



Telemedicine in Otolaryngology During COVID-19 Pandemic: Our Experience

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Abstract

Objective: To study the feasibility and scope of telemedicine in otolaryngology in the COVID 19 pandemic and global lockdown.

Methods: A retrospective study was performed in the otolaryngology department during COVID 19 pandemic at AIIMS Bathinda. Telemedicine consultation was set up to replace face to face consultation. Both audio and video consultation facility option was provided to patients. The patient satisfaction survey was done to assess the satisfaction level of telemedicine during COVID 19 pandemic in otolaryngology patients. The patient had to register for audio or video consultation, after which the patient would receive a call from the concerned department on the next day on the allotted time. The time slot for each patient was 15 minutes. Consultations were performed by the senior otolaryngologist. The informed consent was taken from the patient. The study was approved by institutional ethical committee.

Results: The total of 95 patients enrolled for teleconsultation in the otolaryngology department during the period from April 2020 to August 2020. The most common age group range was 21-40 years. The male to female ratio was 1.2:1. Out of 95 patients, 58 patients had registered for audio teleconsultation and 37 patients for video teleconsultation. The most common subspecialty patients were throat and head and neck. The overall satisfaction rate was 89%.

Conclusions: Telemedicine is useful for follow up patient and we can rely on telemedicine in these patients. It helped patients to reach health care specialist while reducing the exposure to both.

Keywords: COVID 19; Otolaryngology; Telemedicine

Introduction

In December 2019, the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), also known as the 2019 novel Coronavirus (2019-nCoV), started in Wuhan, China [1]. COVID 19 has been declared as the pandemic, affecting nearly all the countries worldwide. Patients over 60 years of age and with coexisting comorbidities such as hypertension, diabetes, and cardiovascular disease have higher mortality rate [2]. Sohrabi, *et al.* highlighted

the extent of the outbreak with the World Health Organization (WHO) declaring the COVID-19 outbreak as a global emergency on January 30, 2020 [3].

The word "Tele", meaning "far" in Greek. Tele-consultation is a means of providing remote medical consultation, by modern technology. Application of telemedicine in otolaryngology was first started in the 1990s [4]. Telemedicine was started initially to provide healthcare, especially in rural areas, by facilitating access to

specialist care [5]. Otolaryngologists are at risk due to a high viral load in the upper aerodigestive tract. Because of this, there has been a widespread shift among otolaryngologists toward minimizing direct patient interaction in non-emergency settings [6,7]. The Covid-19 pandemic shook up medical practices, all face-to-face hospital consultations were suspended, except for emergency services. Telemedicine consultation was developed for patient, to limit travel and prevent the spread of COVID -19 and to protect caregivers and patients [8].

In India, the lockdown was declared by end of March 2020 to prevent and control the spread of COVID 19 in the country. All OPD services were suspended and only emergency services continued. Our institution, AIIMS Bathinda is considered a pioneer of health care in surrounding regions. So, it was essential to start with the telemedicine facility to provide patients with remote healthcare. Soon telemedicine services were started in April, initially with audio consultation, and by last week of April, video consultation facilities were also started. Our study aims to access the benefits and satisfaction of patients with otolaryngology teleconsultations during this COVID 19 global lockdown.

Methods

A retrospective study was performed in the otolaryngology department during COVID 19 pandemic at AIIMS Bathinda. Telemedicine consultation was set up to replace face to face consultation. Both audio and video consultation were provided to patients free of cost. The patient had to register for audio or video consultation, after which the patient would receive a call from the concerned department on the next day on the allotted time. The time slot for each patient was 15 minutes. Consultations were performed by the senior otolaryngologist. Follow up patients could also consult through e-mail. The patient satisfaction survey was done to assess the satisfaction level of telemedicine during COVID 19 pandemic in otolaryngology patients.

Results

A total of 95 patients enrolled for the teleconsultation in the otolaryngology department during the period from April 2020 to August 2020. The most common age group was the 21-40 year age

group range followed by the 41-60 age group (Figure 1). Maximum patients opted for teleconsultation in May (Figure 2). The male to female ratio was 1.2:1 (Figure 3).

