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¹Stony Brook University Hospital, Stony Brook, NY, USA, 2Shady Grove Fertility, Atlanta, GA, USA, ³University of California. San Francisco, San Francisco, CA, USA, ⁴John Hopkins University School of Medicine, Lutherville, MD, USA, 5Washington University in St. Louis, St. Louis, MO, USA, ⁶Division of Reproductive Medicine, IRMS at St Barnabas, Livingston, NJ. USA. 7Columbia University Fertility Center, New York, NY. USA

Address for correspondence:

Dr. Eliana Fine, Stony Brook University Hospital, Department of Obstetrics, Gynecology, and Reproductive Medicine, 101 Nicolls Road Stony Brook - 11552, New York, USA.

E-mail: Eliana.fine@ stonybrookmedicine.edu

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Evaluating the utility of a global webinar for mentoring medical students and OBGYN residents in REI

Eliana Fine¹, Valerie R. Libby², Eduardo Hariton³, Kamaria C. Cayton Vaught⁴, Kelsey L. Anderson⁵, Serena H. Chen⁶, Eric J. Forman⁷, Kenan Omurtag⁵, Bradley S. Trivax¹

Abstract:

BACKGROUND: In medical school and residency, clinical experiences influence trainee's decisions on what medical specialty they choose. Most trainees have limited access to opportunities to engage in the field of reproductive endocrinology and infertility (REI). Due to the COVID-19 pandemic and the shutdown of away electives, exposure to REI was especially limited. This study aims to evaluate the effectiveness of a live Q and A webinar on improving trainees' access to mentorship and knowledge of the path to becoming a reproductive endocrinology and infertility (REI) physician.

MATERIALS AND METHODS: This study is a prospective paired cohort study. Medical students and OBGYN residents participated in a global Q and A webinar featuring REI physicians and fellows. 70 pre- and post-webinar surveys were included in the analysis. Paired nonparametric tests (Wilcoxon signed-rank test) were performed to assess whether post-webinar knowledge was significantly different from pre-webinar knowledge.

RESULTS: Of the 268 registrants, 162 (60%) attended the live webinar. A majority of the respondents who completed both surveys were female (90%) and allopathic medical students (80%). Seventy-seven percent reported receiving only minimal advice about an REI career from their medical school or residency program, while 22% reported receiving some advice, and 1% extensive advice. Thirty-four percent had previously shadowed an REI physician and 23% had rotated in an REI office. Post-webinar significantly more trainees had a better understanding of the REI field, the path required to become an REI physician, opportunities to find mentors in the field, opportunities that are conducive to learning more about REI, and applying for rotations in the REI field (p = <.00001). Eighty-two percent agreed that their interest in REI increased due to this webinar.

CONCLUSIONS: A webinar featuring REI physicians and fellows was effective in providing mentorship and career advisement for prospective REI trainees who otherwise expressed having limited access to the field.

Keywords:

Coronavirus disease 2019, distance education, e-learning, medical education, online teaching, physician mentorship

Introduction

In medical school and residency, the clinical experiences trainees undergo influence their decisions on what specialty and sub-specialty they choose. [1] Most medical students and OBGYN residents

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have limited access to opportunities to engage in the field of REI. Lack of access to the REI field may hinder physician trainee's understanding of and desire to specialize in the field. The reasons for why there is limited access to the REI field are multifactorial. First, many medical schools and OBGYN residency programs do not have affiliated

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REI programs. Subsequently, many students are not exposed to REI given the lack of available providers. Lastly, there is a paucity of medical student-focused educational resources within the REI field.

