Virtual Interviews During COVID-19 Pandemic: A Survey of Applicants to Fellowships in Female Pelvic Medicine and Reconstructive Surgery

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Objectives: The objective was to assess female pelvic medicine and reconstructive surgery (FPMRS) fellowship applicants’ perspectives on the effectiveness of the virtual interview format for creating their rank lists. 

Methods: This was an anonymous internet-based survey study of applicants to the FPMRS fellowships in the United States, conducted from July 21, 2020, to August 5, 2020. A 34-item questionnaire queried applicants on satisfaction with interviews, comfort with creating a rank list and time, and financial cost of interviews. Applicants were invited to complete the survey via standardized emails distributed via the REDCap secure database.

Results: Forty-two (56.7%) of 74 applicants completed the survey. The majority of respondents were somewhat satisfied or very satisfied (92.9%) with the virtual interview process and felt comfortable ranking the programs (83.3%). A total of 9.8% of respondents found virtual interviews somewhat or much better than in-person interviews with regards to being informative and helpful, whereas 61% found them to be about the same. A majority (75.6%) found virtual interviews somewhat or much less stressful compared with in-person interviews. The majority (97.5%) spent less than $2,000 during the application process compared with more than $4,000 (87.8%) that they had anticipated spending if the interviews were in person. 

Conclusions: Our data revealed that FPMRS applicants overall had a positive experience with the virtual interview platform and felt comfortable creating a rank list of programs based on those interviews. 

Key Words: video interviews, virtual platforms, fellowship interviews, FPMRS fellowship, COVID-19 

(Female Pelvic Med Reconstr Surg 2021;27: e626–e629)

Virtual interviews have been used sparingly in the past for the selection of candidates for residency and fellowship training programs. This drastically changed in the spring of 2020 when the coronavirus disease 2019 (COVID-19) was declared a pandemic by the World Health Organization, and traveling and social restrictions were enforced nationwide. As the pandemic progressed and the crisis heightened, the Association of American Medical Colleges provided strong recommendations that interviews for medical training programs be conducted using a virtual format. During this time, female pelvic medicine and reconstructive surgery (FPMRS), which is early in the fellowship match cycle, was one of the very first fields to conduct interviews in 2020.

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This article was published online ahead of print on January 11, 2021. The authors have declared they have no conflicts of interest. 

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal’s Web site (www.fpmrs.net).

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As restrictions tightened, for the first time, FPMRS programs were required to quickly adjust and shift fellowship interviews to a completely virtual platform. This led to an abrupt alteration of the traditional interview protocol while applicants were already preparing for upcoming in-person fellowship interviews. There have been a few studies in the literature comparing virtual and in-person interviews. The majority were conducted during nonpandemic times, without social restrictions, and have shown overall satisfaction with the process, with many proposing that it be used as an adjunct to face-to-face interviews. Traditional in-person fellowship interviews create many issues, including residents’ time spent away from their clinical duties and significant financial costs from traveling. More data are needed to determine whether virtual interviews are an acceptable alternative to the traditional process.

Because FPMRS fellowships were among the first subspecialty to be thrust into a complete digitization of interview platforms, these applicants’ experiences offer an important perspective for better understanding the acceptability of the virtual interview format. Our group has previously published data on the FPMRS program directors’ perspectives of virtual interviews. In the current study, we surveyed applicants of FPMRS fellowships nationwide. The primary objective was to assess the FPMRS fellowship applicants’ perspectives of the effectiveness of the virtual interview format for the purpose of creating a rank list. The secondary objectives were to evaluate satisfaction with the virtual interview process, predicted cost and time savings compared with in-person interviews, and perceived advantages and disadvantages of the virtual format. We hypothesized that applicants would feel that they acquired sufficient information from virtual interviews to feel comfortable ranking the programs.

