

The Clinical Effectiveness and Patient Satisfaction of Teleconsultation During the Period of COVID19 Pandemic in the ENT Department at KHUH

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ABSTRACT

HYPOTHESIS

To test for efficacy in teleconsultation in reducing patients crown in ENT clinic.

BACKGROUND/ INTRODUCTION

The pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first identified in Wuhan, Hubei, China, in December 2019. It was recognized by World Health Organization as a pandemic in March 2020¹. Coronavirus outbreak have affected the healthcare systems all around the world. It also challenged the well-developed healthcare systems. The volume of patients needing care was increasing with available resources. Different countries had different ways of trying to adopt and to create a plan in order to prevent its spread. On February 21, 2020 Bahrain confirmed its first COVID19 case. The ministry of health increased the epidemiological monitoring and prepared guidelines for health workers in how to deal with suspected cases².

A Cabinet meeting led by HRH the Crown Prince, met on a regular basis to address all the latest updates in order to contain the outbreak in Bahrain. At another end, King Hamad University Hospital (KHUH) have implemented several changes in order to protect their patients and the healthcare workers. Teleconsultation was recommended to certain specialties, which included Ear, Nose and Throat (ENT).

Teleconsultation is a general term for any consultation between doctors and patients on a network or a video link³.

The use of teleconsultation during the pandemic of COVID19 intends to minimize the patients visits to the hospital where they usually crowd in the waiting area in both the clinics and outpatient pharmacies. This will consequently reduce patient-to-patient, patient-to-doctor, and doctor-to-patient cross infections.

On the day of the scheduled appointment, the patient will receive a message (SMS) that the patient will be contacted by the physician. Accordingly, the physician will call the patient after reviewing the patient's history and records. First, the physician will introduce himself/herself, obtain a verbal consent and discuss the condition thoroughly. The outcome of the consultation shall be agreed between the patient and the doctor. The outcome can include medications refill, imaging, follow up after few months, or reassurance and discharge. However, some patient during the teleconsultation will require attendance on their schedule appointment.

AIM, OBJECTIVES, AND STANDARDS

During the pandemic of COVID-19, patients scheduled for clinic appointments in the ENT department were given over the phone consultations. This helped to avoid waiting in crowded areas in the hospital, as COVID19 is highly infectious and can easily spread to healthcare workers and other patients. COVID19 outbreak is recent. However, based on the literature, teleconsultation services have shown significant improvement in health care system.

The objective of this study is to measure the effectiveness and patient satisfaction of teleconsultations in the ENT clinics during the pandemic of COVID19. It can be depicted from other countries experience with COVID19 that ENT services has been the frontline of patients presenting with the disease. Furthermore, ENT clinics have a large of

patients in waiting areas. Also, there is a lot of overlap with respiratory and ENT symptoms. Therefore, reducing the number of patients in the waiting area can help in preventing the spread of COVID19 as well as maintaining social distancing. Besides measuring the effectiveness of the teleconsultation, it is also important to assess the patient's satisfaction of the teleconsultation. Patients will be called after the teleconsultation to fill a questionnaire and their answers will be filled in a visual analogue scale (score out of 10).

METHODS

A retrospective questionnaire was carried out by calling the patients who received a teleconsultation between March 2020 to July 2020 at the time of their scheduled ENT appointment. 200 patients were

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randomly selected. Patients were called 1 day after they received the teleconsultation and are asked to verbally to answer a set of questions to measure their satisfaction and to ask about the effectiveness of the teleconsultation.

This questioner was created by taking into consideration biographic date of each patient, and patient's comorbidities. Two of the questions in the questionnaire used visual analogue scale (score out of 10) to measure their satisfaction in the caller's approach and the overall satisfaction of the remote consultation. All data was collected and kept in an excel sheet once data collection was done, it was analyzed using XPSS software.

RESULTS

A total of 200 who experienced teleconsultation service at the ENT clinic were randomly selected from the hospital information platform. Among them 106 (53.0%) were males and 94 (47%) were females. Majority of patients were aged between 41-50 (20.5%) and below 10 years old (19%). Of the 200 patients, 54 (27.0%) of them had comorbidities, such as diabetes, hypertension and dyslipidemia (Table 1).

