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Osaka University

Study of Preventive Measures against and Knowledge about the COVID-19 Pandemic: A Survey of Chinese Students at Osaka University

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Abstract

Originating in Wuhan, Hubei, China in December 2019, the COVID-19 pandemic has spread throughout the world in the short time since then, greatly affecting Japan as well. Being a popular destination for international study, Japan has enacted efforts concerning international students in response to outbreaks of COVID-19. In conditions that change unpredictably from one moment to the next, this study surveyed Chinese students residing in Japan who are studying at Osaka University about preventive measures against and knowledge about COVID-19. From June to September 2020, an online questionnaire was used to survey 162 Chinese students enrolled in Osaka University with the aims of gaining information about their knowledge about the COVID-19 pandemic and the impact of preventive measures against COVID-19 on their health and the safety of their lives. Of the survey respondents, 54.3% were women and 45.7% were men, with their ages being concentrated in their 20s (83.3%). The survey results showed a difference in the information about respondents' knowledge about the COVID-19 pandemic and the performance of COVID-19 preventive measures according to attributes of Chinese students. This enabled the discovery of targets requiring preferential enactment measures. Moreover, discussions to improve international students' capacity to respond to the COVID-19 pandemic are attempted, while comparing them with measures to prevent the spread of COVID-19 infection that have been implemented by the Japanese government and Osaka University in or before September 2020.

Key words: COVID-19; Chinese international student; COVID-19 preventive measures

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1. Introduction

With the recent progress of globalization, the number of foreign students studying in Japan has been increasing. According to the “Annual Survey of International Students in Japan 2018,” conducted by the Japan Student Services Organization, the number of international students in Japan reached a historic peak of about 312,000 in 2018.¹⁾ Furthermore, globalization has resulted in the development of transportation networks and the revitalization of international human exchange, which allow infectious diseases to spread around the world in a matter of no time (Yokoyama, 2018). The coronavirus disease (COVID-19) that originated from Wuhan, Hubei, China has been spreading throughout the world in a short time since December 2019 and has become a direct threat to life and health. As of October 3, 2020, COVID-19 reached 213 countries and regions around the world, infecting over 34.52 million people with the death toll exceeding 1.02 million. In Japan, the number of confirmed infections as of October 3 was 86,163 with 1,613 people losing their lives.²⁾ Currently, there is no indication of the situation being brought under control. The fight against COVID-19 continues around the world, but it is important to follow infection preventive measures to completely control the infectious disease. In doing so, acquiring knowledge about COVID-19 and taking preventive measures can have a significant impact (Khasawneh, et al., 2020). The spread of COVID-19 has seriously affected not only the health and safety of many international students, but also their academic studies and daily lives.³⁾ Thus, it is important that international students accumulate sufficient knowledge and implement preventive measures to ensure that they are not infected with COVID-19.

A case study of Chinese students residing in Japan was conducted. The survey participants were selected based on two criteria. First, the Japan Student Services Organization’s 2019 Annual Survey of International Students in Japan shows that 124,436 international students are Chinese, making it the highest ranked nationality.⁴⁾ Second, a study on Chinese students found that their psychological health is poorer than that of international students from English-speaking countries—not to mention university students from Japan (their study destination)—and they have more problems with adaptation than international students from other countries (Ge, 2007). As COVID-19 originated in Wuhan, Hubei, China, Chinese students may feel more isolated due to the prejudice or discrimination they face due to their nationality.

2. Measures by the Japanese government and universities against COVID-19

The global spread of COVID-19 has caused widespread school closures around the world. During its peak from late March to early April, 195 countries and regions implemented nationwide school closures, affecting over 90% of students across the globe.⁵⁾ Much of the literature described the closure of educational institutions as reducing propagation of the

infectious disease by interrupting major propagation pathways (Kawano & Kakehashi, 2015).

As in other countries, the Japanese government and universities in Japan have also been working on COVID-19 countermeasures. On May 25, 2020, Japan adopted “New Measures Pertaining to the Reinforcement of Waterline Countermeasures.” The Japanese government announced on August 30 that it would reinforce waterline countermeasures and increase the number of regions from where it would refuse entry to 159 countries.⁶⁾ Furthermore, the Japanese government strongly requested citizens to refrain from leaving their homes from April 7 to May 25, and cautioned them to avoid the three Cs (1. Closed spaces; 2. Crowded places; 3. Close-contact settings). In addition to this, it provided a “special fixed payment” of ¥100,000 per person as a COVID-19 emergency measure.⁷⁾

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) implemented the “Initiative to Pay Student Support Emergency Payments,” so that students who are independent from their households and have fallen into economic difficulty due to the COVID-19 pandemic can continue their studies. In addition, a MEXT survey of the response of universities and technical colleges across the country revealed that nearly 90% of all universities had delayed the beginning of classes as a COVID-19 measure. Even in August 2020, it was found that most universities had implemented (60.1%) or were considering (23.4%) remote classes.⁸⁾

In addition to canceling classes and holding classes online, each university has been enacting its own measures. Osaka University has established COVID-19 Countermeasure Headquarters to consider basic policies and measures and has formulated its COVID-19 Response Levels. The response levels provide infection preventive measures based on Osaka University’s Standard Measures for Preventing Infections, the policies of the national government and Osaka Prefecture, and the state of infections and other conditions within society; the university aims to restore normal operations while gradually relaxing the response levels. The university is also aiming to restore normal operations over a long period of time while gradually relaxing the response levels after the declaration of a state of emergency is rescinded. A series of measures were enacted as direct economic support, such as reducing or exempting tuition fees and extending due dates for tuition fee payments. Based on the substantial number of students feeling stressed, the university specially established counseling services provided by the Health and Counseling Center that also offers an English-language response for international students for providing better mental care. In addition, for students having difficulty continuing their studies, the university gave an amount of ¥100,000 per person (¥200,000 for households not subject to residents’ tax), and an emergency payment of ¥30,000 for self-funded international students. On July 6 and 7, 2020, Osaka University held an international student communication meeting and provided COVID-19 information to the international students who participated, including information on the university’s contact points and measures to relieve the psychological stress caused by COVID-19 and the

depression, anxiety, and fear caused by long periods of voluntary restraint.⁹⁾

The measures implemented by the Japanese government and universities contributed to suppressing the spread of COVID-19 in Japan. This is also clear from the fact that Asian countries, including Japan, have overwhelmingly lower numbers of infections and deaths compared to Western countries (Sugaya, 2020). Moreover, the payments relieved the pressure on international students to a certain degree (Uragami, 2020). Osaka University implemented many measures for improving international students' health and peace of mind, such as providing information, online classes, mental health care, and economic support.

However, several issues still remain. As mentioned above, Osaka University has implemented the measure of specially establishing counseling services by the Health and Counseling Center to provide mental health care to students, which is offered in English and Japanese. However, international students may not be able to understand necessary information provided in a language other than their native language; this is because their mental state during an emergency is different from that during normal times and also because such information contain specialized terms that are not used in everyday life. Therefore, it is necessary to consider whether multilingual support should be further enriched.

3. Previous studies on infectious diseases

Several investigations and studies have been conducted on different infectious disease measures in schools. Kaneda (2010) presents the efforts and issues regarding infectious disease measures in developing countries, and focuses on the importance of an advanced analysis model in providing health education to enrich health studies activities in schools, including health education. Furthermore, Yokoyama (2018) shows the importance of school doctors building cooperative systems with public health centers, relevant departments, relevant teachers, and others; and promoting risk management, based on their professional experience.

