Challenges and the potential of promoting remote medical interpreting during COVID-19

Soichiro Saeki[1,*], Mizuki Iwata[1], Rie Tomizawa[2], Kaori Minamitani[3,4]

[1] Center Hospital of the National Center for Global Health and Medicine, Tokyo, Japan;
[2] Department of Nursing, Graduate School of Nursing, Osaka Metropolitan University, Osaka, Japan;
[3] Department of International Medical Care, Rinku General Medical Center, Osaka, Japan;
[4] Department of Public Health, Graduate School of Medicine, Osaka University, Osaka, Japan.

Abstract: Language barriers negatively affect patient outcomes, and linguistic assistance is essential for adequate healthcare. The adoption of face-to-face medical interpretating is believed to have been rendered more challenging by the implementation of hospital admission restrictions following the outbreak of novel coronavirus disease (COVID-19). On the other hand, remote interpretating can be implemented using merely equipment, enabling it to be introduced without being impacted by the transmission of illness, and its use may have spread globally. To comprehend how COVID-19 has impacted remote interpreting utilization and what issues have arisen, we conducted a systematic review of two databases, PubMed and Ichushi-web (Japanese medical literature) with "remote interpreting" and "COVID-19" as keywords in June, 2022. Five references were included in the review. The research supported an increase in remote interpreting during COVID-19 to limit the risk of infection. This change in the trend of medical interpreting has the potential of promoting remote medical interpreting for places lacking sufficient linguistically skilled human resources, regardless of the pandemic status. There have also been accounts of novel methods of remote medical interpretation in which neither the healthcare professional nor the interpreter was face-to-face with the patient, and difficulty was acknowledged by both the healthcare professional and the patient with remote interpreting. To fully take advantage of the possibilities of remote interpreting, additional training and support would be required. Further studies are also required to determine the best way to employ this technology.

Keywords: medical interpreters, healthcare interpreting, foreign patients, emigrants and immigrants, migrant health, minority health

Introduction

Language barriers negatively affect patient outcomes, and linguistic assistance is essential when providing adequate healthcare (*1*). However, the number of hospitals that provide daily medical interpreting services are still a minority even in countries which uses a minor language as a mother tongue, such as Japan (*2*).

This problem may be solved with the utilization of remote (mobile) medical interpreting, by connecting with medical interpreters over telephone or video calls (*3*). This enables hospitals to deal with patients with linguistic barriers, even for hospitals that hire medical interpreters on site, for the medical facilities that lack such resources (*4,5*). Utilization of such resources is the key, initial step in providing necessary preparations to deal with the rising need for medical services for non-Japanese patients.

In addition, mobile technology, including remote medical interpreting services is currently gaining attention, as they do not require face-to-face interpreters on-site. During the novel coronavirus disease (COVID-19) pandemic, hospitals limited the entrance of people, including patients and their families (*6*). Medical staff were not an exception, including medical trainees (*7,8*) and interpreters. Although travel restrictions hindered foreign tourists to visit other countries, medical care for foreign residents (*9*) who have linguistic barriers are still necessary.

Prior to the pandemic, however, the preference for remote interpreting has been inconsistent throughout the world (*10-12*). Thus, we hypothesized that the changes during the pandemic would increase the necessity to use mobile technologies such as remote medical interpreting as a source of linguistic assistance, and change the perception of patients and medical professionals towards it.

In order to systematically identify the trends of remote medical interpreting throughout the COVID-19

pandemic, and to clarify the current obstacles to distribute remote medical interpreting throughout the medical system, we conducted a search of current literature.

Literature search strategies and methods

On June 26, 2022, PubMed and Ichushi (Ichushi-web: Japanese medical literature) was searched in accordance with the strategy implemented in a previous literature review (*4*) (Supplementary Tables S1 and S2, *https://www.globalhealthmedicine.com/site/supplementaldata.html?ID=60*). As this review focused on technology that did not require human interpreters, we added keywords such as "remote interpreting" and "COVID-19" to the search strategy. The search was limited to manuscripts in English and the Japanese language, published from January 1, 2020 to June 25, 2022, in an effort to catch manuscripts that were relevant to the COVID-19 pandemic. Manuscripts reporting in-person, telephone, or video interpretation in a healthcare setting were included. Studies that did not evaluate remote interpreting services in medical facilities, such as studies with their scope limited to telemedicine only (without interpreters) or only using mobile translation applications were excluded from the study.

