

Medical education versus exposure to SARS COV-2: how is the achievement of doctor resident competence in the field of urogynecology?

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Abstract

The spread of SARS CoV-2 impacts medical education. Patients with urogynecological cases are mostly elderly patients who are at risk of exposure to the virus. This paper aims to review resident education in the urogynecology field during the pandemic and how residents can achieve appropriate competence. This study examines the views of several previous research articles and then compiled them into a narrative review. New recommendations such as services at health facilities, as well as scheduled visits or virtual services, have made an impact on reducing the number of cases, limited contact with patients, and virus exposure from practice locations, online learning, and the involvement of resident doctors in handling SARS CoV-2 case for other units. Resident doctors need to achieve competence to become professionals in their fields. What needs to be realized is that direct practice with patients,

conducting examinations, making diagnoses, and providing therapy with real cases cannot be replaced with online learning. Medical education for residents must ensure safety in obtaining education and practice in the hospital to fulfill the task of caring for patients, access to mental health in a pandemic, and simulation-based training. All of these interventions are designed to ensure that the competence of graduates achieved before or during COVID-19 is the same: doctors who are professional and competent in their fields. Keywords: Resident doctors, medical education, Competence, Urogynecology, SARS CoV-2

Introduction

The medical world not only faces challenges in preventing the spread of the coronavirus in society but also faces how to maintain medical education without reducing the risk of exposure to the virus. Frequent rotations between departments and hospitals make medical students a potential vector of COVID-19. Urogynecology is one area of exposure where residents are exposed to COVID-19. Urogynecology services are essential health services because they involve the quality of life of women. The urogynecology service handles cases such as pelvic organ prolapse which often occurs in women in middle age with the number of cases that are almost always in health facilities.

Urogynecology services in the field of obstetrics and gynecology are just one aspect of skills that must be possessed. Some procedures such as surgical procedures that must be done face-to-face. Patient contact "in person" is an

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Received: August 11, 2021.

Accepted: August 12 2021.

Conflict of interest: none.

irreplaceable principle of clinical teaching. These extraordinary times demand extraordinary actions [1]. The COVID-19 pandemic will continue to have a major impact on surgical practice, with guidance in hospitals urgently needed. Surgery is an art that can only be perfected in the operating room. Learning the various instruments involved, the role of the multidisciplinary team, and the steps doctors take during the patient's journey to ensure patient safety, is the best experience possible. Passive learning through books will no doubt harm students [2]. Many actions have been taken by educators: examples are policies for reducing time and switching from face-to-face teaching to online teaching methods. One of them is related to the reduction of time and opportunities in certain specialties, which has a detrimental effect on exam performance and competence as a doctor [3]. The ongoing 2019 coronavirus disease (COVID-19) pandemic poses a threat to the delivery of traditional medical education, which has accelerated the inevitable implementation of online learning [4]. A survey in Libya shows that most students do not agree that e-learning can be used for supporting all aspects of clinical learning [5]. This is likely to have an impact on the lack of competence to be mastered, such as resident doctors having a record of several procedures that may not have been fully mastered until towards the end of education and this happened before the pandemic [6].

This paper aims to review resident education in the urogynecology field during the pandemic and how residents can achieve appropriate competence. This study discusses the views of several previous research articles. We discussed the competencies that should be accepted in urogynecology, the current state of urogynecology cases and residencies, guidelines for urogynecology care during the pandemic, solutions that have been tried to be applied, whether online education can replace clinical practice, and the right solution for medical education in the adaptation of a pandemic.

Methodology

This study was conducted by reviewing articles related to current information about COVID-19 and medical education in

urogynecology. Literature searches were conducted online in several databases such as ScienceDirect, Pubmed, SCOPUS, and government websites. The author searched for relevant articles using the keywords "COVID-19", "medical education," "resident doctor", "urogynecology" and the synonyms of these keywords. MESH Terms and Boolean Operators ("AND", "OR", "NOT") were used to get specific results. The reference used is the latest research in the last 3 years.

