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Fourth COVID anniversary: does our practice have changed? The case of ENT outpatient consultations in Cameroon — a national cross-sectional survey

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Abstract

Background In Cameroon, the COVID-19 disease has demonstrated shortcomings in preventing nosocomial infections at both collective and individual levels. This study aimed to identify practice changes in ENT outpatient consultations in Cameroon induced by the COVID-19 pandemic.

Methods This was a descriptive cross-sectional study that took place in March 2024. A Google Form was submitted to ENT practitioners online across Cameroon. It consisted of 20 questions grouped into socio-professional and clinical data.

Results Sixty-four practitioners responded to the questionnaire. The average age of respondents was 36, with extremes of 31 and 70. The sex ratio was 0.35 in favor of women. In terms of experience, 47.7% had been practicing for less than 10 years. A total of 91.3% practiced in public health facilities. Before the COVID-19 outbreak, attitudes towards respiratory diseases were as follows: wearing of masks by suspected patients (4.3%), information posters in waiting rooms (13%), constant use of disinfectant gel (26.1%), wearing of masks by practitioners (0%), wearing of gloves (54.5%), wearing of gowns (87%), constant hand hygiene after each consultation (26.1%), and regular surface hygiene (30.4%). All precautions were improved after 4 years of the pandemic except wearing eye protection.

Conclusion ENT practice has been strongly impacted by the COVID-19 pandemic, and many measures still need to be taken to improve infection control in hospitals in Cameroon.

Keywords Outpatient consultations, ENT, COVID-19, Cross-sectional study, Cameroon

Background

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) outbreak a pandemic [1]. The upper airway, in particular the nose and nasopharyngeal tract, carries a high viral load [2]. Ear, nose, and throat (ENT) surgeons are, therefore, a vulnerable population as they require the management of the upper airways with significant risk [3, 4]. Since in the case of outpatient ENT examinations the patient has an unknown COVID-19 status (testing

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being impossible), healthcare workers must wear protective equipment and follow the same procedures as they would, in case of COVID-19-positive patients. Unfortunately, in April 2020, Sowerby et al. reported total cases of 361 otolaryngologists with COVID-19 disease across the world. There were 24 deaths in the study period. The source of infection was likely clinical activity in 175 cases. Prolonged exposure to a colleague was the source of infection for 11% of surgeons [5]. Many authors and scientific societies have released best practice recommendations and guidelines during the COVID-19 pandemic covering all aspects from infection control measures like handwashing or hand disinfection, surround disinfection protocols, and personal protective equipment (PPE) wearing for patients and personnel to reduce widespread contamination of dispersed droplets during consultations and caregiving [4, 6–9]. The COVID-19 guidelines and practice recommendations from various institutions and societies worldwide may reflect local resource availability and limitations. On 6th March 2020, Cameroon declared its first case of coronavirus infection. The advent of this pandemic has revealed shortcomings in the prevention of nosocomial infections both collectively and individually. This study aimed to assess the evolution of certain practices for the prevention of nosocomial infections in ENT outpatient consultations in Cameroon induced by the COVID-19 pandemic.

Methods

This was a descriptive cross-sectional study that took place in March 2024. An anonymous questionnaire was generated from the Google Forms platform (<https://www.google.com/forms/about>), and the link was posted in the WhatsApp group of the Cameroon Society of Otolaryngology-Head and Neck Surgery (SCORL). ENT practitioners in Cameroon were encouraged to complete the form via the link, which was recalled daily for a month. The questionnaire consisted of 20 questions grouped into socio-professional and clinical data. Sampling was exhaustive and non-probabilistic. Routine consultation procedures and care were classified into two groups, those with exposure to projection/nebulization

of biological products of human origin (PAPB) and those without risk (Table 1). The socio-professional data studied included age, sex, number of consultations per week, professional experience, and type of health facilities. The evaluated practices were the wearing of gowns, masks, goggles/visors, and gloves during the examination and the availability of posters of gel/disinfection solutions in the waiting rooms, as well as the regularity of hand disinfection sessions at the practitioner's and surrounds disinfection sessions in the department. These practices were evaluated before and after the COVID-19 outbreak based on measures to prevent respiratory infections in the waiting room and during procedures and care with a risk of exposure to PAPB (Tables 1 and 2).