Research on COVID-19 is comparatively limited at present, and much of it has been conducted from the perspectives of medicine and psychology. For example, Wang, et al. (2020) analyzed the psychological reactions and related factors in Chinese participants in the early stages of the COVID-19 pandemic and revealed the extreme importance of the medical and public health system and citizens' mental preparation in advance. Wang, et al. (2020) proposes measures for finding early those who should be prioritized for psychological support and reducing the number of those with psychological anxiety due to COVID-19. The findings in Zhong, et al. (2020) are similar to those in Wang, et al. (2020). Zhong, et al. (2020) conducted a sampling survey on Chinese residents and measured the extent to which they had acquired knowledge about COVID-19 according to their attributes. The results showed that those with higher socioeconomic status and women had greater knowledge about

COVID-19. This method was used to analyze groups with different individual attributes (such as gender, occupation, and birthplace), and served as a reference for the present study. Moreover, the study results appear useful in identifying people to be targeted by public health policy decision-makers and health practice employees for COVID-19 prevention and health education.

Different infectious diseases have different infection risks and outbreak conditions; therefore, the measures to fight them cannot be discussed in the same way. Moreover, the suddenness of the COVID-19 outbreak has meant that very few of the previous studies examine Chinese students who are studying abroad as participants. Katsuma (2020) also notes that research on COVID-19 has not captured the issues unique to international students. Looking at prior surveys, it seems that consideration of issues faced by Chinese students is insufficient and awareness of the current situation is also comparatively lacking.

4. Study objectives and hypotheses

This study aims to use Chinese students at Osaka University as an example to discover differences in response to and knowledge about COVID-19, and ways to improve response capabilities for each of their attributes. It also aims to investigate international students' knowledge about and preventive measures against COVID-19 through data analysis of an online questionnaire survey and reveal the influential factors, and to make proposals to improve international students' COVID-19 response capabilities through an analysis of the current policy and survey results.

According to the study objectives, we formed the theoretical hypothesis that Chinese students' knowledge about and preventive measures against COVID-19 differ depending on their attributes. We then formed two working hypotheses to verify the theoretical hypothesis (Table 1).

Table 1. Hypotheses of this study

Theoretical hypothesis	Chinese students' knowledge about and preventive measures against COVID-19 differ depending on their attributes.
Working hypothesis I	International students grasp knowledge about COVID-19 differently, depending on their attributes.
Working hypothesis II	International students take different preventive measures against COVID-19, depending on their attributes.

5. Methodology

5.1. Survey

An online questionnaire survey of Chinese students at Osaka University was conducted.

This methodology was selected due to the difficulty of face-to-face surveys because of the spread of COVID-19. The tool used for the online questionnaire was “Google Forms,” a questionnaire creation service by Google. Google Forms was selected because of its ability to create a QR code image from a URL, which could then be pasted into WeChat¹⁰⁾ for ease of distribution. When conducting the online survey, the QR code image for the questionnaire was sent using WeChat, and participants were able to respond by scanning the QR code image. We used the cooperation of international student acquaintances and a random selection method during data collection to obtain responses from 166 Chinese students enrolled at Osaka University.

When analyzing the survey results, the data were anonymized before statistical processing. The data were also filtered by removing responses given without correctly understanding the intention of the questions; this gave a total of 162 final participants (74 men, 88 women). The survey period was from June 16, 2020, to September 25, 2020. The main survey was conducted in June, but an additional survey was also conducted in September to supplement missing data.

The survey was conducted with the approval of the Research Ethics Committee of Kyosei Studies, Graduate School of Human Sciences, Osaka University following an ethical review (June 15, 2020; Approval No. OUKS2004).

5.2. Items in questionnaire survey

This study inferred that individual attributes of Chinese students (such as gender, living conditions, Japanese language ability, and frequency of reading news) would affect their extent of knowledge acquisition about COVID-19 and the degree of preventive measures taken. Therefore, the questionnaire set the questions in Table 2 to primarily capture the individual attributes and knowledge of Chinese students, and the preventive measures taken by them.

All questions were written in both Chinese and Japanese. Not all questions were multiple choice ones; some had free description sections for describing “anxiety about COVID-19,” “aspects in which measures by the Japanese government and universities are lacking,” and “support expected from the government and schools.” The question items in the questionnaire survey were created with reference to Zhong, et al. (2020) and LINE’s “National Survey for COVID-19 Measures.”¹¹⁾ Items 1–8 in the questionnaire were questions on individual attributes (such as gender, age, living circumstances, Japanese language ability, and frequency of reading news); items 10, 11, 12, 14, and 16 were questions about the respondent’s knowledge about COVID-19; and items 13 and 15 were questions about COVID-19 preventive measures. Furthermore, to gain accurate information about the survey participants’ conditions, opinions, and desires, questions were set about “whether the respondent has done part-time work since February 2020,” “whether there are any aspects in which measures by the Japanese government and schools are lacking,” and “areas where the respondent currently

thinks efforts by the administration and schools are lacking, and opinions on these efforts.”

6. Differences in Chinese students’ preventive measures against and knowledge about COVID-19 according to their attributes

To conduct statistical processing on the question items, the responses for each were scored (Appendix 1). There were five items on knowledge as described above. Each question was scored out of two points, and the points for each item were totaled to obtain the knowledge score. The total score for knowledge ranges from 0 to 10 points. For the items on preventive measures, two questions were included. One point was given for each correct answer, and the points for each item were totaled to obtain the score for preventive measures. The total score for preventive measures ranged from 0 to 10 points. A higher score for questions on knowledge about COVID-19 means that the knowledge is more replete. A higher score for questions on preventive measures against COVID-19 means that the measures are more replete.

Table 2. Question items in the questionnaire

Japanese (English translation)	Chinese
Q1. Where were you born?	您的出身地是哪里.
Q2. What is your gender and age?	请告诉我您的性别和年龄.
Q3. What are your present living conditions?	请告诉我您现在的居住状况.
a. Living alone b. Co-residing with family c. Living in a dormitory d. Other	a. 一个人住 b. 和家人住 c. 在宿舍住 d. 其他.
Q4. What is your level of Japanese?	您的日语水平是什么样的.
a. Cannot use it at all b. Simple Japanese c. Research level d. Native level	a. 一点都不会 b. 简单的日语 c. 能够进行研究水平的日语 d. 母语级别的日语
Q5. Do you often read news or scientific articles about COVID-19?	您是否经常阅读关于新冠肺炎的新闻和科普文章.
a. Yes b. No	a. 是 b. 否
Q6. Have you obtained effective information about COVID-19 from the government and universities?	您是否从政府和大学获得了关于新冠肺炎的有效信息.
a. Yes b. No	a. 是 b. 否
Q7. Do you believe the information published by the Japanese government?	对日本政府发表的情报是否信任.
a. Yes b. No	a. 是 b. 否
Q8. Are you anxious about COVID-19?	对于新冠肺炎是否有感觉到不安.
a. Extremely anxious b. Somewhat anxious c. Neither d. Not very anxious e. Not anxious at all	a. 非常不安 b. 有点不安 c. 不在意 d. 几乎没有不安 e. 没有不安
Q9. Only answer if you answered “Extremely anxious” or “Somewhat anxious” in Q8. What are you anxious about?	在 8 题中回答「非常不安」和「有点不安」的人请回答, 具体因为什么事情感到不安.
Q10. Do you know about the spread of COVID-19?	了解新冠肺炎的扩大状况吗.

