

Adjustment of Health-Care Service Delivery Among Phoniaticians and ENT Specialists During the COVID-19 Pandemic, A UEP Survey

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Summary: Background. Applying measures that prioritize staff safety, while protecting patient safety and care, represents a challenge during the current pandemic. Many documents of recommendations toward safe practice have been developed for this purpose.

Objective. To assess adjustments that have been undertaken by phoniaticians and otolaryngologists in the delivery of health-care services during the pandemic in order to reduce staff exposure to COVID-19 and improve safety.

Study design. Cross-sectional.

Methods. An online self-administered survey was used during the first wave of the COVID-19 pandemic in June 2020 to collect data related to demographics of participants, their sources of information, administrative alterations, and changes they adopted when meeting patients for a consultation/procedure/surgery.

Results. The eligible 154 responses were grouped into 4 groups based on country of residence. Alterations to service delivery amongst the different groups were compared.

Conclusions. The majority of participants were following the suggested recommendations to service delivery adjustments, with some inconsistencies in practice across countries.

Key Words: Phoniaticians—Otolaryngologists—Service delivery—COVID-19.

INTRODUCTION

The corona virus disease 2019 (COVID-19) was declared a global health emergency at the end of January 2020 and a pandemic in March 2020.¹ The current pandemic has brought intense challenges to our health care systems, mandating unprecedented work environment and clinical practice alterations.

Frontline health care workers (HCWs) had a 12-fold increase in the risk of COVID-19 infection.² Of the first 138 inpatients, 40 were HCWs.³ Voice clinicians, especially phoniaticians and otolaryngologists are potentially more vulnerable of contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) infection as the nature of their specialty⁴⁻⁷ requires close proximity to patients, and involves potential contact or aerosolization of body fluids such as saliva and respiratory droplets containing virus particles.^{4-6,8}

The implementation of measures that emphasize staff safety and protection, while maintaining patient safety and care, represents an ongoing challenge within most health care facilities.⁹ Accordingly, many medical societies and health authorities have developed statements or documents designed to guide safer clinical practice.

The available recommendations at the time this survey was conducted were aimed to limit non-essential face to face interventions through the application of triage and prioritization, restriction of clinical services to urgent or emergent cases, with the suspension or postponement of elective cases when appropriate, and the use of alternative modalities such as telepractice.^{7,8,10,11} From a medicolegal perspective, it was recommended to document any modifications to the clinical plan and to obtain patient's informed consent.^{8,9} Urgency of clinical services was determined by clinical presentation, potential morbidity, and weighing risk/benefit of each case against the availability of necessary resources (eg, personal protective equipment 'PPE,' SARS-CoV2 testing), facility capacity, and local policies. This can be done via expert judgment and/or through scoring systems for example, medically necessary time-sensitive.¹² Guidance to identify patients requiring an urgent consultation during this pandemic was included in several recommendations.^{7,11}

SARS-CoV-2 infection occurs through aerosolized secretions or infected droplets contacting mucous membranes of the nose, mouth, or eyes directly, or by droplets on the hands transferred by touch to the nose, mouth, or eyes.^{8,13} Aerosol generating procedures (AGPs) are procedures that trigger coughing resulting in the release of airborne particles, thus generating a risk of airborne transmission of infections that usually only spread by droplet

Accepted for publication April 27, 2021.

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Journal of Voice, Vol. ■■■, No. ■■■, pp. ■■■-■■■
0892-1997

© 2022 Published by Elsevier Inc. on behalf of The Voice Foundation.
<https://doi.org/10.1016/j.jvoice.2021.04.017>

transmission.^{8,11,13} Although there is no definitive list of AGPs, many procedures in the scope of practice of phoniatrists and laryngology are identified as potential AGPs.^{7,8,11} Accordingly, several measures were proposed to reduce the risk of infection on performing endoscopies and surgical interventions.^{7-9,11,14,15}

Given this background, we conducted a survey of phoniatrists and otolaryngologists from around the world to determine what type of adjustments they have undertaken to permit continuation of health-care services and reduce the risk of staff exposure to COVID-19 infection, in June 2020 during the 'first wave' of the pandemic. Our plan will be to repeat the survey after the roll out of vaccinations for older and medically compromised individuals as well as most HCWs; this to take place approximately 1 year following on from the current survey.

