

1 **Title:** Learning Strategies and Innovations among Medical Students in the Philippines during the COVID-19
2 Pandemic

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11
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34 **Discussion Points:**

- 35 1. Learning strategies and innovations among Filipino medical students during the COVID-19 pandemic.
36 2. Learning experiences of medical students in the Philippines during the COVID-19 pandemic.
37 3. Medical education and clinical clerkship in the Philippines during the COVID-19 pandemic.
38

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44

1 THE EXPERIENCE.

2
3 As of February 10, 2021, coronavirus disease 2019 (COVID-19) has spread across 219 countries and territories
4 around the world, with 106,321,987 confirmed cases worldwide¹ and 541,560 confirmed cases in the
5 Philippines,² since it was initially identified in Wuhan, China on December 31, 2019.³ Due to increasing cases,
6 many countries have imposed preventive measures to contain the virus which include the closure of schools,
7 colleges, and universities.⁴⁻⁷

8
9 Our online learning classes started 11 months ago when the Philippine government imposed a community
10 quarantine on March 10, 2020.⁷ Due to the continuous rise in number of cases, an Enhanced Community
11 Quarantine (ECQ) was imposed after one week.⁸ Under the ECQ, residents were not allowed to leave their
12 homes except in cases of emergency and essential reasons.⁸ Because of this preventive measure, almost all
13 educational institutions shifted to online education. Despite the class suspensions, students were advised to
14 fulfill their educational requirements during the ECQ period.

15
16 Our institution opted to use online platforms to facilitate continuous learning processes. This abrupt shift to an
17 online curriculum has enabled creativity, innovation, and adaptability among students and professors alike.^{9,10}
18 However, it has also increased stress and, possibly, the toll on mental health and financial burden among the
19 school community. Various contributing factors include difficulty in adjusting learning strategies, the need for
20 new laptops, smartphones, and tablets, having to perform responsibilities at home, poor internet connectivity,
21 and other unexpected events such as natural calamities.¹¹⁻¹⁵

22
23 Our institution employed various strategies and innovations to accommodate for the loss of face-to-face
24 encounters, especially those that need to be in the hospital setting. Training materials were not easily accessible
25 and available, thus giving rise to various improvisations. For instance, in Pharmacology, we were required to
26 perform the various parenteral routes of drug administration. Due to the strict ECQ implementation, a student
27 resorted to using a towel to simulate a patient's arm, ballpen refills to simulate blood vessels, and a makeshift
28 cotton holder using pens, cotton, and tape (**Figure 1**). Meanwhile, other students used stuffed toys to serve as
29 their patients (**Figure 2**).

30
31 As incoming senior students, we were excited to practice the theoretical knowledge we learned in school by
32 undertaking rounds and meeting actual patients. In the context of this pandemic, we were caught up in the
33 uncertainty of when we would go back to school and the possibility of being the next front-line workers in the
34 hospitals. Despite the challenges, the Filipino spirit of resilience persevered as we adapted to the constant
35 changes, completed all the academic requirements, and we were promoted as clinical clerks in May 2020. In
36 the Philippines, a 4-year Doctor of Medicine program consists of 3 academic years and 1 clinical year, which is
37 the clinical clerkship.¹⁶

38
39 Our clinical clerkship, or final year, formally started on June 1, 2020. Had it not been for the pandemic, the usual
40 setup for clinical clerks was supposed to be done in community and hospital settings. The cohort one year
41 ahead of us spent their time at a tertiary level teaching hospital. However, for our cohort, everything was

1 conducted online. We spent the first half of our clerkship in the comforts of our own homes as it would be
2 dangerous to deploy us into hospitals due to risks of infection and/or transmission of COVID-19.

3
4 For the first half, our clerkship syllabus included online rotations among the major departments, namely, Internal
5 Medicine, Obstetrics and Gynecology, Pediatrics, and Surgery, and the minor departments, namely, Family and
6 Community Medicine, Psychiatry, Radiology, Orthopedics, Otorhinolaryngology, and Ophthalmology. This
7 entailed small group discussions (SGDs), presentation of assigned topics, and webinars held online. For the
8 second half, which began in December 2020, the focus was on clinical skills among the major departments. At
9 present, clinical clerkship in the hospital remains uncertain. In the meantime, while compromises are being
10 made in hospitals, online adjustments and leniency are in place.

11
12 Online rotation activities include clinical case discussions and conferences, patient encounter simulation
13 scenarios, interactive SGDs, and reporting sessions via Zoom and/or Google Meet. For patient encounter
14 scenarios, students are tasked to make a video recording of simulated clinical history taking and physical
15 examination with their family members as their patients, which is subsequently presented during SGD sessions
16 **(Figure 3A)**. Some rotations do not require videos but discuss real-life written clinical cases virtually **(Figure 4)**.
17 The most unforgettable experiences include a virtual patient encounter with a real patient in our Family Medicine
18 rotation **(Figure 3B)**, and a virtual episiorrhaphy workshop on a chicken as a simulated reproductive organ of a
19 postpartum patient during our Obstetrics rotation **(Figure 5)**. Some mobile applications, such as Touch Surgery
20 and Docquity, are also useful.^{17,18} Meanwhile, quizzes and exams are completed at the end of rotations via
21 Google Forms, Microsoft Forms, and/or Edmodo.

