思う |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. 外出後以外でもこまめに手を洗う | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. うがいをする | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. 牛に近づかない | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. 混み合った場所でマスクをする | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. 牛肉を食べない | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. 人ごみを避ける | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. 季節性インフルエンザワクチンを接種する | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. いつもよりバランスのよい栄養をとる | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. いつもより睡眠を十分にとる | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. もっと情報を収集する | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q24 あなたはこの感染症にかからないように、**全**、次の行動をとりますか？
【必須入力】

		1 まったく 行わない	2 あまり 行わない	3 やや高い 確率で行う	4 高い確率 で行う
1. 外出後以外でもこまめに手を洗う	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. うがいをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 牛に近づかない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 混み合った場所でマスクをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 牛肉を食べない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 人ごみを避ける	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 季節性インフルエンザワクチンを接種する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. いつもよりバランスのよい栄養をとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. いつもより睡眠を十分にとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. もっと情報を収集する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

■ 次の記事をお読みください。

新型インフルエンザワクチン、開発始動

厚生労働省は30日、新型インフルエンザ(牛インフルエンザ)のウイルス株が米疾病対策センター(CDC)から国立感染症研究所に到着し、ワクチンの開発を始めると発表した。ワクチンの供給開始には半年ほどかかる見込み。

感染研は独自に、ウイルス株からワクチン製造に適した「種(たね)」を作る。種は鶏卵で増殖しやすいように改変したウイルスで、これを国内のワクチンメーカー4社・団体に配布して製造を始める。

ワクチンは健康な人に接種するため、その副反応への意識は高くなる。また、有効性が高くなければ何のために接種するのかと疑問が残る。今回の新型インフルエンザワクチンの開発では、感染者が発生するであろう今秋冬までに住民に供給するために、製造時間や試験の手続きにかかる時間を差し引くと、開発時間をどれだけ短縮して、且つ有効性が高く、副反応を少なく抑えるかが課題である。すべての点で優れたワクチンが開発されることを期待しつつ、ワクチンの臨床試験を行い、その有効性と副反応(発熱や発赤など)のバランスを検証することが大切だ。

一人がみんなのために、みんなが一人のために

新型インフルエンザワクチンは、接種すれば、その当人が絶対にインフルエンザに感染しないという目的で造られるわけではない。季節性インフルエンザとは異なり、新型インフルエンザについては大多数の人に免疫がないことから、今後秋冬に向けて、季節性よりも大きく上回る感染者が発生し、社会経済に深刻な影響を与える恐れがある。そのため、死亡者や重症者をできる限り減らすこと、そしてそのために必要な医療資源(人材や薬など)を確保することを目的とする。この目的のためには、一人ひとりがワクチン接種を行うことは、すなわち、地域全体の新型インフルエンザに対する免疫を高めることになる。つまり、一人ひとりが接種する必要性を十分認識することが重要である。

※設問ページに移った後は、記事を読み返すことはできません。

<Control group>

■ 次の記事をお読みください。

新型インフルエンザワクチン、開発始動

厚生労働省は30日、新型インフルエンザ(牛インフルエンザ)のウイルス株が米疾病対策センター(CDC)から国立感染症研究所に到着し、ワクチンの開発を始めると発表した。ワクチンの供給開始には半年ほどかかる見込み。

感染研は独自に、ウイルス株からワクチン製造に適した「種(たね)」を作る。種は鶏卵で増殖しやすく、ウイルスを改変したウイルスで、これを国内のワクチンメーカー4社・団体に配布して製造を始める。

ワクチンは健康な人に接種するため、その副反応への懸念は薬の副作用への懸念よりも大きくなる。また、効果が低ければ何のために接種するのかと疑問が残る。今回の新型インフルエンザワクチンの開発では、感染者が発生するであろう今秋冬までに住民に供給するために、製造時間や試験の手続きにかかる時間を差し引くと、開発時間をどれだけ短縮して、且つ有効性が高く、副反応を少なく抑えるかが大きな課題である。すべての点で優れたワクチンが開発されることは難しいため、ワクチンの臨床試験を行い、その有効性と副反応(発熱や発赤など)のバランスを検証することが大切だ。