METHODS

This cross-sectional study was conducted through a web-based self-administered online survey and accepted responses between June 9 and June 24, 2020. The survey was distributed through the Union of European Phoniatrists (UEP) as well as other communication channels. Data were collected anonymously, and participants were informed of the purpose of the survey.

The survey questions (see appendix) were in English and covered aspects related to demographic data of participants, their sources of information, administrative alterations, and changes they adopted when meeting a patient for a consultation, a procedure or a surgery. Responses to questions were by choosing single or multiple answers.

A pilot of the study took place with ten responses in order to check on the functionality of the questionnaire. These were neither included in the final count of responses nor in the statistical analysis.

Statistical analysis and ethical considerations

The collected data were coded, tabulated, and statistically analyzed using IBM SPSS (Statistical Package for Social Sciences) statistics software version 22.0, IBM Corp., Chicago, USA, 2013. Descriptive statistics were done for quantitative data as mean \pm standard deviation (SD) and for qualitative data as number and percentage. Inferential analyses were done using the ANOVA test for quantitative data differences, using the Chi square test for differences between proportions and Fisher's exact test for variables with small, expected numbers. The level of significance was taken at P value < 0.050 as significant, otherwise was non-significant.

The study was conducted in accordance with Helsinki Declaration guidelines. It was not deemed necessary for institutional ethical committee approval to be obtained as the questionnaire was in essence an audit of current practice and was not designed to influence medical practice in any manner.

RESULTS

Two hundred two physicians responded to the questionnaire. Forty-six were entirely working from home due to the pandemic, rather than attending a worksite, and accordingly the survey was ended for them at this point. One response was not complete. One response was from a pediatric audiologist. These responses were excluded, and the remaining 154 responses were considered for statistical analysis.

Demographic data

The included responses were grouped into four groups based on the country of residence; Group 1 'G1' (Western Europe, $n = 62$, with the largest number of responses from Germany [$n = 30$]), group 2 'G2' (the Middle East, $n = 37$ where nearly all of responses came from Egypt [$n = 33$]), group 3 'G3' (Latin America, $n = 36$ of which most of responses were from Brazil [$n = 33$]), and group 4 'G4' (Eastern Europe, $n = 15$). A few responses ($n = 4$) were also received from other countries.

For the entire group of participants, the mean age \pm SD was 47 ± 11.8 years. The statistically significant difference between the mean age of different groups (Table 1) is not contextually significant, as all groups' mean ages lie within the range of 'middle age' and years of experience is what would be expected to cause a difference in attitude or practice in the context of the current study. The majority of participants were specialists with more than 10 years of experience with no statistically significant differences detected between groups in years of experience. Most of participants ($n = 86$, 55.8%) were females, 65 (42.2%) were males, and 3 (1.9%) preferred not to indicate their gender.

Sources of information

Medical journals ($n = 125$, 81.2%) and WHO or local health authorities' websites ($n = 124$, 80.5%) represented the main sources of COVID-19 knowledge for the whole group of participants. Other contributors included other websites ($n = 90$, 58.4%), TV and radio ($n = 89$, 57.8%), educational training ($n = 77$, 50%), and newspapers ($n = 71$, 46.1%) (Figure 1). The differences between groups are represented in Figure 1. The professional setting where participants work as well as their specialty (ies) are shown in Table 1.

Administrative adjustments to control patient flow and provision of service

The majority of participants adhered to guidelines related to the rescheduling/postponing of elective, non-urgent, non-emergent outpatient visits and the performance of face-to-face consultation only when absolutely necessary, whether they document the rationale justifying why the visit is or is not critical for the patient at the present time ($n = 68$, 44.2%) or not ($n = 47$, 30.5%). Most participants also tended to cancel elective, non-urgent, non-emergent procedures, and surgeries as necessary, whether with

TABLE 1.
Participants' Age, Professional Setting, and Specialty (ies).