Due to the COVID-19 pandemic, physician trainee exposure to the REI field was limited even further. The Work Group on Medical Students in the Class of 2021 Moving Across Institutions for Post-Graduate Training created by the Coalition for Physician Accountability discouraged away rotations for the 2020–2021 academic year. [2] Similarly, the APGO and CREOG Residency Application Response to COVID-19 encouraged the limitation of away rotations and recommended residency programs to develop innovative alternatives for conveying information about their program. During the COVID-19 pandemic, many in-person lectures and meetings were postponed or hosted virtually. Webinars have gained popularity during this time as a useful virtual tool for supplying information, spreading awareness, and stimulating participant engagement.[3,4] Webinars, compared to physical lectures, accommodate larger audiences without geographic limitations. [3,5] Due to their flexibility and convenience, webinars encourage students to feel more comfortable asking questions than in live lecture settings.[6]

In order to provide information about the REI field to physician trainees during the COVID-19 pandemic, we created an educational webinar. The goals of our webinar were to bring awareness to the REI field, answer questions on how to become a competitive candidate for an REI fellowship and encourage the use of social media as a means for finding mentorship and networking opportunities within the field. Webinar attendees were surveyed to assess the utilization of a webinar to provide mentorship to trainees and increase their self-reported knowledge, as well as to assess attendees' perception of the use of social media to connect with potential mentors.

Material and Methods

Study design and setting

This was a prospective paired cohort study where USA and International medical students and OBGYN residents participated in a global live Q and A webinar featuring REI physicians and fellows, completing a pre- and post-webinar survey.

A two-hour webinar session was held and recorded on Zoom Webinar Software on July 22, 2020, at 8 PM Eastern Standard Time. The recording was uploaded to YouTube and emailed to the webinar registrants who were not able to join the session live. The speaker panel for the webinar included four REI physicians, three REI fellows, and one REI and medical genetics fellow. Panelists were

asked to share their experiences within the field of REI and their thoughts on how to successfully match into the specialty. The panel was organized by a medical student who found each of the panelists through connecting with them on the social media platform, Instagram. This medical student served as the moderator for the panel on the webinar. Four of the panelists were male, and four were female. Five panelists were white, one was African American, one was Asian, and one was Hispanic. The panelists were from multiple institutions, both academic and private, across the USA.

The panel discussion topics included educational pathways to become an REI physician, information about the field and various fellowship programs, advice on how to make yourself a competitive candidate for fellowship, and tips on how to utilize social media to connect with REI physicians and fellows to gain mentorship. Predetermined topics of discussion for the webinar are included in Supplemental Table 1. Webinar attendees were given the opportunity to ask questions during the webinar through the Zoom Webinar Q and A Box feature.

Attendees were asked to complete a voluntary and anonymous pre- and post-webinar survey. Prior to the start of the webinar, a webinar reminder email included links to the webinar and the pre-webinar survey. Prior to finishing the webinar, the panelists asked the attendees to complete a post-webinar survey. The post-webinar survey was also emailed to all attendees in a follow-up email along with the contact information of each of the panelists so that attendees can connect with the panelists for further mentorship. There were 28 questions on the pre-webinar survey and 16 in the post-webinar survey. See supplemental Table 2 for the pre-webinar survey questions and supplemental Table 3 for the post-webinar survey questions. Optional and unsolicited feedback was collected from attendees who voluntarily replied to the pre- and post-webinar emails.

Study participants and sampling

Study participants included USA and International medical students, as well as US OBGYN residents. The webinar was advertised via a flyer on social media accounts of the webinar panelists and emailed to the medical students attending Renaissance School of Medicine at Stony Brook University, Washington University St. Louis School of Medicine, Johns Hopkins University School of Medicine, and Touro College of Osteopathic Medicine. All attendees were asked to fill out anonymous pre- and post-webinar surveys. There was no cost to attendees to join the webinar.

Exclusion criteria included individuals that were neither medical students nor residents, and respondents that did not complete both pre- and post-webinar surveys.

Data collection tool and technique

The pre- and post-webinar surveys were distributed to all webinar attendees via a link from REDCap, a HIPAA-compliant survey platform. Paired nonparametric tests (Wilcoxon signed-rank test) were performed to assess whether post-webinar knowledge was significantly different from pre-webinar knowledge. A P value of < 0.05 was considered statistically significant.

