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EMPIRICAL REPORT

Performance-Based Assessment in Child and Adolescent Psychiatry Residency Training

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Abstract

Objective This study aimed to examine the application of the Objective Structured Clinical Examination (OSCE) to the assessment of competency among child and adolescent psychiatry (CAP) residents and to analyze the feedback from the residents and the examiners.

Methods The OSCE was administered to 53 CAP residents based on three seniority levels over a 14-year period. The results of 147 OSCEs applied to residents and the feedback received were evaluated. OSCE scores were calculated based on the scores given by the examiners and standardized patients (SPs).

Results Examiners' communication skills scores were significantly higher than examiners' task performance scores but were not significantly different than the SPs' scores. Intraclass correlation coefficients indicated that examiners and SPs were very consistent in their assessments among themselves. The scores given by the examiners and the SPs were not different between genders except for female residents' communication skills scores given by SPs in the OSCE-senior. With regard to the feedback on the OSCE, it was determined that examiners gave significantly higher scores than residents on every item except for "neutrality of the examiners."

Conclusions A standard OSCE including different station types was structured to assess the progressive clinical skills of residents over the years. Using the OSCE contributed to CAP residency training far beyond assessment, creating a useful educational experience for both the trainers and the residents. Despite the challenge experienced related to SPs, the OSCE was found to be useful in improving training programs.

Keywords Child and adolescent psychiatry · Performance-based assessment · Residency training

Competency-based structured programs aiming to achieve predetermined learning objectives besides apprenticeship training have gained importance in psychiatry and child psychiatry residency training [1–3]. Resident assessments previously conducted through written/oral examinations were revised [3, 4]. Oral examinations that include the observation of the resident by the examiner during a real patient interview, case presentations, and diagnosis and management discussions, which are commonly used to evaluate the skills of psychiatric residents, are criticized for inflated and poorly distributed grades (the majority ranged from 75–85%). The Objective Structured Clinical Examination (OSCE) is an alternative performance-based exam [4]. Performance-based teaching and assessment methods were developed to focus on clinical skills in accordance with the notion that "knowing" is insufficient for health professionals and "knowing how" should be taught and assessed [5]. The OSCEs defined by Harden and Gleeson in 1979 [6] are now used worldwide with new roles and new settings [7]. In an OSCE, there are various stations where residents are expected to perform certain tasks to achieve given objectives [3]. Although the examiners, station duration, and assessment methods may vary, the use of the same criteria and time constraints to assess candidates' performance of a task is an essential characteristic of all OSCEs [8].

Past research has stressed the importance of interactive and experiential learning in mental health education [9]. Medical concepts, diagnosis, treatment processes, and decision-making can be taught through experiential learning using medical simulation methodology, such as standardized

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patients (SPs), simulated patients, role playing, mannequins, and virtual reality [10]. Through the adoption of the "standardized patient" concept, first defined by Barrows and Abrahamson in 1964 [11], the features and difficulty level of patients' problems and handling patients are standardized in the OSCE [4]. Using SPs instead of real patients makes the process more consistent and reliable [12]. Standardized patients are used in psychiatric education practices such as assessment, research, and teaching, including psychotherapy [9]. Communication skills can be evaluated through face-to-face or telephone interviews with an SP [13]. Performances may be observed directly or through 1-way mirrors, closed-circuit television, or video recordings [7]. At some stations, the short or long performance is followed by written or oral questions asked by the examiner [4]. Performance is measured with rating scales completed by the SP and rater [3].

The OSCE is accepted as a valid and reliable method of assessment in medicine [4] and has been widely used in undergraduate and postgraduate medical education. However, it is a relatively new method for the assessment of psychiatric skills [14–18]. The advantages of using the OSCE in psychiatry include the ability to assess clinical skills; rating students on specific, predetermined criteria; the use of SPs (minimizing the luck factor associated with the interviewed patient); and the opportunity to provide feedback on the student's communication skills [16]. The OSCE is considered to be highly beneficial in the assessment of performance in emergency conditions that would be ethically and practically difficult to assess and in high-risk but low-possibility conditions such as suicide [8]. Hodges et al. [19] reported that, as of May 2013, there were 250 published studies on the OSCE in psychiatry. The use of OSCEs has been studied in undergraduate [4, 17, 20–25] and postgraduate [3, 26, 27] psychiatry education; however, there is only one study on the use of OSCEs in child psychiatry undergraduate education [15]. It was also reported that different problems occur in OSCE practices in different countries [28].