a. Yes b. No	a. 是 b. 否
Q11. Select the symptoms of COVID-19. (Multiple responses possible.)	选出您认为是新冠肺炎的症状。(可多选)
a. No symptoms b. Cough c. Sore throat d. Phlegm e. Runny nose f. Fever g. Muscle soreness h. Skin irritation i. Fatigue j. Smell/taste disorder k. Diarrhea l. Chest discomfort m. Breathing difficulty n. Bleeding	a. 无症状 b. 咳嗽 c. 喉咙痛 d. 有痰 e. 流鼻涕 f. 发热 g. 肌肉疼痛 h. 皮肤瘙痒 i. 身体倦怠 j. 出现嗅觉和味觉障碍 k. 拉肚子 l. 胸部有不适感 m. 呼吸困难 n. 出血
Q12. How long do you think is the incubation period for COVID-19 in general?	新冠肺炎的潜伏期一般多久。
a. 1-14 days b. 7-21 days c. 14-30 days	a.1-14 日 b.7-21 日 c.14-30 日
Q13. Select the measures taken by you to prevent COVID-19 infection. (Multiple responses possible.)	请选择您为了预防新冠肺炎做的事情。(可多选)
a. Washing hands b. Gargling and disinfecting hands and fingers c. Facing away from other people when coughing and sneezing d. Wearing a mask e. Not going to crowded places f. Not going to closed spaces with poor ventilation and no windows g. Not conversing with or talking to other people at short distances h. Stocking up on daily use goods and disinfectants i. Stocking up on food for self-restraint j. Nothing in particular	a. 洗手 b. 漱口, 洗手, 消毒手和手指 c. 不向人咳嗽和打喷嚏 d. 佩戴口罩 e. 不去人多的场所 f. 不去通风不好没有窗户, 封闭的地方 g. 不和其他人近距离说话 h. 储备生活用品和消毒用品 i. 储备自我约束期间的食物 j. 没有做什么
Q14. Which of the following places do you think presents the highest risk of infection?	您认为以下三个场所, 哪个感染机率最大。
a. Park b. Theater c. Convenience store	a. 公园 b. 剧场 c. 便利店
Q15. Have you decided on a response method if you display COVID-19 symptoms?	如果出现了新冠肺炎的症状的话, 您决定好对应方法了吗。
a. Yes b. No	a. 是 b. 否
Q16. What do you think the main infection pathway(s) for COVID-19 is/are? (Multiple responses possible.)	您认为新冠肺炎的感染途径有哪些。(可多选)
a. Droplet infection b. Blood infection c. Oral infection d. Bodily fluid infection e. Contact infection	a. 飞沫感染 b. 血液感染 c. 经口腔感染 d. 体液感染 e. 接触感染
Q17. Have you done part-time work since February 2020?	2020 年 2 月以后, 您去打工了吗。
a. Yes b. No	a. 是 b. 否
Q18. Where do you obtain information about COVID-19 from? (Multiple responses possible.)	关于新冠肺炎的情报主要是从哪里得到的(可多选)。
a. Japanese news programs b. Chinese news programs c. Chinese SNSs (Weibo, WeChat, etc.) d. Japanese SNSs (Twitter, LINE, etc.) e. Official website of the region or municipality you live in f. Family and friends g. Universities	a. 日本的新闻节目 b. 中国的新闻节目 c. 中国的 SNS (Weibo, WeChat 等) d. 日本的 SNS (Twitter, LINE 等) e. 所住区域(市区町村)的网站 f. 家人和朋友 g. 大学
Q19. In what respects do you think measures by the Japanese government and schools are lacking?	觉得政府和学校新冠肺炎的措施存在什么不足之处吗?
Q20. What support do you expect from the government and schools?	对于政府和学校的支援措施, 有什么期待?

6.1. Testing differences in Chinese students' preventive measures against and knowledge about COVID-19 according to their attributes

To verify the theoretical hypothesis using the data from the questionnaire survey, the SPSS

Statistics 25 was used to confirm the normality of the indicators (seven basic attributes, such as living circumstances and Japanese language proficiency) with the Shapiro-Wilk test. In addition, to confirm whether the difference in response according to attribute was significant, t-testing and dispersion analysis were performed with a significance level of 5%.

For the differences in Chinese students' preventive measures against and knowledge about COVID-19 according to their attributes, seven attributes (Table 3), including gender and living conditions, were used as test factors. The main demographic characteristics include gender, age, occupation, and birthplace. Previous studies primarily divide birthplace into Wuhan and areas other than Wuhan, but because the number of samples from Wuhan in this survey was small (3 people), birthplace was not considered. Moreover, as the survey targets of this study were mainly Chinese students, occupation was not considered either. The ages of the Chinese students are mainly in their 20s, with a small age range. Given these factors, the discussion centers on the element of gender. Amid these circumstances, the attribute of Japanese language proficiency is important in obtaining information in Japan, and many previous studies have discussed it as an element that has an impact on preventive measures taken by students. For example, on disaster risk reduction measures, Kagami (1997) notes that mid-level and advanced Japanese users may fall through the cracks when providing information due to the supposition that they will be fine because they can use Japanese, and mid-level and advanced Japanese users who have become familiar with Japan and confident in Japanese may overlook important information because they access information themselves without relying on Japanese people or friends in their native countries. Furthermore, Kishira and Matsuyuki (2016) discuss the relationship of taking the Japanese Language Proficiency Test with disaster risk reduction measures and knowledge as individual attributes.

Table 3. Attributes of international students

Attribute	Level
Gender	Male (45.7%), female (54.3%)
Living circumstances	Has co-residents (33.3%), no co-residents (66.7%)
Frequency of reading news and scientific articles	Often reads (85.8%), does not read much (14.2%)
Acquisition of effective information about COVID-19 from government and universities	Has obtained (38.9%), has not obtained (61.1%)
Japanese language ability	Cannot use (3.1%), simple Japanese (24.7%), research-level Japanese (69.8%), native level (2.4%)
Sense of trustworthiness of information published by the Japanese government	Yes (32.7%), no (67.3%)
Anxiety about COVID-19	Extremely anxious (35.2%), somewhat anxious (42.0%), neither (3.7%), not very anxious (6.8%), not anxious at all (12.3%)

Anxiety and other psychological attributes have also been discussed as attributes having an impact on preventive measures and knowledge in the field of infectious diseases (Person,

et al., 2020; Zhong, et al., 2020). The other attributes could conceivably have an effect on international students' preventive measures against and knowledge about COVID-19. In particular, the presence of a person the student is living with, often reading news and scientific articles, and obtaining effective information on COVID-19 from the government and universities could contribute to improving knowledge and taking preventive measures.

In the final sample of 162 participants, the mean age was 23 (\pm 0.45) years, 88 participants (54.3%) were female, the mean knowledge score was approximately 6.53, and the mean score for preventive measures was 8.07. First, we discuss differences in knowledge about COVID-19 according to the Chinese students' attributes. We performed t-tests and dispersion analysis using the knowledge score as a variable and the individual attributes of the research participants as arguments. The results are shown in Table 4.

