

# Medical School Staff's Standardized Patient Experience Alters their Understanding of Student Education

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Since knowledge of medical communication education and objective structured clinical examination (OSCE) is increasing, a greater number of simulated patients/standardized patients (SPs) will undoubtedly be needed throughout Japan. At Tokyo Medical University in Japan, non-medical professional school staff members have acted as SPs in post-clinical clerkship OSCEs. However, except for academic or medical staff, no other staff members were reported to have acted as SPs. Therefore, the significance of the large numbers of solely medical school staff acting as SPs needs to be investigated. The purpose of this study was to determine how acting as SPs affects medical school staff's understanding of student education and whether it is useful for university staff to know what kind of education is being provided at their own school. A mixed-method study was utilized to investigate what kind of attitudinal changes occurred among medical school staff after their SP experiences. Accordingly, the researchers conducted a questionnaire survey with staff members after they acted as SPs. The questionnaire was developed through semi-structured interviews. The majority of the participants' responses were positive. They claimed that they had gained knowledge on the testing of students and now understood the importance of doctors' communication skills. Furthermore, many stated that all staff members at medical schools should experience acting as SPs. Medical school staff understands students' education processes better after acting as SPs. Japan's SPs are aging and becoming fewer; however, these SP numbers could be supplemented by medical school staff members.

Keywords: awareness; non-medical staff; objective structured clinical examination; patient simulation; staff development

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# Introduction

Medical doctors are professionals who are required to be highly specialized. Therefore, since medical techniques and the knowledge that they rely on are expanding at an increasing rate, more education concerning their professionalism is required, especially concerning communication techniques, since it is one of the main pillars of professionalism (Arnold and Stern 2006). Medical interviews with patients are standard forms of medical communication. Therefore, engaging in role-playing-that is, interview practice with simulated patients/standardized patients (SP)-is effective training for actual medical interviews and for honing the communication skills required (Rees et al. 2002; Chan et al. 2003; Yedidia et al. 2003). To this end, most medical schools in Japan are now employing medical practice interviews with SPs.

Objective structured clinical examination (OSCE) is widely used to evaluate medical practitioners' competencies at conducting medical interviews, and their acquisition of clinical skills that are otherwise difficult to assess with paper tests; this includes their clinical judgment, technique, and demeanor. In Japan, before students without medical qualifications start their clinical clerkships, they undergo

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common achievement testing OSCE to verify that they are well equipped with basic knowledge, positive demeanors, and skills, including good communication abilities. Accordingly, medical students throughout Japan have undertaken "Common achievement testing prior to clinical clerkship" officially since 2006 (Kozu 2006). Several schools also conduct post-clinical clerkship OSCEs to evaluate whether the abilities that students require to start their clinical practices, in terms of skills and demeanor, have been acquired. Furthermore, common achievement testing has been conducted since 2020 for the post-clinical clerkship OSCEs (Komasawa et al. 2020). The legal status of "Student Doctors" in Japan is an important matter; accordingly, the law has been revised to formalize the common achievement test in pre-clinical clerkship OSCEs (Ministry of Health, Labour and Welfare 2021). The formalization process requires further improvements in the tests' consistency, the establishment of systems for nationwide initiatives, and establishing an SP training system (Ministry of Health, Labour and Welfare 2020).

SPs are recruited from various sources, including local theater companies, drama schools, or people with hidden talents who never knew they could act (Hart and Chilcote 2016). The compensation varies from an SP as a volunteer, a regular staff member, or an independent contractor. In the United Kingdom, the type of people used as SPs varies greatly between medical schools. Some medical schools use only professional actors, some use a combination of volunteers and professional actors, while others use only volunteer patients (Cleland et al. 2009). In Japan, SP work is mainly conducted by volunteers trained by citizen groups. With this increase in medical communication education and OSCEs, a greater number of SPs will undoubtedly be needed throughout Japan. Although several medical schools have started to develop their own SPs (Shimura et al. 2011), in addition to utilizing external SP groups, a shortage of SPs is still expected in the future. Accordingly, Tokyo Medical University, in addition to employing external SPs, has been training medical school non-medical staff as SPs since 2017, who have also participated in OSCEs. In the same year, the Medical Education Promotion Center, Tokyo Medical University founded the Tokyo Medical University Simulated Patient Association, which recruits and trains university retirees as SPs. A ministerial ordinance, which partially revised the university and college establishment criteria (Ministry of Education, Culture, Sports, Science and Technology 2016), called for the provision of training (staff development [SD]) opportunities that would enable the staff to acquire the knowledge and skills required for managing a university and which would improve their professional abilities and attributes as a whole. Furthermore, by acting as SPs, the staff of medical schools from various subject fields would likely gain useful SD concerning student education. However, despite these benefits, there are no reports on how SPs are recruited worldwide. Furthermore, although one report asserts that people involved with medical departments and medical schools are active as SPs in 37% of those institutions in Japan, this still accounts for only 8% of their SPs (Shimura et al. 2011). Moreover, there are no reports on whether any staff other than teaching and medical are active among those SPs. Therefore, the significance of large numbers of medical school staff acting as SPs requires clarification. The purpose of this study was to discover what impact working as an SP has on medical school staff's understanding of student education, what should be considered when developing SP in the future, and whether SP activities are useful as a part of SD by learning what kind of education is conducted in their own school.