Two authors independently evaluated the titles and abstracts of the identified papers for inclusion and exclusion based on the established criteria. Conflicts were resolved upon discussion of the authors. Using the Rayyan platform (*13*), full-text publications were obtained after preliminary inclusion and read to establish final research inclusion. From the full-text articles presented, one author culled pertinent data. The following information was extracted from each study: country of study, languages interpreted, implication for COVID-19, study population, and key findings. Each emergent theme was subjected to narrative evidence synthesis.

Figure 1 shows the inclusion and exclusion process. 39 citations were found after searching the database. Upon initial title and abstract screening, seven papers in total satisfied the inclusion criteria implying the usage of remote healthcare interpretation during the COVID-19 pandemic. Following a full-text review, two studies were excluded because one was completed prior to the outbreak and the other was ongoing research with no study implications. Five manuscripts were evaluated qualitatively.

Trends in literature during COVID-19

Table 1 shows a summary of the results. Of the five studies, three were published in 2021 (*14-16*), while the rest were each published in 2020 (*17*) and 2022 (*18*). Two studies were conducted in Japan (*14,15*) and the United States of America (USA) (*17,18*), and one study came from the United Kingdom (UK) (*16*). Studies that were conducted in Japan were published in the Japanese language. Three were research manuscripts, with one longitudinal study, qualitative study, and a multimodal study of a consultation using remote
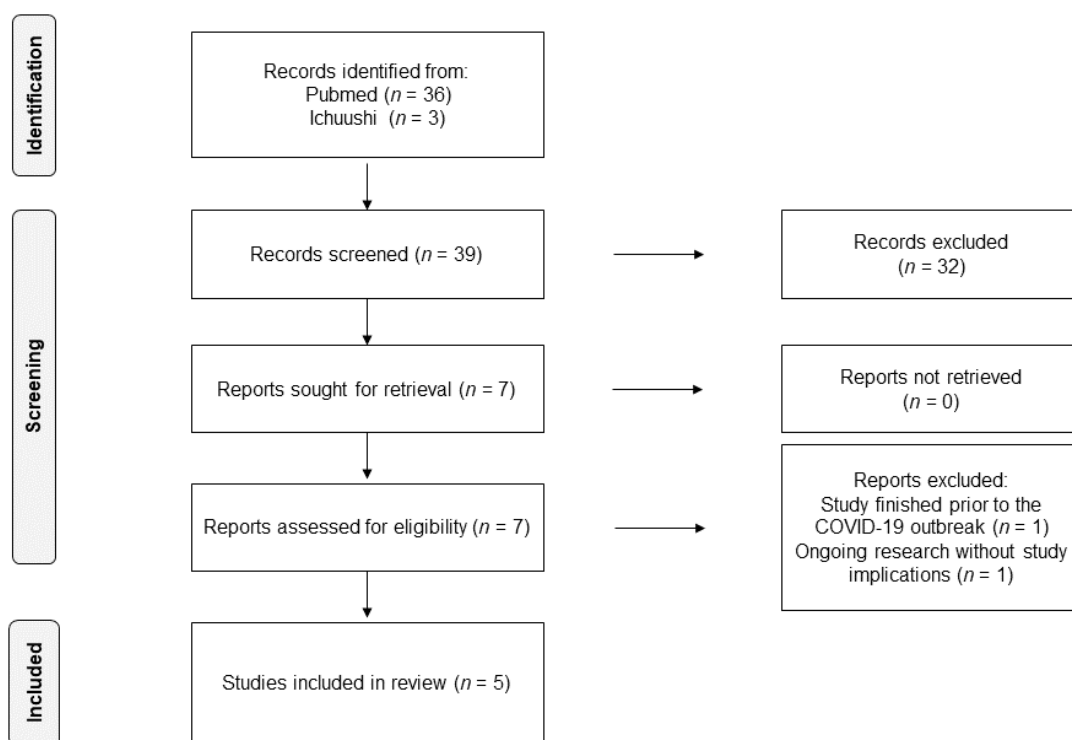

Figure 1. Extraction and Identification of studies. Identification was conducted along with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement, and screening was conducted by two blinded authors.

