-Report on Experiments and Clinical Cases-

Pitfalls in Training Simulated Patients to Respond Appropriately to Questions from Medical Students in Family History-taking Activities: The Current Situation Surrounding the Training of Simulated Patients for Learning Activities at Nippon Medical School

Ryoko Aso¹, Chikako Inoue¹², Akinobu Yoshimura¹³ and Toshiro Shimura¹

¹Academic Quality and Development Office, Nippon Medical School ²Aichi Medical University Graduate School of Medicine ³Department of Clinical Oncology, Tokyo Medical University Hospital

Abstract

Our goal was to train simulated patients (SPs) to respond appropriately to questions about family history from medical students in simulated medical interviews. To this end, we carried out a survey of 91 SPs and 76 4th-year medical students to investigate their notions of what constitutes a family. All of the SPs and students surveyed deemed parents and children living together to be members of a family. In a situation where one spouse's parents live together with the basic family unit, 93% of the SPs considered them to be members of the family, whereas only 79% of the students did. Married children living apart from their parents were considered members of the family by 18% of the SPs and 39% of the students. These results indicate clear differences between the SPs and students in their notions of the family. To verify the level of understanding of the definitions of family and blood relatives in particular scenarios used in simulated medical interviews, we administered a written test to 14 SPs who were training to assist in the nationwide common achievement test in medicine, the Objective Structured Clinical Examination (OSCE). The overall score of the SPs was 93.5%; the incorrect answers were "a sibling is not a blood relative" and "a spouse is a blood relative." We analyzed the performance of these 14 SPs in medical interviews carried out after training for the OSCE. in which they were asked questions that required them to reveal their understanding of blood relatives, cohabiting relatives, and the family. All of the SPs responded appropriately to the students' questions about family history. After the OSCE, we asked the SPs to assess themselves on how well they had given their family histories and to evaluate the usefulness of the SP training they had received. Their mean self-assessment score on providing a family history was 3.6 (scale: 1-4); on the usefulness of training, it was 3.4 (scale: 1-4). In conclusion, training SPs to respond appropriately to questions about family history in medical interviews is very important. Medical students have to learn how to take family histories accurately, so SP trainers should pay attention to training SPs in giving appropriate responses to students' questions, bearing in mind the differences between family history taking and everyday conversations about the family.

(J Nippon Med Sch 2013; 80: 57-62)

Key words: simulated (standardized) patient (SP), family history taking, SP education, SP training programs, OSCE

Journal Website (http://www.nms.ac.jp/jnms/)

Correspondence to Ryoko Aso, PhD, Academic Quality and Development Office, Nippon Medical School, 1–1–5 Sendagi, Bunkyo-ku, Tokyo 113–8602, Japan E-mail: aso@nms.ac.jp

Introduction

In 2004, Nippon Medical School instituted a training course for simulated patients (SPs) taking part in medical interviews conducted by medical students. As of 2011, 172 SPs had completed this course. Currently, 63 adult volunteers (men: 16, mean age: 64.0 years; women: 47, mean age: 54.6 years) are serving as SPs, with a mean period of service of 3.0 years (range: 1 to 7 years). By occupation, they are working or retired nurses, dentists, dietitians, clinical examination technicians, communication professionals, flight attendants, or parents of medical students.

After finishing the SP training course¹, the SPs take part in medical interview practice sessions with the 4th-year students, the nationwide common achievement test in Medicine, the Objective Structured Clinical Examination (OSCE) (4th-year students), and the pre-graduation OSCE (6th-year students)². They also take an SP follow-up course to gain further experience³.

Taking family histories accurately is one of the learning goals of the practical training course in medical interviews we offer our medical students. The SPs are required to respond in accordance with specific scenarios, but we found that their responses occasionally strayed from the scenarios. Our objective was to investigate whether SPs, SP trainers, and students had different notions of the family, with the hope of gaining insights into the responses the SPs gave. Another goal was to clarify whether the training we give SPs in responding to students' questions about family history is effective in allowing them to answer appropriately.

Methods

We distributed a questionnaire to 91 SPs (men: 24, mean age: 63.8 years [range: 38–78 years]; women: 67, mean age: 53.5 years [range: 32–75 years]) and 76 4th-year medical students (men: 49, mean age: 24.2 years [range 22–39 years]; women: 27, mean age: 23.4 years [range: 22–28 years]) to determine their notions of what constitutes a family (**Fig. 1**). Personal

collected. Differences between the SPs and students in their notions of family were analyzed statistically in connection with the personal information. A written test was administered to 14 of the SPs to verify their understanding of what constitutes a

to verify their understanding of what constitutes a family and blood relatives in specific scenarios used in SP training for the OSCE in 2011 (Fig. 2). After training, the medical interviews these 14 SPs participated in were analyzed in terms of the responses the SPs gave to questions about family history from the students. After the OSCE, the SPs were asked to give self-assessments of how well they had given the family history, and of the usefulness of the training they had received.

information, including sex, number of siblings,

marriage status, and parental status was also

Results

Fifty-two of the 91 SPs provided personal information; 90% of them were married or widowed, and 81% had one or more children. None of the students were married. All of the SPs and students surveyed deemed parents and children living together to be members of the family. Likewise, all of the SPs and students considered a child who is a student but is living apart from the parents to be a member of the family. On the other hand, far fewer members of either group considered a married child living apart from the parents to be a family member (**Fig. 3**).

