J Nepal Health Res Counc 2021 Jul-Sep;19(52): 635-7

DOI: https://doi.org/10.33314/jnhrc.v19i3.3684

Changed Landscapes of Surgical Education During COVID-19 Pandemic: Implications on Future Surgeons' Competence

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ABSTRACT

There has been a substantial impact on surgical education globally due to COVID-19 pandemic. The subtle and overt changes in surgical training programs during this pandemic along with its possible implications on the competence of future surgeons needs to be analyzed. If the essential measures are not taken in time, the surgical training programs are in a probable risk of failing to help surgery trainees successfully transition to the next phase of their surgical career. With a timely intervention for remediation, the surgery education programs will be sending surgical graduates into the community and society with the level of competency, expected from a surgeon despite COVID-19 pandemic.

Keywords: COVID-19; surgical education; surgical simulation training

INTRODUCTION

The time calls for the surgical trainers, surgical educators and surgical faculty to perform a serious analysis on learning opportunities which their surgery trainees have received during the period since COVID -19 pandemic has impacted health system. The need of this analysis is not only because of brutal second wave of COVID-19 pandemic but because of the unpredictability of the number of future waves of this pandemic. If there is no standard surgery training today, there will be no competent surgeons tomorrow.[1] There is a pressing need to address this challenge in surgical education and find ways for remediation and bridge the gaps being created in a surgeon's training.

CHALLENGES IN SURGICAL EDUCATION DURING COVID-19 PANDEMIC

Many surgery training programs graduate the trainees on a time-based training model, such that the program can prepare for the next group of trainees to start. A cohort of surgery trainees have graduated following the first wave of COVID-19. In a three-year training period for the attainment of appropriate skills and knowledge of general surgery, if a considerable proportion of this training period has been lost due to a global crisis such as the COVID-19 pandemic, this deficiency will have a serious impact on the quality of surgical training. In surgical training, a substantial component is based on surgical skills transfer to the trainees during operative procedures. There needs to be a realization that the operative skills cannot be learnt during didactic sessions in virtual classrooms and the surgical decision making cannot be learnt over smart phones and laptops.

GLOBAL ADAPTATION IN SURGERY TRAINING PROGRAMS AMIDST COVID-19 PANDEMIC

There is a global need felt for the modifications and restructuring in surgical training programs, at least transitory to adapt to the circumstances this pandemic has created.[2,3] There is a requirement of a bold innovation and leadership to correct deficits in surgical training programs.[4] There has been a call for a commitment to provide constant need-assessments in the changing landscape of healthcare during the pandemic with the goal of producing a skilled surgical workforce.[5] In Belgium, the Flemish surgery residents' education was impacted to a great extent and the policymakers and surgical program coordinators were urged to ensure surgical education during further evolution of COVID-19 pandemic.[6] The novel virtual opportunities were identified to meet educational and research milestones in surgical residency programs in the United States.[5,7,8] Systematic reviews from Greece, United States and United Kingdom has elucidated innovative solutions for educational methods during this pandemic.[9,10]

WAY FORWARD IN SURGICAL EDUCATION

Incorporate surgical simulation curriculum

These unprecedented circumstances of uncertain

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duration should be addressed by the modification of the curriculum of the surgical training program incorporating novel methods including- realistic and specific competencies to master each year, online training, virtual platform training, and webinars. The "time-based curriculum" should be changed to "competency-based curriculum". There should be identification of core procedure skills for a surgeon and development of simulation curriculum for these core procedures.

Establishment of surgical simulation centers

There is a need of establishment of surgical simulation training centers. There should be a supervised, graded and systematic "training hours" in simulation for surgery trainees. This can assist surgery trainees to gain surgical dexterity and to keep abreast with their surgical skills outside operating rooms.

Institutional support for novel methods of teaching the craft of surgery

The current scenario of changed teaching-learning platforms should be well- supported by institutions for surgical faculty and surgery trainees with simulation models, supportive technology and internet access.

Faculty development in the current landscape of surgical training

The academic institutions should reach out for international collaboration to develop their surgical educators and surgical faculty to standards where they will be able to teach in "surgical simulation".

Restructure surgery trainee assessment

As the surgery training platforms have changed during COVID-19, the assessment weightage of the knowledge and skills of surgery trainees needs to be restructured based on an adopted change in the overall model of surgical training.

Focus on non-technical skills for surgery trainees

The utilization of non-clinical time can be performed by creating opportunities for non-technical skills, research, audit and professional development.

Opportunity for conferences to learn from master surgeons

There should be a concerted effort to convert conferences from surgical societies to an accessible webinar platform ensuring affordability for the surgery trainees preferably with registration waiver.

Surgery trainee safety and well being

Each surgical training program should give utmost priority to physical and mental well-being of their surgery trainees. During this pandemic, each surgical training program should prioritize wellness promotion and burnout reduction for trainees.

CONCLUSIONS

The principles of adaptability, proactivity and communication have been essential elements to minimize disruption to surgical training. Despite a number of innovative modifications in the surgical education programs globally during the COVID-19 pandemic, the challenge remains as to how to achieve the goal of continuing to produce a skilled surgical workforce with a defined standard set of surgical skills appropriate for the community and society at large.

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Competing interests: None declared

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