	All sample (N = 154)	G1 (N = 62)	G2 (N = 37)	G3 (N = 36)	G4 (N = 15)	P value
Age (years) mean ± SD	47.2 ± 11.8	51.4 ± 10.6	41.5 ± 11.0	47.3 ± 12.8	43.3 ± 9.2	[^] <0.001*
Professional setting						
Primary health center	13 (8.4%)	10 (16.1%)	2 (5.4%)	1 (2.8%)	0 (0.0%)	[§] 0.081
Tertiary care eg, University hospital	82 (53.2%)	33 (53.2%)	17 (45.9%)	23 (63.9%)	7 (46.7%)	[#] 0.442
Emergency	6 (3.9%)	2 (3.2%)	0 (0.0%)	3 (8.3%)	1 (6.7%)	[§] 0.193
ICU	2 (1.3%)	1 (1.6%)	0 (0.0%)	1 (2.8%)	0 (0.0%)	[§] 0.795
Operative theaters	21 (13.6%)	9 (14.5%)	2 (5.4%)	8 (22.2%)	2 (13.3%)	[#] 0.230
Hospital outpatient	49 (31.8%)	10 (16.1%)	21 (56.8%)	12 (33.3%)	5 (33.3%)	[#] 0.001*
Private clinics or polyclinics	99 (64.3%)	27 (43.5%)	26 (70.3%)	35 (97.2%)	9 (60.0%)	[#] <0.001*
Specialty						
ENT Surgeon	42 (27.3%)	17 (27.4%)	4 (10.8%)	11 (30.6%)	6 (40.0%)	[§] 0.090
Laryngologist	58 (37.7%)	20 (32.3%)	1 (2.7%)	30 (83.3%)	6 (40.0%)	[§] <0.001*
Phoniatrician	96 (62.3%)	50 (80.6%)	33 (89.2%)	6 (16.7%)	7 (46.7%)	[§] <0.001*
More than one specialty	119 (77.3%)	42 (67.7%)	36 (97.3%)	27 (75.0%)	11 (73.3%)	[§] 0.008*

* Significant.

[§] Fisher's exact test.[#] Chi square test.[^] ANOVA test.

G1 (Western European), G2 (Middle Eastern), G3 (Latin American), G4 (Eastern European) countries' participants.

documentation (n = 90, 58.4%) or without (n = 42, 27.3%). Over half (n = 81, 52.6%) of the whole group of included participants attended their worksite and additionally used telemedicine. Statistically significant differences between groups were observed (P = 0.004). While most of participants in G1 (n = 39, 62.9%) and in G4 (n = 9, 60.0%) did not shift any of health care services to alternative routes, most of participants in G2 (n = 25, 67.6%) and G3 (n = 24, 66.7%) were additionally assessing or providing therapy for some patients remotely for example, through different telemedicine channels.

Most participants rearranged waiting room furniture or spaced-out seats to allow for appropriate physical distancing (n = 136, 88.3%) and scheduled patients' appointments so that there was no waiting time spent at the clinic (n = 131, 85.1%). No statistically significant differences could be found between participants of the different groups. Furthermore, most of participants (n = 98, 63.6%) always screened patients for COVID-19 symptoms and directed those with suggestive symptoms to the emergency department rather than providing them directly with health service. There were some differences

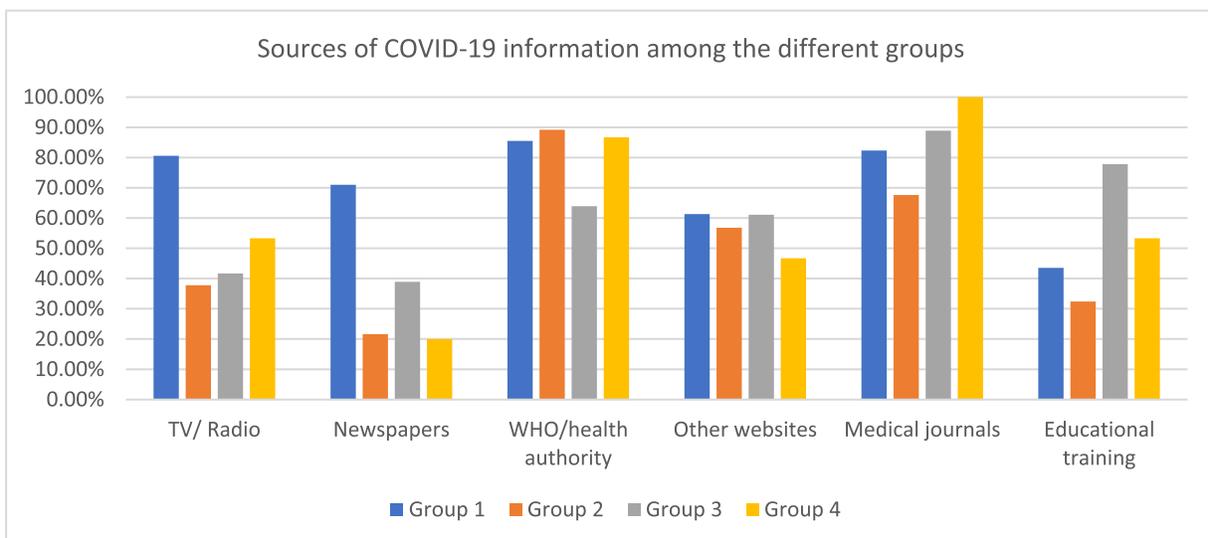
**FIGURE 1.** Sources of COVID-19 information among the different groups of participants.