Table 1: Patient demographic characteristics

Demographic Characteristics	n = 200
Age Interval:	
<10	38 (19.0%)
11-20	14 (7.0%)
21-30	29 (14.5%)
31-40	27 (13.5%)
41-50	41 (20.5%)
51-60	30 (15.0%)
>60	21 (10.5%)
Gender:	
Male	106 (53.0%)
Female	94 (47.0%)
Comorbidities:	
Yes	54 (27.0%)
No	146 (73.0%)
Number of visits to ENT clinic:	
≤5	159 (79.5%)
>5	41 (20.5%)

In reference to the degree of satisfaction experienced, 197 (98.5%) of patients said that their history was covered well by the caller, and 195 (97.5%) replied that their management plans were explained well (Table 2). 191 (95.5%) found that the method of teleconsultation is effective and would recommend it at the time of crisis.

Table 2: Response rates of survey questions

Response rates of survey questions	n = 200
Was your history covered well?	
Yes	197 (98.5%)
No	3 (1.5%)
Were you updated on you latest investigations? (if applicable)	
Yes	6 (3.0%)
No	-
NA	194 (97.0%)
Was your plan of management explained well?	
Yes	195 (97.5%)
No	5 (2.5%)

Would you recommend continuing using teleconsultations at the times of crisis?

Yes	191 (95.5%)
No	9 (4.5%)

Patient's satisfaction score regarding the caller's approach was measured using the visual analogue scale (out of 10). Scores varied among different ages and gender identities. Scores with regards to age varied from 8.23 ± 2.02 (age 41-50) to 9.71 ± 0.61 (age 11-20). Males gave an overall score of 8.69 ± 1.50 were almost comparable to females who gave a score of 8.63 ± 1.75 . Patients who presented to the ENT clinic more than 5 times gave caller a score of 8.13 ± 2.19 , on the other hand, those who had follow ups less than 5 times gave a score of 8.80 ± 1.40 . Participants who recommended the use of remote consultation gave a score of 8.81 ± 1.38 , and the ones who did not recommend it gave a score of 5.50 ± 2.78 (Table 3).

Table 3: Satisfaction score for caller's approach and explanation of the principle of teleconsultation across demographics

Satisfaction score for caller's approach and explanation of the principle of teleconsultation across demographics	Mean ± SD	P value
Age Interval:		
<10	9.15 ± 1.21	0.009
11-20	9.71 ± 0.61	
21-30	8.44 ± 1.61	
31-40	8.92 ± 1.35	
41-50	8.23 ± 2.02	
51-60	8.41 ± 1.66	
>60	8.28 ± 1.67	
Gender:		
Male	8.69 ± 1.50	0.98
Female	8.63 ± 1.75	
Comorbidities:		
Yes	8.42 ± 2.06	0.72
No	8.76 ± 2.06	
Number of visits to ENT clinic:		
≤5	8.80 ± 1.40	0.10
>5	8.13 ± 2.19	
Participants recommend continuing using teleconsultations at the times of crisis:		
Yes	8.81 ± 1.38	0.000
No	5.50 ± 2.78	

Overall satisfaction score of the teleconsultation was also measured using the visual analogue scale (score out of 10). Scores varied among different age groups from 8.31 ± 1.45 (age 41-50) to 9.71 ± 0.61 (age 11-20) (Table 4). Males overall satisfaction score was 8.92 ± 1.33 and females gave a score of 8.67 ± 1.78 . Patient who did not have any comorbidities gave a score of 8.91 ± 1.41 .

Table 4: Overall satisfaction score for teleconsultation across demographics

Overall satisfaction score for teleconsultation across demographics	Mean ± SD	P value
Age Interval:		
<10	9.21 ± 1.37	0.003
11-20	9.71 ± 0.61	
21-30	8.93 ± 1.43	
31-40	8.88 ± 1.47	
41-50	8.31 ± 1.45	
51-60	8.76 ± 1.50	
>60	8.19 ± 2.35	
Gender:		
Male	8.92 ± 1.33	0.48
Female	8.67 ± 1.78	
Comorbidities:		
Yes	8.50 ± 1.89	0.13
No	8.91 ± 1.41	
Number of visits to ENT clinic:		
≤5	8.88 ± 1.53	0.11
>5	8.48 ± 1.64	
Participants recommend continuing using teleconsultations at the times of crisis:		
Yes	8.98 ± 1.23	0.000
No	4.88 ± 2.57	

DISCUSSION

The COVID-19 pandemic had a very rapid spread. In February 2020, the Kingdom of Bahrain have declared the first case. It was recognized by World Health Organization as a pandemic in March 2020¹. Different measures have been practiced worldwide in order to reduce the rate of the spread. Strategies focused mainly on physical distancing and avoiding crowds⁴.