OSCE Practices and CAP Residency Training in Turkey

The Dokuz Eylül University Faculty of Medicine (DEUFM) in Turkey has employed active learning methods, including problem-based learning and task-based learning, since 1997. At DEUFM, OSCEs have been used in undergraduate child/adult psychiatry education since 2001 and in psychiatry residency training since 2013. The OSCE has been applied in board exams, though not mandatory for starting work, in psychiatry (with six stations) for approximately 10 years and in CAP (with five stations) since 2011.

CAP has been an independent specialty in Turkey since 1990. Until recently, CAP residents were required to write a thesis and pass oral and written exams at the end of their residencies [29]. Residency training in the DEUFM Department of Child and Adolescents Psychiatry (DCAP) has been standardized since 2003. Clinical/practical examinations (OSCEs) and written examinations (with multiple-choice questions) based on learning objectives and varying with seniority have been used for the final summative assessment of CAP residents since 2004.

Methods

This study explored the application of the OSCE to 53 CAP residents (21 male and 32 female) at DEUFM-DCAP from the 2004–2005 to 2017–2018 academic years. The OSCEs were evaluated in terms of preparation and application process, exam scores, and feedback from residents and examiners.

Application of the OSCE in DEUFM-DCAP Education

In DEUFM-DCAP, residents were classified into three groups based on their seniority levels: junior (first-year residents), middle (second-year residents), and senior (third- and fourth-year residents). As they progressed, residents took the OSCEs according to their seniority levels.

The OSCEs designed for the evaluation of knowledge, skills, and attitudes were initially conducted under the supervision of faculty members from the Department of Medical Education. In preparation for the administration of an OSCE, examination instruments, in accordance with the curriculum and relevant literature, were developed, and the course of the examination was planned. The practical learning objectives described according to seniority in the residents' logbook, based on the core curriculum of the Ministry of Health Medical Specialization Board, were reviewed [30]. Contents (e.g., topics) and station types were selected according to the curricular objectives of the training program, and the OSCE blueprint was created for each seniority. The sample clinical case scenarios in the OSCE stations were based on common problems encountered in practice (Table 1).

The OSCE-junior, including one case and lasting approximately 1 h, was applied to junior residents who had completed

Table 1 Some examples of the OSCE-middle stations

- Evaluating side effects in a 17-year-old boy taking a drug.
- Conducting a suicide risk assessment interview with a 16-year-old girl.
- Conducting a phone interview with the teacher of a 6-year-old girl.
- Providing information to a mother of an 11-year-old boy on treatment, obtaining consent, and prescribing a stimulant.
- Writing a consultation note or a forensic report relying on provided patient information.

their first year. The first seniority-level OSCE was designed to include the same case with minor changes. The purpose of the OSCE-junior was to familiarize junior residents with the OSCE and to evaluate their basic clinical skills. The case scenario used in the OSCE-junior included an SP that exhibited classic presentations of mental states for the mental examination (e.g., distractibility or depressive affect) and the patient's history. During the first 20 min of the OSCE-junior, a resident examined the SP while examiners observed the resident to assess their *communication skills*. During the interview, the resident used the patient file partially filled with information from the parents. In the following 10 min, the resident evaluated the patient's file together with his/her examination findings and prepared for the presentation. In the final 25 min, the resident presented the *patient's history* (10 min), the *results of the mental status examination* (5 min), and the *list of possible diagnoses* (5 min) and *discussed the differential diagnosis* (5 min).

The OSCE-middle, consisting of four stations lasting 15–20 min each, was administered to middle residents who completed their second year. During the 14-year process, 32 different stations were created in the fields of evaluation-diagnosis (10), biological treatments (8), psychosocial treatments (6), and integrative approaches (8) (Table 1). An SP was available at all the stations except five.

