

The Economics of Reorganizing Otolaryngology Out-Patient Services for COVID-19 Pandemic in Low- and Middle-Income Countries

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Abstract

The Coronavirus 2019 (COVID-19) pandemic has widespread implications for clinical practice of otolaryngologists in clinics and hospitals. With various reports of otolaryngology practitioners catching infection, a profound structural reorganization of ENT services in the clinic is mandatory for protecting both patients and healthcare workers. The present study focused on quantifying the cost involved in reorganizing the otolaryngology out-patient services in a third world country during the ongoing Covid-19 pandemic. Though the pandemic has increased the cost of running of an otolaryngology practice world over, the impact is huge in India as penetration of health insurance/social security is minimal. As out of pocket expenditure forms a significant proportion of healthcare spending by majority in India, any transfer of additional cost incurred because of Covid-19 pandemic to the patient will burn a bigger hole in their pocket.

Keywords

COVID-19 Pandemic, Otolaryngology Out-Patients, Economics, Low- and Middle-Income Countries

1. Introduction

The pandemic of severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2), also known as Coronavirus disease 2019 (COVID-19), has drastically changed the health care systems across the world [1]. The high potential of human to human transmission has made COVID-19 take proportion of global pandemic [2].

After China, Europe and United States; India, the second most populous country in the world is facing bigger and bigger numbers with infections rising each day and confirmed cases just crossing 0.2 million in the country [3] [4].

The Coronavirus 2019 (COVID-19) pandemic has widespread implications on clinical practice of otolaryngologists in clinics and hospitals. Routine head and neck examinations and procedures present a significant occupational hazard for otolaryngologists. The high viral load in area of the nasal cavity, pharynx, and larynx makes examining and performing otolaryngology Out-patient procedures as high-risk for COVID-19 transmission [5].

Though there are recommendations for deferring some of the procedures, unless absolutely necessary, the out-patient or day care needs of the patients have to be addressed especially in a country like India where the doctor-patient ratio is skewed. This has the potential of putting a lot of pressure on the healthcare delivery process [6]. With various reports of Otolaryngology practitioners catching infection, a profound structural reorganization of ENT services in the clinic is mandatory for protecting both patients and healthcare workers [7].

We describe the economics of reorganization of ENT outpatient clinic during this pandemic in a low- and middle-income country.

2. Special Considerations for COVID-19 Pandemic

2.1. Organized ENT Practice

Most clinics should limit visitors though this varies considerably even after utilizing telemedicine options, whenever possible. Expenditure is involved in putting a system in place for scheduling appointments for patients, though not always possible in Indian scenario. Number of accompanying persons has to be restricted to reduce crowding. Expenses are also incurred on pre-appointment screening of patients including measuring temperature, acquiring epidemiological history, and triaging according to clinical symptoms. Suspected cases have to be isolated and reported immediately. Cleaning and sanitization of the visitors room and out-patient area is required periodically to provide safe environment to visiting patient and staff [8].

2.2. Personal Protective Equipment

Personal protective equipment (PPE) use is a prerequisite for patient interactions by all healthcare workers. According to current guidelines from the Centers for Disease Control and Prevention, appropriate PPE for patients with suspected or confirmed COVID-19 entails the use of respirators, isolation gowns, surgical caps, gloves, water-resistant boot covers and face shields and goggles [9].

2.3. Departmental Reorganization

Separate washing area accessible to patients and their attendants has to be created where they can wash their hands with soap and water before and after interact-

ing with doctors. Repeated hand sanitization is to be done by the doctor as well as other staff using a virucidal hydro-alcoholic solution (HAS). Frequent washing of hands with soft soap followed by drying their hands with single-use hand towels is recommended for all healthcare workers.

2.4. Reception and Waiting Area

Social distancing measures are to be followed by everyone in reception and waiting areas thereby making reorganization of standing as well as sitting area depending upon the premises area. Standard hygiene measures are to be taken and a surgical mask has to be provided to those entering without face masks.

Hygiene messages are to be displayed as well as counseling is to be done.

The following must be provided in the waiting room: single-use tissues, bins with bags and lids, HAS for disinfecting hands, a sink with soft liquid soap and single-use hand towels for washing hands. Waste from potentially ill people must be eliminated.

2.5. Disinfection and Cleaning Techniques

The risk that contaminated aerosols originating from droplets emitted by COVID-19 positive patients could contaminate the waiting room (chairs, furniture, work surfaces, floor, etc.) must be taken into account.

In practice, it is recommended to clean high contact surfaces regularly with 1% Sodium Hypochlorite, standard virucidal disinfectant cleaning wipe, paying particular attention to surfaces in direct contact with patients (door handles, furniture, toilet flush, sink, etc.), to ventilate the premises extensively and regularly, and to schedule a complete bio-cleaning once a day (preferably in the evening). The equipment itself is disinfected by wiping the surface using 75% ethanol [10].

2.6. Cost Factor

A variable expenditure per day will be incurred depending upon the number of out-patients visitors. Following table shows approximate additional expenditure (Covid related) for an Out-patient catering to about 30 patients daily (**Table 1**).