Ethical considerations

The ethical committee approval was obtained from the Institutional Review Board at Stony Brook University Hospital before the commencement of the webinar and data collection. An online consent form was provided to participants prior to registration for the webinar. Participation was voluntary.

Results

In total, 268 people registered for the webinar and 162 attended live (60%). A total of 161 pre-webinar and 73 post-webinar surveys were reviewed. After the application of exclusion criteria described above, 70 pre- and post-webinar surveys were matched and compared.

Webinar participant's demographics

The majority of the 70 respondents who completed both surveys were female (90%) and Caucasian (54%). Ninety-one percent (64/70) of respondents were medical students, and 9% (6/70) were OBGYN residents, 86% of whom attended allopathic medical schools, with 47% of the medical schools they attended were in the northeast.

Of the medical student respondents, 84% showed interest in applying for an OBGYN residency and 77% were interested in pursuing the field of REI; 31% indicated their home institution had an REI fellowship program and 37% had an affiliated REI office. Only 34% had previously shadowed an REI physician, 23% had previously rotated in an REI office, and 3% had previously attended an REI conference. The overwhelming majority of respondents, 73%, reported they attended an institution that only gave them minimal advice with regard to a career in REI, while 22% received some advice and 1% extensive advice. Of the respondents, only 14% found it easy to find research opportunities within the field of REI in medical school or residency, while no one found it extremely easy, 34% found it not easy, 13% found it extremely not easy, and 39% were unsure. On the other hand, only 1% found it extremely easy to find any type of research opportunities in medical school or residency, while 37% found it easy, 37% found it not easy, 4% found it extremely not easy,

Table 1: Comparison of baseline characteristics of webinar attendees who completed the pre- and post-webinar surveys

post-webilial surveys	
Demographics	% (<i>n</i> =70)
Sex	
Male	10 (7)
Female	90 (63)
Ethnicity	
White	54 (38)
Asian	13 (9)
African American	14 (10)
Hispanic	4 (3)
Other	15 (10)
Year of medical school or residency	
MS1	10 (7)
MS2	41 (29)
MS3	14 (10)
MS4	26 (18)
PGY1	6 (4)
PGY2	3 (2)
Type of medical school attend/attended	
MD	86 (60)
DO	14 (10)
Medical school region	
West	4 (3)
South	27 (19)
Midwest	10 (7)
Northeast	47 (33)
International	11 (8)
Residency program region	. ,
Midwest	50 (3/6*)
Northeast	50 (3/6*)
Additional degree held	,
BSc	34 (23)
BMedSCi	3 (2)
MSc	13 (9)
PhD	1 (1)
Considering an additional degree	9 (6)
None	39 (26)
Does your home institution have a REI fellowship	00 (20)
program?	
Yes	31 (22)
No	46 (32)
Unsure	23 (16)
Does your home institution have an affiliated REI office?	_0 (.0)
Yes	37 (26)
No	24 (17)
Unsure	39 (27)
Have you previously shadowed an REI physician?	00 (21)
Yes	34 (24)
No	66 (46)
Have you previously rotated in an REI office?	00 (40)
Yes	22 (16)
	23 (16)
No Have you proviously attended an REL conference?	77 (54)
Have you previously attended an REI conference?	0 (0)
Yes	3 (2)
No	97 (68)

Table 1: Contd...