TABLE 2.
Adjustments to Health-Care Service Delivery Adopted by Participants At Administrative Level, During in Person Meeting of Patients and on Performing Endoscopies and Surgical Procedures During the Pandemic.

		All sample (N = 154)	G1 (N = 62)	G2 (N = 37)	G3 (N = 36)	G4 (N = 15)	P value
<i>Screen patients for COVID-19 symptoms</i>	Always	98 (63.6%)	42 (67.7%)	15 (40.5%)	25 (69.4%)	14 (93.3%)	#0.013*
	Sometimes	36 (23.4%)	11 (17.7%)	14 (37.8%)	8 (22.2%)	1 (6.7%)	
	Never	20 (13.0%)	9 (14.5%)	8 (21.6%)	3 (8.3%)	0 (0.0%)	
<i>Measures observed on a face-to-face/ in person meeting with a patient</i>	Instruct patients to wear masks	140 (90.9%)	53 (85.5%)	36 (97.3%)	35 (97.2%)	12 (80.0%)	#0.043*
	Adhere to adequate PPE	126 (81.8%)	57 (91.9%)	22 (59.5%)	32 (88.9%)	11 (73.3%)	§<0.001*
	Rely on questionnaires and forms	44 (28.6%)	24 (38.7%)	4 (10.8%)	10 (27.8%)	4 (26.7%)	§0.030*
<i>Conditions to accept an urgent consultation for</i>	Neonates with feeding and swallowing problems	103 (66.9%)	47 (75.8%)	22 (59.5%)	28 (77.8%)	3 (20.0%)	#<0.001*
	Acute dysphagia	88 (57.1%)	44 (71.0%)	17 (45.9%)	22 (61.1%)	5 (33.3%)	#0.015*
	Risk of dysphagia complications	87 (56.5%)	44 (71.0%)	13 (35.1%)	26 (72.2%)	4 (26.7%)	#<0.001*
	Safe feeding strategies need to be assessed	68 (44.2%)	35 (56.5%)	10 (27.0%)	21 (58.3%)	2 (13.3%)	#0.001*
	Management of oropharyngeal secretions is questionable	36 (23.4%)	16 (25.8%)	6 (16.2%)	12 (33.3%)	0 (0.0%)	#0.047*
<i>Pursued measures to reduce the risk of infection when carrying out endoscopies, FEES or surgeries</i>	Put on complete PPE	121 (78.6%)	51 (82.3%)	24 (64.9%)	31 (86.1%)	11 (73.3%)	§0.031*
	SARS-CoV2 test before surgery or procedures	70 (45.5%)	28 (45.2%)	7 (18.9%)	23 (63.9%)	8 (53.3%)	#0.001*
	Refrain from spray analgesics or decongestants	59 (38.3%)	28 (45.2%)	13 (35.1%)	10 (27.8%)	5 (33.3%)	§0.035*
	Replace an urgent FEES with VFSS	53 (34.4%)	14 (22.6%)	22 (59.5%)	12 (33.3%)	3 (20.0%)	#0.001*
	Avoid AGPs during surgery	43 (27.9%)	17 (27.4%)	5 (13.5%)	13 (36.1%)	5 (33.3%)	§0.005*

* Significant.

§ Fisher's exact test.

Chi square test.

G1 (Western European), G2 (Middle Eastern), G3 (Latin American), G4 (Eastern European) countries' participants.

between groups (Table 2). The majority of the whole group of participants (n = 92, 59.7%) did not originally do home visits. Of those who previously offered home visits, 44 (70.9%) suspended them while 18 (29.0%) did not, with no statistically significant differences between groups.