Result and discussion

Competence that should be achieved in urogynecology

Residency program should be designed to define the competencies that specialists in obstetrics and gynecology should have concerning urogynecology. This includes ever increasing knowledge, practice, teaching, and research as well as promoting special skills, special facilities, and clinical materials that will benefit some patients and improve quality health care. This residency includes knowledge of the anatomy and physiology of the pelvis, the viscera contained and the pathological processes affecting its function, the skills and knowledge specified in the investigation and treatment of lower urinary tract dysfunction, pelvic floor disorders, and other benign pelvic conditions in women. This resident must ultimately be able to perform basic examinations and direct conservative treatment in patients with urinary incontinence and pelvic floor disorders and should know when to refer women with pelvic floor problems and complex urinary complications to the higher subspecialties.

The theoretical aspects consist of 4 main categories, namely (1) urinary tract and pelvic floor (embryology, anatomy, physiology, and urinary tract in pregnancy), (2) lower urinary tract dysfunction (history and physical examination, urodynamic evaluation, urinary incontinence general considerations, genuine stress incontinence, detrusor instability, voiding abnormalities, urinary tract infections, urethral disorders, intraoperative injuries, urinary tract fistulae, neoplasia and psychological impact of genitourinary disorders), (3) genital prolapse

(pathophysiology, diagnosis, and treatment), and (4) anal incontinence and rectal prolapsed (pathophysiology, diagnosis, and treatment). In addition, the clinical expertise that doctor residents should include diagnostic techniques, clinical skills objectives, and medical therapy and surgical skills. In addition, the ability to address community care also needs to be trained [7].

The focus of rotational urogynecology in most residency programs may not be training to become a urogynecologist, but to ensure competence and a level of comfort in making diagnoses and knowing treatment options for common pelvic floor disorders. Our subspecialty is multifaceted and includes many other conditions related to pelvic treatment, such as pelvic pain, urinary dysfunction, bowel dysfunction, and various neuromuscular disorders for example. Although prolapse and incontinence are the most common urogynecological disorders, urogynecology is a subspecialty in which many of these conditions may not be appreciated or emphasized by patients because of their complexity. There are still improvements to be made in the resident's experience with female pelvic medicine and reconstructive surgery if it is to meet the needs of the elderly population. Increasing the volume of surgery, especially where the role of the resident is the primary surgeon, appears to be universally the single most important criterion in improving urogynecology education from the point of view of recent graduates of this residency program in obstetrics and gynecology [8].

Current cases and impact on the quality of health services

Based on the results of our latest medical record data, urogynecology services have made major changes because of the pandemic, as documented in our referral center hospital in East Java, Indonesia. The number of cases experienced a sharp decline in 2020 even though during 2016 to 2019 the case finding rate had increased. In recent cases as well, new cases of pelvic organ prolapse, congenital abnormalities, fistulas (vesicovaginal, rectovaginal), urinary incontinence and retention, perineal rupture as well as trauma and tumors have decreased findings. The number

of surgeries decreased dramatically from 2019 to 2020 with the number of surgeries discontinued in March. As long as the number of cases decreases, there are still patients who experience pelvic organ prolapse to carry out examinations [9].

Another study in the residency program showed that the presence of patient contact time had decreased significantly from 4.7 to 2.1 days per week. There has been a new rotation and there are concerns that it will not meet the minimum cases due to COVID-19. Health activities are now centered on improving communication via video conferencing. In addition, exposure to COVID-19 for residents and the availability of personal protective equipment also has an impact on the sustainability of their studies [10]. The resident's routine involvement in "clinical" measures (call assignments, outpatient visits, diagnostic procedures) and "surgical" training activities before and during the COVID-19 period had also decreased dramatically [11]. A resident reports a significant reduction in the number of cases committed during the pandemic [12].

Virtual/ telephone communication (72.9%) is the strategy most used by Canadian radiology residency programs [13]. Respondents experienced total disruption of both surgical and clinical activities. Some residents were transferred to non-surgical units that deal with COVID-19 and, in some cases, they voluntarily decide to stop their residency program to support the ongoing emergency. [14]

This situation will certainly have an impact on the provision of healthcare. Poor-quality health services hinder progress in improving health in countries at all income levels, according to a new joint report by the OECD, the World Health Organization (WHO), and the World Bank. Currently, inaccurate diagnosis, medication errors, inappropriate or unnecessary treatment, inadequate or unsafe clinical facilities or practices, or insufficient training and expertise providers occur in all countries. The situation is worse in low- and middle-income countries where 10 percent of hospitalized patients can contract an infection during their stay, compared with 7 percent in high-income countries. About 15 percent of hospital spending in high-income countries is due to errors in care or infected patients while in hospital [15].