Pamagraphica	9/ (p. 70)
Demographics Interest in applying for OBGYN residency	% (<i>n</i> =70)
	60 (44)
Extremely interested	63 (44)
Interested	21 (15)
Undecided	9 (6)
N/A	7 (5)
Interest in pursuing the field of REI	40 (00)
Extremely interested	40 (28)
Interested	37 (26)
Undecided	23 (16)
Easiness of finding research opportunities in medical school or residency	
Extremely easy	1 (1)
Easy	37 (26)
Unsure	20 (14)
Not easy	37 (26)
Extremely not easy	4 (3)
Easiness of finding research opportunities within the field of REI in medical school or residency	
Easy	14 (10)
Unsure	39 (27)
Not easy	34 (24)
Extremely not easy	13 (9)
Extent your institution informed you about a career in	
REI	
Extensive advice	1 (1)
Some advice	22 (15)
Minimal advice	73 (53)
Resources used to find information about REI	
Websites	69 (48)
Published journals	33 (23)
Books	11 (8)
Courses not organized by your university	10 (7)
University lectures or courses	21 (15)
University interest group or society	19 (13)
Friends and colleagues	53 (37)
Social media	43 (30)
None	9 (6)
*There were 6 OBGYN pre- and post-webinar respondents	. , ,

^{*}There were 6 OBGYN pre- and post-webinar respondents

and 20% were unsure. See Table 1 for a comparison of baseline characteristics of webinar attendees who completed the pre- and post-webinar surveys.

Webinar participant's knowledge of REI

When asked to what extent they agree that their interest in REI increased due to this webinar, 39% strongly agreed, 43% agreed, 13% were unsure, and 6% disagreed. Overall, after the webinar, more trainees reported a better understanding of what the field of REI entails (P < .00001), the path required to become an REI (P < .00001), opportunities to find mentors in the field of REI (P < .00001), opportunities at medical school or residency conducive to learning more about REI (P < .00001), and applying for rotations in the field of REI (P < .00001). See Table 2 for a comparison of the self-reported knowledge before and after the webinar.

Webinar participant's perception of social media

Forty-three percent of respondents reported they use social media to find out information about REI. After the webinar, participants were more likely to report that social media can be utilized by trainees to connect with REI physicians to find networking and mentoring opportunities (P = .022.) and they were more likely to use social media to network with physicians and potential mentors (P = .041). See Table 3 for a comparison of opinions regarding the use of social media for mentorship.

Webinar participant's perception of webinars

The majority of respondents (99%) agreed and strongly agreed that webinars offer flexibility and convenience, for example, with not having to spend time and money on traveling. When asked whether they preferred face-to-face meetings, 36% indicated they did, while 26% did not, and 39% were undecided. Interestingly, 50% reported they were more likely to ask questions in a webinar vs a live lecture, while 41% equally likely and 9% less likely.

After the webinar, 93% agreed and strongly agreed that this webinar was engaging and they felt comfortable asking questions, while 4% were unsure, 1% disagreed, and 1%strongly disagreed. In terms of how easy participants found interacting with panelists and submitting questions during the webinar, 49% found it easy and 33% extremely easy. Additionally, 96% percent agreed and strongly agreed that this webinar taught them something they can utilize in their future. The majority (82%) of respondents agreed and strongly agreed that their interest in REI had increased due to this webinar. After the webinar, 64% were extremely interested and 19% interested in applying to OBGYN residency, 40% extremely interested, and 41% interested in applying to REI. In addition, respondents reported that they were extremely likely (43%) and likely (54%) to participate in future webinar-based information sessions after this webinar. See Table 4 for a comparison of opinions regarding the use of webinars and this webinar experience.

Discussion

The cessation of away rotations for many trainees during the COVID-19 pandemic limited medical student access to REI experiences and mentorship. The purpose of this webinar was to share information about the REI field, answer questions, and provide advice to medical students and OBGYN residents on how to be competitive candidates for a fellowship position. We hypothesized that many physician trainees have difficulty finding resources and mentorship opportunities to learn more about the REI field. Pre- and post-webinar surveys were sent out to all registrants. Results from our study indicate

