Survey of Pharmacists’ Knowledge, Actions and Confidence in Medication Education to Patients with Hearing Disabilities

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Health professionals should adopt best practices that are cognizant of the communication skills of their patients. Pharmacists should be knowledgeable about hearing disabilities to effectively provide medication education to deaf and hard-of-hearing (HH) patients. The Act for Eliminating Discrimination against Persons with Disabilities requires pharmacists to take the appropriate actions to their patients. However, awareness about the appropriate actions for eliminate discrimination has not increased among medical professionals. This survey examined the knowledge about hearing disabilities, practice of appropriate actions and confidence in medication education to deaf and HH patients on 216 pharmacists in Yahata Pharmaceutical Association in November 2019. Pharmacists had poor awareness about hearing disabilities and about 30% of participants misunderstood appropriate actions in communication to deaf and HH patients. Practice of appropriate action in medication education were taken by only about half of the participants. In particular, placing Ear symbol had not been taken at all. Participants felt that they could provide medication education sufficiently by written materials in spite of poor understanding about the literacy of deaf individuals. On the other hand, they felt unconfident due to lack of understanding about hearing disabilities and how to communicate with their patients. This survey suggests that pharmacists need to learn about hearing disabilities for effective communication and practice of appropriate action in medication education to patients with hearing disabilities. Learning hearing disabilities may enable them to take the actions that are necessary to eliminate discrimination and enhance their confidence in providing medication education.

Key words — pharmacist; hearing disability; knowledge; action; confidence

INTRODUCTION

To provide medication education, pharmacists need effective communication with their patients. The reading and writing abilities of deaf people are reported to be several years behind those of hearing people.1) To ensure that deaf patients receive safe and effective healthcare, it is important for pharmacists to make sure that they understand how they should take their prescribed medicine.2) In Japan the Act on Elimination of Discrimination against Persons with Disabilities was enacted in 2016.3) The Japan Research Institute Limited reported that more than one half of patients with hearing disabilities face communication barriers in hospitals because of poor awareness about hearing disabilities among medical professionals.4)

Few studies have examined pharmacists’ knowledge about hearing disabilities and actions that should be taken to eliminate discrimination against deaf and hard-of-hearing (HH) patients in medication education. In this survey, the participating pharmacists’ knowledge about hearing disabilities, their practice of appropriate actions for deaf and HH patients and their level of confidence in medication education to deaf and HH patients were investigated.

CASE REPORT

This survey was conducted in November 2019. The participants were 216 pharmacists of the Yahata Pharmaceutical Association in Fukuoka. Twenty participants had prior experiences of learning about hearing disabilities and 190 participants had prior experience in providing medication education to patients with hearing disabilities. Learning hearing disabilities may enable them to take the actions that are necessary to eliminate discrimination and enhance their confidence in providing medication education.
Fig. 1. Percentage of Correct Answers about Knowledge of Communication with Deaf and Hard of Hearing Patients, Act for Elimination Discrimination and Appropriate Actions in Communication

| Action for eliminating discrimination | Law of eliminating discrimination |
|--------------------------------------|----------------------------------|
| Grammar of sign language            | Guess in lip reading              |
| Literacy of deaf                     | Expression of sign language       |
| Individual differences of communication | Accuracy of lip reading         |
| Explain to a patient even if with a caregiver | Talking in loud voice is not good way to communicate|
| Speaking near the ear is not good way to communicate | Writing materials may not be fully understood |
| Speaking characters separate is not good way for lip reading |  |

Law and Act
Communication
Appropriate action

Fig. 2. Percentage of Yes Answers Provided on the Questionnaire about Practices of Appropriate Actions for Deaf and Hard of Hearing Patients

| Place an Ear symbol | Talk in bright and silent places | Distinguish homonyms | Avoid abstract expressions and double negation | Tell contact methods other than telephone | Speak phrases separate | Confirm communication methods | Go near to call out | Remove mask and talk | Mark hearing disabilities in drug notebook, drug history | Speak slowly with opening the mouth widely | Speak face to face | Add writing when speaking technical terms | Speak to patients themselves | Ingenuity in providing medical information |
|---------------------|---------------------------------|----------------------|------------------------------------------------|------------------------------------------|-----------------------|-------------------------------|------------------|---------------------|-----------------------------------------------|---------------------------------------------|----------------|-------------------------------|-----------------------------|--------------------------------------------------|
| 0                   | 20                              | 40                   | 60                                             | 80                                       | 100                   | 20                           | 40               | 60                  | 80                                           | 100                                         | 20            | 40                            | 60                         | 80                                               |