MATERIALS AND METHODS

We conducted a cross-sectional anonymous online survey study from July 21, 2020, to August 5, 2020. The study was deemed exempt by the Mount Sinai Hospital Institutional Review Board. Study data were anonymously collected using Mount Sinai Hospital’s Research Electronic Data Capture platform (REDCap), which is a Web-based software platform designed to support data capture for research studies. Participation in the survey was voluntary and anonymous, and respondents consented to participation by completing the questionnaire. A 35-item survey was developed by the authors according to the CHERRIES criteria (see Appendix A, Supplemental Digital Content 1, http://links.lww.com/FPMRS/A207). The questionnaire consisted of a combination of multiple choice questions with Likert scale response format, as well as “yes, no, not sure, or prefer not to answer.” One free-response prompt was included at the end of the survey to obtain additional constructive feedback regarding the
virtual interview process. Applicants were queried on their satisfaction with the virtual interview process, their comfort and preparedness to rank fellowship programs based on the virtual interview, their ability to obtain necessary information needed about the programs, the cost incurred, and the number of shifts missed as a result of interviews. Demographic information including regional location, type of residency program, age, sex, and race/ethnicity were also collected. The survey was administered to FPMRS fellowship applicants who participated in interviews during the 2021 match cycle. Eighty-one applicants were registered to the match during this cycle. To prevent any concerns regarding the survey affecting match results or vice versa, the survey was administered after the rank-order lists were closed and ended before match results publication. Applicants were also notified that their participation would in no way affect their match results. A standardized email, including a link to the electronic survey, was sent through REDCap to all 69 applicants whose emails were available inviting their participation in the study. For the 12 applicants whose emails were not available, their residency program directors or coordinators were contacted with a request to forward the study email to that applicant. Descriptive statistics were used for analysis of the cohort’s characteristics. McNemar test for paired data was used to compare respondents’ actual interview behavior with their previously anticipated interview behavior. Statistical analysis was performed using R version 3.6.3.

RESULTS

Forty-two (56.7%) of 74 applicants to whom the survey email had been sent completed the survey. The majority of respondents were female (77.5%, 31/40), in the age group 30–34 years (57.5%, 23/40), and were from an academic obstetrics and gynecology residency (72.5%, 29/40). Respondents interviewed at an average of 13.24 programs (range, 3–27). Most reported that during this interview season their normal workflow was significantly or moderately disrupted by COVID-19 (58.5% [24/41] and 31.7% [13/41], respectively). The geographic distribution of the programs respondents applied to was as follows: 75% (30/40) Northeast, 72.5% (29/40) Midwest, 62.5% (25/40) West, and 57.5% (23/40) South (Table 1).

Thirty-nine respondents (92.8%) were somewhat satisfied or very satisfied with the virtual interview process, and 35 (83.3%) felt comfortable and prepared for ranking the programs. Most respondents felt that they were able to obtain information needed about the programs (97.6%, 40/41) and felt that they were able to form an adequate impression of the programs, the programs’ faculty, and current fellows (68.3%, 28/41; 82.9%, 34/41; 85%, 34/40, respectively). The majority (61%, 25/41) considered virtual fellowship interviews to have been as informative or helpful as their in-person residency interviews. Most respondents felt that virtual interviews were “somewhat less stressful” and “much less stressful” than in-person interviews (75.6%, 32/41). The 3 most commonly used video platforms were Zoom (100%, 41/41), Microsoft Teams (70.7%, 29/41), and Cisco Webex (58.5%, 24/41); Zoom was also the most preferred (92.7%, 38/41). All the respondents participated in virtual social events, and 50% (21/42) found them to be helpful.

