



Adapting an Objective Structured Clinical Examination (OSCE) on Conducting Difficult Conversations Between Nephrology Fellows and Patients to a Virtual Platform: A Research Letter

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Abstract

Background: We previously described a nephrology-specific “Breaking Bad News” Objective Structured Clinical Examination (OSCE) assessing nephrology fellow communication and counseling skills in 3 scenarios: kidney replacement therapy (KRT) in kidney failure, urgent KRT in acute kidney injury (AKI), and kidney biopsy (KBx).

Objective: The main objectives of this study is to adapt the OSCE to a virtual platform, simulating nephrology patient telemedicine encounters involving difficult conversations, and to assess fellow and faculty satisfaction with the virtual format.

Design: Description of a formative telemedicine simulation for nephrology fellows.

Setting: Fully virtual simulation conducted by 2 academic medical simulation centers.

Participants: Nephrology faculty and fellows at 3 urban/suburban training programs in the eastern United States.

Measurements: Description of the virtual OSCE process. Fellow and faculty satisfaction overall and for each scenario. Faculty and fellow estimates of frequency of virtual patient encounters in the past year.

Methods: The OSCE consisted of 3 scenarios: KRT in kidney failure, urgent KRT in AKI, and KBx. Objective Structured Clinical Examinations were administered in May 2021. Each scenario lasted 20 minutes. The AKI scenario was audio only. Fellows telephoned a simulated patient surrogate for urgent KRT consent. Kidney failure and KBx scenarios were video encounters. Faculty observed while muted/video off. Immediately after the OSCE, fellows and faculty were anonymously surveyed regarding their satisfaction with each scenario, the OSCE overall, and their estimate of outpatient encounters and inpatient KRT counseling done virtually in the preceding year.

Results: Seventeen fellows completed the OSCE at 2 centers (3 programs). Sixteen (94%) completed the survey. Almost 94% rated the OSCE as a good/very good approximation of telemedicine encounters. Those satisfied/very satisfied with each scenario are as follow: 100% for AKI, 75% for kidney failure, and 75% for KBx. Two commented that they often did urgent KRT counseling by telephone. Fellows estimated a median 20% (interquartile range: 175, 50%) of counseling for acute inpatient KRT and a median 50% (IQR: 33.75, 70%) of outpatient encounters were virtual in the prior year. Two (regarding the kidney failure and KBx scenarios) indicated they would not have counseled similar outpatients virtually.

Limitations: The 15-minute interactions may be too short to allow the encounter to be completed comfortably. A small number of programs and fellows participated, and programs were located in urban/suburban areas on the east coast of the United States.

Conclusions: Overall, fellows felt that the OSCE was a good approximation of virtual encounters. The OSCE is an opportunity for fellows to practice telemedicine communication skills.

Abrégé

Contexte: Nous avons précédemment décrit un examen clinique objectif structuré (ECOS) de type « annonce d’une mauvaise nouvelle » en néphrologie afin d’évaluer les compétences en communication et consultation des résidents en néphrologie. L’ECOS comportait trois scénarios: thérapie de remplacement rénal (TRR) pour l’insuffisance rénale, TRR urgente dans les cas d’insuffisance rénale aiguë (IRA), et biopsie du rein (BxR).



Objectifs: Adapter l'ECOS à une plateforme virtuelle, simuler des rencontres de télémédecine impliquant des conversations difficiles avec des patients en néphrologie, et évaluer la satisfaction des résidents en néphrologie et du corps enseignant à l'égard du format virtuel.

Conception: Description d'une simulation de télémédecine pour la formation des résidents en néphrologie.

Cadre: Des simulations entièrement virtuelles réalisées dans deux centres universitaires de simulation médicale.

Participants: Les professeurs et les résidents en néphrologie de trois programmes de formation urbains/suburbains de l'est des États-Unis.

