

The Impact of COVID-19 Pandemic on Urology Residency Training Programs in the Philippines: A Descriptive Study

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Objective: To provide an overview on the impact of healthcare disruption by the COVID-19 pandemic to urology training programs in the Philippines

Methods: A survey questionnaire was used in collaboration with the study done by Rosen, et al. last May 2020. Telephone survey of the study population was done determining the status of resident staffing, workload, health/wellness, and didactics. Numerical and categorical data were analyzed and descriptive statistics are provided.

Results: All the observations on resident time in the workplace, including assignment to teams (81%), redeployment responses (55-97%), and remote clinical work (65%) were significant. Fifty one percent of residents have decreased research load. Eighty one percent have didactics in small groups. Fifty-five percent have 1 to 2 Video-based learning/conferences per week ($p=0.007$) followed by those with 3-4 with 98% ($p=0.120$) and those with ≥ 5 with only 6% ($p=0.729$). For Resident health and wellness, 87% of the residents were exposed to COVID-positive patients, but only 8% of residents were COVID positive ($p=0.591$). Lastly, 59% of the participants do not have access to wellness programs.

Conclusion: Data from respondents revealed significant changes in the different aspects of the present study. Urology residents spent more time away from their specialties, and have been re-deployed to COVID-19 floors. Ambulatory services, conferences, educational lectures have mostly shifted to virtual platforms. Resident concerns for COVID-19 exposure have been addressed properly; however, wellness programs have not been widely available for residents. As a first national survey, the present study may give significant insights on program changes and may be used as preliminary data for future studies.

Key words: COVID-19, urology, Philippines, pandemic, residency

Introduction

Reported initially on December 2019 in Wuhan, China, the coronavirus disease 2019, or COVID-19, has spread throughout the world at a fast rate with the World Health Organization declaring the disease a pandemic on 11 March 2020. This disease

has led to varying severity of pneumonia and acute respiratory distress syndrome, at times leading to the need for mechanical ventilation support or intensive care unit admission. As of June 2020, the WHO reported more than 8 million cases and more than 4,000,000 deaths globally, with the number of cases continually rising.¹ In the Philippines, as

of August 2020, the Department of Health has reported a total of 178,022 confirmed COVID positive cases, with 2,883 reported deaths. A high proportion of this comes from the National Capital Region – where most of the urology training institutions are situated.

The coronavirus disease has been noted to profoundly affect demands, expectations, and resources.² In areas that have been plagued with COVID-19 patients requiring hospital care, resources (personnel, hospital wards, beds, ventilators and personal protective equipment) are in high demand and short supply. In such settings, hospitals are further burdened by health care service providers contracting COVID-19, necessitating self-isolation strategies.³ In this unprecedented scenario, healthcare systems had to formulate strategies to cope with the situation in a short amount of time, aiming to optimize resources, and at the same time minimizing further spread of infections. Notably, addressing such challenges has caused a paradigm shift from a patient-centered management to a community-centered one. As such, surgical specialties everywhere such as Urology currently face the challenge to reduce or change practice strategies regarding both out-patient services and surgical procedures.⁴ A practicing urologist would typically have an abundance of elective operating room and office procedures in addition to outpatient clinic consultations - such pattern has been severely disrupted by COVID-19.³ In this context, the Urology residents' training might be unfavorably affected. Resident doctors comprise a major portion of the workforce in many hospital institutions and have become invaluable assets in the front-line response for the COVID-19 pandemic. Re-deployment has been instigated in various hospital institutions in order to cope with the depletion of healthcare manpower. Thus, the resultant impact of the pandemic on the urology resident with respect to surgical training and learning opportunities has yet to be described.³ How and to what extent the pandemic has impacted the daily activities of Urology residents in clinical and surgical activities is currently unknown.⁴ Given the uncertainty of duration of the COVID-19 pandemic, long-term strategic changes in the training program may well contribute to the proper development and maturation of residents training-wise during these

unusual times.⁵ Currently, there is no nationwide assessment of the impact of the said pandemic to urology programs in the Philippines. Hence, the authors aim to use a survey to evaluate adaptations and give an overview of the impact of healthcare disruption by the COVID-19 pandemic to urology training programs in the Philippines.