The majority of participants agreed to accept urgent consultations for symptoms and signs suggestive of malignancy (n = 135, 87.7%), airway compromise (n = 122 [79.2%], neonates with feeding and swallowing problems or failure to thrive (n = 103, 66.9%), acute causes of dysphagia (n = 88, 57.1%), and when the risk of dysphagia complications was likely (n = 87, 56.5%). By contrast, most participants

considered the need to evaluate the patients' management of their own oropharyngeal secretions or to assess safe feeding strategies as non-urgent. There were some differences between groups as shown in Table 2.

Adjustments during a face-to-face/ in person meeting with a patient at the clinic

Most of the participants adhered to regular hand hygiene (n = 147, 95.5%), instructing patients and accompanying persons to wear masks (n = 140, 90.9%), keeping a distance for example, during visual and perceptual observations (n = 136, 88.3), minimizing the number of persons escorting

patients (n = 135, 87.7%), using adequate PPE (n = 126, 81.8%), and minimizing consultation time (n = 106, 68.8%). Only 44 (28.6%) of all participants relied on questionnaires and forms filled in by patients or caregivers beforehand in order to minimize the visit duration. There were differences between groups as shown in [Table 2](#).

Adopted measures while performing endoscopies and surgical procedures

These included the following: The use of camera connected to endoscope rather than direct visualization through an eyepiece to keep the examiner's face further away from the patient (n = 129, 83.8%), putting on complete PPE (n = 121, 78.6%), disinfecting reusable endoscopes according to guidelines (n = 117, 76.0%), limiting number of staff needed for the procedure, excluding trainees, observers and non-essential personnel to reduce potential exposures (n = 110, 71.4%), minimizing examination time to the least possible (n = 109, 70.8%), making sure endoscopes did not touch any surfaces (n = 103, 66.9%), allowing extra time for thorough sterilization of the room and equipment after each patient (n = 102, 66.2%), avoiding these procedures whenever possible (n = 99, 64.3%), asking for a SARS-CoV2 testing in patients undergoing surgery or office-based procedures, and quarantining patients until the procedure day (n = 70, 45.5%), ensuring that the procedure or surgery was performed by the most experienced/ skilled person available (n = 69, 44.8%), managing patients as if they were COVID-19 positive when polymerase chain reaction (PCR) testing could not be done preoperatively (n = 64, 41.6%), refraining from spraying local analgesics or decongestants (n = 59, 38.3%), replacing any urgently indicated flexible endoscopic evaluation of swallowing (FEES) with videofluoroscopic swallowing study (VFSS) (n = 53, 34.4%), prioritizing the use of disposable endoscopes and surgical instruments, if available (n = 44, 28.6%), avoiding certain potential AGPs (such as jet anesthesia, microdebrider, suction, cautery, diathermy, drill, spray, irrigation, open suction) during surgery (n = 43, 27.9%), avoiding Botox injection into posterior cricoarytenoid muscle translumenally (n = 21, 13.6%), and prioritizing transcutaneous Botox injection through cricothyroid space, when done without local anesthesia, over other routes (n = 16, 10.4%). Only two participants (1.3%) did not pursue

any of the aforementioned measures. There were differences between groups that are shown in [table 2](#).

Provision of care to confirmed COVID-19 cases, presence of COVID-19 patients in facilities and its relation to precautions taken

The largest number of participants (n = 90, 58.4%) had not previously provided direct care to a confirmed COVID-19 patient. There were differences between groups as shown in [table \(Table 3\)](#).

Almost half of participants (53.9%, n = 83) reported confirmed COVID-19 cases in their health care facilities at the time of the survey, 35.1 % (n = 54) did not have any, and 11% (n = 17) did not know. No significant differences were observed between groups. When the association between the precautions undertaken by physicians, to reduce the risk of infection on carrying out endoscopies or surgical interventions, and the presence of confirmed COVID-19 cases in their facilities were compared ([Table 4](#)), there were comparable relationships between the presence and the absence of confirmed COVID-19 cases and both the putting on of complete PPE and the limitation of the number of staff needed for the procedure. However, both behaviors were less embraced by those who did not know if there were confirmed cases or not.

The presence of confirmed cases within the health care facility led physicians to ask for more SARS-CoV2 tests for patients undergoing surgery or office-based procedures as well as to manage all cases as if they were COVID-19 positive in relation to all precautions taken, if PCR testing could not be done preoperatively; in comparison with scenarios in which there was an absence of confirmed cases or in cases in which physicians did not know ([Table 4](#)). Other precautions adopted by physicians to mitigate infection were not correlated to the presence or absence of confirmed cases.