The SPs and students differed on whether a married elder sister living separately with her husband was a member of the family or not (35% of the SPs said yes, compared with 75% of the students). In the case of a married child living apart from the parents, 18% of the SPs considered the child to be a member of the family, compared with 39% of the students. The corresponding figures for a spouse's parents living with the family were 93% and 79% (Fig. 3). Analysis with the chi-square test suggested that in the former two cases, the age (29 years or below, or 30 years or more), sex, marital status, and parental status of the respondent affected his/her responses. In the latter case, only the respondent's age was related.

SP Training for Family History Taking

Questionnaire on the Conce	ot of the Family (for Males)				
Your answers to the following questions will tell us how you conceive of the family. There are no right or wrong answers, so just answer according to your general beliefs. Do not consult with anybody. We will use the results to formulate our training programs for medical students and SPs. Thank you for your cooperation.					
In Scenarios 1 to 8, we want to know which of the people indicated you think are members of your family. In the pictures, you are identified by a red circle, and the people in the rectangles live together. Put a circle in the parentheses next to each of the individuals you believe are in your family. Then put the total number of family members in the parentheses after each question.					
 You are a 20-year-old university student and live alone. Your parents and younger sister, who is a high school student, live together. Your elder sister is married and lives separately with her husband. your parents your younger sister your elder sister's husband Total number of family members: () persons 	2. You are twenty-five years old. You got married this year and live separately with your wife. Your parents live together, and so do your wife's parents. Your elder brother is a working adult, and your younger brother is a university student; both of them live alone. () your wife () your parents () your elder brother () your wife's parents Total number of family members: () persons				
3. You are thirty-five years old. You live with your wife and two children, who are in elementary school. Your parents live in a neighboring prefecture, and your wife's parents live in a neighboring town. () your wife () your two children () your parents () your wife's parents Total number of family members: () persons	 4. You are forty years old. You live with your wife, two children, and your parents. Your wife's parents live together separately. () your wife () your two children () your parents () your wife's parents Total number of family members: () persons 				
5. You are forty years old. You live with your wife, two children, and <u>your wife's parents</u> . Your parents live together separately. () your wife () your two children () <u>your wife's parents</u> () <u>your parents</u> Total number of family members: () persons	 6. You are forty-five years old. You live with your wife and daughter. Your son is a university student and lives alone. () your wife () your daughter () your son Total number of family members: () persons 				
 7. You are fifty years old. You live with your mother; your father has already passed away. Your younger sister (who is forty-five years old) is unmarried and lives alone. () your mother () your father () your younger sister Total number of family members: () persons 	8. You are sixty-five years old. You live with your wife. Your elder daughter is married and lives separately with her husband and her child. Your younger daughter is a working adult and lives separately. () your wife () your elder daughter () your daughter's husband () your daughter's child () your younger daughter Total number of family members: () persons				
Thank you for filling out this questionnaire. Academ	ic Quality and Development Office, Nippon Medical School				

Fig. 1 Questionnaire on the concept of the family

Please answer the following two questions as if you were playing your role as Mrs. Hanako Sato or Mr. Taro Sato.

1. Put \bigcirc in the parentheses if you think the person mentioned is a member of your family, and \times if you think he/she is not.

() your spouse	() your son
() your daughter	() your father
() your mother	() your elder brother

2. Put \bigcirc in the parentheses if you think the person mentioned is a blood relative, and $\,\times\,$ if you think he/she is not.

) your spouse	() your son
) your daughter	() your father
) your mother	() your elder brother

Fig. 2 Example questions in the verification test given during training of SPs to take part in the OSCE. All of the family members listed in the questions appear in scenarios used in family historytaking interviews; whether particular family members cohabit with the SP or not, or have died or not varies from scenario to scenario.





relatives are members of the family or not

Table 1 Analysis of SPs' responses to students' questions about family history in OSCE interviews

Question about → involving ↓	similar problem	serious illness	serious illness or trauma	serious illness or similar problem	serious illness, trauma, or similar problem	total
blood relatives	6 (6)	4 (4)	2 (2)	1 (1)	1 (1)	14 (14)
cohabiting family members	8 (8)	0	0	0	0	8 (8)
family	2 (2)	1 (1)	0	0	0	3 (3)

The numbers indicate the number of corresponding questions asked in the OSCE interviews, and the numbers in parentheses indicate the number of appropriate responses given by the 14 SPs whose responses were analyzed in this study.