### **Materials and Methods**

An exploratory sequential mixed method design was utilized to investigate what kind of attitudinal changes occurred among medical school staff after their SP experiences. Since there were no previous studies, it was necessary to develop a new measurement scale and explore it qualitatively first. Then, quantitative research was conducted because it was necessary to look at annual trends and generalize to the population.

#### Participants

The hiring of non-medical staff as SPs was done at the direction of the president and selection was undertaken by the executive director of the university. Training of the SPs was conducted by one of the researchers (Y.Ha.) and other faculty members from the Medical Education Promotion Center and the Simulation Center at the university. First, a training session was held on recent medical education, OSCE, and the current status of SP. This training was followed by an explanation of the scenario and two practical sessions. There were two types of scenarios: those created by the Common Achievement Tests Organization and those created by the University independently.

#### Qualitative research

Interview survey: A post-clinical clerkship OSCE was first held on July 26, 2017. The SPs included members from both an external association and the medical school staff who acted as SPs. The medical school staff who acted as SPs constituted the participants of the interview survey. The researchers prepared an interview guide for the participants and conducted semi-structured interviews from November 29 to December 13, 2017. This interview guide was devised through discussions between the research collaborators. Semi-structured interviews were conducted by researchers, Y.Ha. and Y.K. The Medical Education Promotion Center staff did the recording and transcription. The interviews lasted 30 minutes to 1 hour and were conducted individually using the interview guide, with questions such as, "Why did you decide to do SP?," "What have you learned from doing SP?," "Has your awareness of medical education changed?" and "Would you encourage other staff to experience SP?"

*Analysis*: The recorded audio data was converted to text and coded and categorized by several researchers and research collaborators according to the qualitative content analysis method (Mayring 2000; Flick 2011; Erlingsson and Brysiewicz 2017). The researchers repeatedly discussed and modified the guide until they reached an agreement.

As a first step, important contents were extracted from verbatim records, coded, and classified by paraphrasing methods, such as abstraction, and made into sub-items. The sub-items obtained in the first step were classified according to their background factors, and higher-level categories were constructed to form the major items. In this step, the sub-items obtained in the first step were classified by referring to their background factors, and higher-level categories were constructed to form the major items. In addition, based on discussions among the researchers, the sub-items were categorized as intermediate categories between the sub-items and major items, with "positive opinions" and "negative opinions" for each opinion system, and "neutral opinions" that could not be categorized into either category as intermediate items.

# Quantitative research

Further post-clinical clerkship OSCEs were held on July 20 and 21, 2018, and on July 19 and 20, 2019. Due to the COVID-19 pandemic, the post-clinical clerkship OSCE of 2020 was scaled down and held on September 19. Each year, the medical school staff, and members of the Tokyo Medical University Simulated Patient Association, who are mainly retired university staff, acted as SPs, in addition to the SPs from an external association. The university staff and members of the Tokyo Medical University Simulated Patient Association who acted as SPs constituted the participants (Ages: 20s-60s) of the questionnaire survey.

During the interviews, participants were asked whether, before acting as SPs, they were aware of OSCE and SPs, what kind of teaching and testing the medical students received, whether they had learned anything from being SPs, and how they felt about their SP experience.

*Questionnaire development*: Voice data recorded during the interviews were transcribed, coded, and categorized by several researchers and research collaborators. The questionnaire was developed using a 5-point Likert scale for each category.

*Questionnaire survey*: A questionnaire was developed based on the content analysis results, using a five-point Likert scale for each category. The questionnaires were distributed after the post-clinical clerkship OSCEs in 2018, 2019, and 2020. The participants were asked to send their responses through the school's internal mail system within three weeks.