DISCUSSION

This survey carried out during the 'first wave' of COVID-19 pandemic, clearly demonstrated that Coronavirus had a massive impact on how phoniaticians and laryngologists undertook routine elective care for patients. The similarities across countries in struggling with the often-conflicting needs related to offering care for patients and safety for HCWs outweighed the differences.

TABLE 3.
Provision of Direct Care to Confirmed COVID-19 Cases.

		All sample (N = 154)	G1 (N = 62)	G2 (N = 37)	G3 (N = 36)	G4 (N = 15)	P value
Providing care to a confirmed COVID-19 case	Yes	50 (32.5%)	21 (33.9%)	6 (16.2%)	19 (52.8%)	4 (26.7%)	#0.002*
	No	90 (58.4%)	36 (58.1%)	28 (75.7%)	16 (44.4%)	6 (40.0%)	
	I don't know	14 (9.1%)	5 (8.1%)	3 (8.1%)	1 (2.8%)	5 (33.3%)	

* Significant.

Chi square test.

G1 (Western European), G2 (Middle Eastern), G3 (Latin American), G4 (Eastern European) countries' participants.

TABLE 4.
Relation Between the Presence of Confirmed COVID-19 Cases in Health Care Facilities and Precautions Undertaken by Physicians, to Reduce the Risk of Infection When Carrying Out Endoscopies, FEES or Surgical Interventions.

	Presence of confirmed COVID cases (N = 83)	Absence of confirmed COVID cases (N = 54)	Don't know (N = 17)	P value
Put on complete PPE	68/83 (81.9%)	45/54 (83.3%)	8/17 (47.1%)	#0.004*
Limit staff number	63/83 (75.9%)	40/54 (74.1%)	7/17 (41.2%)	#0.013*
Preoperative SARS-CoV-2 testing	46/83 (55.4%)	20/54 (37.0%)	4/17 (23.5%)	#0.017*
Manage patients as COVID-19 positive	43/83 (51.8%)	15/54 (27.8%)	6/17 (35.3%)	#0.018*

* Significant.

Chi-square test.

Medical journals, World Health Organization and local health authorities were found to be the leading sources of reliable COVID-19 information. The relatively greater reliance on media in G1 may be explained by results from a survey in 2020, in which 67 % of respondents considered information from the German media to be credible.¹⁶ Educational training was not among the main sources, except for G3 participants who were mainly laryngologists and likely had received more infection control training.

Most participants showed adherence to local clinic administrative safety recommendations. Postponement (and documentation of its rationale) of elective procedures and surgeries exceeded that of elective outpatient appointments. Over two-third of those who were offering home visits suspended this service. Deferment of home visits did not seem to correlate with the prevalence of cases. The total number of confirmed COVID-19 cases in Germany, Egypt, and Brazil in mid-June 2020 were 186,461, 44,598, and 850,504 respectively.¹⁷ Eastern European countries had fewer cases during this period of the pandemic.¹⁸

In agreement with current recommendations,^{7,9,13,19,20} over half of participants assessed or provided remote therapy for some patients. The use of telemedicine did not seem to relate to more COVID-19 cases in the corresponding countries. It was clear from this survey that the role of telemedicine, whilst practiced before the pandemic, had increased in many fields.²⁰⁻²² It will be interesting to see if this is confirmed by the subsequently planned survey. It is, however, unclear to the authors if virtual consultations are appropriate to the diagnosis of laryngeal and airway problems, given that direct visualization is essential. Despite being advocated locally and internationally,^{8,9,11} prescreening for COVID-19 signs and symptoms was least consistently noted among Egyptian participants, perhaps reflecting inadequate knowledge. It is likely that this practice has been modified and strengthened subsequently.

During in person meetings with patients, there was clear evidence of compliance with most precautions. The exception was reliance on prefilled forms completed prior to the in-person visit. This practice has been widely recommended

to minimize actual consultation time,^{7,8} and it will be interesting in our follow-on survey to determine if it has increased. Our impression (anecdotally) is that this practice has indeed become a cornerstone of many centers' clinical activities.