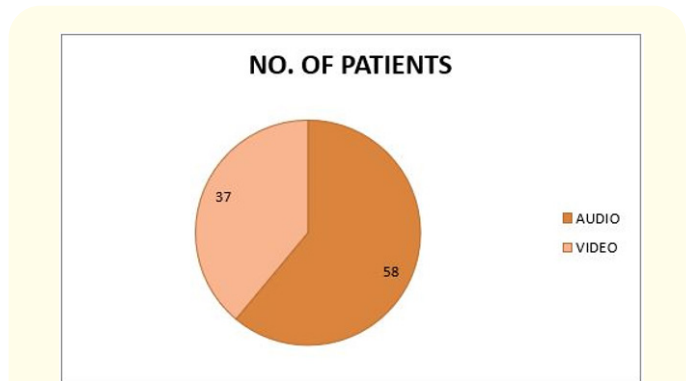


Figure 1: Bar chart shows the age group of patients.

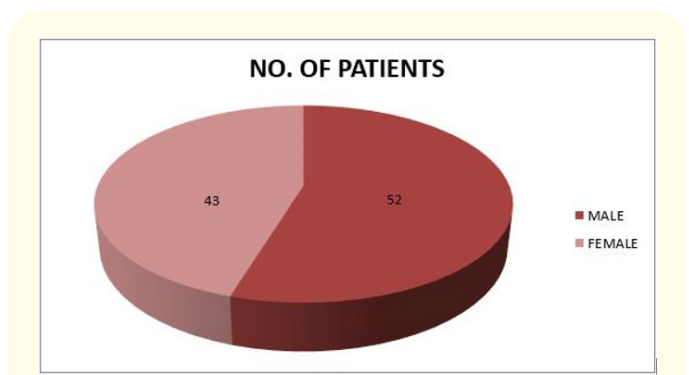


Figure 2: Bar chart shows the total number of patients in each month.

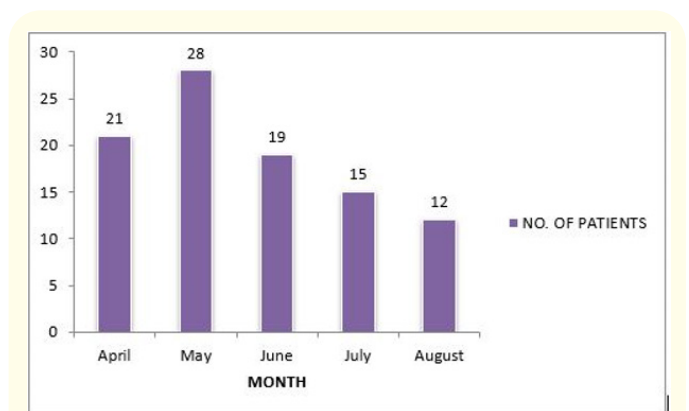


Figure 3: Pie chart showing sex distribution.

Out of 95 patients, 58 (61.05%) patients had registered for audio teleconsultation and 37 (38.9%) patients for video teleconsultation (Figure 4). Eight (11.5%) patients did not respond to audio/video call from our department. So, a total of 84 patients out of 95 completed teleconsultation.

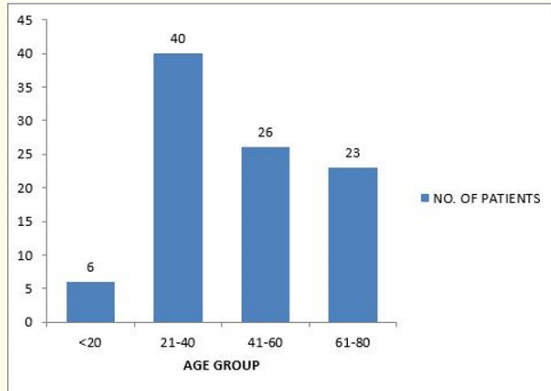


Figure 4: Pie chart shows the distribution of types of teleconsultation.

The most common subspecialty patients were throat and head and neck 36, while otological cases were 27 and rhinology were 21 cases out of 84 patients who completed teleconsultation (Figure 5). The patient satisfaction survey was done, the overall satisfaction rate was 89%. The otological symptom patients were most satisfied (95%), followed by rhinology patients (91%) and throat and head and neck patients (87%) (Table 1).