The OSCE-senior, featuring a single case, was applied to senior residents who completed their third year. The OSCE-senior completed in approximately 2 h consisted of a psychiatric interview with the SP and directing the patient (1/4 of exam duration) followed by written tasks. After the interview, the stations for planning the necessary tests and arrangements for the patient, formulating a diagnosis and developing a treatment plan considering the additional results related to the patient, and writing the necessary legal notifications or reports were present. During the study period, 9 cases with different examination instruments were created for the OSCE-senior.

Before the examination, seniority level-specific written information was provided to residents, examination instruments were transferred to the examination setting, and rooms were arranged. The procedures at each station were checked before the examination started. The SP interview performances were observed through one-way mirrors. Examination results and feedback were provided to the residents individually.

Examiners and Standardized Patients

The examiners were child psychiatrists from the DCAP. For the OSCE-junior and OSCE-senior, three examiners observed and rated the performance of each resident. There was one examiner at each OSCE-middle station. Adult SPs were trained to play teenagers and adults (e.g., parents, teachers, and physicians). CAP team members (psychologists, child development specialists, and special educators) and less often psychiatry residents, faculty members from medical education, and psychology students served as SPs. During preparation, SPs performed their roles in front of the examiners in order to standardize the scenario, patient reactions, and ratings of the checklists. This role play provided an opportunity to review the course of the examination and improve the reliability and validity of the assessment.

Instruments

Examination Materials

The examination materials needed to conduct the stations (e.g., partially completed patient files, forms, psychometric scales, materials, a clock, paper, and pencils) were prepared according to the scenarios.

Examination Instructions

Instructions were developed separately for each OSCE to provide residents with a clear understanding of what they were expected to do during the examination.

Standardized Patient Rating Scale

A five-point Likert-type scale was developed for the SPs to rate the residents ranging from 1 ("inadequate") to 5 ("excellent") on the five dimensions of effective communication (i.e., intelligibility of language, being nonjudgmental, authenticity and spontaneity, empathy, and sense of confidence).

Resident Rating Forms

Standardized rating forms were developed for the examiners to rate the residents during the examination. The resident rating forms consisted of subsections that were worth different percentage points (Table 2). Forms with its score / binary checklists / scales with Likert-type responses for each task were used to rate residents' task performances. Communication skills were assessed by using a 15-item Likert-type scale in OSCE-junior and OSCE-senior and a 10-item binary checklist in OSCE-middle. The communication skills score included scores on different dimensions: verbal and nonverbal expression, empathy, and interview management.

Feedback Questionnaire

A feedback questionnaire was designed in order to gather feedback from residents and examiners regarding the OSCE. Responses to the items on the questionnaire ranged from 1 ("inadequate") to 5 ("excellent"). Feedback questionnaires (completed anonymously) were left in a box in a mixed manner after the examination.

Table 2 In the calculation of the OSCE examiner score, contribution percentages for scores of different assessment subsections

Scores of the OSCE	OSCE-junior (%)	OSCE-middle (%)	OSCE-senior (%)
Scores given by the examiner			
Communication skills	50	18	40
The task performance		72	
Presentation/writing of the patient's history and the results of mental status examination	20		20
List of possible diagnoses	10		
Discussion of the differential diagnosis	10		
Planning diagnostic and therapeutic interventions			10
Diagnosis, biopsychosocial formulation			10
Written notification/request/report			10
Scores given by the standardized patient	10	10	10

Calculation of Examination Scores

The scores were calculated by using Excel. The final summative assessment consisted of an OSCE (3/7 of the score) and a written examination (4/7 of the score). The total OSCE score was calculated by summing the SPs' score (1/10) and the examiners' score (9/10). The examiners' scores, including the communication skills score and the task performance score, were calculated by summing the scores of the subsections (in different percentages according to seniority level). Communication skills constituted 5/9 of the examiner score on the OSCE-junior, 4/9 on the OSCE-senior, and 1/5 for stations with SP on the OSCE-middle (Table 2). When multiple examiners were used, the OSCE examiner score was the mean score of all the examiners. The score for OSCE-middle was the mean score of four stations.