一人がみんなのために、みんなが一人のために

新型インフルエンザワクチンの目的は、接種すれば、その当人が絶対にインフルエンザに感染しないという目的で造られるわけではない。接種してもかかる可能性はあるし、注射部位の腫れや高熱など、好ましくない反応が出るかもしれない。新型インフルエンザについては、大多数の人に免疫がないことから、今後秋冬に向けて、季節性のインフルエンザを大きく上回る感染者が発生し、社会経済に深刻な影響を与える恐れがある。そのため、死亡者や重症者をできる限り減らすこととそのために必要な医療資源(人材や薬など)を確保することを目的とする。この目的のためには、一人ひとりがワクチン接種を行うことは、自分というよりも、周囲の高齢者や子ども、慢性疾患の患者などの高リスクの人々が新型インフルエンザにかかるリスクを減らすということである。つまり、一人ひとりが接種する必要性を十分認識することが重要である。

※設問ページに移った後は、記事を読み返すことはできません。

以下のそれぞれの質問について、あなたの考えに最も近いもの一つだけ選んでください。



この感染症に感染することは、今、あなたにとってどのくらい深刻ですか？

【必須入力】

- | 1 | 2 | 3 | 4 |
|-----------------------|-----------------------|-----------------------|-----------------------|
| まったく深刻でない | あまり深刻でない | やや深刻である | 大変深刻である |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q26 あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| ほとんどないと思う | あまり確率が高くないと思う | やや高い確率であると思う | 高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q27 日本にいる、あなたと同性の同世代の人に比べて、あなたはどのくらいの確率で、**全**、この感染症にかかる可能性があると思いますか？
【必須入力】

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 |
| ほとんどないと思う | あまり確率が高くないと思う | やや高い確率であると思う | 高い確率であると思う |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q28 あなたは次の行動が、**全**、感染予防に効果があると思いますか？
【必須入力】

- | | | 1
まったくそう
思わない | 2
あまりそう
思わない | 3
ややそう
思う | 4
大変そう
思う |
|------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. 外出後以外でもこまめに手を洗う | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. うがいをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. 牛に近づかない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. 混み合った場所でマスクをする | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. 牛肉を食べない | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. 人ごみを避ける | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. 季節性インフルエンザワクチンを接種する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. いつもよりバランスのよい栄養をとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. いつもより睡眠を十分にとる | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. もっと情報を収集する | → | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q29 あなたはこの感染症にかからないように、**全**、次の行動をとりますか？
【必須入力】

		1 まったく 行わない	2 あまり 行わない	3 やや高い 確率で行う	4 高い確率 で行う
1. 外出後以外でもこまめに手を洗う	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. うがいをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 牛に近づかない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 混み合った場所でマスクをする	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 牛肉を食べない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 人ごみを避ける	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 季節性インフルエンザワクチンを接種する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. いつもよりバランスのよい栄養をとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. いつもより睡眠を十分にとる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. もっと情報を収集する	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30 今までお読みいただいた文章を踏まえて、以下のそれぞれの質問について、
あなたの考えに最も近いものを1つずつ選んでください。
【必須入力】

		1 まったく くそう思わない	2 あまり そう思わない	3 ややそ う思う	4 大変そ う思う
1. 日本で感染拡大することは、私の生活への影響はほとんどないだろう	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 日本で感染が拡大することは、日本社会にとって深刻な問題である	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 私が対策を行っても、日本社会全体の公衆衛生への影響はほとんどない	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 私が予防対策をとることは、面倒で手間がかかる	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 感染の予防対策をするかしないかは、個人の判断にゆだねるべきである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 感染の予防対策をするかしないかは、個人の判断ではなく社会のルールにすべきである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 他の人が対策をするかしないかにかかわらず、予防対策はすべきである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 日本に住む人は、手間やコストがかかっても予防対策をすべきである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 手間がかかっても、予防対策をすべきである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. 日本での予防対策が進まないのは、社会全体への影響を考慮せず自分の都合を優先して、対策をとらない人が多いからである	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. 日本社会全体を安全にするために、私には感染症の予防対策をする義務がある	→	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q31 あなたのまわりの人の何%が接種していれば、あなたは新型インフルエンザワクチンを接種しますか？
【必須入力】