Table 4. Attributes of international students and differences in knowledge

Attribute	N		Mean knowledge value	P
Gender	Male	74	6.270	0.007*
	Female	88	6.744	
Japanese language proficiency	Cannot use at all	5	6.200	0.239
	Simple Japanese	40	6.475	
	Research-level Japanese	113	6.513	
	Native level	4	7.875	
Co-resident	Has co-resident	54	6.852	0.033*
	No co-resident	108	6.366	
Frequency of reading news and scientific articles	Reads often	139	6.870	0.197
	Does not read much	23	6.471	
Acquisition of effective information about COVID-19 from the government and universities	Obtains	63	6.929	0.002*
	Does not obtain	99	6.273	
Sense of trustworthiness of information published by the Japanese government	Yes	53	6.783	0.098
	No	109	6.404	
Anxiety about COVID-19	Extremely anxious	57	5.500	0.985
	Somewhat anxious	68	5.850	
	Neither	6	6.848	
	Not very anxious	11	5.818	
	Not anxious at all	20	6.669	

*p < 0.05, N = 162

Next, we discuss differences in preventive measures against COVID-19 according to the Chinese students' attributes. We performed t-tests and dispersion analysis using the score for preventive measures as a variable and the individual attributes of the research participants as

arguments. The results are shown in Table 5. The scores for preventive measures show that women ($P = 0.007$), Chinese students with a co-resident ($P = 0.033$), Chinese students who obtain effective information on COVID-19 from the government and universities ($P = 0.002$), and Chinese students who are highly proficient in Japanese obtained significantly higher scores ($P < 0.05$). All the other attributes had a significant probability for preventive measures (greater than 0.05) and no significant difference was found. In other words, this study reveals that Chinese students' birthplace, sense of trustworthiness of information published by the Japanese government, and peace of mind in Japan have no relationship with preventive measures against COVID-19.

As shown above, we included questions concerning preventive measures against and knowledge about COVID-19 and items relating to international students' individual characteristics, and performed statistical processing on the responses to verify the hypotheses to discover the factors that have an impact on the preventive measures against and knowledge about COVID-19 through a questionnaire survey of Chinese students. The results show a difference in preventive measures and knowledge according to the international students' attributes. Table 6 presents the results of the theoretical hypothesis. A check mark (✓) shows that it was correct and a cross (x) shows that it was incorrect.

Table 5. Attributes of international students and differences in preventive measures

Attribute	N		Mean measure value	P
Gender	Male	74	7.608	0.007*
	Female	88	8.455	
Japanese language proficiency	Cannot use at all	5	5.000	0.001*
	Simple Japanese	40	7.600	
	Research-level Japanese	113	8.310	
		4	9.750	
Co-resident	Has co-resident	54	8.778	0.001*
	No co-resident	108	7.713	
Frequency of reading news and scientific articles	Reads often	139	8.151	0.196
		23	7.565	
Acquisition of effective information about COVID-19 from the government and universities	Obtains	63	8.667	0.002*
	Does not obtain	99	7.687	
Sense of trustworthiness of information published by the Japanese government	Yes	53	7.887	0.425
		109	8.156	
Anxiety about COVID-19	Extremely anxious	57	8.860	0.575
	Somewhat anxious	68	8.059	
	Neither	6	6.000	
	Not very anxious	11	7.455	
	Not anxious at all	20	6.800	

* $p < 0.05$, $N = 162$

Table 6. Results of theoretical hypothesis

Test factor	Measures	Knowledge
Gender	Y	Y
Living conditions	Y	Y
Frequency of reading news and scientific articles	N	N
Acquisition of effective information about COVID-19 from the government and universities	Y	Y
Japanese language proficiency	Y	N
Sense of trustworthiness of information published by the Japanese government	N	N
Anxiety about COVID-19	N	N

The results of verifying the hypotheses are presented in the above tables. The survey results of this study have revealed the following points. (1) Female international students have more knowledge about COVID-19 than their male counterparts, and their preventive measures are more replete. (2) International students who reside with another person have more knowledge about COVID-19 than those who do not, and their preventive measures are more replete. (3) International students who are highly proficient in Japanese take more replete COVID-19 preventive measures than those who are less proficient. (4) International students who obtain effective information on COVID-19 from the government and universities have more replete knowledge and preventive measures than those who do not. This study also discovered that the frequency with which international students read news and scientific articles, their sense of trustworthiness of information published by the Japanese government, and their peace of mind in Japan have no relation to their knowledge and measures.

These results make it clear that international students must increase their interest in current affairs. It is also clear that schools and the government should strengthen their communication of information on COVID-19 to students; moreover, it is important to effectively communicate information to international students who live alone or who are less proficient in Japanese.

6.2. Importance of factors with an impact on international students' preventive measures against and knowledge about COVID-19

Next, we investigated the importance of factors with an impact on international students' preventive measures against COVID-19. To determine which of these factors had the greatest impact, we performed a multiple regression analysis with the impact factors as independent variables and preventive measures as the explained variable. The results are shown in Table 7. The standardization coefficient β represents the power of each variable in the regression equation to explain the factor variables. In other words, a larger standardization coefficient seems to show that the variable has a stronger impact. This multiple regression analysis confirms that Japanese language proficiency has the greatest impact on preventive measures. The next strongest impact was from whether the participant obtained effective information on

COVID-19 from the Japanese government and universities.

Table 7. Regression analysis of factors with an impact on preventive measures

Model	Standard error	Standardization coefficient β	T-value	Significance probability	Collinearity statistics	
					Tolerance	VIF
Living conditions	0.314	0.169	2.282	0.024*	0.942	1.061
Gender	0.289	0.145	2.564	0.011*	0.994	1.006
Japanese language proficiency	0.262	0.251	3.418	0.001**	0.954	1.048
Acquisition of effective information about COVID-19 from the government and universities	0.304	0.185	1.973	0.007**	0.957	1.045

N = 162, $R^2 = 0.179$, ** $p < 0.01$, * $p < 0.05$

Dependent variable: Score for preventive measures

VIF = 1.006–1.061; multicollinearity not found.

In addition, to discover the importance of factors with an impact on international students' knowledge about COVID-19, we conducted a multiple regression analysis with the impact factors as independent variables and knowledge as the explained variable. The results are shown in Table 8.

Table 8. Regression analysis of factors with an impact on knowledge

Model	Standard error	Standardization coefficient β	T-value	Significance probability	Collinearity statistics	
					Tolerance	VIF
Living conditions	0.208	0.160	2.111	0.126	0.995	1.005
Gender	0.223	0.119	1.539	0.036*	0.963	1.038
Acquisition of effective information about COVID-19 from the government and universities	0.217	0.211	2.748	0.007**	0.957	1.034

N = 162, $R^2 = 0.080$, ** $p < 0.01$, * $p < 0.05$

Dependent variable: Knowledge score

VIF = 1.005–1.038; multicollinearity not found.

From the multiple regression analysis, the strongest impact was from whether the participant obtained effective information on COVID-19 from the Japanese government and universities.

The above analyses reveal that whether an international student obtains effective information on COVID-19 from the Japanese government and universities has a strong impact on the student's preventive measures and knowledge. Gender and the presence or absence of co-residents cannot be changed by government policy. Moreover, Japanese language

proficiency cannot be raised in a short time. However, the government and universities can offer information to international students more effectively by strengthening their information communication. We propose that they strengthen their examinations of information communication methods in future. Analyses were conducted based on the obtained results, and strategies for improving international students' response capability are proposed.