Mesures: Description du processus de l'ECOS virtuel. Satisfaction générale des résidents en néphrologie et du corps enseignant pour chacun des scénarios. Estimation, par les professeurs et les résidents, de la fréquence des rencontres virtuelles avec des patients au cours de la dernière année.

Méthodologie: L'ECOS était composé de trois scénarios: TRR en insuffisance rénale; TRR urgente en contexte d'IRA et biopsie rénale. Les ECOS ont été réalisés en mai 2021. Chaque scénario durait 20 minutes. Le scénario IRA était audio uniquement; les boursiers devaient téléphoner à un patient simulé afin d'obtenir un consentement pour une TRR urgente. Les scénarios pour l'insuffisance rénale terminale et la BxR étaient sous forme de rencontres vidéo. Les professeurs observaient les scénarios en sourdine/hors vidéo. Immédiatement après l'ECOS, les résidents en néphrologie et les professeurs ont été interrogés de façon anonyme sur leur satisfaction à l'égard de chaque scénario et de l'ECOS dans son ensemble. Ils ont également été invités à estimer le nombre de consultations externes et de conseils prodigués sur la TRR à des patients hospitalisés au cours de l'année précédente.

Résultats: Dix-sept résidents en néphrologie ont complété l'ECOS dans les deux centres (trois programmes) et seize (94 %) ont répondu au sondage. La très grande majorité (94 %) a évalué l'ECOS comme une bonne/très bonne simulation des rencontres de télémédecine. Le taux de personnes satisfaites/très satisfaites s'établissait à 100 % pour le scénario de l'IRA, à 75 % pour celui de l'insuffisance rénale terminale et à 75 % pour celui de la BxR. Deux personnes ont dit faire régulièrement des consultations par téléphone pour la TRR urgente. Les résidents en néphrologie ont estimé que 20 %, (proportion médiane) ÉIQ = 175; 50 %, des consultations avec des patients hospitalisés et 50 %, (proportion médiane) ÉIQ = 33,75; 70 %, des consultations externes avaient été faites virtuellement au cours de l'année précédente. Pour les scénarios d'insuffisance rénale terminale et de BxR, deux personnes ont indiqué qu'elles ne feraient pas de consultations virtuelles pour ces patients.

Limites: Les interactions de 15 minutes sont probablement trop courtes pour compléter confortablement la rencontre. Un faible nombre de programmes et de résidents en néphrologie ont participé. Les programmes évalués se situaient en zones urbaines et suburbaines de la côte est des États-Unis.

Conclusion: Dans l'ensemble, les résidents en néphrologie ont estimé que l'ECOS était une bonne représentation des rencontres virtuelles. L'ECOS est une occasion pour les résidents de mettre en pratique leurs compétences en communication dans un contexte de télémédecine.

Keywords

objective structured clinical examination (OSCE), simulation, telemedicine, nephrology, fellowship

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Introduction

The COVID pandemic produced marked changes in nephrology fellowship training due to measures to contain the virus. Fellows report that inpatient and outpatient clinical encounters were often done using telehealth platforms, and didactic teaching was primarily virtual.¹ We previously developed and tested a "Breaking Bad News" objective structured clinical examination (OSCE) which assesses fellow interpersonal communication skills in 20-minute simulation scenarios: kidney replacement therapy (KRT) in kidney failure, urgent KRT in acute kidney injury (AKI), and kidney biopsy (KBx).² Given that in-person simulation was impractical in the early phases of the pandemic, we adapted the OSCE to a virtual platform. We designed experiences to be similar to virtual telemedicine encounters with patients during the pandemic and assessed fellow and faculty satisfaction with the virtual format.