This study's main objective was to provide an overview on the impact of healthcare disruption by the COVID-19 pandemic to urology training programs in the Philippines. Specifically, the authors aimed to determine the changes in resident staffing, didactics/meetings, and research since the COVID-19 pandemic; and to describe health of urology trainees in relation to COVID-19 exposure, and availability of wellness programs for urology residents.

Methods

This descriptive study used a survey questionnaire in collaboration with the study done by Rosen, et al. last May 2020 as published in the *Journal of Urology*. The survey questionnaire was used with their permission through electronic mail; the questionnaire was approved and distributed by the Society of Academic Urologists in their study. The survey was done in August 2020 through telephone, to the study population consists of urology residents in the Philippines, with the questions aimed at determining current status of resident staffing, workload, health/wellness, and didactics. As with the study where the questionnaire was lifted, respondent answers were subjective for several questions relative to the timing of the COVID pandemic with the time of initiation of changes in policies in their respective hospitals. However, all institutions covered by the study were at areas with high prevalence of COVID-19 cases. Numerical and categorical data were analyzed using Medcalc version 19.4.1 and descriptive statistics were provided. Days per week spent in clinic/operating room before and after COVID-19 were compared using paired t-tests. The authors did not correct for multiple testing in this exploratory analysis.

Frequency and percentage were used to describe the responses of the participants on staffing,

resident research, resident health, resident wellness, and didactics/meetings. Mean and standard deviation were used to describe the days per week in OR/clinic before and during COVID with 1.0 as the assumed standard deviation.

Z-test of one proportion was used to determine the significance of the responses of the participants on staffing, resident research, resident health, resident wellness, and didactics/meetings while pair t-test was used to compare the Days per week in OR/clinic before and during COVID. The authors used 0-30% as the normal range for the z-test of one proportion. This was based on the default on the rule of sampling and population that a sample size of 25 is considered a low sample – which corresponds to 30% of the study population count of 78 respondents. Range was used instead of a single normal value because a z-test of one proportion that uses a single value would consider any percentage below or above it as significant, with z-test of one proportion used in this study as a one-tailed statistic. Null hypothesis was rejected at 0.05-alpha level of significance.

Results

An average of 2.2 days per week were spent in the operating room (OR) during COVID. This is significantly lower to the average of 4.7 days per week in OR before COVID ($p=0.030$).

Majority of the participants had reduced time in the workplace. Eighty one percent were assigned to teams in order to limit intermingling. Fifty five percent of residents were redeployed to areas with low manpower. Ninety one percent of residents were spoken to about redeployment, and 97% of them intended to comply with the redeployment request. Sixty-five percent had increased remote resident clinical work and were conducting teleconsultations. All the observations were significant with p-values below 0.05.

With regards to resident research - 51% of residents have decreased research load. In terms of case completion, 90% of the residents were not able to meet case minimums because of COVID. Moreover, 51% of residents had reduced double-scrubbing during procedures, and 94% of the residents had formally reduced their overall work hours.

With regards to resident health - 87% of the residents were exposed to COVID-positive patients, 97% were tested for COVID, and 56% were quarantined. Only 8% of the total number of urology residents were COVID positive ($p=0.591$).

With regards to resident wellness - 59% of the participants did not have access to additional resident wellness programs, only 58% had resident-only meetings or meet-ups.

With regards to didactics or meetings - 81% had didactics in small groups; all participants used teleconferencing for conferences, lectures, and mortality and morbidity conferences; more than 50% of respondents planned to continue the use of teleconferencing for conferences, lectures, and mortality and morbidity conferences. A significant majority had 1 to 2 video-based learning or conferences per week (55%, $p=0.007$).

Discussion

The COVID-19 pandemic has evidently brought about various concerns with regards to surgical residency programs. These concerns are predicted to pose a challenge both for trainers and for doctors-in-training considering the uncertainty of the duration of this pandemic.⁶ In this study, the authors report the first national survey of urology residency programs in the Philippines, assessing COVID-19- related program adaptations or modifications and their impact on resident trainees.

