

Challenges in conducting post graduate otorhinolaryngology-head and neck surgery specialty examination in the time of pandemic

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INTRODUCTION

Ever since it was first established, the Malaysian Otorhinolaryngology-Head and Neck Surgery (ORL-HNS) specialty conjoint clinical exam (exit examination) for Master of Surgery/Master of Medicine program has been conducted every 6 months. The examination is conducted twice a year to accommodate the dual intake of June and December academic semesters. Customarily, the venue of exam is determined immediately after the completion of a professional examination which is rotated between the three public teaching hospitals offering the program ie Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM) and Universiti Sains Malaysia (USM). Other universities taking part in the conjoint board examination are Universiti Islam Antarabangsa Malaysia (IIUM) and Kumpulan Perubatan Johor (KPJ) Healthcare University College.

Problems in conducting examination during the pandemic With the COVID-19 pandemic outbreak and the subsequent restriction of travel under the Movement Control Order (MCO) imposed by the National Security Council (MKN), not only does it severely affect teaching and learning in higher education centers, but this restriction also disrupt the conduct of professional examination, particularly clinical examination that involves face-to-face setting amongst patients, candidates and examiners.¹ The usual mid-year examination in May 2020 was deferred with the hope that it can be rescheduled to a later date, once the situation settles down. With the emergence of the third wave of COVID-19 infection, the examination scheduled in the month of November 2020, especially those involving physical interaction such as clinical and viva sessions, was at risk of being annulled. In reality, the examination could not be put off further as it has already affected the May cohort of final-year candidates from graduating and thus, forestalling them from returning to serve the Ministry of Health (MOH). Annulling the November examination would compound the problem, making it worse and more complicated, as two cohorts (May and November) of final year candidates would be affected.

In some way, new challenge requires new thinking and approach. Candidates nationwide especially the undergraduates were not allowed to enter their university's

campus and thus, need to continue with online learning from their hometowns.² Similarly, the final year postgraduate Master candidates who were supposed to join in-campus learning in preparation for their examination were advised to remain at their current hospitals until the condition was under control. Thus, the idea of decentralizing the examination was proposed with the intention to resolve this problem.

Examination in the new normal

The idea of decentralizing examination was brought about by several specialty conjoint committees, and later was brilliantly coordinated and executed by the Medical Dean Council. The objective of decentralization was to allow the examination to proceed, while limiting movement of all the three parties involved specifically the examiners, candidates and patients. As most organizing centers are located in the Klang Valley (an urban area in Malaysia centered in Kuala Lumpur and includes its adjoining cities and towns in the state of Selangor), a cross state border travel would be difficult, and not encouraged even with police approval. The consideration of movements of candidates and examiners must take into account the zoning of area based on the Ministry of Health (MOH) of Malaysia. According to MOH a red zone is when there are 41 cases or more, yellow zone is an area with one to 40 cases and green zone is an area with zero cases in the span of two weeks. The goal is to reduce the possibility of disease transmission especially from the red zones in the West Coast states (under conditional MCO) to the green zones (in the East Coast). Decentralized examination simply means the examination is conducted in different hospitals concurrently, limiting movement within the same zones only. If the number of eligible examiners is insufficient, examiners from other states were required to come in, with all the standard operating procedures (SOPs) strictly followed. In the worst-case scenario, the presence of examiners and even the observers could be accomplished via online platforms such as Zoom and Webex (Figure 1).

Standard operating procedure and troubleshooting

Clinical examinations co-organized by universities from different zones are challenging as those from red zones are not encouraged to cross into green zones for fear of spreading the COVID-19 virus. Instead of hosting the examination in

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one centre as customarily done, the conjoint board clinical examination was decentralized and conducted in the candidate's own centre. Therefore, this avoided movement across zones and the risk of contracting or spreading COVID-19 infection. Furthermore, there would be less candidates taking examination in each university and this avoided crowding and allowed for physical distancing. Planning the decentralized examination needs to be a balance between health safety and maintaining the fairness and integrity of the examination. To avoid movements, candidates would take their theory (written) examination in their own centre or nearby centre, with marking standardized in all centres. The questions for the theory examination need to be distributed safely to other examination venues but it must be well protected and guarded from 'question leak'. The candidates' skills to perform otorhinolaryngology examination, potentially with high viral load, need to be assessed, but they must be protected from contracting COVID-19.³ Extra precautions need to be integrated into every part of the examination while maintaining as much of the original format as possible.

Standard operating procedure (SOP) for examination conducted during COVID-19 was available from the Medical Deans Council of Malaysia, which was circulated to all Malaysian universities. However, the COVID-19 pandemic was incredibly fluid and the SOPs were amended day by day. The organizers of the examination needed to stay alert about the ever changing situation and make adjustments accordingly. Universities were also allowed to use their own SOPs which were in line with this general guideline. Based on this understanding, all candidates, examiners and patients must fill up a health declaration form, one day before each examination day. This was done using an online survey form which was checked by a designated person. This health declaration form served as a reminder to always self-check for COVID-19 symptoms and risk of exposure, act responsibly and remain vigilant during the examination. Candidates from other red zones were allowed to come for examination provided they did not have any COVID-19 symptoms or were recently exposed to anyone infected with COVID-19. If a candidate becomes a COVID-19 suspect, having close contact or developed symptoms, the affected candidate would have to defer the examination. All involved must scan their attendances using the 'MySejahtera' application with temperature scans at the entrance of the examination venue. The 'MySejahtera' application is developed by the Government of Malaysia to monitor COVID-19 outbreak by empowering users to assess their health risk against COVID-19 and assists MOH with the necessary information to plan for early and effective countermeasures.