Data analysis

The data were analyzed using IBM-SPSS version 23.0 software and presented according to the socio-professional profile of the respondents and according to infection prevention practices in ENT outpatient clinics before and after the COVID-19 pandemic. Quantitative data were represented as numbers and percentages. Continuous variables were expressed by their mean or median.

Results

In total, over 30 days, 64 ENT practitioners completed the online questionnaire using the Google Forms platform. The results were collected into socio-professional data and ENT practice data during the COVID-19 outbreak.

Socio-professional data

Women accounted for 68.8% ($n=44$) of respondents, with a sex ratio of 1 man for 2.2 women. The most common age group was 30 to 39 (56.25%, $n=36$), with extremes of 31 and 70 (Table 3).

In terms of professional experience (Table 4), the respondents practise otolaryngology for less than 5 years (46.87%), with the number of consultations ranging between 21 and 30 cases per week in 31.3% of cases.

Table 1 Classification of ENT examinations and procedures involving exposure to projection/nebulization of biological products of human origin (PAPB) [3]

At risk of PAPB	No risk of PAPB
<ul style="list-style-type: none"> • Examination and procedures in the oral cavity and oropharynx • Examination and treatment of the nasal cavities, sinuses, and nasopharynx with or without nasofibros- copy or rigid endoscopy • Examination and treatment of the pharynx and larynx using a laryngeal mirror, nasofibros- copy, or epi-pharyngoscopy • Tracheostomy or tracheostomy care 	<ul style="list-style-type: none"> • Otoscopy using an endoscope or microscope • Cervicofacial examination • Functional auditory or vestibular examination • Sleep recording

Table 2 ENT precautions for all patients, excluding COVID-19 episodes (standard precautions) and during COVID-19 phases (standard and additional precautions) (<https://www.sf2h.net/publications/actualisation-precautions-standard-2017>) [3]

Protective equipment	Standard precautions excluding COVID-19 episode	Standard and additional precautions during the COVID-19 episode
Clean clothing	Yes	Yes
Disposable gloves	Yes	Yes
Eye protection	Yes	Yes
Mask/respiratory protection equipment [3]	Surgical	FFP2 ^a
Single-use apron	Yes	Yes [4]
Long-sleeved overblouse	No	Yes [4]
Charlottes	No	Yes

^a FFP2 filtering face piece 2

Table 3 Sex and age of respondents

Variables	Modalities	Percentage (n=)
Sex	Male	31.2% (20)
	Female	68.8% (44)
Age (in years old)	30–39	56.25% (36)
	40–49	28.13% (18)
	≥ 50	15.62% (10)

Table 4 Professional data of respondents

Variables	Modalities	Percentage (n=)
Years of experience (in years)	< 5 ans	46.87% (30)
	5–9 ans	34.38% (22)
	≥ 10 ans	18.75% (12)
Type of practice	Public practice	93.75% (60)
	Private practice	6.25% (4)
Weekly number of patients seen	[1–10]	15.62% (10)
	[11–20]	25% (16)
	[21–30]	31.25% (20)
	> 30	28.13% (18)

Respondents practise more in the governmental health facilities (93.75%, $n = 60$).

Individual practices in ENT outpatient clinics before and after 4 years of COVID-19 pandemic

Before the COVID-19 pandemic (Table 5), awareness posters on respiratory diseases were not displayed in the consultation halls in 84.4% of cases, nor were hand disinfectant gels or solutions in 53.1% of cases, and 96.9% of patients with respiratory diseases were required to wear masks. Masks or visors were worn inconsistently in 43.8% of cases ($n = 28$), mucosa examination gloves in 29% of

cases ($n = 18$), and gowns in 12.5% of cases ($n = 8$). Hand disinfection was inconsistent in 56.3% of cases ($n = 36$), as was surface disinfection in 59.4% of cases ($n = 38$).