Their data presented significantly lower days spent in the operating room during the COVID pandemic in comparison to the days spent in surgery prior to the pandemic. The marked decrease in surgical volume has important implications regarding loss of experience to trainees. In light of this, it is not surprising that most resident trainees will agree that COVID-19 related changes have negatively impacted surgical training.³ Clinical recommendations involve emergency procedure or highly selected elective cancer operations are to be performed by the most experienced surgeon, usually the consultant, to minimize operation time and complications such as risk of infection.⁷ This agrees with present data showing a 51% decrease in double scrubbing rate. It is clear that resident training in urology is affected transversally

throughout the residency, due to the involvement of ambulatory, outpatient surgery and major surgeries whether open, minimally invasive, or endoscopic surgery.⁸ However, this predicament especially applies to residents on their last years of training who should be fine-tuning their surgical skills through volumes of cases, which coincides with this study's reported data that 90% of the residents have concern that case minimums will not be met due to the COVID situation. This finding is even more relevant considering that not only a larger exposure to surgical cases occurs in the last years of residency, but those residents will be also be taking up employment soon after graduation.⁴ Most of the respondents in this study agreed with having increased concern about competency upon residency completion. An awareness of this finding is important for program leaders across the country, and particularly in high COVID-19 areas. Hence, program directors must take into consideration options or alternatives to compensate for such missed opportunities; including flexibility in future rotation scheduling or off-rotation experiences.³

The COVID-19 pandemic has been radically changing many research practices. Some institutions have limited their laboratory staff, and many institutional review boards are not approving non-COVID-19 studies for the foreseeable future, while other hospitals attempt to maintain therapeutic clinical trials. Even though faculty mentorship is not an issue, these delays consequently affect both clinical and basic science research.⁵ Present data suggested a significant decrease in resident research, which is most likely due to these factors in addition to logistical problems such as patient availability and willingness to participate during the pandemic.

A significant number of the respondents reported formally reducing their time in the workplace, minimizing face to face interaction among residents through online endorsements, forming duty teams, and assigning point persons in doing clinical work remotely. As described by Kwon, et al. various residency programs have responded to the COVID-19 crisis by forming teams per day to cover services, thereby reducing the risk of COVID-19 exposure and transmission to both patients and co-residents. Hence, urology

services are able to maintain a reservoir of residents who can fill in when residents fall sick. They suggested that teams should consider virtual handoffs and assigning individual residents to do rounds on patients, rather than traditional team rounds – which are being done as described by the respondents.

Re-deployment of surgical residents to assist hospital staff COVID-19 wards has been a fast-rising concern since the pandemic, and institutions have implemented mandatory redeployment. Most of these respondents agreed with this statement and a significant portion of urology residents have been attending to patient cases outside their specialty to address manpower demand. As urology residents are redeployed to different hospital divisions such as intensive care units, emergency room, and medical wards to accommodate manpower demand, trainees can have the unique opportunity to be exposed to other disciplines in medicine that can supplement their knowledge base and improve referral dynamics between services. This setup can also invoke learning opportunities outside of urology in fields such as clinical ethics, health policies, and global health, all of which have direct applications to the COVID-19 pandemic. It is however important to note that most, if not all, urology residents have not rotated on medical or ICU services since medical school or internship. Therefore, experience in the deployed area should be considered and supervision by medical consultants should be imperative when deploying urology residents to COVID-19 units.⁵