We developed three questionnaires about knowledge of 13 items (how to communicate with deaf and HH patients and the Act for Eliminating Discrimination: 8 items, appropriate actions when communicating with deaf and HH patients: 5 items), the practice of appropriate actions of 15 items and confidence and the reasons for their confidence in medication education. Figure 1 shows the percentages of correct answers about knowledge. About less than 30% of the participants provided correct answers to 4 of 13 items: action (5.1%) and law (18.9%) for eliminating discrimination, grammar of sign language (19.4%) and guesses in lip reading (31.9%). In addition, only 57.4% of participants understood the literacy of deaf and 51.4% of the participants misunderstood that medication information should be conveyed to deaf and HH patients from their caregiver. However, 85.6% of participants understood that lip reading might not be translated correctly. Figure 2 shows the percentages of affirmative responses to the questionnaire that assessed the practice. Less than 20% of the participants provided affirmative responses to 5 of the 15 items. These items were as follows: “Place an Ear symbol” (0%); “Talk in bright and silent places” (8.8%); “Explain so that homonyms can be distinguished” (9.7%); “Avoid abstract expressions and double negation” (13.4%); and “Tell contact methods other than telephone” (15.4%). More than one half of the participants did not practice appropriate actions in 13 of 15 items.

Seventy seven (35.6%) of the 216 participants reported feeling confident about their ability to provide medication education to deaf and HH patients. The following items were endorsed by those who felt confident: “Writing is an effective way to provide
medication education that is consistent with the literacy of deaf individuals. Providing medication education that is consistent with the literacy skills of the patients will improve their health literacy.2 Understanding the literacy of deaf individuals should be needed to provide medication education effectively. In lip reading, it is difficult to convey homonyms. When pharmacists explain how to use two or more eye drops at an interval of 5 min, it is necessary for pharmacists to explain that deaf and HH patients can distinguish between interval of the time and opening eyes.8 Almost all of participants responded that lip reading might not be transmitted correctly. However, only about 10% of the participants responded that they explained so that homonyms could be distinguished. To provide information correctly in medication education, pharmacists should take into account the concrete actions and features of lip reading. Sixty-two participants reported that they had provided medication education through the caregivers to deaf and HH patients. Furthermore, more than one half of they believed that it is better for a caregiver to convey medical information to deaf and HH patients. Deaf and HH patients prefer to directly receive information about their illness and prescribed medications from their healthcare providers.9 Pharmacists should provide medication information in the manner in which their patients prefer to receive it.

Participants provided negative responses to the placement of the Ear symbol, which represents hearing disability and the need of act for eliminating discrimination. According to a poll conducted by the Cabinet Office in 2017,10 the rate of recognition of the International Symbol of Access was 97.0%. However, the rate of recognition of the Ear symbol was only 12.0%. As this report shows, due to participants’ poor knowledge about Ear symbol participants might provide negative responses to the placement of it. Since hearing disabilities is not apparent, placing Ear symbol might be necessary so that a patient could inform having hearing disability and the need for actions for eliminating discrimination. Because of poor awareness about hearing disabilities among medical providers, the need for appropriate actions was not adequately understood, and requisite actions were not taken.5 In this survey, 30.0% of the participants provided incorrect responses to all the 5 items of knowledge about appropriate actions for deaf and HH patients and more than one half of the participants did not practice appropriate actions in almost of all items. Participants who felt confident in taking medication responded that they could provide medical information by written materials. However, about one half of participants misunderstood the literacy of deaf. Furthermore, participants’ poor understanding about hearing disabilities lowered their confidence levels in providing medication education. Learning about hearing disabilities and appropriate actions for pharmacists may be needed for practice of appropriate actions and increasing their confidence in their ability to provide medication education.

In conclusion, this survey revealed the pharmacists’ knowledge about hearing disabilities, practice of appropriate actions and confidence to deaf and HH patients in medication education. We are producing an e-learning about hearing disabilities to provide medication education effectively tailored to literacy level and communication strategies of deaf and HH patients for pharmacists. Greater awareness about hearing disabilities and efforts to take the requisite actions for deaf and HH patients will improve communication between pharmacists and their patients and increase pharmacists’ confidence in their ability to provide medication education to their patients.

Conflicts of Interest The authors declare no conflict of interest.

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