In the verification test administered to 14 SPs during training for taking part in the OSCE, the correct answer rate was 93.5% (each SP answered 34 questions); the mistakes included "a sibling is not a blood relative" and "a spouse is a blood relative."

In the medical interviews carried out for the OSCE, all of these 14 SPs were asked about blood relatives, 8 were asked about cohabiting relatives, and 3 were asked about the family. All responses to the students' family history questions were appropriate (**Table 1**).

The mean self-assessment score of the 14 SPs on their performance in providing a family history was 3.6 (scale: 1–4), and their mean usefulness of training

60

score was 3.4 (scale: 1-4).

Discussion

Physicians' communication skills have been found to affect clinical outcomes and patient satisfaction, and the importance of teaching communication skills has been reported in the literature⁴⁻⁶. In an attempt to teach our students proper communication skills, we started a training course for SPs in 2004. However, we felt that the SPs' responses to students taking family histories were different from what we had requested in some cases. The purpose of family history taking in medical settings is to obtain information about possible infections and genetic factors affecting patients, and students are trained to take SPs' family histories with this in mind. Naturally, problems arise when students cannot distinguish properly between cohabiting family members and blood relatives.

Also, SPs' notions of family can differ from those of medical staff. SPs do not necessarily consider cohabiting relatives to be members of the family, for example. Or they may consider spouses or children living apart to be family members. When asked about illnesses suffered by family members, they may not be able to recall the required information about siblings who have lived apart for several decades, or about a parent who died a few decades ago.

In the OSCE, the manner in which SPs are requested to respond to students' questions about family history is different in some respects from the way they might talk about the family in everyday situations, so they become confused. This can be a problem when the scenarios demand that they provide answers about cohabiting family members, for example, or blood relatives who have died.

In an attempt to deal with such problems, we distributed a questionnaire to SPs and medical students to compare their notions of the family; we found wide variations in their responses. We also found that such parameters as age, sex, marital status, and parental status influenced their responses. We used the information we obtained to tailor the patterns of training we gave the SPs in responding to students' questions about family history.

In the verification test we gave to 14 of the SPs during their training, their overall score was 93.5%, and in the OSCE, all 14 of them responded appropriately to the students' questions about family history. Furthermore, their mean self-assessment score on the usefulness of the training they had received was 3.4 (scale: 1–4), so we conclude that the training we gave them was effective.

As mentioned above, a few of the SPs made mistakes in questions about blood relatives on the paper exam. We think this can be explained largely by the fact that most of our SPs are in the 45- to 65year-old age bracket, meaning that they graduated from school several decades ago and are, therefore, unfamiliar with paper exams. When we asked the SPs individually about their understanding of blood relatives after the paper exam, all of them appeared to understand the concept clearly.

A survey of the current status of SP training for medical education purposes carried out by the 16th Medical Simulation Committee of the Japan Society for Medical Education showed that of the 68 medical schools surveyed, only 6, including ours, had a systematic SP training program in place⁷. The SP training program recommended by this committee places emphasis on family history taking⁸. Medical students have to learn how to take family histories accurately, so we strongly believe that those involved in training SPs should make sure SPs are given sufficient guidance in answering students' questions on the subject appropriately, bearing in mind the differences between family history taking and everyday conversations about the family.

Acknowledgement: I would like to thank the SPs and Nippon Medical School students who responded to the questionnaire for their cooperation.

References

- Training course for SPs at Academic Quality and Development Office, Nippon Medical School http:// college.nms.ac.jp/page/728.html#H21
- Aso R, Yoshimura A, Shimura T, et al.: Special Training Course for Simulated Patients Who Participated in the Advanced OSCE at Nippon Medical School. Journal of Nippon Medical School 2008; 75: 46–47.
- The Code of Behavioral Standards for Simulated Patients at Nippon Medical School. http://college. nms.ac.jp/page/705.html
- Yedidia MJ, Gillespie CC, Kachur E, et al.: Effect of communications training on medical student performance. JAMA 2003; 290: 1157–1165.
- Kalet A, Pugnaire MP, Cole-Kelly K, et al.: Teaching communication in clinical clerkships: models from the macy initiative in health communications. Acad Med 2004; 79: 511–520.
- Hodges B: Validity and the OSCE. Med Teach 2003; 25: 250–254.
- Shimura T, Yoshii F, Yoshimura A, et al.: A survey on training of simulated and standardized patients (SP) and SP program in undergraduate medical education in Japan: 16th Committee of Educational Materials Development of Japan Society for Medical

Education. Medical Education Japan 2011; 42: 29–35.

 Shimura T, Yoshii F, Yoshimura A, et al.: Training curriculum for simulated and standardized patients: the 16th Medical Simulation Committee of the Japan Society for Medical Education. Medical Education Japan 2012; 43: 33-36.

(Received, March 8, 2012) (Accepted, July 17, 2012)