Table 2: Comparison of the self-reported knowledge before and after the webinar

All respondents who completed both webinar surveys (<i>n</i> =70)	Pre-webinar survey results % (<i>n</i>)	Post-webinar survey results % (n)	P
Path required to becoming an REI physician (<i>n</i> =69)	1 – 14% (10/69)	1 – 0% (0/69)	<.00001
	2 – 33% (23/69)	2 - 6% (4/69)	
	3 – 17% (12/69)	3 – 14% (10/69)	
	4 – 23% (16/69)	4 – 46% (32/69)	
	5 – 12% (8/69)	5 – 33% (24/69)	
Opportunities at medical school or	1 – 23% (16/70)	1 – 1% (1/70)	<.00001
residency conducive to learning	2 – 41% (29/70)	2 – 10% (7/70)	
more about REI (n=70)	3 – 19% (13/70)	3 – 39% (27/70)	
	4 – 17% (12/70)	4 – 39% (27/70)	
	5 – 0% (0/70)	5 – 11% (8/70)	
Applying to rotations in the field of	1 – 36% (25/70)	1 – 1% (1/70)	<.00001
REI (<i>n</i> =70)	2 – 37% (26/70)	2 – 21% (15/70)	
	3 – 13% (9/70)	3 – 31% (22/70)	
	4 – 13% (9/70)	4 – 37% (26/70)	
	5 – 1% (1/70)	5 – 9% (6/70)	
What the field of REI entails (<i>n</i> =69)	1 – 14% (10/69)	1 – 0% (0/69)	<.00001
	2 – 30% (21/69)	2 – 3% (2/69)	
	3 – 28% (19/69)	3 – 26% (18/69)	
	4 – 19% (14/69)	4 – 52% (36/69)	
	5 – 9% (6/69)	5 – 19% (13/69)	
Opportunities to find mentors in the field of REI (<i>n</i> =69)	1 – 36% (25/69)	1 – 1% (1/69)	<.00001
	2 – 38% (26/69)	2 – 12% (8/69)	
	3 – 14% (10/69)	3 – 32% (23/69)	
	4 – 20% (8/69)	4 – 42% (29/69)	
	5 – 0% (0/69)	5 – 13% (9/69)	

^{(1 –} None; 2 – Little; I have a lot to learn; 3 – Fair; I have minimal to learn; 4 – Very good; I know a lot; but not enough to teach others; 5 – Excellent, I can teach others)

Table 3: Comparison of opinions regarding the use of social media for mentorship

All respondents who completed both webinar surveys	Pre-webinar survey results % (n)	Post-webinar survey results % (n)	P
To what extent do you agree with the statement: "Medical students and residents can utilize social media to connect with REI physicians for networking and mentoring opportunities." (<i>n</i> =70)	Extremely agree - 27% (19/70)	Extremely agree - 31% (22/70)	P=0.04
	Agree - 37% (26/70)	Agree - 44% (31/70)	
	Unsure - 20% (14/70)	Unsure - 14% (10/70)	
	Disagree - 10% (7/70)	Disagree - 4% (3/70)	
	Extremely disagree - 6% (4/70)	Extremely disagree - 6% (4/70)	
How likely are you to use social media (e.g., Instagram) to network with physicians and potential mentors? (<i>n</i> =69)	Extremely agree - 28% (19/69)	Extremely agree - 32% (22/69)	<i>P</i> =0.02
	Agree - 39% (27/69)	Agree - 54% (37/69)	
	Unsure - 26% (18/69)	Unsure - 9% (6/69)	
	Disagree - 7% (5/69)	Disagree - 6% (4/69)	
	Extremely disagree - 0% (0/69)	Extremely disagree - 0% (0/0)	

that a global webinar for mentoring medical students and OBGYN residents in REI increased the self-reported knowledge for physician trainees, and interest in the REI field.