When asked about the changes observed 4 years after the start of the pandemic, respondents said that practices had changed for the better, with a rate of appreciation per practice ranging from 59.4 to 90.6% (Table 5). However, the use of glasses and visors during examinations remained low, with only 12.5% of practitioners showing an improvement in attendance.

The main reason for practice improvement was awareness on the part of 96.9% of practitioners. They have realized that practicing otorhinolaryngology constitutes a risk for the practitioner. The other reasons were as follows: (i) the worldwide impact of the disease on mankind and health systems (75%), (ii) personal experience of the disease by the practitioner or death in the practitioner's entourage (43.8%), and (iii) the desire of health authorities to protect health workers (31.3%).

Three reasons stood out when participants were asked why certain practices had not changed 4 years after COVID-19 disease: (i) structural reasons with disinterest on the part of health facility managers (37.5%), (ii) Cameroon was only slightly affected by the COVID-19 pandemic (12.5%), and (iii) COVID-19 was only a form of influenza (12.5%).

Discussion

Although recommendations on hygiene and the prevention of nosocomial infections have been issued and are universal, several authors have shown that the COVID-19 pandemic was a wake-up call for the prevention of nosocomial infections in ENT consultations. There has also been a strong trend towards updating information on hospital hygiene and prevention methods [10, 11]. In the course of our study, we observed a poor rate of information on hand hygiene devices for use by patients

Table 5 ENT outpatient practices before the COVID-19 pandemic and overall rate of practice change

Practices	Modalities	n (%)	Overall rate of change
Posters to raise awareness of respiratory conditions in the consultation hall	Yes	10 (15.6%)	59.4%
	No	54 (84.4%)	
Respiratory patients must wear masks	Yes	2 (3.1%)	81.3%
	No	62 (96.9%)	
Availability of disinfectant gel/solution	Yes	12(18.8%)	90.6%
	No	34 (53.1%)	
	Inconsistently	18 (28.1%)	
Wearing of face masks ± visors/glasses during consultations	Yes, systematically	00	12.5%
	Yes, but inconsistently	28 (43.8%)	
	No	36 (56.2%)	
Gloves wearing during examination of mucous membranes	Yes, systematically	36 (58.1%)	59.4%
	Yes, but inconsistently	18 (29%)	
	No	8 (12.9%)	
Gowns worn during consultations	Yes, systematically	56 (87.5%)	65.6%
	Yes, but inconsistently	8 (12.5%)	
	No	00	
Wash or hands disinfection with hydroalcoholic solution/gel before and after each consultation or procedure	Yes, systematically	20 (31.2%)	68.8%
	Yes, but inconsistently	36 (56.3%)	
	No	8 (12.5%)	
Disinfection sessions of office surrounds	Yes, regularly	18 (28.1%)	65.6%
	Yes, but inconsistently	38 (59.4%)	
	No, never	6 (9.4%)	
	Do not know	2 (3.1%)	

in consultation waiting rooms. The availability of information posters in consultation lobbies and the wearing of masks by patients suffering from respiratory diseases are rules known to healthcare teams to reduce the spread of these diseases within the hospital community and its users. Only less than half of the departments applied these measures. Prevention practices among ENT practitioners were not particularly good either, with the same scores.

In an outpatient department, hand hygiene devices (handwashing or hand disinfection using hydroalcoholic gels or solutions) and their use are essential to break the chain of transmission of nosocomial infections [12]. Only 18.8% of respondents had hand hygiene supplies in their department before Covid, and only 31.2% used them systematically. After COVID-19, provision and use have been improved, as reported by 90.6% and 68.8% of respondents respectively.

The notion of patients with transmissible respiratory diseases wearing masks in waiting rooms is a long-standing one, particularly for tuberculosis and influenza epidemics. Many studies, such as the one by Foma et al. in Togo in 2021 [13], demonstrate that patients have a

good level of knowledge of respiratory diseases and their transmission ways. The COVID outbreak has brought back this hospital measure for preventing nosocomial infections, where the wearing of masks was required in all public places, mainly in hospitals. A large majority of respondents (81.3%) noted an improvement in this measure in our survey. It would be important to assess the sustainability of this practice outside any epidemic.