Methods

We adapted the Breaking Bad News OSCE as a virtual simulation.² Counseling scenarios were with (1) the surrogate decision-maker for a critically ill AKI patient requiring urgent KRT (AKI scenario), (2) a kidney failure patient requiring KRT initiation and transplant referral (kidney failure scenario), and (3) a patient with suspected glomerular

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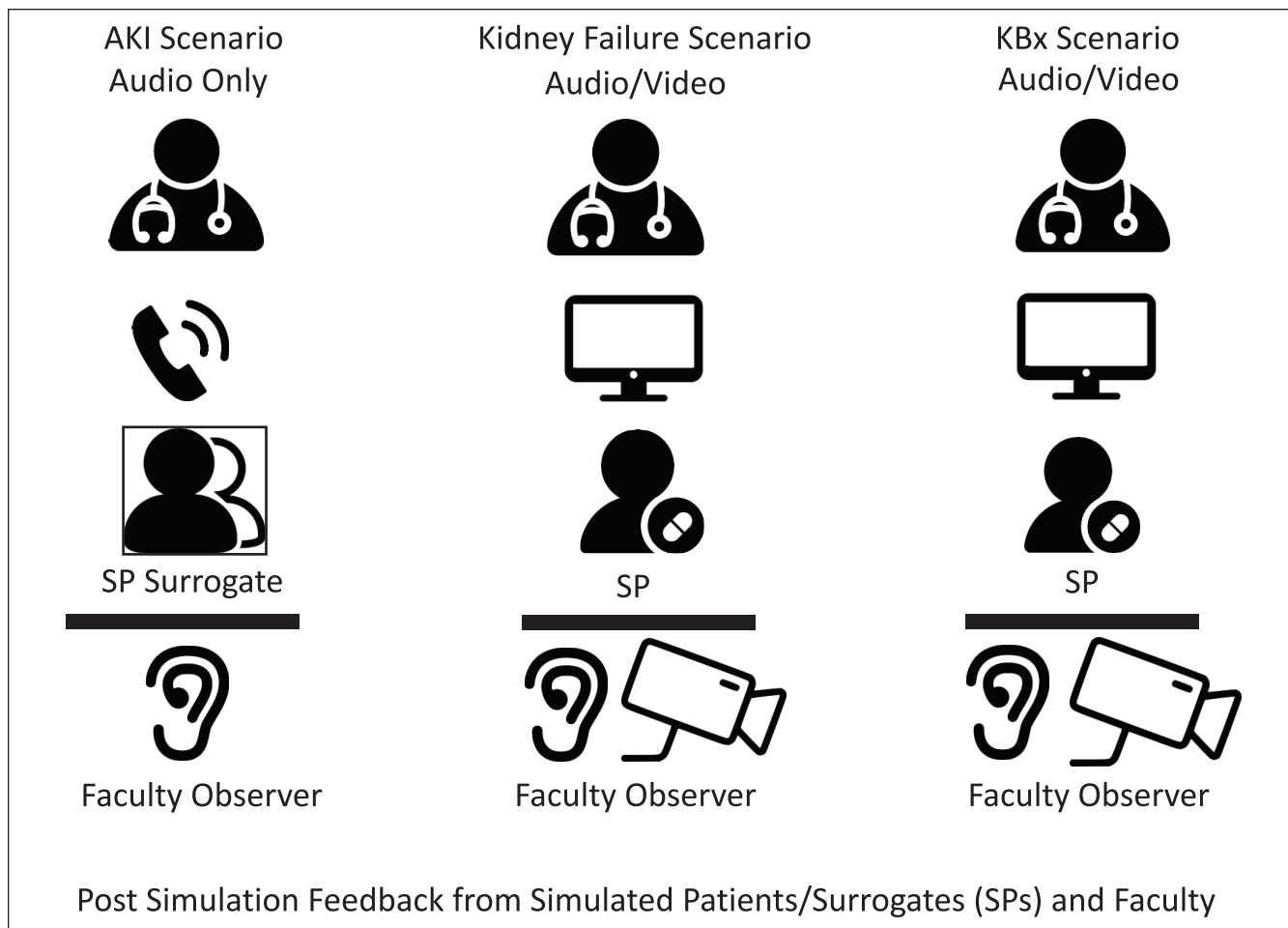


Figure 1. The OSCE at a glance.