Covid pandemic has increased the cost of running an Otolaryngology practice world over but in India and other low and middle income countries the impact is huge as penetration of health insurance/social security is minimal. As out of pocket expenditure forms a significant proportion of healthcare spending by majority in India, any transfer of additional cost incurred because of COVID-19 pandemic to the patient will burn a bigger hole in their pocket. With decreasing number of elective surgeries, decreasing OPD attendance and dwindling indoor occupancy, increasing cost of running a routine out-patient is stretching a practicing otolaryngologist's resources to the maximum, making it unviable for those with limited resources, both doctors and patients. This underlines the need for hand holding by policy makers to keep the healthcare sector afloat during this crisis [11].

Table 1. Approximate additional expenditure (Covid-related) for 30 patients daily.

Item	Expenses incurred \$	Expenses incurred Rs.
Linen	\$10	Rs. 800
Disposable gloves	\$18	Rs. 1800
Eye protection/Face shield	\$12	Rs. 1000
Surgical mask	\$5	Rs. 400
FFP2/N95	\$20	Rs. 1400
Single use apron	\$30	Rs. 2000
Long sleeve disposable over gown	\$10	Rs. 700
Surgical cap	\$5	Rs. 400
Disinfection of the OPD	\$10	Rs. 800
Hand Sanitizer	\$10	Rs. 800
Total	\$130	Rs. 9300

3. Conclusion

Changes in recommended personal protective equipment (PPE), decontamination protocols and reorganization is crucial for protecting both patients and healthcare workers resulting in cost escalations. Increased cost of running an otolaryngology practice during Covid-19 pandemic is hurting both the care givers and recipients. While the reorganization cost of out-patient services is affecting the viability of clinical practice across the globe, the set back is being felt most in low and middle income countries thus underlining the need for a policy initiative to help tide over the crisis period.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Arshad Ali, S., Baloch, M., Ahmed, N., Arshad Ali, A. and Iqbal, A. (2020) The Outbreak of Coronavirus Disease 2019 (COVID-19)—An Emerging Global Health Threat. *Journal of Infection and Public Health*, **13**, 644-646. <https://doi.org/10.1016/j.jiph.2020.02.033>
- [2] Guo, Y.R., Cao, Q.D., Hong, Z.S., Tan, Y.Y., Chen, S.D., Jin, H.J., Tan, K.S., Wang, D.Y. and Yan, Y. (2020) The Origin, Transmission and Clinical Therapies on Coronavirus Disease 2019 (COVID-19) Outbreak-an Update on the Status. *Military Medical Research*, **7**, Article number: 11. <https://doi.org/10.1186/s40779-020-00240-0>
- [3] Low- and Middle-Income Countries Face up to COVID-19. <https://www.nature.com/articles/d41591-020-00020-2>

- [4] Ministry of Health and Family Welfare. <https://www.mohfw.gov.in/>
- [5] Zou, L., Ruan, F., Huang, M., *et al.* (2020) SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. *The New England Journal of Medicine*, **382**, 1177-1179. <https://doi.org/10.1056/NEJMc2001737>
- [6] Siddiqui, S. (2020) CMS Adult Elective Surgery and Procedures Recommendations: Limit All Non-Essential Planned Surgeries and Procedures, Including Dental, until Further Notice. <https://www.cms.gov/files/document/31820-cms-adult-elective-surgery-and-procedures-recommendations.pdf>
- [7] Chan, J.Y.K., Wong, E.W.Y. and Lam, W. (2020) Practical Aspects of Otolaryngologic Clinical Services during the 2019 Novel Coronavirus Epidemic: An Experience in Hong Kong. *JAMA Otolaryngology—Head & Neck Surgery*, **146**, 519-520. <https://doi.org/10.1001/jamaoto.2020.0488>
- [8] Givi, B., Schiff, B.A., Chinn, S.B., *et al.* (2020) Safety Recommendations for Evaluation and Surgery of the Head and Neck during the COVID-19 Pandemic. *JAMA Otolaryngology—Head & Neck Surgery*, **146**, 579-584. <https://doi.org/10.1001/jamaoto.2020.0780>
- [9] Novel Coronavirus Disease 2019 (COVID-19): Additional Guidelines on Rational Use of Personal Protective Equipment (Setting Approach for Health Functionaries Working in Non-COVID Areas). <https://www.mohfw.gov.in/pdf/AdditionalguidelinesonrationaluseofPersonalProtectiveEquipmentsettingapproachforHealthfunctionariesworkinginnonCOVIDareas.pdf>
- [10] Guideline for Disinfection and Sterilization in Healthcare Facilities. <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/>
<https://www.mohfw.gov.in/pdf/Guidelinesondisinfectionofcommonpublicplacesincludingoffices.pdf>
- [11] Extra Cost, Empty OPDs: Covid Hits Revenue Model. <https://indianexpress.com/article/india/extra-cost-empty-opds-covid-hits-revenue-model-6389615/>

Abbreviations

PPE: Personal protective equipment

COVID-19: Coronavirus disease 2019

SARS-CoV-2: Severe acute respiratory syndrome coronavirus-2