0	10	20	30	40	50	60	70	80	90	100	何%でも対策しない
%	%	%	%	%	%	%	%	%	%	%	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32 日本の大多数の人があなたは新型インフルエンザワクチンを接種している場合、あなたは次のうちどちらを選びますか。
【必須入力】

1	2
自分は接種しなくてもよいだろう	自分も接種したほうがよいだろう
<input type="radio"/>	<input type="radio"/>

Q33 日本の大多数の人が新型インフルエンザワクチンを接種していない場合、あなたは次のうちどちらを選びますか。
【必須入力】

1	2
自分は接種したほうがよいだろう	自分も接種しなくてもよいだろう
<input type="radio"/>	<input type="radio"/>

最後に、これまでお読みいただいた記事について、伺います。

Q34 以下の文について、正しいものにはOを、間違っているものにはXを1つずつ選んでください。
【必須入力】

		O	X
1. インフルエンザウイルスには人から人に感染しないものもある。	→	<input type="radio"/>	<input type="radio"/>
2. このインフルエンザに特徴的なのは、主に高齢者と子どもがかかっている点である。	→	<input type="radio"/>	<input type="radio"/>
3. 空港での検疫で、このインフルエンザウイルスの流入を防ぐのには、限界がある。	→	<input type="radio"/>	<input type="radio"/>
4. このインフルエンザのワクチンは1ヶ月後から供給開始予定である。	→	<input type="radio"/>	<input type="radio"/>
5. このインフルエンザワクチンの主な目的は、接種した人がこの感染症にかからないようにするためである。	→	<input type="radio"/>	<input type="radio"/>

最後にあなたについて、お伺いします。

Q35 あなたが最後に在学された学校(在学中も含む)は以下のどれですか。
一つだけ選んでください。

【必須入力】

- ☐ 1. 中学(旧制高等小学校)
- ☐ 2. 高校(旧制中学校、旧制高等女学校)
- ☐ 3. 各種専門学校
- ☐ 4. 短期大学(旧制高校、高等専門学校)
- ☐ 5. 大学
- ☐ 6. 大学院
- ☐ 7. その他

Q36 あなたは以下の職業にあてはまりますか？
※あてはまらない方は「その他」にお答えください。

【必須入力】

- ☐ 1. 医療職(医師、看護師、薬剤師、理学療法士など)
- ☐ 2. マスメディア職(新聞記者、プロデューサーなど)
- ☐ 3. 教職員・研究者
- ☐ 4. その他

Q37 あなたが今、一緒に暮らしている方は何人ですか。
(あなた自身は数に含みません。)

【必須入力】

人(半角数字)

Q38 12歳未満の人と一緒に暮らしていますか。
【必須入力】

1
はい
☐

2
いいえ
☐

Q39 高齢者(65歳以上)と一緒に暮らしていますか。
※あなた自身は含まずお答えください。

【必須入力】

1
はい
☐

2
いいえ
☐

Q40

あなた、もしくはあなたと一緒に暮らしている方には持病がありますか。

【必須入力】

1
はい

☐

2
いいえ

☐

**本アンケートで扱われた感染症は架空のもので、
記事も研究用に作成されたものです。**

次の「送信」をクリックすることで、本アンケートは終了します。
長い間ご協力いただき、まことにありがとうございました。

アンケートは以上で終わりです。ご協力ありがとうございました。
回答もれがないか確認し、よろしければ「送信」ボタンをクリックしてください。

送 信

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