Webinars have increased in popularity as a means of providing medical education during the current COVID-19 pandemic. This study builds on prior studies that indicate webinars can be used to meet educational needs for physician trainees in the context of the COVID-19 pandemic. [7,8] Recently, Sivaramalingam and colleagues demonstrated that medical and allied health science students found webinars as an effective tool in

the teaching–learning process to gain new knowledge and prefer webinars to be part of their curriculum.^[7] Cooper and colleagues found that an educational webinar increased medical student knowledge and confidence, which was also seen by Khajuria and colleagues.^[8,9] Previously, several medical education webinars also showed similar results in terms of webinar efficacy.^[1,3,6,8,10] Serebrakian and colleagues showed that an educational webinar hosted by a plastic surgery residency program increases self-reported confidence levels for students interested in pursuing their field.^[10] Similarly, Fereydooni and colleagues found that a national webinar run by

Table 4: Comparison of opinions regarding the use of webinars and this webinar experience

Opinions	% (<i>n</i> =70)
Number of medical education webinars attended	, ,,
0	26 (10/38)*
1	21 (8/38)*
2	16 (6/38)*
3	37 (14/38)*
"Webinars offer flexibility and convenience, for example, with not having to spend time and money on traveling ⁵ ."	J. (J.)
Strongly agree	48 (33/69)**
Agree	51 (35/69)**
Strongly disagree	1 (1/69)**
Preference for face-to-face meeting ⁵	1 (1/00)
Yes	36 (25)
No	26 (18)
Undecided	39 (27)
"This webinar was engaging and I felt comfortable asking questions."	09 (21)
Strongly agree	37 (26)
Agree	56 (39)
Unsure	4 (3)
Disagree	1 (1)
Strongly disagree	1 (1)
"This webinar taught me something that I can utilize in my future."	47 (00)
Strongly agree	47 (33)
Agree	49 (34)
Unsure	4 (3)
"My interest in REI has increased due to this webinar."	
Strongly agree	39 (27)
Agree	43 (30)
Unsure	13 (9)
Disagree	6 (4)
How interested are you in applying to OB/GYN residency after this webinar?	
Extremely interested	64 (27)
Interested	19 (30)
Undecided	7 (9)
N/A, I am a resident	6 (4)
How interested are you in applying to REI after this webinar?	
Extremely interested	40 (28)
Interested	41 (29)
Undecided	19 (13)
How easy did you find it to interact with panelists and submit questions?	
Extremely easy	33 (23)
Easy	49 (34)
Unsure	13 (9)
Difficult	3 (2)
Extremely difficult	3 (2)
Are you more or less likely to ask questions in a webinar or live lecture? ⁵	
More likely	50 (35)
Equally likely	41 (29)
Less likely	9 (6)
Are you more or less likely to participate in a future webinar-based informational session?	` '
Extremely likely	43 (30)
Likely	54 (37)
Unsure	1 (1)
Unlikely	1 (1)
*Only 38/70 responded to this question **Only 69/70 responded to this question. *These questions were taken directly from reference out	

*Only 38/70 responded to this question. **Only 69/70 responded to this question. ⁵These questions were taken directly from reference number 5 that is listed (Nadama *et al.* 2019)^[6]

medical students that recently matched into vascular surgery effectively improved students' understanding of

the specialty. [3] Surprisingly, we could not find any studies that indicated conflicting results.

In addition to webinars, social media has continued to gain popularity among medical students to learn about various residency programs, especially during the COVID-19 pandemic, when away rotations were limited and there were fewer in-person learning opportunities. [10,11] Social media has also become greatly utilized by REI physicians to share information about the field and provide medical education to the general public and to physician trainee. [12] Physician trainees can use webinars and social media platforms as useful networking tools to find mentors and research opportunities within the REI field, especially for those who attend institutions without affiliated REI fellowship programs.

Limitations and strengths of the study

Limitations of our study include a relatively small sample size, as well as the fact that not all participants competed both surveys, which can introduce bias. Another limitation is that some participants may have had internet connection difficulties, which may have taken away from the webinar experience. However, a strength of this study is that we had representation from medical schools throughout the USA (Western, Southern, Midwestern, and Northeast) and internationally. Overall, the results from our study compare nicely to the data that has been reported in other studies.^[6]

Proposed future research directions

We suggest that further research directions should focus on whether webinars and social media can improve physician trainee involvement and recruitment in the REI field. Additionally, a follow-up study of the webinar attendees would be useful to investigate their subsequent engagement in the field.