The majority (97.5%; 39/40) of applicants spent less than $2,000 during the application process, whereas 87.8% (36/41) had anticipated spending greater than $4,000, and 19.5% (8/41) had anticipated spending greater than $10,000 for the interview cycle if it had remained in-person (Fig. 1). Seven respondents (17.1%) had planned on taking loans or getting a new credit card to cover interview expenses. A significant proportion of respondents stated that they would have applied to a greater number of programs or locations if they had known that interviews would be conducted virtually (34.1% [14/41] and 36.6% [15/41], respectively). A majority (85.4%, 35/41) reported that they had anticipated spending 10 or more shifts away if interviews were in person; however, only 26.9% (11/41) actually spent 10 or more shifts away from normal duties during their interview season (\(P < 0.0001\)) (Fig. 1).

Perceived advantages of virtual interviews included the reduced cost (97.5%), decreased time away from clinical duties (90%), time saved from traveling (87.5%), convenience (82.5%), ability to interview at more programs (75%), and flexibility of scheduling interviews (60%). Respondents largely felt that the inability to interact with coapplicants (92.5%), visit or tour the institutions (85%), visit specific geographic locations (80%), and interact face-to-face (77.5%) were disadvantages of the virtual interview process. If given the choice, 42.5% (17/40) of respondents would prefer virtual interviews, whereas only 27.5% (11/40) would prefer in-person interviews. The remainder of applicants (30%) were either unsure or did not have a preference.

DISCUSSION

The COVID-19 pandemic arrived in the United States just as interviews for FPMRS were being offered to applicants who had applied weeks or months before. The subspecialty was required

| TABLE 1. Demographics | No. FPMRS Applicants (%) |
|------------------------|--------------------------|
| Age, y                 |                          |
| <30                    | 15 (37.5)                |
| 30–34                  | 23 (57.4)                |
| 35–39                  | 1 (2.5)                  |
| ≥40                    | 0 (0)                    |
| Sex                    |                          |
| Male                   | 8 (20.0)                 |
| Female                 | 31 (77.5)                |
| Prefer not answer/not applicable | 3 (7.5) |
| Race/ethnicity         |                          |
| Black or African American | 1 (2.5)             |
| Hispanic or Latino, or Spanish origin | 2 (5.0) |
| White or Caucasian     | 24 (60.0)                |
| Native American or American Indian | 0 (0) |
| Asian or Pacific Islander | 8 (20.0) |
| Other/prefer not to answer | 5 (12.5) |
| Residency program type |                          |
| Obstetrics and gynecology–academic | 29 (72.5) |
| Obstetrics and gynecology–community | 6 (15.0) |
| Urology–academic       | 5 (12.5)                 |
| Urology–community      | 0 (0)                    |
| Workflow disruption due to COVID-19 |        |
| Significantly          | 24 (58.5)                |
| Moderately             | 13 (31.7)                |
| Mildly                 | 6 (14.6)                 |
| Not at all             | 1 (2.4)                  |
| Geographic regions interviewed |            |
| Northeast              | 30 (75.0)                |
| Midwest                | 29 (72.5)                |
| South                  | 23 (57.5)                |
| West                   | 25 (62.5)                |
| No. interviews, mean (range) | 13.24 (3–27) |
to quickly shift to a virtual interview setting, and the FPMRS applicants were among the first cohort of residents to go through this process. The experience of these applicants is unique because they planned and accepted interviews based on the presumption that the interviews would be held in-person as they had always been in the past. The feedback from these applicants is reassuring that the process of virtual interviewing was satisfactory and provided necessary information to create their rank-order list, a finding supported by previous data that found that virtual interviews mostly met expectations and that applicants felt comfortable ranking programs after video interviews.3,4,18

Our data show that the majority of respondents felt that they were able to acquire adequate information about the program and an impression of the program setting, location, faculty, and fellows. Most reported that the virtual interview process was equally helpful and informative and less stressful than traditional interviews. Although previous data have reported that some applicants preferred traditional in-person interviews over virtual interviews,6,14 our study showed that a significant proportion of our applicants would prefer the virtual platform if given the choice between both interview formats in the future, consistent with findings by Vining et al.19 Although we did not specifically ask applicants to elaborate on the reasons for this preference, it is likely that this was influenced by many of the factors that they considered advantages of virtual interviews, including reductions in cost, decrease in time away from clinical duties, time saved from not having to travel, ability to interview at more programs, convenience, and the flexibility of scheduling interviews.