Note. Physical arrangement of simulated patients/surrogates (SP), fellows, and faculty during the 3 simulations. Audio-Only AKI Scenario: Faculty were screened from the fellow on speaker phone, or digitally muted during a conference call. Audio-video scenarios (Kidney Failure and KBx): Faculty were muted with cameras off during the encounter, and then unmuted and on video for feedback. Institutions used approved video-conference platforms. OSCE = objective structured clinical examination; AKI = acute kidney injury; KBx = kidney biopsy.

disease requiring KBx scenario (Supplement Material 1). Development and pilot testing were conducted in May 2020, at the Walter Reed simulation site, in lieu of the annual administration of the in-person OSCE.² Fellows contacted simulated patients or surrogates by telephone or by audio/video application for smart phone. Faculty monitored the encounter via audio, on speaker-mode. Participating fellows, faculty, and simulated patients/surrogates provided feedback.

We chose to conduct the AKI scenario by telephone using audio only because such encounters were commonly performed after-hours, even before pandemic restrictions, and not all patients/surrogates own smartphones with reliable audio-video capabilities. We chose to conduct the kidney failure and KBx scenarios as audio-video telemedicine encounters using a desktop/laptop computer to avoid problems with video feed on smartphones due to location and bandwidth limitations.

In May 2021, we administered the OSCE to all available first- and second-year fellows at 3 training programs in the United States (17/21 of enrolled fellows) using the previously described scenarios and assessment instruments (Supplement Material 1).² Fellows from 2 programs, Walter Reed (n = 6) and University of Maryland (n = 4) were accommodated at the Walter Reed simulation site, and fellows from the University of Miami (n = 7) at their own simulation site. Fellows received instructions (Supplement Material 2) and case descriptions prior to the OSCE. A post-OSCE survey link was included in the instructions. Accessing and completing the survey implied consent. Figure 1 shows the arrangement of the virtual OSCE. After each 15-minute encounter, simulated patients/surrogates and faculty provided 5 minutes of feedback. Fellow performance was used for formative evaluation only and not included in data collection. No demographic information other than fellowship year and faculty/fellow status was collected. After the OSCE,

fellows and faculty voluntarily completed an anonymous, 7-question, online survey (Supplement Material 3) about satisfaction with the OSCE overall, with each scenario, and their estimates of outpatient encounters and inpatient KRT counseling done virtually in the preceding year. The study population was a convenience sample of all fellows participating at the 3 sites. Results are presented descriptively.

The protocol (EDO-500103) was reviewed and approved by the Walter Reed National Military Medical Center Department of Research Programs Determinations Official as “exempt from IRB review” per 32 CFR 219.101(b)(2).

Results

Seventeen fellows (7 first-, 10 second-year) and 8 faculty from 3 training programs participated. Two programs provided simulation support (Walter Reed and the University of Miami). There were 3 simulated patients/surrogates at each of the 2 simulation sites.

Survey results: 16 (94%) fellows completed the survey. Almost 94% (15/16) rated the OSCE overall as a good/very good approximation of telemedicine patient encounters. Overall, 100% were satisfied/very satisfied with the AKI scenario. Two commented that this scenario was realistic and similar to real-world practice, stating that, “Most conversations I’ve had are on the phone . . . pandemic aside,” and that it “felt realistic in . . . that we do actually phone consent for critically ill patients.” Around 75% were satisfied/very satisfied with the kidney failure scenario. Three fellows commented such counseling was difficult to do virtually, and of these, 2 strongly preferred to see such patients in-person. Around 75% were satisfied/very satisfied with the KBx scenario. Similarly, 2 preferred to see such patients in-person, and thought virtual visits were insufficient for such counseling. One wrote, “I would not be counselling a patient virtually over these things.”