Correlations between the exam scores were analyzed by the Spearman rho correlation coefficient. The intraclass correlation coefficient was calculated to determine the consistency between the examiners and SPs. The median exam scores were compared using the Wilcoxon signed-rank test. The Mann-Whitney U test was used to compare the feedback received from residents and examiners. Data analyses were conducted using SPSS version 22. A p-value <0.05 was considered to be statistically significant.

Ethical approval was obtained from the Dokuz Eylül University Noninterventional Research Ethics Committee with decision number 2016/30-07 (24.11.2016).

Results

Results of the Final Assessments

During the study period, 53 OSCE-junior, 50 OSCE-middle, and 44 OSCE-senior exams were conducted. The results of the 147 exams and the feedback received were evaluated.

The intraclass correlation coefficient was calculated to assess the consistency between examiners for each seniority level and the consistency between SPs for the OSCE-middle. The intraclass correlation coefficients were 0.931 (n=46) for OSCE-junior examiners, 0.991 (n=44) for OSCE-senior examiners, 0.703 (n=20) for OSCE-middle examiners' task performances, 0.779 (n=20) for OSCE-middle examiners' communication skills, and 0.749 (n=20) for OSCE-middle SPs.

The exam scores and results of the correlation analyses are shown in Table 3. When all the exams were evaluated together and for each seniority level, the examiners' communication skills scores were significantly higher than the examiners' task performance scores (Wilcoxon p=0.001 for OSCE-junior and p<0.001 for the whole group, OSCE-middle, and OSCE-senior). There was no significant difference between the SPs' scores and the examiners' communication skills scores (Wilcoxon p>0.05).

When examiners' communication skills scores, examiners' task performance scores, SPs' scores, and OSCE scores, at different seniority levels, were analyzed in terms of gender, there was no significant difference except for the scores of the SPs for the OSCE-senior. Female residents' scores given by SPs in the OSCE-senior were better than male residents' scores (Mann-Whitney U test p=0.035).

The Feedback of the Residents and the Examiners

Table 4 shows the mean rating scores of the residents and examiners on the feedback questionnaire. When all the OSCE practices were assessed together, it was determined that examiners gave significantly higher feedback scores than residents on all items except for the "neutrality of the examiners."

Discussion

In CAP residency training, an assessment process that includes multiple examiners, multiple methods, and different formats with a fair and constructive approach is important [31]. In postgraduate psychiatry education, where communication skills are vital [1], it was recommended that learning activities and performance assessments based on interaction

Table 3 OSCE scores and written exam scores for each seniority level and the whole group

Scores	n	Mean±SD	Median	Range	Spearman correlation test (r value) p value
Whole group					
OSCE	147	80.13±9.90	81.57	44.53–98.35	
Standardized patient	147	86.73±12.02	90.00	45.00–100.00	(0.391)
Examiner	147	79.54±10.28	81.36	45.08–98.17	<0.001
The task performance	139	76.46±11.46	78.44	44.79–100.00	(0.229)
Communication skills	139	87.11±11.35	91.11	47.56–100.00	0.007
OSCE-junior					
OSCE	53	78.74±8.93	79.29	55.55–95.89	
Standardized patient	53	83.32±13.54	84.00	48.00–100.00	(0.148)
Examiner	53	78.41±9.59	79.33	54.17–95.43	0.290
The task performance	53	74.59±11.00	76.61	47.58–98.61	(0.433)
Communication skills	53	80.98±11.69	81.78	47.56–98.00	0.001
OSCE-middle					
OSCE	50	75.71±10.40	77.51	44.53–95.29	
Standardized patient	50	86.26±11.88	90.00	45.05–100.00	(0.667)
Examiner	50	74.77±10.51	76.51	45.08–94.89	<0.001
The task performance	42	72.23±11.83	72.37	44.79–100.00	(0.020)
Communication skills	42	91.42±9.27	93.54	60.00–100.00	0.898
OSCE-senior					
OSCE	44	86.83±6.46	87.91	65.43–98.35	
Standardized patient	44	91.36±8.49	92.00	68.00–100.00	(0.176)
Examiner	44	86.32±6.81	87.19	65.14–98.17	0.252
The task performance	44	82.74±8.92	83.70	56.56–97.76	(0.224)
Communication skills	44	90.37±9.52	91.67	57.22–98.89	0.143