In ENT practice, clinicians often examine the upper aerodigestive tract nearby, perform aerosol-generating procedures, and frequently see patients with symptoms that overlap those in upper respiratory tract infections. The transmission of a pathogenic agent through a face mask depends on its quality, the time it is used, and the type of care provided [14, 15]. During the pandemic, FFP2/N95 or FFP3/N98 masks were recommended for aerosol-generating care (tracheotomized or laryngectomized patients, nebulizations) because they were more resistant to fluid transmission [10]. Four years after the beginning of the pandemic, 1/4 of our respondents had not yet adopted the systematic wearing of facial masks. In addition, a proportion of patients infected with COVID-19 are asymptomatic. Some studies highlighted

that transmission through the conjunctival mucosal should not be neglected and suggested that the addition of eye protection reduced transmission of COVID-19 [14, 16, 17]. Although ENT doctors are aware of these recommendations, 4 years after the advent of COVID-19, only 12.5% agreed to wear protective glasses or visors during treatment involving a risk of transmission.

Wearing gloves, a part of both standard and contact precautions, limits the risk of virus dissemination to the patient's environment, to other patients, and for the protection of health care workers, and using gloves does not replace hand hygiene practice [18]. This is a practice that has improved in 59.4% of respondents in our study, not far from the 2/3 reported by Shadi et al. in their study [10].

The gown worn during consultations is not always a reflex for all practitioners. Only 40% of practitioners systematically wore one when in contact with the patient and 25% when providing care that generates aerosols [10]. In our study, 87.5% of consultants were wearing their work coats at the time of the consultation, and 65.6% had seen an improvement in this practice after 4 years of COVID-19 disease.

Concerning tools and surrounding disinfections, 65.6% of respondents had noticed an improvement in our series. During the pandemic, the passage of a COVID+ patient into a consultation or care area was immediately followed by a chlorine-based disinfection session. The teams of consultants were not trained to prepare these solutions or even to use them. These findings support those of Shadi et al. in Egypt where only half of the participants had received training on disinfecting tools and surrounds. Most likely, this is due to a generally held conception that such tasks are usually handled by other staff, rather than physicians [10].

When respondents were asked about the reasons for the lack of change in certain aspects of prevention, they mentioned structural failure (1/3 of responses). In 2022, 83.6% of Egyptian ENT practitioners felt that personal protective equipment was insufficient in their hospital training [10]. It should be noted that healthcare systems were not sufficiently prepared for the COVID-19 pandemic, and several equipment breakdowns were reported worldwide during the pandemic. In our series, 96.9% of changes in practices were linked to awareness of the risks of the profession, while 43.8% were linked to personal experience of the disease. However, individual responses may vary according to the perception of interpersonal risk, resilience, and environmental and organizational factors in the workplace. They may also vary according to training, availability, and use of personal protective equipment [19].

Study limitations

The methodology employed was the main limitation of our study. A cohort study with a qualitative component would have been better suited to assessing changes in behavior brought about by the COVID-19 pandemic. Another limitation was the number of practitioners who responded to our questionnaire. These limitations could justify longitudinal studies involving other respiratory specialties.

Conclusion

ENT practice was severely impacted by the COVID-19 pandemic due to respiratory transmission of the disease. After 4 years of COVID-19, many ENT outpatient practices improved, but not all, while eye protection remained almost unchanged. Practitioners' attitudes during consultations were based on their personal experience of the disease and the working conditions in which they worked.

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Authors' contributions

MY, NNAR, and MT assured data's collection and write-up of the manuscript; ALC and MBRC contributed to the critical review of the manuscript; and NMPON, DF, EMJ, NLR, and NA gave final approval to submission. All the authors read and approved the final version of this manuscript.

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Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

No applicable. The Cameroon Society of ENT-Head and Neck Surgery (SCORL) gave its approval to conduct this survey by using their contacts database. No personal or institutional data have been used in this survey. Each participant (ENT doctor) was free to complete the online questionnaire.

Consent for publication

No applicable. No personal or institutional data have been used in this survey.

Competing interests

The authors declare that they have no competing interests.

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