7. Questionnaire results and discussion

Looking at the differences in responses according to attributes of Chinese students from the above analysis allows the reading that gender, living circumstances, and whether the students obtained effective information about COVID-19 from the government and universities are related to the international students' knowledge and preventive measures. In other words, women, people with co-residents, and international students who obtained effective information about COVID-19 from the government and universities tended to have more replete knowledge about COVID-19 and preventive measures against it. Moreover, Chinese students with greater proficiency in Japanese had a better grasp of specific measures. One response in the free description section of the questionnaire said, "It is necessary to propose correct measures suited to people in various situations." (Appendix 2)

It appears that enlightenment on infectious disease countermeasures will be necessary in future for men, people living alone, and those less proficient in Japanese. In addition, strengthening effective communication with international students is also important. International students living alone require improved individual capacity to respond to infectious diseases; therefore, strategies for obtaining information on their own should be reinforced. Moreover, the government and schools should convey information preferentially to international students living alone. It seems necessary to investigate the living conditions of international students, strengthen communication with international students living alone, and encourage them to take preventive measures. International students should also confirm information transmitted by ward and city offices, schools, and others; and strengthen contact with local residents and close friends. Accordingly, day-to-day communication with local government is also extremely important for international students (Kyoto Prefectural International Center, 2013), because strengthening communication with local government will enable them to receive support and share information even if they do not co-reside with someone.

Furthermore, to the question, "Have you decided on a response method if you display COVID-19 symptoms?" in the questionnaire survey, about 44% of Chinese students responded that they had not decided (Fig. 1).

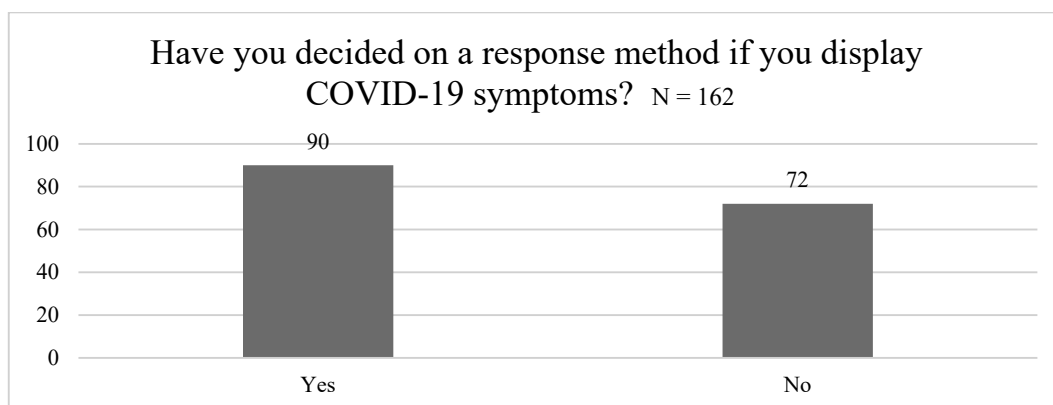


Fig. 1. Response method to COVID-19

However, the survey shows a high level of performance of COVID-19 preventive measures among the Chinese students. Almost all the Chinese students who were surveyed were wearing masks, but performance of the preventive measures of “not conversing with or talking to other people at short distances” and “not going to closed spaces with poor ventilation and no windows” was comparatively low (Fig. 2). Therefore, it seems particularly necessary to make Chinese students well aware of the measure of avoiding the “Three Cs.”

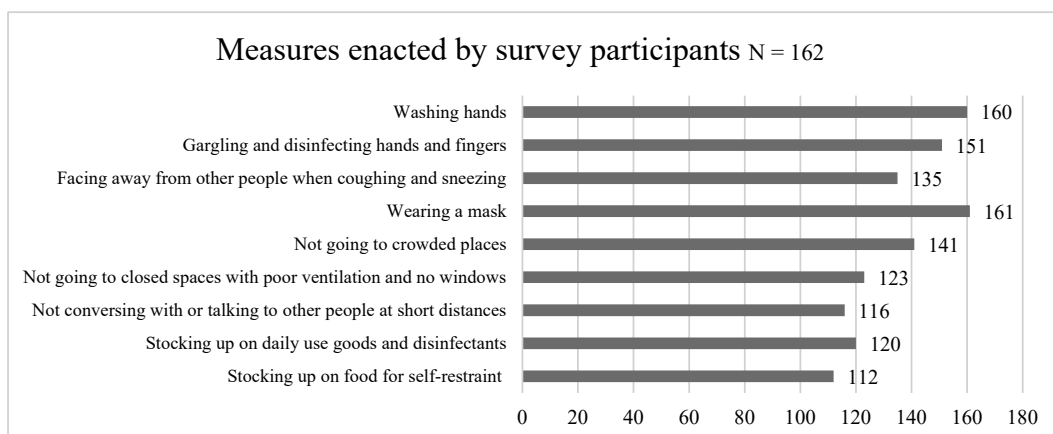


Fig. 2. Preventive measures enacted by survey participants

It should be noted with regard to knowledge that only eight respondents gave entirely correct answers to the question about COVID-19 symptoms. This seems to indicate that the proportion of people who can determine COVID-19 symptoms accurately is low because people are not aware of the symptoms. Nearly 40% of the participants gave an incorrect response to the question “Which of the following places do you think presents the highest risk of infection?”; the results imply that the risk of infection in crowded places may not be sufficiently recognized. In addition, when asked about infection pathways, only ten people answered correctly, which shows that the infection pathways are not properly understood.

If people are unclear about infection pathways, they cannot implement sufficient preventive measures against the epidemic, and misidentifying other infection pathways not associated with COVID-19 as COVID-19 infection pathways will further exacerbate problems in the pandemic due to excessive response.

The survey results from this study show that detailed and easily understood information on COVID-19 needs to be presented. In addition, strategies that would improve and deepen international students' knowledge about COVID-19 and enable them to make scientific, objective judgments about the pandemic are necessary.

Next, on the question of whether respondents obtained effective information about COVID-19 from the government and universities, about half responded that they had not. However, it is extremely difficult for Chinese students to gather information on their own. At present, the main routes for the government and schools to convey information to international students are through news and email from schools and their official websites, but conveying information through these routes has limitations. The information in the news, email, and official websites are primarily in Japanese and English, making it difficult for some Chinese students to understand it. Moreover, the links between international students and schools, or between international students and the government have weakened, which increases their difficulty in understanding international students' lives and the challenging situations they face. To resolve Chinese students' difficult circumstances, contact between the government and international students and between schools and international students must be strengthened, in addition to strengthening collaboration between the government and schools. Amid the uncertainty about how long the effects of COVID-19 will last, it seems important to share information among people engaged in international education and ensure that the voices of international students and the teaching and administrative staff on the ground reach the universities. For example, online opinion exchange sessions, dissemination of useful information to foreign residents by the Japanese government, and radio and Internet meetings are a few effective and important strategies. Making use of these methods to ensure that international students understand the situation and providing support is necessary.

Next, we also considered factors with an impact on understanding the substance of information. In the questionnaire survey about Japanese language proficiency, most respondents were able to use Japanese at a research level (Fig. 3).