A majority of our applicants (97.5%) cited cost savings as an advantage to virtual interviews, and 98% of applicants spent less than $2,000 on their application and interviews. Although we did not ask applicants for a dollar amount spent, the cost savings for applicants using virtual interviews are substantial; 87.8% of applicants said they would have spent more than $4,000 and 19.5% would have spent over $10,000. These results are in line with current literature reporting that applicants to fellowships in general surgery, obstetrics and gynecology, and orthopedic surgery spent an average of $4,000–$6,000 on interviews.9–11,13,14 In addition, Iqbal et al10 reported that 45% of their respondents stated that interview expenses limited the number of interviews done. Seventeen percent of our respondents said they were planning to take out a loan or additional credit to pay for fellowship interviews. In addition, a significant proportion would have applied to more programs or locations had they known interviews would...
be virtual, indicating that many felt limited by the time and expenses anticipated for traveling to interviews. According to a recent report by the Association of American Medical Colleges, the average indebtedness of medical school graduates in 2019 was $200,000. With many residents already carrying such a significant debt from medical education and the prospect of fellowship delaying their increased earning power to repay those debts, virtual interviews could decrease this debt burden and help encourage residents of lower socioeconomic status to apply for fellowship.

Our study has several limitations, including the use of a nonvalidated questionnaire, a small sample size, and relatively low response rate. Although the response rate of 56.7% is reasonably high for an email online survey, especially given the short window of response time, the lack of response from the remaining 43.3% of applicants may present a response bias because the perspectives of the responders may not fully reflect the perspective of the entire group. An additional limitation of the study is the fact that FPMRS is a small subspecialty compared with other programs and, therefore, may have experienced fewer challenges in organizing and rolling out virtual interviews, albeit within a short-time frame, leading to the high satisfaction of applicants with this process. Finally, the fact that FPMRS applicants needed to adjust to the virtual format after they had already accepted in-person interview invitations, with the interviews taking place during the early surge of a global pandemic, may make our results less generalizable to applicants in other programs with applications later in the year.

Strengths of this study include the comprehensiveness of the survey instrument, which followed the CHERRIES criteria and the fact that it was distributed nationally to almost all of the FPMRS applicants. The survey was constructed by the authors and reviewed by a group of program directors from other FPMRS fellowship programs in different regions of the country. The anonymity of the survey and our efforts to conduct the study after the rank list deadline and before match results assured respondents that their participation and responses in this study would not affect or influence their position on programs’ rank lists, thus minimizing the response bias.

Our data are reassuring that the majority of FPMRS applicants found the virtual interview process satisfactory and adequate for creating their rank lists, and revealed that overall they had a positive experience with the virtual interview platform, particularly with regard to decreased stress, as well as time and cost savings. These advantages may level the playing field for other applicants who may have considered fellowship but were deterred due to the financial burden of the application and interview process. Our findings for this group of applicants in an early match subspecialty are encouraging and indicate that the virtual interview process is acceptable for fellowship interviews, but further studies in a larger cohort and wider breadth of medical fields are needed to shed more light and guide the future of virtual interviews.

ACKNOWLEDGMENTS
The authors would like to thank the following program directors for their contributions to the review of our survey instrument: Sylvia Botros Brey, MD; Christine Heisler, MD; and Ava Leegant, MD; as well as all of our participants for taking the time to complete this survey.