Conclusion

REI is a very competitive specialty as there are only 49 fellowship programs in the USA that are accredited by the Accreditation Council for Graduate Medical Education (ACGME), and not all accept fellows each year. [13] Due to a lack of direct access, many medical students and OBGYN residents have difficulty finding mentorship and research opportunities within the REI field. Therefore, global webinars featuring REI physicians and fellows can provide the much-needed mentorship for trainees to help increase their interest in REI and provide them with advice regarding pursuing a career in the field. Trainees can also utilize social media to connect with REI physicians and fellows to find mentorship, research, and networking opportunities within the specialty. More research is needed to further understand how webinars and social media can best be utilized to directly provide mentorship to physician trainees and impact their career trajectory. REI practices should consider offering mentorship, educational resources, and

leadership opportunities to medical students to continue to attract strong candidates into the field.

Ethical approval

Ethical committee approval was obtained from the Institutional Review Board at Stony Brook University Hospital before the commencement of the webinar and data collection. An online consent form was provided to participants prior to registration for the webinar.

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This study was approved by the Institutional Review Board at Stony Brook University Hospital.

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Conflicts of interest

There are no conflicts of interest.

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Supplemental Table 1: Predetermined Panel Discussion Topics for the Webinar

Why did you choose to go into the field of REI.

For REI Attending Physicians: Please share with us a little bit about what the field of REI is and what a typical day looks like for you as an Attending Physician.

For REI Fellows: Please share with us a little bit about your REI fellowship program and what a typical day looks like for you as a Fellow

For REI Fellows: Please describe the path you took to get to an REI fellowship.

For REI Attending Physicians: What do you believe are the 3 most important things that makes an REI Fellowship applicant a competitive candidate for a fellowship position or to stand out during the interview process?

For REI Fellows: What are 1-3 things about yourself and your fellowship application which you believe made you stand out amongst your peers to help you acquire an REI fellowship position?

For REI Fellows: How were able to find research opportunities in the field of REI in medical school and residency?

Why did you create your social media platform?

How do you believe social media can benefit medical students or OBGYN residents interested in the field of REI?

For REI Fellows: How you were able to utilize social media to your benefit to gain mentorship and or networking opportunities as a physician trainee?

Supplemental Table 2: Pre-Webinar Survey Questions

Please put down your initials with a number next to it so we can later match up your pre-webinar survey with your post-webinar survey (ex. AB12). Please use the same initials and numbers you put down in the pre-webinar survey you completed

Sex

- Male, Female, Non-Binary

Ethnicity

- White, Asian, African American, Hispanic, Other

Year of medical school or residency

- MS1, MS2, MS3, MS4, PGY1, PGY3, PGY4, N/A

Type of medical school program you attend/ed

- MD, DO, N/A

Medical school region

- West, South, Midwest, Northeast, International, N/A I am not a medical student or resident

Residency program region

- West, South, Midwest, Northeast, International, N/A I am a medical student, N/A I am not a medical student or resident

Do you hold an additional degree?

- BSc, BMedSCi, MSc, MREs, PhD, Considering an additional degree, I do not have an additional degree

Does your home institution have an REI fellowship program?

- Yes, No. Unsure

Does your home institution have an affiliated REI office?

- Yes. No. Unsure

Have you previously shadowed an REI physician?

- Yes. No

Have you previously rotated in an REI office?

- Yes. No

Have you previously attended an REI conference?

- Yes. No

How interested are you in applying for an OBGYN residency?

- Extremely interested, Interested, Undecided, Uninterested, Extremely uninterested, N/A I am a resident, N/A I am not a medical student or resident

How interested are you in pursuing the field of REI?

- Extremely interested, interested, undecided, uninterested, extremely uninterested

How many webinars for medical education have you attended?

- 0, 1, 2, 3, >/= 4

To what extent do you agree or disagree with the statement: "Webinars offer flexibility and convenience, for example, with not having to spend time and money on traveling⁵."