The practice of requesting all clinic visitors to put on masks was undertaken by the majority of participants especially (almost all) Egyptian and Brazilian participants. This may be attributed to lower consistency of the public in wearing masks in certain regions, despite this being mandated (eg, in Egypt in May²³ and in Brazil in June 2020²⁴). One Egyptian study published in April 2020, showed that while almost three quarters of participants believed that putting on a face mask can protect from infection, only around 35% reported willingness to do so.²⁵

Wide adherence to routine PPE use was noted, in this survey to be lower among Egyptian participants, possibly due to lack of availability.²³

UEP recommendations⁷ at the time of the study were that all laryngeal operations be deferred except when the airway is at risk or a malignancy is suspected, and most participants agreed that these conditions necessitated an urgent consultation. On the other hand, most participants viewed the need to evaluate the patients' management of their own oropharyngeal secretions and to assess safe feeding strategies as non-urgent. It is possible that this may be attributed to the way we posed this question. We will revise wording in the subsequent survey to determine if it impacts outcome. Similarly, participants from eastern Europe as a group did not view conditions related to dysphagia as urgent. This could perhaps be due to the smaller number of participants in this group together with the scope of practice of those who responded, skewing the results. Hopefully, the subsequent survey will clarify such disparity.

Following recommended measures to mitigate risk of infection during the performance of procedures and surgeries was evident among participants, with different measures adopted in variable degrees. The recommendations that appeared to be least followed (below 15%) were those related to Botox injections. The avoidance of AGPs during

surgeries appeared to be least endorsed by the Egyptian participants. We posit this relates to a paucity of ENT surgeons within this group, this question having been devised specifically to look at surgical practices.

Preoperative testing for SARS-CoV-2 is recommended because asymptomatic individuals may still be contagious.^{7,11,15} Our view has been that scheduled non-emergent (elective) interventional procedures/surgeries should not be performed without obtaining a negative test result and with the patient self-isolated until the operation is carried out.^{7,11} Egyptian participants requested significantly less SARS-CoV2 tests possibly due to scarcity of PCR tests in Egypt during this time with its use limited to suspected cases.²⁶ Our next survey will be useful to determine if, in the subsequent year, this group has sustained a change of practice.

Replacing FEES with VFSS was more often adopted by Egyptian participants but was not as prevalent among other groups, which may be attributed to differences in local policies or availability of VFSS. Moreover, there is no consensus relating to use of FEES or VFSS when an instrumental swallowing evaluation is necessary during the pandemic. While VFSS allows for greater physical distancing between the patient and the clinician,¹⁹ it requires more personnel, more PPE, transport to a radiology suite, and likely contaminates more equipment.⁸ Similar to FEES, VFSS is also an AGP if it triggers a cough reflex.²⁷

As anticipated, the presence of confirmed cases of COVID-19 within the health care facility correlated to more preoperative SARS-CoV-2 testing undertaken. Similarly, presuming all patients as potentially infected (for purposes of appropriate PPE utilization and precautions as recommended^{8,9,11}) when PCR tests were not done, was associated with the presence of confirmed cases, and to lesser extent to not knowing if there were any confirmed cases. When participants knew for sure there were no confirmed cases, they showed more tendency to skip this precaution.

Overall, the participants' positive attitude toward seeking out information about the presence/absence of COVID-19 cases in their facilities was reflected by more compliance to the use of complete PPE and by the use of limits to the number of staff at a procedure.

CONCLUSION

This survey was undertaken during the 'first wave' of the COVID pandemic. Unsurprisingly, among the physicians that completed it there was some inconsistency in practice. This likely reflects different systems or regulations, attitudes, workplace settings and availability of PPE or SARS-CoV-2 tests at the time of the survey. Even so, similarities outweighed differences.

As knowledge accumulates and the course of the COVID-19 pandemic evolves, service delivery has and will continue to evolve, so will local and international guidelines.

As we move into the second and in some countries the third wave of the COVID pandemic, and particularly as vaccines begin to roll out throughout the world; it will be most interesting to see how attitudes amongst medical practitioners to their workplace activities has evolved. To that end, the UEP does plan to repeat the questionnaire at one year from the initial.

CONFLICT OF INTEREST

The authors neither received specific funding to this work nor they have any conflicts of interest to disclose.

Acknowledgement

The authors want to thank Prof. Dr. Christina Pflug for her valuable contribution in this work. We also wish to extend our appreciation to all participants who completed this survey.