Guidelines for urogynecology care during a

pandemic

The goal of adapting urogynecology services during a pandemic is to reduce the risk of person-to-person (horizontal) transmission of the SARS-CoV-2 virus in urogynecology patients. Most case management focuses on virtual counseling and lifestyle modification. For example, in the case of uterine prolapse with insertion of a pessary, if they experience bleeding or pain, they need to be seen in person. A recent randomized study showed that in women who received pessary care in a health care facility and used a ring, Gellhorn, or pessary plate incontinence, routine follow-up every 24 weeks was not lower than every 12 weeks based on the incidence of vaginal epithelial abnormalities. Most popular is to replace pessaries every 6 months, it would make sense to postpone it for another 3 months. Some women may have had surgery before the crisis and may have their face-to-face appointments canceled or postponed. Follow-up appointments can be made virtually by telephone or video conferencing. If a reason for seeing a patient is identified, an in-person appointment may be the only option. Personal protective equipment should be worn [16].

Measures should be taken to limit the duration of visiting hours and limit the number of people accompanying patients. All patients, service providers, and staff who have symptoms such as fever, cough, or other respiratory symptoms and travel history should be screened for COVID-19. Medical care providers must be equipped with eligible goggles, masks, surgical gowns, and gloves. Because they may need to assist critical care patients, resuscitation training may need to be updated and a backup task list should be available [17].

Evidence suggests that most urogynecological conditions can be managed using virtual consultations using behavioral measures, lifestyle changes, and medical therapy. Outpatient procedures in one-stop clinics to investigate and treat conditions such as refractory OAB can be maximized to avoid hospitalizations and to reduce the frequency of visits and use of general anesthesia. Technology is needed to maintain and develop the quality of virtual

consultations and it is especially important for clean intermittent distance self-catheterization teaching, catheter-free home trials, pessary management, and symptom triaging. For those unable to use or without access to the required technology, smaller face-to-face ad hoc clinics with personal protective equipment and physical distancing should be considered. Although adaptations and provisions are being made to manage urogynecological conditions, given that the majority of patients are elderly with comorbidities that increase the risk of COVID-19 morbidity and mortality, and with most surgical procedures for quality of life, elective activity is expected to be continued. to be slow. Consequently, there is likely to be a significant impact on quality of life in this cohort of patients and the impact of delay in diagnosis and treatment on disease trajectories remains to be determined [18].

Have the actions and management of education been carried out been effective?

Medical training is a mandate as important as patient care and services [19]. Innovative solutions are demonstrated in a two-way classroom model, online practice questions, teleconferencing instead of private lectures, involving residents in telemedicine clinics, simulation of procedures, and use of facilitated surgery videos. While there is no substitute for hands-on learning through surgical experience and direct patient care, it may be a way to reduce exposure to loss of learning. National organizational support may be beneficial in maintaining rigorous surgical education and closer access to educational institutions [20]. Transparent communication, telemedicine, online lectures/meetings, simulated procedures, advocacy groups, and health resources can help reduce some of the challenges posed by a pandemic [21]. Perhaps future medical encounters embrace a hybrid approach of mixing digital with face-to-face experience [22]. The online learning that has been carried out still has much to be improved. Table 1 shows the perspectives of medical students on the online learning they receive. Resource and technical improvements must be made.