Table 1. Summary of the studies included in the review

Authors (Ref.)	Country	Implications for COVID-19	Language	Population	Findings
Lee S, et al., 2021 (14)	Japan	Increase	Japanese - unspecified	Medical interpreters in Japanese medical facilities	Medical interpreters who had received infectious disease training were more likely to be willing to participate in in-person interpreting, but they were also more likely to feel anxious in such situations. Many medical interpreters expressed a desire for opportunities for training on infection control, the use of a remote interpretation system, and the development of a secure working environment and support network for medical interpreters.
Hara H, et al., 2021 (15)	Japan	NA	Japanese - unspecified	Foreigners participating in the annual health checkup in Shizuoka, Japan	Preparing social resources such as WiFi connection would be helpful for patients.
Knights F, et al., 2021 (16)	UK	Increase	English - unspecified	Sixty-four primary care physicians and administrative staff, and 17 recently-arrived migrants	Physicians feel anxiety towards the new technology used for remote medical interpreting systems. Translations in the language of patients are essential for dissemination of accurate data during pandemics.
Le Neveu M, et al., 2020 (17)	USA	Increase	NA	Patients in obstetrics	In clinical settings, universal masking is an additional physical barrier to relationship building and clear communication, which may be especially significant across language barriers due to the importance of facial expression. There are some situations where remote methods are preferable, but many patients, interpreters, and providers prefer in-person encounters. During the COVID-19 pandemic and beyond, high-risk clinical encounters on labor and delivery may warrant the use of an in-person interpreter.
Tan-McGrory A, et al., 2022 (18)	USA	Increase	English- 127 anguages (Top 3: Spanish, Portuguise, Arabic)	Patients in obstetrics Massachusetts General Hospital	Privacy policy for patients were reenforced for online platforms. New technical platforms were created for third-party members such as medical interpreters could join online consultations.

NA, not available; USA, United States of America; UK, United Kingdom; COVID-19, novel coronavirus disease.

medical interpretation. The rest were field reports and a perspective article.

Four manuscripts stated unequivocally that they saw or surmised an increase in the use of remote medical interpreting systems during COVID-19. The languages used for translations varied and were not always specified in manuscripts.

Three implications emerged from the literature review.

i) Pros and cons compared to on-site (person-to-person) medical interpretation

In the COVID-19 pandemic, all studies recognized the benefits of remote medical interpretation; as it does not involve the interpreter having direct contact with patients or medical staff, the risk of infection is essentially eliminated. However, there were also reports of communication issues as compared to face-to-face interpreters. Building a connection with the patient is challenging while interpreting remotely. There might not be established mutual eye contact, and universal masking might make it challenging to hear the dialogue properly or read their facial expressions over the webcam (*17*).

ii) Support needed to promote the utilization of remote medical interpretation

The challenges of setting up a remote medical interpreting service were mentioned in several articles. First, all parties, including healthcare professionals, patients, and interpreters, experienced technical issues. The technology needed for remote interpretation was challenging for some medical staff to adopt (*16*), and managing the integration of a third party into the hospital system presented challenges (*18*). Patients were more susceptible to these problems because they couldn't use the systems or follow directions unless they were given in a language they could comprehend (*18*). Additionally, patients who needed interpretation were more likely to lack the required technology, such as internet access or communication devices (*15,18*). In order for patients to have access to the required systems for remote translating services, one institution strengthened its privacy policy (*18*).

iii) With, and beyond COVID-19

As previously stated, all research acknowledged the relevance of remote medical interpretation during the COVID-19 pandemic. Remote medical interpreting would also be a practical choice in remote locations, small-town settings, or for languages with few native speakers, where it would be difficult to find an interpreter in person (*14*).