International students who can use Simple Japanese or who cannot use Japanese use English as their main language. The results of verifying the hypotheses make apparent a direct relationship between language proficiency and preventive measures: partly because of language barriers, international students tend to become "underinformed" even if they are in difficulty. In the free description about anxiety about COVID-19, respondents commented the following: "Little information is transmitted. Multilingual information is lacking. I want them to publish information promptly" and "Multilingual information should be upgraded."

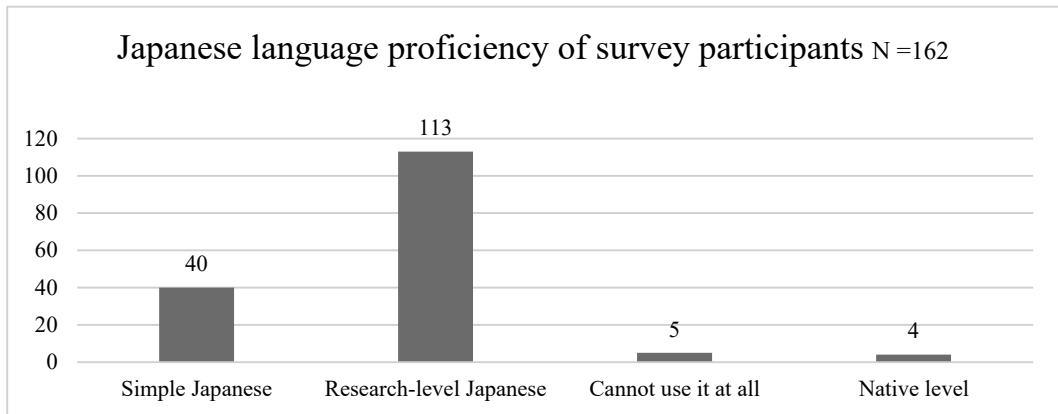


Fig. 3. Japanese language proficiency of survey respondents

(Appendix 2). At present, multilingual information from local government is limited to Japanese, English, Chinese, and Korean; and other languages are not supported. Resultantly, access to information in one's native language is limited. In addition, Osaka University, for example, currently uses Japanese and English as its official languages; and the various notices, counter services, and internal announcements are all provided in these two languages. If the university can respond in Japanese and English, this could resolve the language concerns of the majority of students. However, during an emergency, students may be in a psychological state different from their normal state, and they may not be able to understand the information due to specialized terms that are not used in everyday life and other factors. Accordingly, while information is provided in Japanese and English, we can point out that this may not be sufficient during emergencies. Moreover, it is important to respond in easily understood Japanese with foreigners who understand Japanese. "Simple Japanese" means Japanese that is easily understood by foreigners who are not familiar with Japanese; it uses several techniques such as expressing difficult words with the help of other words, and became widespread following the Great Hanshin-Awaji Earthquake. Local government areas with large foreign populations, such as Kanagawa, have already incorporated this method. In addition, the Liaison Committee among Ministries and Agencies on the Problems Faced by Foreign Workers (2006) presented "making efforts to provide information in foreign languages, upgrade translation and interpretation services, and to popularize Simple Japanese, etc. based on the actual situation of foreigners in regional areas, when offering various services," as a "measure to handle problems facing foreigners as people leading their lives" who live in Japan. Therefore, transmitting information using Simple Japanese could be considered effective. Accordingly, efforts should be made to transmit information using Simple Japanese when conveying information about COVID-19.

According to the survey of international students' sources of information on COVID-19, most international students relied on Chinese Social Networking Services (SNSs) to obtain information. It was also confirmed that a certain number of Chinese students obtained

information by watching Japanese news programs.

However, the number of Chinese students who obtained information about COVID-19 through the official website of the region they live in was extremely low (6.0%). Only 4% of Chinese students obtained COVID-19 information from health professionals and experts, and Chinese students relied more on social media than on scientific sources to obtain medical information. In this regard, the government and universities need to ensure that international students have an up-to-date grasp of new public health and emergency medical conditions. Furthermore, it is important for international students to make efforts to secure suitable information sources. This way, they could acquire medical knowledge and knowledge about appropriate preventive measures.

Chinese students tend to actively spread information using social media, but in this survey, only 3% used SNSs as an information source. When a medical or public health event breaks out suddenly, they should be popularized in the initial stages. This aligns with the results from similar research conducted at a Turkish university (Akan, H. et al., 2010), which revealed that social media acted as a major information source during an influenza pandemic. In other words, it showed that social media is extremely important to policymakers in conveying information to the public. The government and universities should aggressively disperse information, learn about international students' information platforms, and transmit information on the platforms from where international students frequently obtain information. For example, many Chinese students tend to obtain information through Chinese SNSs, and the government and schools should consider disseminating information through international student groups and SNSs, in addition to transmitting information through official websites and emails. Among the groups for Chinese students studying abroad, student societies are highly active at present. Student societies have started a WeChat group and play an extremely important role in the process of transmitting information and distributing health packs. These activities have enabled Chinese students to share information about COVID-19. Moreover, when a pandemic breaks out, official local services should reflect reliable information sources. However, they are not used as much as social media and news channels for obtaining information. The free descriptions also included the comment "I want international students to be informed thoroughly and detailed information to be transmitted daily and repeatedly." (Appendix 2). Accordingly, it is necessary to secure trustworthy information sources.

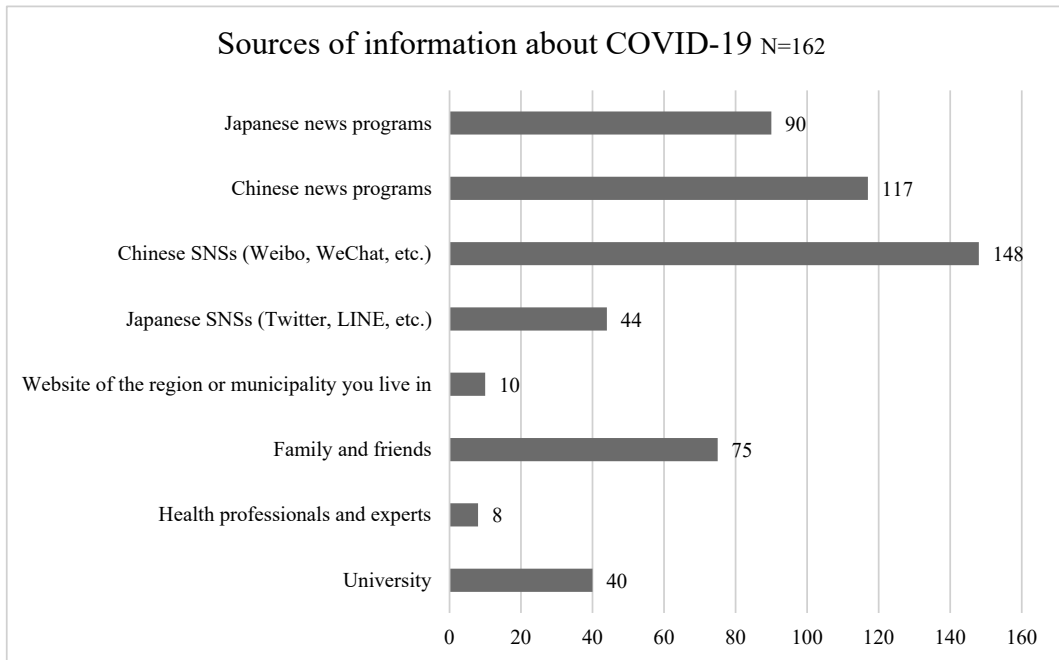


Fig. 4. Sources of information about COVID-19

8. Proposals to upgrade international students' knowledge about and preventive measures against COVID-19

The literature survey in this study has shown that measures for international students in Japan have greatly improved their difficult circumstances, but some aspects are still lacking.