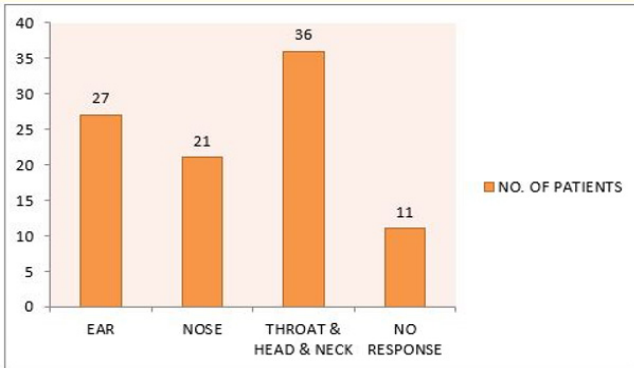


Figure 5: Bar chart shows the distribution of patients in the different subspecialty.

Subspecialty	Total patients (84)	Satisfied	Percentage (%)
Ear	27	25	95
Nose	21	19	91
Throat and head and neck	36	31	87

Table 1: Shows satisfaction rate among different subspecialties.

Discussion and Conclusion

COVID-19 has led to prioritization of emergency care and telehealth, affecting the number of patients and the modality of care [9]. Otolaryngologists are at increased risk of COVID-19 transmission because of head and neck examination [6,7]. Physical distancing is essential to prevent the spread of COVID-19 [10]. Due to this pandemic, telehealth has abruptly become the new form of health care. There is a need to evaluate the subjective patient experience of telemedicine to determine its benefits and impact on the patient-physician relationship [11].

There are potential harms of relying on virtual visits which include diagnostic challenges and suboptimal interpersonal communication. Although previous studies revealed positive patient satisfaction for telehealth services, its applicability in otolaryngology is not much known [12].

Our study has accessed the benefits and shortcomings of telemedicine in otolaryngology during this COVID 19 pandemic. Patients satisfaction surveys have helped us to access the satisfaction rate of such virtual visits and its feasibility in the future. Our study had all the subspecialty patients, the majority had throat and head and neck symptoms, the second most common were otological symptoms. Both audio and video consultations were provided to patients. Although, there was a clear advantage of video consultation over audio consultation regarding visual communication and feedback. Although our specialty patients are difficult to examine in virtual visits, visual communication provides extra information especially in cases of swelling, facial palsy, etc. The video consultation also had an added advantage of segregating patients who required the in-patient visit.

A study by Fieux, *et al.* [13] also studied the benefits of telemedicine in otolaryngology during COVID 19 pandemic and performed the satisfaction survey. The overall satisfaction rate was 87% and lack of physical examination did not clinically correlate with reduced overall satisfaction. Our study showed a similar satisfaction rate of 89%. The most satisfied sub-specialty was otology followed by rhinology and least was throat and head and neck subspecialty. The two patients of otology were not satisfied because of the inability to perform audiometry during this pandemic lockdown. Three patients of rhinology were not satisfied because of the lack of physical examination, for which they were adamant and because of technical problems in video quality of the call. While five patients of throat and head and neck were not satisfied because of the lack of physical examination and prohibition of the use of endoscopy during this time. Telemedicine was useful in patients of presbycusis, tinnitus, allergic rhinitis, chronic rhinosinusitis, Laryngopharyngeal reflux, etc.

There are potential harms of relying on virtual visits which include diagnostic challenges and technical problems associated with communication media such as sound/video quality which is inevitable in rural areas. The important information can be missed because of audio-video lag. Telemedicine consultation did not allow examination of the patient, but due to global pandemic and lockdown, most patients accepted it well.

The inability of performing audiometry is a great limitation of telemedicine during this lockdown. The feasibility of tele-audiometry has been investigated and test results are near equivalent [14,15].

Telemedicine has played a significant role in improving public health safety amid this global pandemic and facilitating patient convenience and satisfaction per the study. It remains to be seen whether telemedicine represents a paradigm shift in our specialty or will it disappear as the current crisis wave resolves [16].

Telemedicine has become a new form of healthcare for most of the health care professionals during this crisis. Telemedicine is useful for follow up patient and we can rely on telemedicine for these patients. It helped patients to reach out the health care specialist

while reducing the exposure to both. We can allay the anxiety of patients with telemedicine and it will decrease number of patients coming to health care centers. Continuing to monitor trends within the health care system is crucial in this pandemic.

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