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COVID-19 and its effect on Instagram adoption by #OBGYN residency programs

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Abstract

Objectives: Instagram (IG) is becoming one of the larger resource tools within medicine. Since the onset of the COVID-19 pandemic, it is becoming important for programs to improve virtual presence and outreach. We evaluated the adoption of IG by OB/GYN residency programs in the United States and aimed to see if highly ranked programs had higher utilization rates.

Methods: IG presence and engagement metrics were extracted for all ACGME accredited OB/GYN programs. Doximity residency navigator tool was used to obtain nationwide program rankings, and statistical analysis was performed to prove any significant correlation. Mann–Whitney U test, Cochran–Armitage test and Analysis of variance were used for analysis. IRB exemption was obtained.

Results: Seventy percent of programs (202/287) have IG presence, with the majority creating presence after the COVID pandemic began (115/202; 57%). Seventy-two percent (83/115) of these programs created their IG account once virtual interviews were announced. The top 25% of programs, as ranked on Doximity, have a higher number of posts, followers and likes when compared to the rest of the programs.

Conclusions: The COVID-19 pandemic has led to increased adoption of IG by residency programs. Highly ranked and reputed programs have higher rates of activity, popularity, and engagement on IG.

Keywords: COVID-19; residency training; social media.

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Introduction

Instagram® (IG) is becoming a resource-tool within medicine, particularly for residency programs. [1, 2]. Instagram has more than one billion active users per month, with more than 50% users being younger than 34 years [3]. The COVID-19 pandemic has resulted in prodigious changes in the process of residency selection thus challenging programs and applicants. Programs are resorting to virtual branding to showcase their strengths, uniqueness and to create favorable impressions [4]. Their social media presence and community outreach are seen with the help of various social media tools. Prior studies have shown that utilization of Twitter in obstetrics and gynecology (OB/GYN) is suboptimal as only one-third of editorial board members of some of the highest impact factor OB/GYN journals use Twitter [5]. It is estimated that a higher-ranking program has a positive simultaneous association with better community and social recognition. We evaluated the adoption of IG by OB/GYN residency programs in the United States and describe the association of a program's ranking with its IG utilization rate.

Methods

All Accreditation Council for Graduate Medical Education (ACGME) accredited OB/GYN residency programs were queried for IG presence on the 15th and 16th August 2020, with data collected over a period of two days to avoid time dependent skewing. Number of posts (activity), followers (popularity), average likes on the last three posts (engagement), and date of first post were extracted. The Doximity residency navigator tool [5] was used to determine program rankings by reputation. The top 25% programs (n=50) were compared to the remaining programs using Mann–Whitney U test. Cochran–Armitage test was used to analyze temporal trends. Analysis of variance was performed to assess correlation amongst quartiles. Exemption was obtained by the Institutional Review Board of the Baylor College of Medicine.

Results

Out of 287 programs, 70% (202/287) have IG presence. From 2016 to 2020, programs on IG increased from 2 to 202

($p < 0.01$). In 2020, 57% (115/202) of programs were added and 72% (83/115) of these were initiated after virtual residency interviews were announced in May 2020 (Figure 1). For all the 202 programs, the total number of posts, posts in last one week and month, followers, following and average likes on last three posts were (n) 11,821; 450; 1,213; 32,996; 82,277; and 9,810; respectively. The top 25% (50/202) highly reputed programs on Doximity had a higher median number of posts (60 vs. 23), followers (647 vs. 280) and average likes (69 vs. 39) compared to other programs ($p < 0.01$). Analysis of quartile data for the top 50 programs, a progressive increase was noted in the activity, popularity, and engagement of programs with higher rankings. OB/GYN programs with ranks 22, 27, 41, 45 did not have IG presence at the time of the study. Highly ranked categorized programs in the first two quartiles ($n=25$) for the parameters assessing number of posts, number of followers and average likes on the last three posts showed significant correlation with social media activity ($p < 0.05$) (Table 1).