One study in Japan (*14*) looked into the perspectives of interpreters during the pandemic. Lee *et al.* performed a countrywide survey of medical interpreters and discovered that medical interpreters who had received infectious disease training were more likely to be willing to participate in in-person interpretation, but they were also more likely to feel apprehensive in such settings. Many medical interpreters also stated a wish for possibilities for training on infection control, the use of a remote interpretation system, the creation of a safe working environment, and the creation of a support system for medical interpreters.

Current and future challenges in utilizing remote interpreting

The influence of COVID-19 towards remote medical interpreting outlined in the current literature generally recognized remote medical interpreting as an effective technique for providing language support in medical settings. However, other papers have emphasized the drawbacks of remote medical interpretation, raising fresh issues that must be addressed to improve patient care.

As we predicted, the rise in the use of remote medical interpretation was motivated by the need to prevent infection. In the instance of COVID-19, this occurred in hospitals that turned away patients who were not the most "essential" during the fight against the epidemic. However, this can also be considered as a valuable tool for giving language aid in situations lacking human resources. But even without the pandemic, there are some regions of the world where it is difficult to find people with sufficient linguistic skills (*4,5*). In these places, the tendency we discovered in the recent literature might prompt us to think about implementing remote interpretation.

The challenges that patients, medical professionals, and interpreters encounter when performing medical interpreting, however, have also been brought to light. Remote interpreters would need more training and expertise than on-site interpreters since communication across a camera, microphone, and screen is more challenging than live interactions (*17*). This may provide a contradiction since, while remote interpreting should make linguistic aid in medicine more accessible, the quality of that assistance may differ depending on the interpreter assigned to the particular clinical environment. Prior to its use, detailed instructions should be given to both patients and medical professionals that employ remote medical interpreting. This might have happened as a result of the fact that many nations had a stake in controlling the pandemic (*19*), platforms were set up in a hassle during the COVID-19 outbreak, and no one had the time to become used to a system of remote medical interpretation. More training for all parties is required, and further testing in the usage of remote medical interpreting should be conducted in the near future.

Indications for future studies

Nonetheless, further research on this topic is needed on an ongoing basis. Our review included very few studies,

and we are currently awaiting additional studies from around the globe to better grasp the state of remote medical interpreting. We acknowledge that obtaining data from patients who speak a foreign language can be a great difficulty, especially when obtaining patient consent (*20*). However, further studies that focus on the actual benefits of remote medical interpreting, both in a qualitative and quantitative manner would be needed. In addition, our literature is limited to English and Japanese literature. As remote interpreting focuses on a variety of languages, there may be more papers published worldwide that did not meet our inclusion criteria. Finally, studies focusing on the long-term use of remote medical interpreting should also be considered. As remote medical interpreting requires an on-demand interpreter, a different interpreter may be assigned when the connection is terminated, even during the same visit. Patients and healthcare workers may feel anxious while waiting for a medical interpreter to be assigned following the request. We hope that further studies will be published soon to comprehensively analyze the situation posed during this pandemic.

Conclusion

The COVID-19 pandemic encouraged an increase in the use of remote medical interpretation. However, the rising usage of remote medical interpretation has brought to light a number of challenges to its most effective application. Efforts to conduct studies, as well as promoting the best practices within the use of linguistic assistance in general must be widely promoted in Japan, and elsewhere. We must strive to build a better platform to fully utilize the potential of remote medical interpretation.

Acknowledgements

The authors are thankful to our colleagues for providing helpful insights on this topic.

Conflict of Interest: The authors have no conflicts of interest to disclose.