*Analysis*: The participants' annual response trends were tested using chi-squared tests. The statistical software used in this study was the IBM SPSS Statistics  $27^{\text{®}}$ ; the significance threshold was set at P < 0.05. The reliability of

the questionnaire survey was assessed using Cronbach's alpha coefficient.

## Informed consent

The study was performed in accordance with the principles of the Declaration of Helsinki. The interview survey was recognized by the Institutional Review Board of Tokyo Medical University as research outside the scope of the "Ethics guidelines for medical research on humans." Accordingly, written consent was obtained from all research participants. The questionnaire survey was approved by the Institutional Review Board at Tokyo Medical University (T2018-0003). Participants were informed about the purpose of the study and assured that their responses would be used anonymously for research purposes only, on a voluntary basis. Participants sent their participation consent forms along with their responses to the questionnaire.

## Results

#### Semi-structured interviews

A total of 10 out of the 12 staff members who acted as SPs took part in the interviews. The transcribed data were conceptualized by extracting noteworthy words and phrases and using words that take the context into account. Thereafter, the coded sub-items were divided into "positive opinion," "negative opinion," "neutral opinion" and then into the following major items: "What I learned from SP experience," "What I felt from SP experience," "Alters my understanding of medical education," "Relationship to the current job," "Opinion of those who will participate in SP training," and "How to practice my acting."

When the staff was asked why they became SPs, 60% said that they had been instructed by their superiors, while 40% said that they were within the age and sex demographics being recruited. Their responses concerning how they felt about their SP experience were mostly positive: "I have learned about the situations of testing and students"; "It was stressful at first, but I gradually got used to it"; "I felt I was standing at the forefront of education"; "We should continue to observe techniques and positive demeanors rather than just focusing on accruing knowledge"; and "It was fun." However, there were several negative responses as well, including: "It was difficult to remember the scenario"; "I felt stressed because it affected the students' graduation chances"; and "It bore no relation to my work." When asked whether they would recommend other staff to participate, many participants provided positive comments. Additionally, their comments on participating in SP development in the future were also favorable, including: "Many staff members should experience it" and "I felt actively involved in the education process." When asked about how they employed specific techniques for practicing to be SPs, their responses included: "I made a small copy of the scenario"; "I looked up specialist terms on the internet"; and "I practiced with my family."

# Questionnaire survey

We received responses from 56 staff members who acted as SPs; 15 out of 20 in 2018, 22 out of 29 in 2019, and 19 out of 20 in 2020. The proportion of these staff members who acted as SPs for at least a second year was zero in 2018, 34% in 2019, and 21% in 2020 (Fig. 1). The proportion who had worked in job positions involved with education was largely constant at 86%-89%. The propor-

tion of staff members who attributed their reason for becoming SPs to their personal preference was 40% in 2018, 15% in 2019, and 47% in 2020. The proportion who possessed specific knowledge of OSCE was 13% in 2018, rising sharply to 82% in 2019, and then decreasing to 47% in 2020. The proportion who possessed specific knowledge of SPs was 13%, 73%, and 37% in those three years, respectively.



Fig. 1. Experiences and awareness of objective structured clinical examination (OSCE) and standardized patients. The proportion of these staff members who acted as simulated patients/standardized patients (SPs) for at least a second year was zero in 2018, 34% in 2019, and 21% in 2020. FY, fiscal year.

Regarding how the staff felt about their SP experiences (Fig. 2), the participants' responses-"agree somewhat" and "strongly agree"-were aggregated over the three years. Specifically, 94% said, "I have learned about the students' testing conditions"; 57% said, "It was difficult to remember the scenario"; 68% said, "It was fun," and 84% stated, "I felt involved at the forefront of education"; 98% said, "I felt the importance of communication." With regard to the

staff that acted as SPs during the graduation OSCEs, 69% agreed with, "Given the opportunity, I would do it again"; 50% stated that, "It bore no relation to my current work"; 41% said, "Other staff is busy, and I have mixed feelings about encouraging them to try it," while 80% believed, "Staff members of medical schools should participate" (Fig. 3); 87% said, "More staff members should experience it"; 59% stated that, "Standardized patient training sessions



Regarding how the staff felt about their SP experiences, the participants' responses were aggregated over the three years. FY, fiscal year.





should be introduced"; and 35% agreed that, "There should be a system for certifying staff members who take standard-ized patient training" (Fig. 4).