REFERENCES
1. Ghebreyesus T. WHO Director-General’s opening remarks at the media briefing on COVID-19. Available at: https://www.who.int/director-general-speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020. Published March 11, 2020. Accessed September 29, 2020.
2. Association of American Medical Colleges. Conducting Interviews During the Coronavirus Pandemic. Available at: https://www.aamc.org/what-we-do/mission-areas/medical-education/conducting-interviews-during-coronavirus-pandemic. Accessed September 29, 2020.
3. Daram SR, Wu R, Tang SJ. Interview from anywhere: feasibility and utility of Web-based videoconference interviews in the gastroenterology fellowship selection process. Am J Gastroenterol 2014;109(2):155–159. doi:10.1038/ajg.2013.278.
4. Healy WL, Bedair H. Videoconference interviews for an adult reconstruction fellowship: lessons learned. J Bone Joint Surg Am 2017;99:e14.
5. Edje L, Miller C, Kiefer J, et al. Using skype as an alternative for residency selection interviews. J Grad Med Educ 2013;5(3):503–505. doi:10.4300/JGME-D-12-00152.1.
6. Nutter A, La Rosa M, Olson G. Perception of candidates and faculty on maternal fetal medicine fellowship videoconference interviewing [19G]. Obstet Gynecol 2020;135:75S.
7. Shah SK, Arora S, Skipper B, et al. Randomized evaluation of a web based interview process for urology resident selection. J Urol 2012;187(4):1380–1384.
8. Association of American Medical Colleges. The cost of interviewing for residency. 2020. Available at: https://students-residents.aamc.org/financial-aid/article/cost-residency-interviews/. Accessed September 29, 2020.
9. Gressel GM, Arsdale AV, Dioum SM, et al. The gynecologic oncology fellowship interview process: challenges and potential areas for improvement. Gynecol Oncol Rep 2017;20:115–120.
10. Iqbul IU, Sareen P, Shoup B, et al. Attributes of successfully matched versus unmatched obstetrics and gynecology fellowship applicants. Am J Obstet Gynecol 2014;210(6):567.e1–567.e8. doi:10.1016/j.ajog.2014.01.009.
11. Oladeji LO, Pehler SF, Raley JA, et al. Is the orthopedic fellowship interview process broken? A survey of program directors and residents. Am J Orthop 2015;44:E444–E453.
12. Pasadhika S, Altenbernd T, Ober RR, et al. Residency interview video conferencing. Ophthalmology 2012;119(2):426–426.e5. doi:10.1016/j.ophtha.2011.09.032.
13. Tseng J. How has COVID-19 affected the costs of the surgical fellowship interview process? J Surg Educ 2020;77(5):999–1004.
14. Watson SL, Hollis RH, Oladeji L, et al. The burden of the fellowship interview process on general surgery residents and programs. J Surg Educ 2017;74:167–172.
15. Menhaji K, Gaigbe-Togbe BH, Hardart A, et al. Virtual interviews during COVID-19: perspectives of female pelvic medicine and reconstructive surgery program directors. Female Pelvic Med Reconstr Surg 2020. doi:10.1097/SPV.0000000000000982.
16. Harris PA, Taylor R, Thielke R, et al. Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform 2009;42(2):377–381.
17. Eyzenbach G. Improving the quality of Web surveys: the checklist for reporting results of Internet E-surveys (CHERRIES). J Med Internet Res 2004;6(3):e34.
18. Vadi MG, Malkin MR, Lenart J, et al. Comparison of Web-based and face-to-face interviews for application to an anesthesiology training program: a pilot study. Int J Med Educ 2016;7:102–108. doi:10.5116/ijme.56e5.491a.
19. Vining CC, Erg OS, Hogg ME, et al. Virtual surgical fellowship recruitment during COVID-19 and its implications for resident/fellow recruitment in the future. Ann Surg Oncol 2020;27(Suppl 3):911–915. Published online May 18, 2020. doi:10.1245/s10434-020-08623-2.
20. Association of American Medical Colleges. Physician Education Debt and the Cost to Attend. Available at: https://store.aamc.org/downloadable/download/sample/sample_id/368/. Accessed October 20, 2020.