References

1. Flores G. The impact of medical interpreter services on the quality of health care: A systematic review. Med Care Res Rev. 2005; 62:255-299.
2. Japan Hospital Association. Report: Survey on the current status of international expansion of medical care. *https://www.hospital.or.jp/pdf/06_20151028_01.pdf* (accessed July 24, 2022). (in Japanese)
3. Jacobs B, Ryan AM, Henrichs KS, Weiss BD. Medical interpreters in outpatient practice. Ann Fam Med. 2018; 16:70-76.
4. Ji X, Chow E, Abdelhamid K, Naumova D, Mate KKV, Bergeron A, Lebouche B. Utility of mobile technology in medical interpretation: A literature review of current practices. Patient Educ Couns. 2021; 104:2137-2145.
5. Saeki S, Minamitani K. The true legacy of the 2020 Tokyo Olympic Games to the 2025 World Expo: a step forward to racial equity in the Japanese healthcare system. Journal of International Health. 2021; 36:151-152.
6. Yamanaka J, Takasago S, Horigome A, Hayashi M, Matsunashi S, Shioda S, Tanaka M, Seki J, Kaneshige M, Akamatsu T, Uryu H, Mochizuki S, Goishi K, Shichino H. Adapting pediatric health care responses to the COVID-19 pandemic in Japan: A clinical perspective. Glob Health Med. 2022; 4:242-246.
7. Yamasaki L, Saeki S, Kido H, Suzuki T. Medical students in the midst of COVID-19 -Report of the joint student symposium in the Joint Congress of Global Health 2020 in Osaka. Journal of International Health. 2020; 35:265-266.
8. Saeki S, Shimato M. Mental Health Support for the Current and Future Medical Professionals during Pandemics. JMA J. 2021; 4:281-283.
9. Saeki S, Minamitani K, Muraki I, Shingaki T, Nagura K, Nakata K, Iso H. Defining foreign patients as 'visitors' and 'residents' in Japanese medical facilities: Difficulties in the collection of adequate data. J Epidemiol. 2022; 32:112-113.
10. Locatis C, Williamson D, Gould-Kabler C, Zone-Smith L, Detzler I, Roberson J, Maisiak R, Ackerman M. Comparing in-person, video, and telephonic medical interpretation. J Gen Intern Med. 2010; 25:345-350.
11. Ramsey KW, Davis J, French G. Perspectives of Chuukese patients and their health care providers on the use of different sources of interpreters. Hawaii J Med Public Health. 2012; 71:249-252.
12. Crossman KL, Wiener E, Roosevelt G, Bajaj L, Hampers LC. Interpreters: telephonic, in-person interpretation and bilingual providers. Pediatrics. 2010; 125:e631-e638.
13. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. Syst Rev. 2016; 5:210.
14. Lee S, Akashi M, Miyahara R, Morita N, Kusaba Y, Hori N, Takasaki J. A nationwide survey on infection prevention for medical interpreters: Needs, challenges, and reality of precautions in responding to infectious diseases, including COVID-19. Journal of the Japanese Society of Travel and Health. 2021; 15:83-93. (in Japanese)
15. Hara H, Maeno M, Kataoka H, Iwasaki K, Enomoto N. A study on the means of providing information in the COVID-19 epidemic situation at free health consultations and health examinations for foreign residents in Shizuoka Prefecture. Tokai Journal of Public Health. 2021; 9:98-103. (in Japanese)
16. Knights F, Carter J, Deal A, Crawshaw AF, Hayward SE, Jones L, Hargreaves S. Impact of COVID-19 on migrants' access to primary care and implications for vaccine roll-out: a national qualitative study. Br J Gen Pract. 2021; 71:e583-e595.
17. Le Neveu M, Berger Z, Gross M. Lost in translation: The role of interpreters on labor and delivery. Health Equity. 2020; 4:406-409.

18. Tan-McGrory A, Schwamm LH, Kirwan C, Betancourt JR, Barreto EA. Addressing virtual care disparities for patients with limited English proficiency. Am J Manag Care. 2022; 28:36-40.

19. Saeki S, Nakatani D, Tabata C, Yamasaki K, Nakata K. Serial Monitoring of Case Fatality Rate to Evaluate Comprehensive Strategies against COVID-19. J Epidemiol Glob Health. 2021; 11:260-261.

20. Saeki S. Impact of the "Amendments to the Act of the Protection of Personal Information" to global health research conducted in Japanese medical facilities. J Epidemiol. 2022; 32:438.

Address correspondence to:
Soichiro Saeki, Center Hospital of the National Center for Global Health and Medicine, 1-21-1 Toyama, Shinjuku, Tokyo, 162-8655, Japan.
E-mail: sosaeki@hosp.ncgm.go.jp