The overall survey results showed that Chinese students have a high level of implementation of COVID-19 preventive measures. Female international students had richer knowledge and preventive measures than male international students. In addition, international students with a co-resident had more abundant knowledge about COVID-19 and adopted more replete preventive measures than those without one. Moreover, people who acquired effective information about COVID-19 from the government and universities had more replete knowledge about and preventive measures against the pandemic.

Furthermore, through the research, we have discovered problems that should be rectified and made proposals about these problems. Looking at Chinese students' responses to questions on preventive measures against and knowledge about COVID-19, a clear lack of knowledge can be found, for example, regarding avoiding close contact with others, COVID-19 symptoms, places presenting a high risk of infection, and infection pathways. At the same time, it was revealed that nearly half of the participants were not obtaining information from schools or the government.

Next, we propose the following approaches to combat these problems.

8.1. Enriching measures implemented for specific population segments

To begin with, it is necessary to make appropriate responses known to those concerned. Those who should be preferentially provided with knowledge, such as avoiding close contact with others, COVID-19 symptoms, crowded places, and infection pathways particularly include international students who are male, those who live alone, and those who are less proficient in Japanese. Health education is more effective when provided to particular population segments, and if health education plans were designed to appeal to men or people living alone, for example, the level of knowledge about and preventive measures against COVID-19 may greatly increase.

8.2. Enriching information provided to international students

On the subject of channels through which the government and schools inform international students, Japan Association for International Student Education chair and Osaka University faculty member Prof. Kondō Sachihiko conducted an urgent questionnaire survey about the COVID-19 pandemic and international study initiatives at the end of April 2020. The survey results contained many comments requesting regular and up-to-date provision of information in English. Local information in particular is not generally provided in English, resulting in such information not reaching international students studying in those regions. There were comments like “I want information in English or my native language on Japan—the region where I live,” and “I want them to provide counseling exclusively for foreigners.”(12) Considering the effect of international students obtaining information, reinforcing multilingual responses, and popularizing Simple Japanese are essential. In addition, it should not be limited to spreading knowledge through the news and school emails or official websites; reinforcing the sharing of information between the government and schools, for example, is also effective. The government and universities need to learn about international students’ information platforms and transmit information on the platforms from where international students frequently obtain information. Moreover, they should give consideration to transmitting information through international student groups and SNSs.

8.3. Enriching international student education and preventive measures, including infection risks

Finally, while Japan leads the world in education and training for disaster risk reduction, much of it focuses on natural disasters, and interest in preventive measures against infectious diseases and the like is limited. The government and schools’ lack of recognition of the importance of infectious diseases has been laid bare by the current example of COVID-19. The challenges and potential of international student education should be examined from these perspectives over the next few years, and it appears particularly necessary to examine the risks of not only earthquakes and other natural disasters but also communicable diseases.

Given that education and training preparations with an infectious disease pandemic in mind are insufficient, education, methods, and measures that include these risks of communicable diseases also need to be enriched, and not just earthquakes and other natural disasters. Moreover, information should also be accumulated as part of an ideal method of risk management.

9. Conclusion

The Japanese government and universities are working on preventive measures against COVID-19, but they are lacking on various aspects. It was shown that mental care for international students and multilingual information is still insufficient. This study examined differences in preventive measures against and knowledge about COVID-19 among Chinese students living in Japan, according to their attributes. As a result of conducting a questionnaire survey about the attributes, measures, and knowledge of Chinese students and performing statistical processing on the responses to verify them, it became clear that differences in measures and knowledge can be observed in Chinese students according to their attributes.

Targets requiring preferential implementation measures can be found from the survey results, and they reveal the need to enrich multilingual provision and reinforce information sharing, and to strengthen health education provided by the government and universities to international students.

However, the present survey had certain limitations. First, because the survey employed convenience sampling given the current situation, it is not representative of the international student community as a whole. Therefore, the universality of the survey results is limited. Accuracy may have been compromised by the sudden and unknown nature of the COVID-19 outbreak or the preparation of the social survey chart. In addition to the participants being restricted to Chinese students, biases were also observed in the basic attributes of the respondents, and we cannot claim to have a proper grasp of the reality of international students. In addition, it was found that many international students were working part-time, even after the rapid increase in infections in February 2020. Despite many of these students having a strong sense of the risk of COVID-19 infection, they had to engage in part-time work because they were facing economic difficulties and could not maintain their lifestyle. International students support the regional society as a precious labor force. The system must be improved not only to rescue them from economic difficulty, but also as a policy to promote multicultural coexistence.

Furthermore, the responses in the free description sections of the questionnaire show that impacts on students were varied, including impacts due to financial, health and psychological, and learning factors. As they had nobody in Japan to rely on, many international students complained of anxiety about how they should act if they were infected with COVID-19. In

addition, they also faced financial problems in the future. The surveyed international students lived under multiple layers of stress (Appendix 2). This aspect seems to require further investigation. It appears necessary to study the effects of COVID-19 on international students through an interview survey and examine effective methods of improving international students' preventive measures and knowledge based on the survey results.

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Appendix 1. Questionnaire scoring chart

Questions investigating knowledge	Score
Q10. Do you know about the spread of COVID-19?	
a. Yes	2
b. No	0
Q11. Select the symptoms of COVID-19. (Multiple responses possible.)	
a. No symptoms	✓
b. Cough	✓
c. Sore throat	✓
d. Phlegm	✓
e. Runny nose	✓
f. Fever	✓
g. Muscle soreness	✓
h. Skin irritation	✓
i. Fatigue	✓
j. Smell/taste disorder	✓
k. Diarrhea	✓
l. Chest discomfort	✓
m. Breathing difficulty	✓
n. Bleeding	
A check mark (✓) indicates a correct answer. 0: 0 points; 1–4: 0.5 points; 5–8: 1 point; 9–11: 1.5 points; 12: 2 points	
Q12. How long do you think is the incubation period for COVID-19 in general?	
a. 1–14 days	2
b. 7–21 days	0
c. 14–30 days	0
Q14. Which of the following places do you think presents the highest risk of infection?	
a. Park	0
b. Theater	0

c. Convenience store	2
Q16. What do you think the main infection pathway(s) for COVID-19 is/are?	
a. Droplet infection	✓
b. Blood infection	
c. Oral infection	✓
d. Bodily fluid infection	
e. Contact infection	✓
A check mark (✓) indicates a correct answer. All correct: 2 points; Either one or two correct: 1 point; None correct: 0 points	

Note: The knowledge items consist of the five questions above. Each question was scored out of two points. Correct answers in Q11, Q12, and Q15 were given two points, and incorrect answers were given no points. Responses with all correct answers in Q12 and Q17 were given two points, those with one or more correct answers were given 0.5–1.5 points, and those with no correct answers were given no points. The total of the scores for each item was taken to be the knowledge score.