King Hamad University hospital implemented several regulations to protect patients, visitors, and health care staff. Teleconsultation in particular was applied in certain specialties, and ENT was among them. The purpose of this audit is to study the clinical effectiveness and patient satisfaction regarding the teleconsultation service. It can be depicted from the results shown that 98.5% of patients enrolled in the study were satisfied with the history covered by the physician during the teleconsultation and 97.5% of them also reported that the management plan was thoroughly explained.

Different countries around the world have also implemented teleconsultation and achieved similar results. In China, Luwien et al cohort study showed that 98.1% (n=966) of respondents were satisfied with the service they received (teleconsultation)⁵.

Moreover, M. Fieux et. al concluded that patients' overall satisfaction with telemedicine consultation was excellent, with 87% of them were very satisfied. However, two main factors contributed with poor satisfaction, being unable to perform physical examination and poor tone quality⁶.

In China, the implementation of remote services decreased the death rates and lowered the incidence of COVID-19 in Shangdong province. Telemedicine provided great treatment guidance, remote counseling and prevention methods, thus had a very significant in containing the

pandemic⁷.

It is apparent that patients globally are appreciative and supportive to the alternative methods of clinic follow up during the COVID-19 pandemic. Furthermore, they found it also effective, as 95.5% of patients recommend the use of teleconsultation at the time of crisis. Most of the patients understood that telemedicine consultations are rewarding alternative, however, they also knew that certain conditions would necessitate their presence in the hospital for further management. Having said that, the study population overall satisfaction score was of 8.80 ± 1.56 (out of 10 using the visual analogue scale) which again emphasizes their appreciation of the teleconsultation.

CONCLUSION

COVID 19 have imposed a lot of new rules and regulation that were implemented in different hospitals around the world. In King Hamad University Hospitals (KHUH), teleconsultation was one of many approaches that the administration implemented in order to limit the spread of the disease. Telemedicine was used to overcome the physical distancing restrictions and concerns of face-to-face consultations. Among the 200 patients randomly enrolled, 98.5% of patients were satisfied with the history covered by the physician during the teleconsultation. 97.5% claimed that the management plan was thoroughly explained. 95.5% also find that the teleconsultation is an effective method during the times of crisis. Also, 97.5% of the patients were also satisfied by the caller's approach in explaining their management plan.

Script for verbal Consent/assent (parental consent for children < 18 years of age):

The following will be read to all participants/parents (children less than 18 years of age) before commencing the Telephone Interview and a verbal approval will be obtained.

- I understand that I am being asked to participate in a questionnaire activity that forms part of a medical research under the title of "The clinical effectiveness and patient satisfaction of teleconsultation during the period of COVID19 pandemic in the ENT department at KHUH".
- It is my understanding that this survey/questionnaire has been designed to gather information related my ENT follow up appointment.
- I have been given some general information about this research and the types of questions I can expect to answer.
- I understand that the survey/questionnaire will be conducted by phone.
- I chose to voluntarily participate in this project keeping in mind that I have the right to be withdrawn from this activity without any consequences.
- I understand that there is no financial compensation for my participation for this research.
- I understand that any information I provide will be kept confidential, used only for the purposes of completing this research, and will not be used in any way that can identify me. All information will be stored securely.
- I agree on publishing the information I give in any form, in any journals or conference.

PATIENT SATISFACTION QUESTIONNAIRE

Patient demographics (to be filled by physician before calling the patient)

Age

Gender

Comorbidities

Number of visits to ENT clinic

1. How satisfied are you in the caller's approach and explanation of the principle of teleconsultation? (Score out of 10)
2. Was your history covered well? (yes/no)
3. Were you updated on your latest investigations? (if applicable)
4. Was your plan of management explained well? (yes/no)
5. What is your overall satisfaction score? (score out of 10)
6. Would you recommend continuing using teleconsultations at the times of crisis? (yes/no)

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