22
23 It seems easy to handle learning online until you get to the point where actual skills have to be tested and
24 practiced. Online learning has limitations on medical skills which require things to be felt, heard, and seen – all
25 things that need to be tangible to practice the clinical eye. Despite all the challenges, there are also benefits.
26 For instance, it is easier for preceptors to monitor attendance as well as for everyone to hear each other speak
27 since voices are magnified through headphones, earphones, or speakers. Students can now easily go back and
28 review the live online lectures since some professors allow the recording of online classes. The preceptors also
29 give ample time for the students to prepare for their classes and exams. The pandemic blessed everyone with
30 a deeper sense of understanding and consideration of individual struggles and personal life matters.^{9,10,12,19}

31
32 It cannot be denied that the past 11 months was an uphill climb with constant struggle to study and stay on track
33 to become physicians. Nonetheless, this pandemic has brought medical school to our homes and has given us
34 more time to reflect on the pressing national issues affecting the health of the Filipino people. It is also a great
35 opportunity to find a deeper meaning on our chosen career path and a strong motivation to become better
36 physicians in the future.

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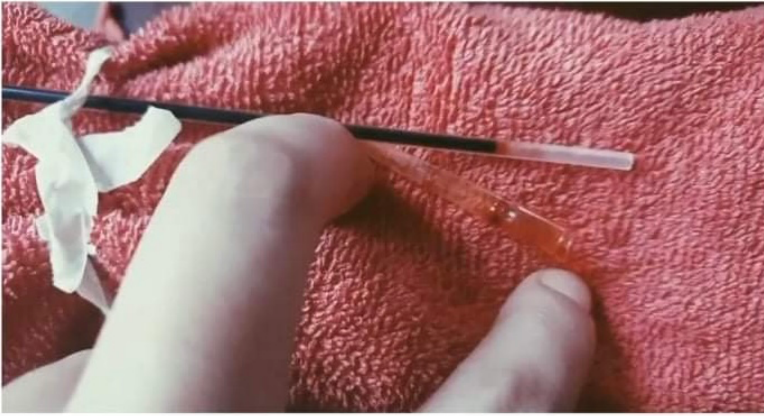
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1 **FIGURES AND TABLES.**

2
3 **Figure 1.** An intravenous injection simulation using improvised materials.
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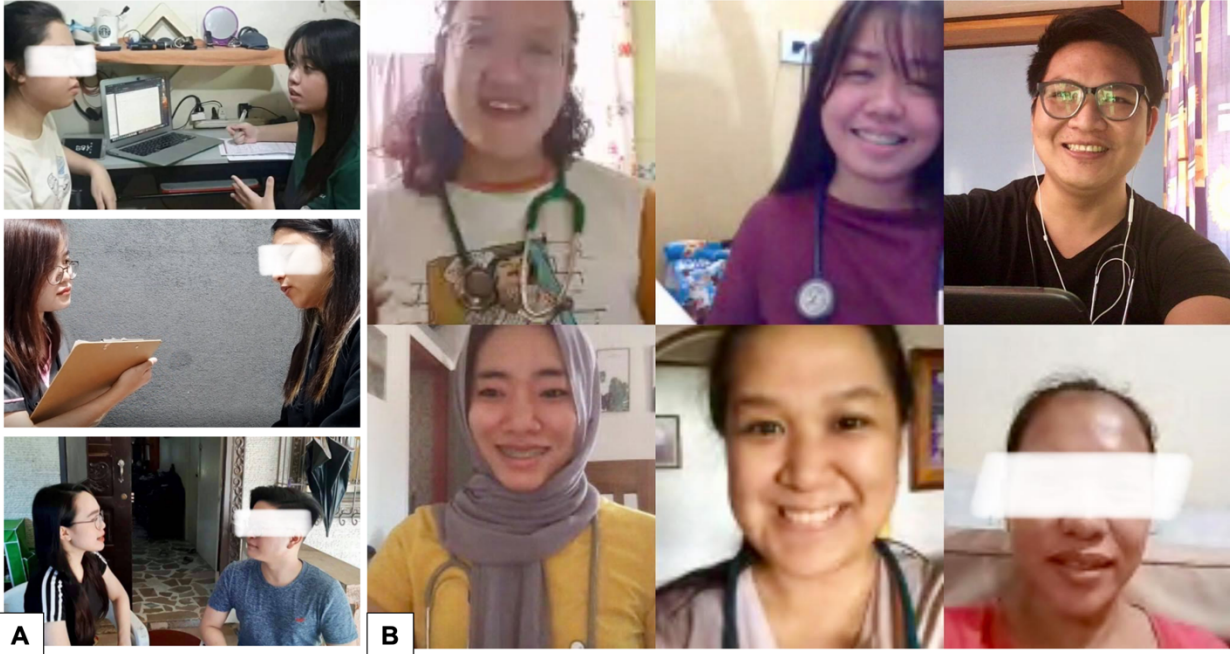
1 **Figure 2.** A clinical skills simulation on the preparation and administration of parenteral medications on stuffed
2 toys as simulated patients.
3



Accepted,

1 **Figure 3.** Patient encounter simulations during our rotations in Internal Medicine, Obstetrics and Gynecology,
2 and Surgery **(A)**. Screenshot image of a real virtual patient encounter during our Family and Community
3 Medicine rotation via Facebook Messenger (photo posted with consent from the patient) **(B)**.

4



5

6

7

Accepted

1 **Figure 4.** Screenshot images of interactive SGDs with preceptors via Zoom meetings during our Internal
2 Medicine rotation.
3



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1 **Figure 5.** Virtual workshop and simulation of episiorrhaphy on a chicken during our Obstetrics and Gynecology
2 rotation.

3



4

5

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