SD standard deviation

Table 4 Feedback of the residents and the examiners regarding the various aspects of OSCE (on a scale ranged from 1 (inadequate) to 5 (excellent))

		n	Mean±SD	Median	Range	p value*
Explanations before the examination	Examiners	102	4.50±0.71	5	2–5	<0.001
	Residents	145	3.66±1.03	4	1–5	
Examination rooms and materials	Examiners	102	4.60±0.66	5	2–5	0.003
	Residents	146	4.37±0.70	4	2–5	
Time for standardized patient examination/interview	Examiners	102	4.80±0.58	5	2–5	<0.001
	Residents	146	3.93±1.06	4	1–5	
Time for interpretation of findings	Examiners	101	4.82±0.56	5	2–5	<0.001
	Residents	145	3.99±0.99	4	1–5	
Time for presenting or writing	Examiners	86	4.77±0.59	5	2–5	<0.001
	Residents	145	4.03±0.97	4	1–5	
Authenticity of the standardized patients	Examiners	97	4.87±0.34	5	4–5	<0.001
	Residents	145	4.28±0.92	5	1–5	
Neutrality of the examiners	Examiners	97	4.72±0.54	5	3–5	0.133
	Residents	140	4.57±0.72	5	2–5	
Organization of the examination	Examiners	102	4.61±0.69	5	2–5	<0.001
	Residents	145	4.06±0.96	4	1–5	
Examination's level of assessment of the practical skills	Examiners	102	4.67±0.62	5	2–5	<0.001
	Residents	145	3.61±1.19	4	1–5	

*Mann-Whitney U test

with SPs be used [21, 32]. It was suggested that OSCEs in postgraduate psychiatry training should be different from OSCEs in medical education and should assess different skills at different seniority levels [33]. Hodges et al. [4] in 2002 developed a guide for the preparation of a psychiatric OSCE. In accordance with this guide, during the preparation of our OSCEs, the content, number, and length of the stations required for the assessment of knowledge, skills, and attitudes targeted by the learning objectives of the curriculum were determined. The OSCEs administered in our department included different examination sections or stations based on seniority level similar to the psychiatric OSCEs performed in postgraduate education in the USA [14].

It was reported that simulating psychiatric symptoms is more difficult than simulating physical symptoms, and training is necessary for SPs to simulate the findings in a scenario [14]. Professional SPs (actors) were recommended due to the complexity of the roles. However, it was also reported that despite the possible difficulties, faculty members, residents, medical students, and community volunteers may also be used as SPs [4]. The SPs in our study were mostly CAP team members because the use of medical professionals as SP has been reported to reduce the required training time and provide content validity to the assessment [34]. Hanson et al. [15] in 1998 reported that four simulated parent (not child) scenarios were used in an examination, including child psychiatry OSCE stations, in undergraduate education. More mature adolescents should be carefully chosen as SPs in child psychiatric OSCEs because the simulation of a patient by children and adolescents raises ethical concerns and may cause difficulty in standardization. We preferred simulating mentally ill adolescents using amateur adult SPs since simulating emotional problems may be problematic for children and adolescents [15].

An OSCE to evaluate psychiatry residents' competencies was developed in the USA. The skills assessed at OSCE stations were similar to those of our study and included history taking, mental examination, providing advice to the SP (30 min), writing up the findings and a treatment plan (30 min), or performing a shorter clinical task (5–20 min). Although very good interrater reliability was reported for SP-based exams, two raters were used to increase the perception of fairness. Residents' grades were determined based on two examiners' ratings on interview management, SP ratings on interpersonal and professional skills, and a checklist-based review of the write-ups [14]. In our study, in the OSCE-senior and OSCE-junior groups, three examiners rated the performances. The calculated intraclass correlation coefficients that showed agreement between raters were found to be 0.931 for OSCE-junior examiners, 0.991 for OSCE-senior examiners, 0.703 for OSCE-middle examiners (task performance scores), 0.779 for OSCE-middle examiners (communication skills scores), and 0.749 for OSCE-middle SPs. These reliable intraclass correlation coefficients showed that examiners and SPs made consistent evaluations among themselves. The reason for the higher intraclass correlation coefficients could possibly be because the examiners in OSCE-junior and OSCE-senior assessed the same performance.