Questions investigating measures	Score
Q13. Select what you are doing to prevent COVID-19 infection. (Multiple responses possible.)	
a. Washing hands	1
b. Gargling and disinfecting hands and fingers	1
c. Facing away from other people when coughing and sneezing	1
d. Wearing a mask	1
e. Not going to crowded places	1
f. Not going to closed spaces with poor ventilation and no windows	1
g. Not conversing with or talking to other people at short distances	1
h. Stocking up on daily use goods and disinfectants	1
i. Stocking up on food for self-restraint	1
j. Nothing in particular	0
Q15. Have you decided on a response method if you display COVID-19 symptoms?	
a. Yes	1
b. No	0

Note: The two questions above were included as measure items. One point was given for each correct answer, and the total of the scores for each item was taken to be the score for preventive measures. The total score for preventive measures ranges from zero to ten points.

Appendix 2. Free description

Contents described		Responses	
Sources of anxiety	Insufficient multilingualism	Little multilingual information is transmitted.	39
		Multilingual information is lacking.	
	Job-hunting	Whether job-hunting will become more difficult in future.	19
		I do not know whether I can find a job without problems.	
		The way my seniors hunted for jobs is of little reference under COVID-19.	
	Finances	I am having difficulty with living expenses because I cannot do part-time work.	38
		The economy may stop and I will not be able to pay tuition fees or research expenses.	
	Study	I am anxious about the lack of progress in my graduation research.	18
		I do not know when COVID-19 infections will be under control.	62
		I am worried about whether I have been infected.	41
		I cannot return home and see my family for a long time.	16
		I am anxious about infecting my family.	5
		No vaccine has been developed.	10
		There were serious cases due to underlying conditions. I am anxious about my case becoming serious if I am infected.	4
	There are aftereffects.	3	

Contents described		Responses
Aspects in which measures by the Japanese government and schools are lacking	Economic support is not sufficient (At the moment, they are handling the situation with online lessons, but I incur the same tuition fees as normal. I cannot go there but I have to pay facilities charges.).	68
	Multilingual information is lacking.	56
	They are not implementing thorough preventive measures (Measures in crowded areas are lacking. There is an app allowing tracing, but it is not popular. They cannot trace each person's schedule and do not know about each person's pandemic measures; therefore, the infection risk is high.)	33
	Prompt publication of information [is lacking], and transmissions are few. Thorough informing of international students, daily detailed transmissions, and repeated transmissions are few.	30
	No interest is shown in the lifestyles of and provision of mental care for international students.	22
	True epidemic awareness will not filter through just by receiving education.	19
	Follow-ups for new students are somewhat lacking.	18
	Little progress is being made in expanding PCR tests.	18
	The quality of online lessons is still insufficient. For schools, developing environments for online lessons and consideration for students is lacking.	16
	Support for job-hunting information is insufficient.	7
	Nothing in particular	8

Contents described		Responses
Support expected from the government and schools	I have expectations regarding financial aspects (distribution of payments, tuition supplements and refunds, expansion of scholarship programs, etc.)	68
	I have expectations about the enrichment of multilingual information.	56
	It seems that they are enacting powerful pandemic measures (I want strong requests to people to thoroughly refrain from leaving the house, etc. I expect a reissue of the state-of-emergency declaration. They should adopt mandatory measures, such as requiring masks in cars, public facilities, etc. Furthermore, patients should be compulsorily isolated and the places they have gone traced.)	49
	I want international students to be informed thoroughly and detailed information to be transmitted daily and repeatedly (I want the government to pass useful information to foreigners, online meetings, etc.).	30
	I want them to provide psychological guidance to international students. Improvements must be made to mental health and public health.	18
	They should have more people take PCR tests.	18
	I expect them to assure the quality of online lessons.	16
	It is necessary to propose correct measures suited to people in various situations.	10
	I want them to make more important steps such as developing vaccines their top priority.	10
	I expect career support for students planning to graduate.	9
	They should call people's attention more.	6
	They should share information with international students about challenges when studying in Japan.	3
	I want to conduct exchange activities online. (I think counseling venues could be improved by offering them online.)	2
	Nothing in particular	12

Note: These contents summarize the key points from the survey participants' responses. As some participants' responses cover several points, the total number of responses exceeds the total number of survey participants.

Acknowledgments

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Notes

- 1) Japan Student Services Organization (JASSO) Result of Annual Survey of International Students in Japan (October 27, 2019) (https://www.jasso.go.jp/about/statistics/intl_student_e/2019/index.html) (Last accessed: June 6, 2020)
- 2) NHK Special Website: COVID-19 (<https://www3.nhk.or.jp/news/special/coronavirus/>) (Last accessed: October 4, 2020)
- 3) See Japan Inter-Society Liaison Association Committee for Promoting Equal Participation

- of Men and Women in Science and Engineering (2020) “Results of Large-scale Survey Concerning Work and Life of Scientific & Technological Professionals under Emergency Declaration due to COVID-19 in Japan and Proposals to Japanese Government” (https://www.djrenrakukai.org/doc_pdf/2020/survey_covid-19/index.html) (Last accessed: August 28, 2020)
- 4) Japan Student Services Organization (JASSO) Result of Annual Survey of International Students in Japan (October 27, 2019) (https://www.jasso.go.jp/about/statistics/intl_student_e/2019/index.html) (Last accessed: June 6, 2020)
 - 5) UNESCO. (2020). COVID_Impact_Education. (https://en.unesco.org/sites/default/files/covid_impact_education.csv) (Last accessed: November 4, 2020)
 - 6) Ministry of Health, Labour and Welfare (MHLW) (2020) “On the Response of Quarantine Stations to COVID-19: Updated August 30, 2020” (https://www.forth.go.jp/news/20200830_00001.html) (Last accessed: September 14, 2020)
 - 7) See Ministry of Health, Labour and Welfare (MHLW) (2020), “On COVID-19” (https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000164708_00001.html) (Last accessed: September 14, 2020)
 - 8) See Ministry of Education, Culture, Sports, Science and Technology (MEXT), “Response Regarding Infectious Disease Measures Relating to COVID-19: Information on Universities, Graduate Schools, and Technical Colleges” (https://www.mext.go.jp/a_menu/coronavirus/mext_00021.html) (Last accessed: August 14, 2020)
 - 9) See Osaka University, “Initiatives at Osaka University in the Era of COVID-19” (<https://www.osaka-u.ac.jp/ja/news/info/corona/newera>) (Last accessed: November 4, 2020)
 - 10) WeChat (微信 , *weixin*) is a free messaging app released by Tencent (騰訊) in 2011 that enables communication, notifications, and other basic functions including text, voice, photos, videos, group chatting, and other features; it is one of China’s most popular SNSs. Official WeChat website: <http://www.WeChat.com/ja/download.html>
 - 11) See “National Survey for COVID-19 Measures.” (http://research-platform.line.me/archives/35785304.html?utm_source=lg&utm_medium=link&utm_campaign=covid19_survey) (Last accessed: October 27, 2020)
 - 12) See Kondō Sachihiko, “Rapid Report of JAISE Emergency Survey (of International Students).” Japan Association for International Student Education (JAISE) website. (<https://jaise.org/data/20200507-JAISE-UrgentSurveyForForeignStudents-r1.pdf>) (Last accessed: September 14, 2020)

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