Table 1. Online learning perspectives and difficulties and expectations

No	Author	Method	Results	Conclusion
1	Al Balas, et al 2020, Jordania [23]	Cross-sectional, 652 students	The overall satisfaction rate in medical distance learning was (26.8%). This is related to operations that tend to be one-way and short-term. Internet as the main challenge (69.1%).	Technical resources and infrastructure are the main challenges for implementing distance learning.
2	Dost et al, 2020, UK [24]	Cross-sectional 2721 students	The difference between time spent on online platforms before and during COVID-19 was > 15 hours per week (p < 0.05). The perceived benefits of an online teaching platform include its flexibility. While the obstacles that are commonly felt are family disturbances (26.76%) and bad internet connection (21.53%).	Improvements to online teaching methods are needed. There is also a need for further incorporation of online teaching methods in traditional medical education.
3	Loda et al, 2020, Germany [25]	In a cross-sectional survey, 672 students	Medical students most often expect online lectures (91.7%) and live broadcast (67.2%) and innovative digital teaching strategies that are rarely expected, including serious games (17.3%) and virtual reality exercises (16.7%)	Medical students appear to be aware of the COVID-19 pandemic and its consequences for the academic and health care context. They also seem to think that their teachers will improve their digital competence during the pandemic.
4	Ibrahim et al, 2020, King Abdul Aziz University [26]	A cross-sectional survey, 340 medical students	Blackboard and Zoom are the Learning Management Systems (LMS) that our medical students love most. About three-fifths of students assert that e-learning is replacing classic on-campus learning and is an adaptable and time-consuming method.	Good educator e-learning skills, subject, instructional design, interaction, motivation, and good LMS is agreed as supporters of e-learning.

Can clinical practice be replaced with online education?

Skills are learned by real action and experience. The comfort felt by resident doctors in performing procedures is closely related to their experiences, including in some cases of urogynecological management. Residents who receive direct case handling protocols such as postpartum urinary retention will be able to recognize and be more comfortable in handling patients with these complaints [27]. Perceptions of comfort in urogynecological management such as performing pessary insertion were also associated

with working with advanced practitioners, formal urogynecology rotation, experience with pessary insertion, and receiving pessary-specific didactics. Factors that did not improve comfort were going to urogynecology meetings and receiving a general didactic about prolapse and incontinence. This shows that the general knowledge gained cannot replace real experience [28]. Case-based education interventions significantly increase resident physicians' knowledge in urogynecology and increase resident physicians' satisfaction with this teaching method compared to traditional lectures [29]. The presence of faculty in providing

fellowship training, urogynecology rotations, longer work duration, and urogynecology lectures are positively correlated with higher subjective experiences [30]. One study showed dissatisfaction with urogynecology education. This was related to the tendency for satisfaction when doing direct practice with a trained urogynecologist [31].

What is the right solution for sustainable medical education?

Newer education programs must guard against exposure to the virus to allow face-to-face teaching and hands-on case management in hospitals. Medical schools are responsible for ensuring the safety of medical students. Without the protection afforded health care workers, students are uniquely disadvantaged in the medical hierarchy; these inequalities must be addressed before medical students are safely reintegrated into clinical roles. A previous study has evaluated the well-being or training changes for resident American physicians during the COVID-19 pandemic. Important risk factors for mental health outcomes include perceptions of access to personal protective equipment, localized severity of COVID-19, and perceptions of vulnerable household members. Risk factors for refusal to transfer include current transfer, having children, and concerns about being able to reach minimum cases. Risk factors of concern for achieving operational autonomy include the cancellation of elective cases and a higher level of training. Resident doctors need access to adequate personal protective equipment, provide support at the residency and institutional level, institutionalize telehealth education programs, and foster a sense of responsibility with COVID-19 patients [12].

Steps need to be taken to ensure that graduated surgical residents are adequately prepared for fellowship and independent practice even though the volume of cases has decreased significantly during this pandemic. Surgical training programs should focus on providing non-technical clinical training and professional development over the years [32]. The training hospital should be aware of this and convince the trainees; formulated guidelines for augmenting training to compensate for lost time as well as

reducing stress levels following resumption of regular hospital services and training. Going forward, permanent changes such as virtual classrooms and simulation-based training must be considered [33].

Conclusion

The decrease in the number of cases, time limitations, exposure to the virus, and the involvement of resident doctors in the management of COVID-19 are complicated problems in medical education, especially in the field of urogynecology. Various urogynecology service recommendations recommend limiting services at health facilities, scheduled visits, or virtual services. The burden of achieving competence is still an issue given ineffective educational procedures, (for example with problems in online teaching schemes). What needs to be realized is that direct practice with patients, conducting examinations and diagnoses, and providing therapy with real cases cannot be replaced with online teaching. Medical education for residents must ensure safety in obtaining education and practice in the hospital to fulfill the task of caring for patients, access to mental health in a pandemic, and simulation-based training. This isto ensure that the competence of graduates achieved before or during COVID-19 isthe same, namely doctors who are professional and competent.

Acknowledgments

The authors would like to thank Universitas Airlangga for supporting the research.

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