APPENDIX: SURVEY QUESTIONS

Section 1: Current work status:

What is your specialty? Phoniatician/Laryngologist/General ENT surgeon/Other

Which of the following describes your current work status? Entirely working from home, may be establishing a tel-service (form will be submitted and survey ended for them)/Attending your worksite, yet assessing or providing therapy for some patients remotely eg, through different telemedicine channels/Attending your worksite, did not shift any of healthcare services to alternative routes

Have you provided direct care to a confirmed COVID-19 patient so far? Yes/No/I don't know

Were there any confirmed cases of COVID-19 in your health care facility? Yes/No/I don't know

Section 2: Administrative adjustments at the clinic:

Do you reschedule or postpone outpatient visits that are elective, non-urgent, non-emergent and perform face-to-face consultation only when absolutely necessary? In other words, do you adopt a risk management/ minimization approach? Yes, and I usually document the rationale justifying why the visit is or isn't critical for the patient at the present time/Yes, without any documentation/No, I don't reschedule or postpone any outpatient visits/I don't know

Do you cancel or postpone procedures and surgeries that are elective, non-urgent, non-emergent, as necessary? Yes, and I usually document the rationale justifying why the procedure is or isn't critical for the patient at the present time/Yes, without any documentation/No, I don't cancel or postpone any procedures or surgeries

Do you schedule patients' appointments so that there is no waiting time spent at the clinic? Yes/No/I don't know

Did you arrange the waiting room furniture or space-out seats to allow for appropriate physical distancing? Yes/No/I don't know

Do you screen for COVID-19 symptoms and direct patients with suggestive symptoms to emergency department rather than providing them with health service? Always/Sometimes/Never

Are you suspending all home visits? Yes/No/I originally don't do home visits

Section 3: Clinical adjustments:

Which of the following conditions do you accept an urgent consultation for? (check all that apply) Airway compromise/Symptoms or signs suggestive for malignancy/Neonates with feeding and swallowing problems or failure to thrive/Safe feeding strategies need to be assessed/Management of oropharyngeal secretions is questionable/Acute causes of dysphagia e.g. stroke and ICU patients/Risk of dysphagia complications is likely/Other...

On a face-to-face/ in person meeting with a patient, which of the following do you observe as best you can? (select all that apply) Minimize the number of persons escorting patients/Keep consultation time to the minimum/Rely on questionnaires and forms filled by the patient/caregiver beforehand to minimize the visit duration/Adhere to adequate PPE use/Instruct patients and accompanying persons to wear masks/Keep a distance whenever possible eg, for visual and perceptual observations/Regular hand hygiene/None of the above

When performing endoscopies, FEES or surgical interventions, which of the following measures do you pursue to reduce the risk of infection? (select all that apply) Avoid these procedures whenever possible/The most experienced/skilled person would carry out the procedure/surgery/ Limit the number of staff needed for the procedure/Minimize the time of examination to the least possible/Put on the complete PPE/Refrain from using spray local analgesics or decongestants/During surgery, avoid AGPs such as jet anesthesia, microdebrider, suction, cautery, diathermy, drill, spray, irrigation, open suction/Allow extra time for thorough sterilization of room and equipment after each patient/Use a camera connected to the endoscope, rather than the eye piece to keep the examiner's face further away from the patient/Disposable endoscopes and surgical instruments, if available, are prioritized/Reusable endoscopes are properly disinfected according to guidelines/Make sure endoscopes do not touch any surfaces/Replace an urgently indicated FEES with VFSS, if possible/Transcutaneous Botox injections through cricothyroid space, when done without local anesthesia, are prioritized over other routes/Avoid Botox injections into PCA translumenally/Ask for a SARS-CoV2 testing in patients undergoing surgery or office-based procedures, and quarantine patients till the results and procedure day/If PCR testing cannot be done preoperatively, manage patients as COVID-19 positive cases regarding all precautions/None of the above

Section 4: Demographic Data:

What is your age?

What is your gender? Male/Female/Prefer not to say

What is your degree of experience? Resident/ Specialist with <5 years of experience/ Specialist with ≥5 years of experience/ Specialist with ≥10 years of experience/ Specialist with ≥20 years of experience

What is your current country of residence?

Which sources do you obtain COVID-19 knowledge from? (mark all that apply) TV, Radio/Newspapers/ WHO or local health authority's website/Other websites/Medical journals/Educational training/Other

What is the type of your professional setting? (select all that apply) Primary health center/ Tertiary care e.g. University hospital/Emergency/ICU/Operative theaters/Hospital Outpatient/Private clinic or polyclinic/Other

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