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

Would you prefer a face-to-face meeting to a webinar⁵?

- Yes, No, Undecided

How easy has it been to find research opportunities within medical school or residency?

- Extremely easy, Easy, Unsure, Not easy, Extremely not easy

How easy has it been to find research opportunities within the field of REI in medical school or residency?

- Extremely easy, Easy, Unsure, Not easy, Extremely not easy

To what extent has your medical school or residency program informed you about a career in REI?

- Extensive advice, Some advice, Minimal advice

What other resources have you used to learn about the field of REI? (select all that apply)

- Websites, Published journals, Books, Courses not organized by your university, University lectures or courses, University interest group or society, Friends and colleagues, Social media, None

How likely are you to use social media (ex. Instagram) to network with physicians and potential mentors?

- Extremely likely, Likely, Unsure, Unlikely, Extremely unlikely

To what extent do you agree with the statement: "Medical students and residents can utilize social media to connect with REI physicians for networking and mentoring opportunities."

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

Self-reported knowledge: For the following questions, please state what level your understanding is of the following: (1 - None; 2 - Little, I have a lot to learn; 3 - fair, I have minimal to learn; 4 - very good, I know a lot, but not enough to teach others; 5 - excellent; I could teach others)

- 1. Path required to become an REI physician
- 2. Opportunities at medical school or residency conducive to learning more about REI
- 3. Applying for rotations in the field of REI
- 4. What the field of REI entails
- 5. Opportunities to find mentors in the field of REI

Supplemental Table 3: Post-Webinar Survey Questions

Please put down your initials with a number next to it so we can later match up your pre-webinar survey with your post-webinar survey (ex. AB12). Please use the same initials and numbers you put down in the pre-webinar survey you completed

To what extent do you agree or disagree with the statement: "This webinar was engaging and I felt comfortable asking questions."?

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

To what extent do you agree or disagree with the statement: "This webinar taught me something that I can utilize in my future."?

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

To what extent do you agree or disagree with the statement: "My interest in REI has increased due to this webinar."?

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

How interested are you in applying to OB/GYN residency after this webinar?

- Extremely interested, Interested, Undecided, Uninterested, Extremely uninterested, N/A I am a resident, N/A I am not a medical student nor resident

How interested are you in pursuing REI after this webinar?

 $- \ \, \text{Extremely interested}, \ \, \text{Interested}, \ \, \text{Undecided}, \ \, \text{Uninterested}, \ \, \text{Extremely uninterested}, \ \, \text{N/A I am not a medical student nor resident}$

How easy did you find it to interact with panelists and submit questions?

- Extremely easy, Easy, Unsure, Difficult, Extremely difficult

Are you more or less likely to ask questions in a webinar or live lecture⁵?

- More likely, Equally likely, Less likely

Are you more or less likely to participate in a future webinar based informational session?

- Extremely likely, Likely, Unsure, Unlikely, Extremely unlikely

How likely are you to use social media (ex. Instagram) to network with physicians and potential mentors?

- Extremely likely, Likely, Unsure, Unlikely, Extremely unlikely

To what extent do you agree with the statement: "Medical students and residents can utilize social media to connect with REI physicians for networking and mentoring opportunities."

- Strongly agree, Agree, Unsure, Disagree, Strongly disagree

Do you have any other feedback?

Self-reported knowledge: For the following questions, please state what level your understanding is of the following: (1 - None; 2 - Little, I have a lot to learn; 3 - fair, I have minimal to learn; 4 - very good, I know a lot, but not enough to teach others; 5 - excellent; I could teach others)

- 1. Path required to become an REI physician
- 2. Opportunities at medical school or residency conducive to learning more about REI
- 3. Applying for rotations in the field of REI
- 4. What the field of REI entails
- 5. Opportunities to find mentors in the field of REI

⁵These questions were taken directly from reference number 5 that is listed (Nadama et al. 2019)