



Impact of COVID-19 on education, health and lifestyle behaviour of Brazilian urology residents

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Objectives: To evaluate the impact of COVID-19 on clinical and surgical practice, educational activities, health and lifestyle behaviour of Brazilian urology residents.

Materials and Methods: A web-based survey was sent to 468 Brazilian urology residents from postgraduate years (PGY) 3 to 5 to collect data on clinical practice and training after 4 months of COVID-19. We also assessed health-related and behavior changes, rate of infection by SARS-CoV-2, deployment to the front line of COVID-19, residents' concerns, and access to personal protective equipment (PPE).

Results: Massive reductions in elective and emergency patient consultations, diagnostic procedures and surgeries were reported across the country, affecting PGY 3 to 5 alike. Most in-person educational activities were abolished. The median damage to the urological training expected for 2020 was 6.0 [3.4 -7.7], on a scale from 0 to 10, with senior residents estimating a greater damage ($P < 0.001$). Educational interventions developed included online case-based discussions, subspeciality conferences and lectures, and grand rounds. Most senior residents favored extending residency to compensate for training loss and most younger residents favored no additional training ($p < 0.001$). Modifications in health and lifestyle included weight gain (43.8%), reduced physical activity (68.6%), increased alcoholics intake (44.9%) and cigarette consumption (53.6%), worsening of sexual life (25.2%) and feelings of sadness or depression (48,2%). Almost half were summoned to work on the COVID-19 front-line and 24.4% had COVID-19. Most residents had inadequate training to deal with COVID-19 patients and most reported a shortage of PPE. Residents' concerns included the risk of contaminating family members, being away from residency program, developing severe COVID-19 and overloading colleagues.

Conclusions: COVID-19 had a massive impact in Brazilian urology residents' training, health and lifestyle behavior, which may reflect what happened in other medical specialties.

Studies should confirm these findings to help developing strategies to mitigate residents' losses.

COMMENTARY

In this Journal Club Edition, I will review the article published in the International Brazilian Journal of Urology in May 2021 by Dr. José Antonio Prezotti et al (1). Two-hundred and seventy five urology residents were surveyed in Brazil in order to analyze the impact of the COVID-19 pandemic. The questionnaire was sent by email through SurveyMonkey in June 2020.

It is worth noting that this is the first survey that scrutinized the infection rate in urology residents (24%). Moreover, not only it evaluated how the volume of performed surgeries was negatively affected but also described aspects related to the residents' health and quality of life. As usual, the questions are attached at the end of the article exactly like they were sent.

Although there was a very acceptable response rate ($275/468 = 58.8\%$) in only 8 days of data collection, there is some doubt about how representative this sample is with respect to the five main geographical regions of the country since only 10% of the sample were women and the p found was 0.632. Furthermore, no validated questionnaires were used to assess quality of life and the characteristics of the non-responding population were not published (2).

It is interesting to mention that the reduction in surgical and clinical activity was similar in all hospitals, despite the incidence of COVID-19 in the different states. Senior residents reported a higher level of impact ($p < 0.001$) to their learning curve. I believe this happens because it is in the last years of residency when they perform more surgeries as operating surgeons. For this reason, they prefer to extend the duration of the residency as a way for compensating the damage while the younger residents prefer not to do so ($p < 0.001$).

As regards education data, residents highly valued web-based classes and courses (48%) as well as the online discussion of clinical cases (38%). The usefulness of all the Smart Learning modalities that are available on the web is well-known: videos on demand, webinars, journal clubs broadcast by Social Media, Grand Rounds, podcasts, etc (3) (4) (5).

Twenty-one percent of residents suggested attending courses specifically oriented to the subspecialty of interest to compensate for the lack of "flight hours" caused by lockdown. In my opinion, surgical simulation, whether in inanimate models or even in animals, plays an important role in education and much more in this new reality of scarce surgeries. It is essential to watch surgical videos pre-recorded by referents (6) (7) but also not edited ones to learn how problems are solved in real life (8). I think it can be a great opportunity to watch videos in which the resident is performing as the operating surgeon to detect and analyze

errors. If she/he can be accompanied by senior residents or mentors, even better.

Only 28% of the residents reported having carried out telemedicine during the time studied. This number is low compared with the published bibliography (9), but this may be due to the fact that the survey was conducted just 3 months after the beginning of the pandemic in Brazil. Another detail to take into account would be to consider if the surveyed residents work in public or private hospitals (although it appears in question N°5 of the survey, no results are available in the article). The implementation of telemedicine requires a significant initial investment (software, webcams, headphones, microphones, etc.) and public hospitals may not have enough budget.

Regarding residents' quality of life, the results about sadness, depression, increased tobacco consumption, greater sedentary lifestyle and even increased body weight are not surprising at all. It would have been interesting to see how and with whom those residents lived. In this way, we could analyze if self-isolation or living with someone else or even if the economic situation influenced these answers. It is striking how little affected the sexual sphere was (26%). This may have been due to distrust in the data anonymization system.

It is as challenging as it is disappointing to have to put aside our profession to go to the front line against COVID-19 (50%) but it is even worse to go unprepared or unprotected (60% did not receive N95, 30% did not receive surgical masks). It is noteworthy that, overall, the mentors / staff were present in these difficult moments for the residents (only 25% reported being not satisfied with the support received).

It would be interesting to carry out a new similar survey after this second wave we are going through. Unquestionably, with this ahead information we could minimize the impact on the health and education of residents, who are the engine of most of the main urology departments around the world.



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