It was reported that in some UK universities, the contribution of SP marks to OSCE scores was up to 20% in undergraduate examinations, but SP marks were not reported to contribute to OSCE scores at the postgraduate level since there were concerns regarding reliability and validity. Whelan et al. [27] found that there was a moderate correlation between SPs' and examiners' scores in postgraduate psychiatric OSCE. In our OSCE, both the SPs' (10%) and examiners' ratings (90%) were used in the calculation of the scores to improve reliability. A relatively lower weight for SP considering possible deficiencies in SP training was determined. The SPs' scores assessing communication skills were not different from the examiners' communication skills scores. When all the exams were evaluated together, a significant weak positive correlation was found between the examiners' and the SPs' scores. Our finding that there was a strong correlation between the examiners' and SPs' scores for the OSCE-middle might have been because all performances rated by the examiners were also observed by SPs. However, in the OSCE-junior and OSCE-senior, approximately half of the tasks involved the evaluation of written or verbal responses after the SP interview.

Discrimination against women is widespread in academic psychiatry in terms of promotion, salary, research funding, and educational and performance evaluation practices [35]. The male to female ratio of child and adolescent psychiatrists in Turkey and the SPs in this study was approximately 1:2. Past studies among medical students revealed that females have better results than male participants on communication skills assessments (assessed by SPs) [36], especially for the empathy dimension [37]. In our study, because only female residents' communication skills scores given by SPs in the OSCE-senior were found to be better than male residents' scores, the overall gender difference is minimal.

Although it has been reported that 8–10 is the appropriate number of stations (lasting 12–15 min each) for psychiatric OSCEs in undergraduate education [4], the number and types of stations were fewer and the station durations were longer in postgraduate education in the USA [14]. There were examples of psychiatry exams involving comprehensive psychiatric evaluation with a single simulated patient interview followed by written tasks [21, 38]. Instead of breaking down stations into more focused tasks, such as sexual history taking, cognitive examination, evaluation of suicide risk, and extrapyramidal side effects, it was recommended that tasks that require using and combining these skills competently be used for the assessment of residents. These tasks, including the diagnostic and biopsychosocial understanding of a patient and the

development of an appropriate treatment plan, may require more time [14]. The difficulty of preparing many stations for a few residents may limit the number of tasks. Problems faced when developing the tasks include long preparation times, which are almost 20 person-hours for each case [14], finding and training a sufficient number of SPs, and paying fees and expenses [4]. In our study, OSCE-junior and OSCE-senior included a single long case, and OSCE-middle included four short stations.

It was suggested that the OSCE has a limited ability to assess sophisticated reasoning skills to solve complex real-life clinical problems in psychiatry [39]. Broquet in 2002 suggested that the validity and reliability of the psychiatric OSCE is low in postgraduate education due to the small number of tasks and long stations. Therefore, when deciding whether to promote or remediate residents, it was recommended that the results of other examinations be taken into account [14]. In our department, pass/fail decisions were based on OSCE and written examination scores. During the 14-year period, only two residents had to retake the OSCE-middle the following year because they failed the final assessment. The examiners' communication skills scores were significantly higher than the examiners' task performance scores. A significant weak positive correlation was found between the examiners' communication skills scores and the examiners' task performance scores.

In a Canadian study, an OSCE designed to assess the clinical performance of medical students was administered to 15 psychiatry residents. It was found that the residents believed that the OSCE would be more useful for medical students and junior residents, and for residents, it should rather be used to determine their strengths and weaknesses instead of pass/fail decisions. It was also reported that for specialty certification, residents preferred the oral examination. They mentioned that their negative perceptions regarding the OSCE were not due to the inauthenticity of the SPs but rather due to the stress and anxiety associated with the tasks they were expected to perform in very short periods of time [33]. However, a study conducted on 134 psychiatrists who graduated (half of whom were examined with the OSCE and the others with conventional clinical patient interviews) reported that the OSCE was superior to the conventional examination in terms of homogeneity and fairness to all participants. The overall attitude of the graduates toward the OSCE was more positive [40]. In our study, the residents' and the examiners' feedback were compared, and it was determined that the residents found the OSCE to be less adequate for all items except the "neutrality of the examiners." The negative attitudes of residents toward the OSCE may be related to anxiety stemming from the fact that the performance-based examination using SPs was a new assessment for them.