To ensure health safety during clinical examination, all involved must wear at least a three-ply face mask, face shield and apron at all times (Figure 2). Candidates were not allowed to bring any equipment (pen torch or personal headlight) into the examination hall to prevent candidates from using poorly sanitized apparatus. It is a well-known fact that COVID-19 virus is able to survive on plastic or metal surface for up to 72 hours as fomites.⁴ Examinations were held in open spaces and doors left open to ensure adequate ventilation. Closed small rooms were not used to avoid

crowding. The number of examiners were limited per room to allow physical distancing. The risk of infection is reduced in a room with good ventilation and half occupancy.⁵ The commonly recommended safe distance is 1 to 2 metres apart, however this may not be adequate during clinical examinations as patients would need to pull down their mask to expose their nose. A mathematical study calculated that a distance of 1.6 to 3 metres is recommended to prevent aerosol transmission from mouth while speaking.⁵ However, patients may sneeze or cough during endoscopic examination without their masks on and this can cause aerosol particles to travel up to 30 metres.⁶ Therefore, full personal protective equipment; PPE (which includes the three-ply mask, face shield, gown and gloves) was worn by both students and examiners during clinical examinations involving patients. Observers were permitted but only through online platform. As the clinical examinations were held three days in a row, at the end of each day, the organizers would review any issues, anticipate problems for the next examination day and take proactive remedies.

The clinical examinations were held in the outpatient clinic and the clinic SOPs were adapted during the examinations. Extra donning and doffing areas were created and instruction for its proper method were pasted on the wall for reference. Proper donning and doffing of PPE was important as viral transmission may occur through contaminated PPEs.⁷ The patients' nasal cavity and throat were well anesthetized to reduce cough or gag during endoscopic examination, which could disseminate the virus.⁸ The procedure of local anaesthesia application involved the use of 10 % lignocaine throat spray and Moffat's nasal packing, which was done beforehand with all persons involved wearing PPE. As each patient was allocated for 2-3 candidates, if topping was required, patients would undergo the same procedure.

A slim 2.5 mm 0-degree endoscope was used to examine the nasal cavity to reduce its contact with nasal mucosa that may initiate sneezing or reactionary watery eyes.⁹ Flexible nasopharyngolaryngoscope was used to examine the larynx instead of using the 70-degree endoscope. This is safer as students would not need to hold the patients tongue, reduces gagging and only the nasal cavity need to be exposed for endoscopy.

Transitioning from green to red zone during examination

The ever changing circumstances during the pandemic is best exemplified by one venue (USM) which has a green zone status initially prior to the clinical examination but changed suddenly to red zone in the middle of the examination. In USM, all potential patients were recruited from the nearby hospitals in the same locality. By this mean, the movement of patients was controlled and restricted to within the same area in the green zone. The patients were sourced from Hospital Raja Perempuan Zainab 2 (HRPZ 2), Hospital Tanah Merah and Hospital Kuala Krai. These are the MOH hospitals providing ORL-HNS specialty service. The sourcing of patients from the other three hospitals was necessary due to less number of patients available or willing to come due to fear of infection. To ensure safety of everyone involved in the examination, one of the criteria for the selection of patients was negative COVID-19 screening test. As the clinical



Fig. 1: During the clinical examination, a candidate is being evaluated by 3 examiners and 1 virtual examiner (enabled by the availability of webcam and lap top computer on the left side of the candidate).



Fig. 2: All candidates (in blue gown) must wear protective gear before they encounter patients during the clinical examination.

examination was decentralized, low number of patients was involved and this was one of the strategies to minimize crowding and exposure. Nevertheless, the same standard was used in terms of clinical findings expected to be seen in patients and the distribution of cases according to the subspecialties such as rhinology, otology, laryngology and head and neck.

The patients were transported using MOH ambulance after they have completed the COVID-19 declaration form and clinically screened negative from COVID-19 symptomatically. Similarly, the candidates sitting for the examination were required to be in-campus and not allowed to travel outside the state within the two-week period close to the examination date. The reason being the SOP of anyone returning from red zone requires quarantine for 14 days besides the negative RT-PCR test for COVID-19. Before the examination started, USM was in the green zone and the examiners were mainly from USM and HRPZ 2, thus the movements were only from the same locality or zone. However, USM did have several examiners from other green zones outside Kelantan (one from Terengganu and two from Pahang), in which travel was permissible and allowed. On the second day of examination, the district of Kota Bharu where USM is located was declared as a red zone after a new cluster was identified in a location just adjacent to venue. Thus, extra precautionary measures were taken. Examination candidates, as well as the examiners were required to gear up in a PPE and hand sanitizers were provided at every station.

Feedbacks from candidates/examiners and recommendation Remarkably, there were no grave complaints from the candidates involved in the clinical examination. Issues related to the use of PPEs for example fogging of the face shield or goggle didn't arise. As the use of PPEs might hinder normal conversation and affect candidates during history taking for the long clinical examination, prearrangement was made for an additional time of 10 minutes to be added.

Similarly, for the short cases clinical examination, additional 3 minutes was added, in anticipation of difficulty interpreting findings using PPEs.

In addition, we received encouraging feedbacks from the examiners involved in the clinical examination. Despite the challenging condition, equal standard was maintained at all centres with similar type of cases. This was possible as there was an agreement before hand, to select patients with good visible findings and parallel 'difficulty' index.

It was suggested to have more frequent examination trial using online method such as Zoom or Webex in order for candidates and examiners to familiarize with the format and identify any shortcomings. Additional recommendation includes increasing 'internet bandwidth' of all centres to minimize disruption of the online assessments especially in anticipation of more candidates and examiners taking part in future.

CONCLUSION

Throughout the conduct of the professional examination, there were no new cases detected or new examination clusters identified. Thus, the examination by decentralization was considered as successfully held in this new normal.

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