Discussion

We find that more than two-thirds of programs have IG presence, with higher ranked programs having increased rates of activity, popularity, and engagement on IG. The adoption of IG has been increasing since 2016, with 81 out of 202 programs adopting IG before the year 2020. The onset of the global pandemic in 2020 showed a dramatic rise in the number of programs with IG presence and adoption rates increased as year progressed. Southworth et al. [6] reported similar findings showing the rising trend as seen in our study. They noted an upward trend in the programs with social media presence which supports even a larger addition of programs utilizing IG as the pandemic progressed; however, they did not evaluate the association between IG presence and reputation of programs using a standardized methodology for reference like Doximity. The COVID-19 pandemic and subsequent virtual interviews have served as a catalyst to this trend. With traditional websites being suboptimal sources of information on

Figure 1: Instagram adoption. (A) Temporal trends of adoption of Instagram by OB/GYN residency programs. (B) Instagram adoption in 2020 and impact of COVID-19 pandemic. Solid line: First recorded COVID-19 case in the United States, dashed line: Declaration of virtual interviews for match cycle 2020–2021.

Table 1: Comparing Instagram metrics between top 25% programs with the remaining 75% of programs and depiction of quartile segregated Instagram metrics among top 50 programs with IG presence.

Metrics	On IG in the top 25%. (n=50)	On IG in the remaining 75%. (n=152)	p-Value
Number of posts	60	23	<0.01
Number of following	169	118	0.11
Number of followers	647	280	<0.01
Number of posts in last 1 week	1	2	0.41
Number of posts in last 1 month	6	4	0.37
Average likes on last 3 posts	69	39	<0.01
Metrics (median)	Number of programs in each quartile	Doximity ranking ^a	p-Value
Number of posts			
99	13 (1st quartile)	1st–13th	<0.01
67	12 (2nd quartile)	14th–26th	<0.05
39.5	12 (3rd quartile)	28th–39th	0.57
41	13 (4th quartile)	40th–54th	0.17
Number of followers			
814	13 (1st quartile)	1st–13th	<0.01
599.5	12 (2nd quartile)	14th–26th	<0.01
491	12 (3rd quartile)	28th–39th	<0.01
489	13 (4th quartile)	40th–54th	<0.01
Average likes on last three posts			
94	13 (1st quartile)	1st–13th	<0.01
78.5	12 (2nd quartile)	14th–26th	<0.01
55.5	12 (3rd quartile)	28th–39th	<0.05
53	13 (4th quartile)	40th–54th	0.36

^aPrograms with Doximity ranks 22, 27, 41, 45 did not have Instagram presence at time of study. IG, Instagram. p-Values in bold are statistically significant.

programs [7], there is a need for accurate real-time information and communication, especially with restriction of direct interaction due to the COVID-19 pandemic. And thus, solutions like video conferencing, virtual learning, social media usage and telemedicine could offer alternatives in medical education [8]. Furthermore, IG is becoming an instrumental tool for medical graduates to probe programs, communicate interest and determine if they would fit in. Resident-run IG communities for applicants are compiling information on programs and their online events such as interactive sessions with residents and faculty, or ‘take-overs’ which offer a sneak peek into the program. An approach which entails both informal and formal introductions for the applicant to the program that may help

them make an accurate decision of their future academic career path [9].

Presumably, impressions of a program on IG could influence applicant rank lists. A virtual presence on social media presents as an opportunity for programs to highlight the culture in the program thus influencing rank lists of applicants [10] and it is interesting to see that highly reputed programs are utilizing IG to promote and showcase their program to prospective applicants and the medical community. With increasing implementation of IG, there is a need for professional societies to establish ethical and professional guidelines on use which could cause some limits on this process of social coverage and hinder its further outreach into the community. Yet, these are vital in preserving personal confidentiality and consent, preventing conflicts of interest, and minimizing propagation of misinformation which could be harmful for personal and institutional reputation. Although the adoption of IG by OB/GYN programs has been promising, its true potential and impact on medical education, trainee recruitment, inter-personal networking and community outreach remains to be determined. Further studies in this direction are warranted.

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