The questionnaire's validity was assured since it was developed based on the categories obtained from the semistructured interviews. Concerning reliability, the Cronbach's alpha coefficient of the questionnaire was 0.717; this was judged to be acceptable. Reproducibility was not verified with the retest method.

#### Discussion

Due to a lack of reports concerning the awareness that medical school staff gained from being SPs, this study conducted semi-structured interviews in its first year to address this dearth of knowledge. It was found that many staff members did not have specific knowledge of OSCE or SPs, but many had positive feelings towards acting as SPs. Furthermore, although their initial motives for participating were passive, such as management instructions, they devel-





Many staff should experience it.

A simulated patient training association should be started.



There should be a system for certifying staff who take simulated patient training.



Fig. 4. Thoughts about staff acting as standardized patients in post-clinical clerkship objective structured clinical exam tion (OSCE) (2). FY, fiscal year.

oped positive feelings after participating. It can be inferred that they were reluctant because they were not aware of SP and OSCE, and moreover, they thought it was not directly related to their work. Even when participants acted as SPs in OSCEs that bore no direct relation to their own work, their opinions indicated that participating in student education did contribute to their motivation as medical university staff.

Thereafter, the researchers developed a questionnaire based on these results and conducted a questionnaire survey in the subsequent years. In 2018, few respondents knew any specific details about OSCE or SPs, but their awareness had increased by 2019. The proportion of participants who were aware of OSCEs and SPs had also risen, even when accounting for those with professional experience relating to education and those who had SP experience prior to 2019. This result indicates that knowledge of OSCEs and other details of medical education was spreading among staff members. However, the proportion of participants with some awareness decreased in 2020. This decrease may be related to the COVID-19 pandemic since external associations could not help with the pre-clinical clerkship OSCEs. Consequently, staff members were asked to fill all of the SP positions, which caused many of them to participate in the pre- and post-clinical clerkship tests. Therefore, the proportion of staff members who were self-motivated to act as SPs did not show a consistent trend over the years studied, although fortunately, this was unrelated to their levels of awareness concerning OSCEs and SPs. Nevertheless, although the researchers do not have specific details, they assert that a greater number of staff members are volunteering.

There were significant differences in respondents' feelings towards being SPs between the three survey years. More than half responded that it was a fun experience. However, while many participants felt that the experience bore no relation to their current work and that they had mixed feelings about motivating other staff members to participate, they asserted that medical university staff needed to participate.

In a questionnaire survey concerning internal examiners that participated in OSCEs (the results are not detailed here), it was found that many of them approved of the SPs' quality and compared them favorably with SPs from external associations. Furthermore, the feedback from external examiners also rated these SPs highly and asserted that the SPs could assure the quality of OSCEs.

Pre-clinical clerkship OSCE has become a legally established requirement (Ministry of Health, Labour and Welfare 2021). However, the serious shortage and increasing ages of the SPs can impede this process (Ministry of Health, Labour and Welfare 2019a). A possible way of addressing this problem could be to incorporate medical school staff members as SPs, since they fall into a wide range of age bands-from people in their twenties to sixties. Opinions from the examiners further indicated that steady testing levels are currently being maintained. However, standardized SP training and a system for approving SP trainers should still be considered (Ministry of Health, Labour and Welfare 2019b). How staff will become accredited as SPs is a matter for future studies. In situations such as the current pandemic, SPs from outside organizations or volunteers may have to be canceled at short notice. One of the advantages of having a staff member play the role of SP is that the OSCE can be conducted in a stable manner.

A limitation of this study is that it examined only a single institution; therefore, both the number of respondents and the diversity of their backgrounds were limited. We consider that, by using an exploratory sequential approach, we were able to generalize our results within the institution. However, if there are other institutions with non-medical staff members who have acted as SPs, then multicenter studies involving other medical schools and non-medical faculties are needed. Furthermore, while the scenarios used in the OSCEs were not uniform, they were numerous; therefore, the effects of the scenarios cannot be disregarded since each scenario is different in terms of memorability and ease of performance.

In conclusion, many of the medical school staff who acted as SPs in the post-clinical clerkship OSCE had posi-

tive opinions about their experience and stated that it was one way to learn about medical education. Furthermore, important nationwide problems concerning the shortage and aging of SPs have been identified. These problems can be remedied by including school staff as SPs.

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# **Conflict of Interest**

The authors declare no conflict of interest.

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