



The Impact of the COVID-19 Pandemic on the Otorhinolaryngology Trainees: A Nationwide Cross-Sectional Survey

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Abstract

Background: The emergence of the SARS-CoV-2 illness or commonly known as the Coronavirus Disease (COVID-19) that began in 2019 has affected the way hospitals function. By focusing on the management of the pandemic, most hospitals have to reduce the number of elective surgical procedures as well as outpatient clinic numbers. Indirectly, this affects the training of future specialists who require clinical experience as well as surgical exposure as part of their training. We wanted to assess the impact of the COVID-19 pandemic on the training and surgical exposure of the postgraduate Otorhinolaryngology (ORL) trainees in Malaysia. Our secondary objective was to assess the psychological effects of the pandemic on these postgraduate ORL trainees.

Methodology: We performed a Cross sectional study utilizing a web based self-questionnaire with Google forms (docs.google.com/forms). The survey was conducted among Malaysian postgraduate trainees in the field of Otorhinolaryngology from the first until the final (4th) year. The questionnaire was distributed in the form of a direct link to the form, sent out to the mobile phones of all ORL postgraduate masters students in Malaysia.

Results: Demographic data collected amongst the respondents revealed 50 female and 44 male respondents. 17 (18.1%) participants were between the ages of 29 and 32, while a majority 81.9% participants were older than 32 years. 47.8% of the postgraduate candidates experienced a reduction in the number of patients that they were seeing in the outpatient clinics. 60.7% of the respondents agreed that there was a reduction in the number of inpatient Otorhinolaryngology patients that they were seeing during the pandemic. 83% of the postgraduate students experienced a reduction surgical experience and cases during the pandemic. 74.5% of the students agreed that clinical bedside teaching reduced during the pandemic. 68% of the postgraduate students are anxious about the COVID pandemic and its effects on their overall training program. 61% of the respondents described feeling down and low since the pandemic started.

Conclusion: The COVID-19 pandemic has affected the way teaching and training is conducted for the ORL postgraduate candidates. Most of the candidates report a reduction in outpatient, inpatient and surgical exposure compared to the period prior to the pandemic. This also has led to psychological strain on these postgraduate candidates. Measures should be taken to address their concerns and improve the clinical experience to ensure they do not lose out on important training in order to specialize.

Keywords: Pandemic; COVID-19; Postgraduate training Otorhinolaryngology; Malaysia

Introduction

The SARS-CoV-2 illness, or commonly known as the Coronavirus Disease (COVID-19) pandemic that started in 2019 has led to significant changes in our daily life. The virus, first identified in Wuhan, China quickly spread across the globe and by March 31st, 2020, WHO declared the COVID-19 a pandemic [1]. Malaysia has also seen waves of COVID-19 infections, with 678,764 confirmed cases and 4,202 deaths as of the 20th, June 2021 [2]. These changes have affected how procedures and day to day tasks are conducted in all sectors, including healthcare and education.

In the healthcare setting, hospitals had to rapidly adapt to the pandemic and the focus in most hospitals moved toward obtaining enough Personal Protective Equipment (PPE), ensuring enough intensive care facilities, and rearranging and restructuring inpatient and outpatient services to cope

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Received Date: 11 Jan 2022

Accepted Date: 31 Jan 2022

Published Date: 14 Feb 2022

Citation:

Mann GS, Govindaraju R, Prepageran N. The Impact of the COVID-19 Pandemic on the Otorhinolaryngology Trainees: A Nationwide Cross-Sectional Survey. *Am J Otolaryngol Head Neck Surg.* 2022; 5(3): 1178.

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with the surge in cases requiring hospitalization [3]. The shift of focus towards hospital preparedness has led to significant changes in the way many centers conduct their Postgraduate Training.

A knock-on effect results in disruptions to the usual teaching schedules, clinical teaching and examination planning and execution [4]. Also, junior doctors are being redeployed to help with the surge in patients and this will in turn affect their time and opportunity in learning specialized skills within their area of interest [5,6]. These changes significantly alter the clinical opportunities and educational exposure for the postgraduate trainees and limit the amount of time they would have usually had prior to the pandemic [7]. The psychological impact of the COVID results in significant anxiety and depression among the public and postgraduate trainees are not exempt from these stresses [8]. Healthcare workers are particularly at risk of adverse mental health outcomes. This is due to prolonged work hours, increased risk of COVID infection, fatigue and isolation from families [9].

Considering COVID-19 has changed the world, the academic world has also changed. We have to recognize those changes and understand what those changes mean to the stakeholders involved in the education of future Otorhinolaryngology (ORL) specialists in the country [7]. The ORL training system in Malaysia is a 4 year duration postgraduate program undertaken in both the Ministry of Health hospitals and teaching university and overseen by the Conjoint Otorhinolaryngology Board. Major exams are held at the end of the first year (Part 1) and end of the final year (Part2) with continuous assessments and research undertaken during this period. Following that, it would take another 2 years of supervision, before a candidate is enrolled in the national specialist registry.