Our OSCE, which was among the first examples of the use of an OSCE in CAP postgraduate education, was designed in a flexible manner according to the educational needs and constraints (e.g., lack of human and financial resources) in the country. In this process, the main challenge experienced in the application of the OSCE to CAP residents in a different cultural environment was related to the SPs. The SPs were mostly CAP team members trained and experienced in a mental health field and/or psychodrama and it was a limitation of our OSCE. Initially, this practice performed due to lack of resources was continued since we realized that it was more convenient for our SPs to act as patients rather than actors who were unfamiliar with psychiatry. The acquaintance of the residents with the SP beforehand did not make a difference that would affect the OSCE process, results, or feedback. Simulation of the adolescent patient using adult SPs may have a limited impact on the examination quality because the feedback associated with the authenticity of the SPs was rated as high by residents.

During the study period, every year, an average of 4 CAP residents came to DEUFM-DCAP for training, and residents took OSCEs as practical examinations at three seniority levels over the course of their training. One of the strengths of our study was the comprehensive data of 147 final assessments of CAP residents. It was determined that three examiners evaluating the same performance in the OSCE-junior and the OSCE-senior and the examiners and the SPs evaluating the same resident in the OSCE-middle gave consistent scores. The validity and reliability of the CAP OSCE were supported by our findings.

In our OSCE, residents' scores in a wide range were suitable for use in making pass or fail decisions. However, we preferred to use the OSCE mainly in the ongoing professional development of CAP residents since using the OSCE in psychiatric residency training was recommended as a tool for teaching and formative assessment [8]. Faculty members sought to standardize our OSCE over the course of years at three seniority levels. Different station types were applied that included multiple short tasks or a single long patient interview followed by oral or written tasks. The results of these exams aimed at assessing basic clinical skills (OSCE-junior); clinical skills in different fields such as evaluation-diagnosis, treatment, and integrative approach (OSCE-middle); and advanced clinical skills (OSCE-senior) helped assess educational needs at both individual and institutional levels. In addition to verbal interaction skills, accurate and complete documentation and effective written communication abilities were also assessed. Written and oral feedback on the whole OSCE process and subsection scores were given to the residents. The residents and the trainers had the opportunity to review the final summative assessment data and identify the aspects that the residents needed to improve. Reviews of the course and feedback on the OSCE were used as inputs to plan improvements in the examination process. Additionally, prepared instruments for our OSCEs contributed to standardizing routine assessment and treatment practices (e.g., using the examiner's communication skills form to assess videotaped resident-real

patient interviews). In our study, different exam scores were compared to identify weaknesses and strengths in achieving learning objectives. Findings that could be used to improve curricular design and educational activities were obtained.

Within the 14-year period examined, legislative changes were made regarding the training and rotation periods and practical-theoretical content; thus, modifications to the examination were made in accordance with these changes while preserving the basic principles of the practical and theoretical evaluations. In the course of the 14 years, a comprehensive repository has been created for use in CAP OSCE applications, which could also be shared with other units. Our OSCE's contributions to residency training have been far beyond assessment. Preparing for this structured assessment practice away from intense clinical activities has created a useful educational experience for both examiners and residents. Fortunately, we had the opportunity to maintain this laborious practice, which is not easy to repeat since it is closely related to the educational climate and professional conditions in the university and country. Despite its limitations, this study represents an initial application of the OSCE in CAP residency training and introduces this type of assessment to this field. It is thought that sharing our experience will aid in the development of better-structured assessment procedures in CAP training.

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Declarations

Ethical Approval Ethical approval for this study was obtained from the Dokuz Eylül University Non-Interventional Research Ethics Committee with decision number 2016/30-07 (24.11.2016).

Disclosures On behalf of all authors, the corresponding author states that there is no conflict of interest.

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