Eight (100%) of faculty responded to the survey. All rated the OSCE overall as a good/very good approximation of virtual patient/surrogate encounters. All were satisfied/very satisfied with the scenarios that they individually precepted. Faculty commented that the AKI scenario was realistic, but 2 commented there was insufficient time for the Kidney Failure and KBx scenarios.

Fellows estimated a median 20% (interquartile range [IQR]: 17.5, 50%) of their counseling encounters for acute inpatient KRT and a median 50% (IQR: 33.75, 70%) of their outpatient encounters were virtual in the preceding year. Faculty estimated a median 25% (IQR: 5, 37.5%) of inpatient KRT counseling encounters and 50% (IQR: 36.25, 63.75%) of their outpatient encounters were virtual in the past year.

Discussion

Telemedicine use by nephrologists has expanded during the COVID pandemic.^{3,4} Video and telephone-based telemedicine

for nephrology consultation and long-term kidney disease management produces good clinical outcomes and patient satisfaction.⁵⁻⁷ We adapted a previously reported nephrology-specific “Breaking Bad News” OSCE to simulate telemedicine counseling encounters during the COVID pandemic.² Overall, fellows and faculty felt that the virtual OSCE realistically approximated telemedicine encounters. All were satisfied with the realism of the AKI scenario (surrogate counseling for urgent KRT in a critically ill patient). Fellows estimated that about one-fifth of counseling encounters for urgent inpatient KRT were done virtually during the pandemic, and even before, surrogates were often counseled by telephone. Therefore, telemedicine counseling for urgent KRT is an important skill, not specific to the COVID era, and will remain relevant even after the pandemic fades away.

Most fellows and faculty were satisfied with the kidney failure and KBx scenarios, but some thought virtual counseling was not consistent with best practice and that such interactions should be face-to-face, if possible. Difficulties with conveying bad news during telemedicine encounters has been described by kidney disease patients and clinicians caring for them.^{6,7} Lack of nonverbal feedback and lack of empathetic, nonverbal expressions make some uncomfortable. Patients are more comfortable doing telemedicine with familiar providers, and new patient appointments might preferably be in-person. However, many patients like telemedicine convenience and flexibility. Disease counseling encounters, which do not require physical examination, could be reasonably done virtually, as for our kidney failure and KBx scenarios. However, clinicians must practice telemedicine skills for difficult conversations and be aware of barriers that are specific to virtual encounters.^{8,9} Simulated patient feedback is imperative to improve trainee communication skills, and simulation has been shown to improve telemedicine skills, to identify trainee knowledge gaps, and to improve confidence.¹⁰

Several faculty mentioned that 15-minute interactions (particularly for the kidney failure and KBx scenarios) may be too short to allow the encounter to be completed comfortably. This was a challenge during the in-person OSCE as well.² Encounter time may be increased at the discretion of the individual program. With 15-minute scenarios, we did not expect fellows to necessarily complete the encounter. Another potential limitation of this report is the small number of programs and fellows. The programs were urban or suburban, of medium size (5-10 clinical fellows) and based on the east coast of the United States. Practice patterns and experience with telemedicine may be different in smaller programs, or in other geographic/more rural settings.

Conclusions

The virtual Breaking Bad News OSCE allows nephrology fellows to practice telemedicine communication skills that will remain relevant after the pandemic.

Ethics Approval and Consent to Participate

The protocol (EDO-500103) was reviewed and approved by the Walter Reed National Military Medical Center Department of Research Programs Determinations Official as “exempt from IRB review” per 32 CFR 219.101(b)(2).

Consent for Publication

All authors consented to publication.

Availability of Data and Materials

Not applicable.

Disclaimer

The views expressed in this abstract are those of the authors and do not reflect the official policy of the Department of Defense or U.S. Government.

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Supplemental Material

Supplemental material for this article is available online.

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