We looked into the impact of the pandemic on the ORL postgraduate candidates and their general psychological wellbeing.

Materials and Methods

We performed a cross sectional study utilizing a web based self-questionnaire with Google forms (docs.google.com/forms). The survey was conducted among Malaysian postgraduate trainees in the field of Otorhinolaryngology from the first until the final (4th) year. The questionnaire was distributed in the form of a direct link to the form, sent out to the mobile phones of all Otorhinolaryngology postgraduate masters students in Malaysia.

The questionnaire, worded in English, was divided into 5 sections and 46 questions in total. The first section focused on demographics of the candidates such as gender, age, number of years in training, location of their postgraduate training, marital status and number of children.

The second section surveyed their experience in relation to their clinical exposure and reduction in cases of the patients they managed during the pandemic. The third section focused on the teaching experience and changes in teaching methods during the pandemic.

The fourth section surveyed the psychological changes and effects the pandemic had on the postgraduate training. The final section asked for their comments and recommendations in relation to the changes to the postgraduate training program.

The responses from section one through four were a combination of multiple-choice questions and also utilizing a 5-point Likert scale as a scaled response to particular statements.

Inclusion criteria

All postgraduate Otorhinolaryngology Students from University of Malaya (UM), Universiti Kebangsaan Malaysia (UKM), and Universiti Sains Malaysia (USM) from Year 1 to Year 4 were included in the study.

Ethics

Ethical approval was obtained from the Medical Ethics Research Committee (MREC) of the University of Malaya. MECID Number 2021625-10264.

Results

A total of 153 surveys were sent out, and we recorded 94 responses. Demographic data collected amongst the respondents revealed 50 female and 44 male respondents. 17 (18.1%) participants were between the ages of 29 and 32, while majorities 81.9% participant were older than 32 years.

Demographic data

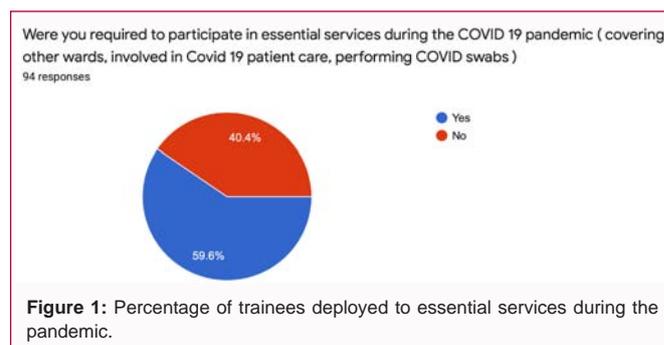
18.1% of the responses were from Year 1 students, 19.1% were from Year 2, 34% from Year 3 and 28.7% from Year 4 of the training program. Of these responders, 56 (59.6%) were from the in-campus training program where they spend all 4 years in the university hospitals, while the other 38 (40.4%) were from the out-campus training program, in which they spend two years working in a tertiary hospital under the Ministry of Health before joining the university hospitals.

Clinical experience

47.8% of the postgraduate candidates experienced a reduction in the number of patients that they were seeing in the outpatient clinics. Approximately quarters (24.4%) of the postgraduate students were seeing 60 or more patients in the clinic weekly prior to the COVID pandemic. This percentage reduced to just 8.5% once the pandemic took effect.

60.7% of the respondents agreed that there was a reduction in the number of inpatient Otorhinolaryngology patients that they were seeing during the pandemic. 83% of the postgraduate students experienced a reduction surgical experience and cases during the pandemic. 60% of the respondents were involved in 40 or less surgical cases per year during the pandemic, which isn't adequate for postgraduate training. The postgraduate students are expected to perform at least 110 surgical cases to complete their logbook requirements.

Almost 60% of the postgraduate students were involved in the care of COVID patients at their respective institutions as hospitals grappled with the surge of cases during the outbreak (Figure 1). This necessitated recruiting medical personnel from other departments to



help with the management of COVID patients.

Teaching

About 40 percent of the postgraduate students experienced some degree of reduction in their teaching since the pandemic started. 74.5% of the students agreed that clinical bedside teaching reduced during the pandemic. The number of tutorials did not seem to decrease significantly, with only 31.9% of the respondents feeling there was a reduction in the number of tutorials, which included online teaching sessions. About a quarter (26.6%) of the respondents felt fully online teaching was an effective form of teaching, with 36.2% disagreeing with the notion.

However, 48% of the postgraduate students feel a hybrid system, where online teaching is combined with face-to-face teaching is a better teaching method compared to the previous system where it was only done face to face. The postgraduate students strongly feel that online recorded teaching sessions are useful, with 93% of them strongly agreeing with the statement. 92% of the respondents are involved with more webinars and online teaching sessions compared to before the pandemic started.

It would appear the pandemic has changed the landscape of teaching, considering prior to the pandemic, 40% of the Malaysian Otorhinolaryngology postgraduate students attended more than 10 webinars per year. With the COVID pandemic in full effect, that proportion increased to 94%. 70% of the respondents did not want the training period of 4 years extended to ensure they would gain sufficient exposure in the field. The same proportion of respondents felt that summative assessments would be a better method of assessing their knowledge and skills for the purpose of the postgraduate qualification.