It is somewhat expected that most of our respondents have reported a transition to virtual software platforms to facilitate conferences, consultations, didactics, and educational lectures. A high proportion of the residents reported performing didactics in small groups, and conducting telemedicine consultations. Moreover, virtually all of the respondents have shifted to virtual platforms for weekly conferences and lectures. How to maximize learning during these times through such attempts to make up for decreased operative experience, is of utmost importance.³ Porpiglia, et al. suggested the use of web-based technologies in an attempt to counteract the slowdown of learning curve of urology residents through pre-recorded training videos, social media, podcasts,

and webinars. The procedures of the day can be discussed virtually with consultants in order to choose the best surgical management and maximize operative efficiency, thereby reducing complication risks. A number of studies have established the practicality and success of telemedicine consults for both adult and pediatric urologic conditions. Ultimately, virtual platforms may prove to be a valuable component of urology practice and may be incorporated into urology resident curriculums with interactive modules, where trainees have access to expert faculty in all subspecialty areas of urology.⁵ Although learning processes in the operating room is invaluable, these modalities represent a challenge and encourage introduction of novel strategies that could be incorporated in training programs in the future.⁶

Concerns for general workplace and operating room exposure, as well as concerns for personal protective equipment by the residents have been non-significant based on current data – meaning that hospital institutions have satisfactorily addressed such concerns. The rising numbers of health care personnel infections and deaths from COVID-19 have emphasized the significance of access to personal protective equipment.⁵ According to Khusid, et al. urology residents who reported adequate access to PPE reported lower incidences of anxiety and depression, which may be related to fear of becoming ill and/or spreading the illness to loved ones. With regards to urology resident health status in the Philippines, even though most of the respondents (87%) were exposed to COVID positive patients, it translated to the residents undergoing COVID swab testing, and only 8% of the total respondents were COVID positive with mild symptoms. For resident wellness, special services from hospital institutions were available to 35% of the respondents, 9% had special leave days from work, while the rest had no wellness programs. During the COVID-19 pandemic, a significant portion of urology residents have been assigned to clinical scenarios outside their specialty, which carries a substantial burden to their physical and mental health. Many residents decide to live separately from their families to reduce viral transmission to loved ones. Hence, it is imperative that residents attempt to maintain social relationships despite physical isolation.

According to Kwon, et al. resident briefing on the possibility of anxiety and depression during the pandemic is essential. Program directors/officers are encouraged to regularly hold open fora for residents to acknowledge and share daily struggles in their development. They also suggested that health care institutions should consider regular screening of healthcare workers for psychiatric conditions including anxiety, depression, insomnia, and distress, with mental hotlines available for staff in need of psychiatric services.

This study has several limitations. Being a survey study, response bias is possible as may be brought about by phrasing of questions and the fact that the survey was carried out through telephone calls. The survey questions were lifted from a study conducted by Rosen, et al. in the United States with its questionnaire approved by the Society of Academic Urology, but it was not validated by proper authorities in this country. The authors modified their method of data encoding as they defined all institutions in the Philippines as areas with high COVID-19 prevalence, however, they failed to define the degree of density of COVID-19 infection in populations down to the city level. Nonetheless, as a specialized program, most hospitals with urology training programs are in large-scale institutions with high density COVID-19 infections. Recall bias may also be possible with regards to resident workload prior to COVID-19-related changes. Lastly, as data collection was done through telephone interviews, psychosocial and overall status of the respondents in relation to the COVID-19 situation may not be accurately represented in this study. Despite limitations, to the authors' knowledge, this is the first national study assessing the impact of COVID-19 pandemic to urology residency programs in the Philippines. They were able to collect data from almost all urology institutions in the country. Hence, overall program representation is strong with regards to measuring objective data such as workforce adaptations and changes in surgical and clinical volumes.

Conclusion

The authors present in this study an overview of the impact of the COVID-19 pandemic on urology

residency programs in terms of didactics, resident staffing, research, health, and wellness status. Their data from respondents revealed significant changes in majority of the different aspects of their study. Urology residents spent more time away from clinical duties from their specialties, and have been re-deployed to COVID-19 floors to cope up with workforce demand. Ambulatory services, conferences, educational lectures have mostly shifted to virtual platforms. Resident concerns for exposure to COVID-19 in the workplace have been insignificant or addressed properly, however, wellness programs have not been widely available for residents. As a first national survey of almost all urology residency programs in the Philippines, it may give significant insights on the changes and adaptations of the programs in general and may be used as preliminary data moving forward during these uncertain times.

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