

Curtailing the Risk of COVID-19 Infection Among Medical Students Through Safer Handling of Cadavers During Anatomical Dissection

Oluwatosin Imoleayo Oyeniran¹   · Terkuma Chia²  

¹Department of Physiology, College of Health Sciences, Basic Medical Sciences, Nile University of Nigeria, Abuja, Nigeria

²Department of Human Anatomy, Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, Nigeria

The novel COVID-19 pandemic has produced broad consequences on medical training globally. The resulting disturbances led to the shift from physical to virtual learning. A serious feature of medical training demanding pressing consideration is the avoidance of COVID-19 spread among medical students during cadaveric dissection. This can be attained by guaranteeing the protection of cadavers from COVID-19 afore been used for anatomical dissection. This article highlights the safety procedures necessary for handling cadavers and its' significances on the SARS-CoV-2 virus spread among medical students amidst the pandemic.

Keywords: COVID-19, prevention, transmission, cadaveric dissection

Introduction

The novel COVID-19 pandemic has produced broad effects and drastic impacts on medical education all over the globe. Its influence and consequent disruptions led to the shift from face-to-face to virtual learning, thus affecting millions of learners to suspend learning or learn remotely (1, 2). A critical aspect of medical training demanding pressing attention is the prevention of COVID-19 transmission among medical students during cadaveric dissection (3-5). This is necessary as cadaver dissections are widely practiced in most medical schools,

and arguably remain the gold standard in gross anatomy teaching globally (4, 6-8).

Although the advent of COVID-19 has brought a major setback in teaching anatomy via cadaveric dissections resulting from cessation or sharp decline in body and organ donations, the use of cadavers for anatomical dissection can hardly be completely erased or canceled (9). The use of cadaver dissection for anatomy training during and post- COVID-19 pandemic is possible and necessary (10). However, for medical schools that rely heavily on donor or

Corresponding Author: Dr. Oluwatosin Imoleayo Oyeniran; Department of Physiology, Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria
ORCID ID: 0000-0001-6720-8453

E-mail: tosinoyeniran1@gmail.com

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unclaimed body to resume cadaveric dissection, there is a need to guarantee the protection of cadavers from potential COVID-19 infection afore been used for anatomical dissection (3-5). The article explores the safety measure needed for cadaver handling and its consequences on the SARS-CoV-2 virus spread among medical students amidst the COVID-19 pandemic.

Global Rising Cases of COVID-19 Infections, Public Health and Safety Concerns

According to John Hopkins University and Medicine (JHUM), about 164,284,766 confirmed cases and 3,406,261 deaths arising from COVID-19 have been reported globally as of May 19, 2021 (11). This novel COVID-19 pandemic produced by SARS-CoV-2 has brought about huge effects on populations (12), socio-economic, and health care systems universally (13-16). These disruptions including; prohibition of several human activities such as restraint on movements (17), ban of mass gatherings (18), use of face masks, hand hygiene (washing and sanitizers), physical distancing among other strict actions are the result of the spike in COVID-19 cases (19,20). These interventions are necessary to be enforced by several countries and governments to curtail its further spread and the tendencies of succeeding wave of infections following the WHO recommendations and standards.

Public Health Concerns About Cadaveric Dissection During COVID-19 Pandemic

While the pandemic unfolds, many health regulatory authorities and public health organizations have raised critical questions and issues concerning the health, safety, and ethics of body and organ donations to medical schools (21). Although there is currently no evidence of contagion resulting from exposure to COVID-19 associated bodies, the alleged

danger of COVID-19 infection from individuals who died from the disease to medical students dissecting such bodies cannot be ignored (3-5).

The International Federation of Associations of Anatomists (IFAA) stated in a published report that direct contact with body fluids and intrusive procedures on the bodies, like dissection, autopsy, or related techniques that produce droplets or aerosols could increase the likelihood of disease spread (22). This stemming situation has placed a grave problem on medical education largely, and precisely cadaveric dissection. Thus, there is a dire need to explore the safety measures needed for cadaver handling during anatomical dissection, and its consequences on the SARS-CoV-2 virus spread among medical students amidst the COVID-19 pandemic.

Adoption and Curricular Integration of Effective Alternative Models for Teaching Gross Anatomy

Though the advent of the recent pandemic has rejuvenated the need and call for adoption and use of other alternatives models for studying gross anatomy such as virtual dissection amongst others (4), cadaveric dissection remains a chief, renowned, and widely accepted standard for teaching gross anatomy in anatomy education (6-8). The importance and gains that cadaveric dissection gives to students cannot be over-emphasized. More significantly is that students do not derive anatomical understanding alone, but likewise life teachings in humanity and ethics (23).

In this light, notwithstanding that the pandemic had and is still causing difficulties with medical education delivery; medical schools must constantly strive to pursue means to guarantee pedagogies like dissection are incorporated into the revised curriculum (9).

Pressing on, medical schools will certainly trust profoundly on technologies including anatomical lectures and online dissection videos. Nevertheless, cadaveric dissection possesses immense and valuable educational opportunities, experiences, and advantages for medical schools to forever curb its usage as an anatomical pedagogy (10, 23). Thus, it is obligatory for medical schools and educators to continually provide a well-balanced dissection-centered anatomy education (10).

Curtailing the Risk of COVID-19 Infection Through Safer Handling of Cadavers

A high level of safety concerns rest on nations and medical schools who depends mostly on free bodies and/or donor program for anatomical dissection, as medical histories to establish the reason of death may be absent, hence posing a risk for students observing cadaveric dissection during and after the coronavirus pandemic (3-5). Thus, providing a COVID-19 infected body for dissection will be disastrous if not well handled.

It is, therefore, necessary for medical students to dissect cadavers following the standard operating procedures (SOPs) and all safety procedures and guidelines (3-5), while fully protected with necessary personal protective equipment and maintaining proper personal hygiene (PPE) (22,24). In addition, before students are permitted to dissect cadavers, it is expected that all the essential COVID-19 assessments should be carried out. They must also strictly follow all laboratory and COVID-19 safety precautions and guidelines, to avert unintended infection spread as the battle against COVID-19 remains (3-5).

Conclusively, if the spike in COVID-19 deaths raises the availability of cadavers for anatomy

teaching, there is a need to enforce strict safety measures for cadaver handling by medical educators and students during cadaveric dissections to prevent COVID-19 transmission. Some of the recommended safety measures include the following: learners need to be fully protected with necessary personal protective equipment (PPE) during dissection, aerosols-producing techniques, and smearing of polluted fluids must be highly discouraged as the cadavers may still be infectious.

More so, it is vital to conduct screening for COVID-19 and/or obtain comprehensive medical histories of cadavers and bodies donated to medical schools to ensure educators and students have complete information before handling such bodies. It is also imperative that medical educators and students are well skilled in the spread and avoidance of COVID-19 infection, as negative laboratory investigation results might not completely exclude the chance of COVID-19 infection.

Conflicts of Interest

The authors have declared no conflict of interest for the present article.

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Contact Details

Oluwatosin Imoleayo Oyeniran, MD

Department of Physiology, College of Health Sciences, Basic Medical Sciences, Nile University of Nigeria, Abuja, Nigeria

E-mail: tosinoyeniran1@gmail.com

ORCID: 0000-0001-6720-8453

Terkuma Chia, MD

Department of Human Anatomy, Faculty of Basic Medical Sciences, College of Health Sciences, Nile University of Nigeria, Abuja, Nigeria

E-mail: terkumachia@hotmail.com

ORCID: 0000-0002-3257-459X

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