58% of the postgraduate students are willing to accept a delay in their examination dates if there was a spike in the COVID cases.

Overall well being

The majority of the postgraduate students (68%) are anxious about the COVID pandemic and its effects on their overall training program. Eighty-three percent of the respondents worry they may not be able to complete the training program within the stipulated 4 years. More than half (53%) have financial worries in relation to the COVID pandemic. Also, 73% of the students worry about delays affecting their promotions and years of service with the relevant bodies they are affiliated to.

During the pandemic, with gyms and parks closed, more than half (57%) of the postgraduate students feel they are not getting enough exercise. Fifty-six percent of the respondents also acknowledged thoughts about quitting the program altogether. Most of the postgraduate students (75%) expressed anxiety about examining COVID positive patients despite being in full PPE. 92% of the respondents are worried they may transmit COVID to their family members at home. Up to a third of the postgraduate students have had their marriage or family relationships affected in a negative way during the pandemic.

Also, 61% of the respondents described feeling down and low since the pandemic started.

Discussion

The COVID-19 pandemic has taken the world by storm. Almost every component of social interaction has been affected in one way or

another. Social distancing, web meetings, online teaching, working from home, terms and phrases which were not used much before are now part of the normal vocabulary. Invariably, the traditional institutions and businesses have had to adapt or risk becoming obsolete. In the medical fraternity, the COVID-19 pandemic also has changed the way things are conducted. The sheer number of COVID-19 patients presenting to the hospitals mean measures have to be taken to arrange redeployment of staff from other departments to help out with COVID patients in the Emergency Department, Intensive Care Units, and Medical wards. A survey on the impact of COVID and training of postgraduate radiology students done in the UK during the COVID pandemic showed that the pandemic affected the training opportunities as well as the general wellbeing of the students [10].

This is the first survey of its kind on the postgraduate Otorhinolaryngology trainees in Malaysia to assess the impact of the COVID-19 pandemic on their training opportunities and general wellbeing. The numbers of elective surgeries across the world are projected to be reduced with the impact of the pandemic [11]. This will affect the exposure and training opportunities for postgraduate training in surgical based specialties. With the reduction in outpatient cases as well as reduction in elective surgical cases, the postgraduate students may not be able to get adequate hands-on training that is so vital in their progress in the program.

The results of our survey showed around 83% of the trainees experienced a reduction in the number of operative cases. A recent survey done on the postgraduate training for urology residents in Brazil also showed that the COVID-19 pandemic has had a massive impact on the training exposure and also lifestyle of those residents [12]. This reduction in exposure results in students needing to look for alternative ways to obtain knowledge and experience. This is commonly done using internet-based learning.

Almost three quarters of our respondents experienced a significant reduction in bedside clinical teaching. The implication of this is development of clinical acumen and experience by the bedside is affected negatively. The broader implications of the reduction of this clinical experience may manifest during the postgraduate clinical examination. The examination system for the postgraduate exit examination in Otorhinolaryngology is conducted by the Conjoint ORL Board examiners. The structure of the examination is such where the final examination is divided between the written and clinical part. Candidates need to pass both components to obtain the postgraduate masters title. The performance of the candidates during the clinical part is highly dependent on the experience gained during the years of training. It is this precise component where the candidates may encounter difficulties. This may be a contributing factor as to why a large proportion of the respondents feel anxious about the pandemic.

Our survey shows 61 percent of the respondents describe feeling down and low during the pandemic. A recent survey of 418 medical and postgraduate students showed that mental health was significantly affected by the COVID-19 pandemic [13]. This resulted them having psychological issues that they never had prior to the pandemic. This mental strain can further affect the relationships at home and work. The pandemic has led the general public to have feelings of anxiety, frustration, stress and depression [14]. The combination of lockdowns, uncertainty regarding training, worry or concern about contracting COVID, and subsequently passing it on to family members all play a role in adding to the psychological strain that

the postgraduates undergo. The development of new strains of the Coronavirus also further adds to the uncertainty on the duration of the pandemic [15]. This uncertainty also extends to the confirmation and running of the exams in itself. The Conjoint Examinations Board has had to revamp the way the final exams are conducted. Exams are now decentralized, and on one occasion the entire exam had to be postponed due to a surge in cases in the country.

The changes that the pandemic has brought about are unprecedented, and most postgraduate training programs have been affected negatively [10,16-18], Hospitals have had to deploy surgical trainees to cover care for COVID positive patients during the pandemic [19]. The postgraduate trainees generally do not get as much clinical exposure in the form of outpatient, inpatient and surgical cases during the pandemic. This is due to a reduction in the number of patients as well as being deployed to cover COVID wards where manpower and medical personnel are required. The ongoing nature of the pandemic means that we may very well need to accept the 'new normal' and moving forward, stakeholders should work closely to close the gaps in clinical experience during postgraduate training.

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