

PATIENT SATISFACTION AT TELEMEDICINE CENTER IN COVID-19 PANDEMIC - SHAHEED ZULFIQAR ALI BHUTTO MEDICAL UNIVERSITY, (SZABMU) ISLAMABAD

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ABSTRACT

Objective: To assess the patient satisfaction of health care services offered at the telemedicine center at SZABMU, Islamabad during COVID-19 Pandemic.

Study Design: Cross-sectional study.

Place and Duration of Study: Department of Medical Education/Tele-medicine Centre SZABMU Islamabad, from Mar 2020 to Apr 2020.

Methodology: Data of all calls was collected on a pre-piloted closed-ended questionnaires Important parameters were included demographic details, Corona score and other co-morbidities. COVID-19 related calls were divided into three categories 1, 2, 3 based on the severity of symptoms and advised accordingly. Non COVID-19 related calls were referred to concerned specialties.

Results: Total numbers of calls were 765 with majority 578 (75.6%), male callers. 230 (30%) callers were between 20 to 30 years of age. Only 3 (0.5%) of callers were asked to consult the hospital immediately because they had high Corona score. 734 (96%) of callers were satisfied with tele-consultation and repeat call rate was only 22 (3%).

Conclusion: Medical Consultations on Helplines and Telemedicine are an effective means of communication and reliable consultations in the pandemic outbreak and can help spread awareness and alleviate worry. This can avoid unnecessary visit of the hospital thus reducing pressure on already constrained health care facilities.

Keywords: Pandemic, Patient Acceptance of Health Care, Patient Satisfaction, Telemedicine.

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INTRODUCTION

As a part of the response strategy for the current outbreak of Novel Corona Virus 2019 (COVID-19), authorities are drafting and implementing containment measures across jurisdictions worldwide in the effort to slow down its transmission and infection rate¹. A solid communication strategy is needed to increase the access to valid information from health professionals, reduce mis information, and efficiently implement recommended measures. Using technology like telemedicine may help the population in quarantine to attain reliable consultation to decrease their worry and curb unwanted movement during lockdown²⁻⁶.

The utilization of a dedicated telemedicine health portal to disseminate up-to-date and validated information about the COVID-19 to the

population during lockdown can decrease unwanted movement, and also reduce the exposure of health workers to COVID-19 patient. Further on this framework of telemedicine can improve the national public health response and the overall data reveals critical role of these setups in determining the state policy for management of COVID-19. Keeping this in mind, multiple telemedicine units were established at various hospitals and medical colleges by the Government of Pakistan. One of these dedicated helpline units is working at the Shaheed Zulfiqar Ali Bhutto Medical University (SZABMU), Islamabad^{4,5}. Mobile phone calls are attended throughout the day addressing the various concerns of the callers. The consultations covered questions regarding COVID-19 and also questions related to other ailments.

As the phone call is concluded, the patient is asked about their level of satisfaction. Their evaluation of the doctor's attitude, level of care, and overall behavior are noted. This feedback

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regarding the quality of health care provided is recorded.

Patient satisfaction is the integral constituent of a health care system and is pivotal to developing more patient-oriented management by the professionals. Patient-centered clinical care is the most important part of a high-quality health care system. With a system that takes patient centered approach healthcare institutions take progress using it as an important tool for research, management and planning for improvement.

METHODOLOGY

A cross-sectional study was carried out at the Telemedicine Unit established at the Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad. The study time period was from 26th March 2020 to 26th April 2020. The total sample size was 765 patients. convenient sampling technique was done in simple randomized manner. All phone calls received during this time were included in the study sample. Sample size was calculated using the Epi-info calculator with 95% confidence interval and a power of 80%. Hoax calls were excluded from the study sample. There is a international study showing a proportion 15.3% of patients were agreed and satisfied with their telemedicine encounter⁷.

In March 2020, after the implementation of the lockdown the Government of Pakistan set up multiple Telemedicine units in hospitals across the country. Volunteers were recruited and trained by master trainers to efficiently receive phone calls and provide adequate information to patients.

A specially designed questionnaire included questions about the demographics and questions relating to this study along with patients satisfaction rating. The questionnaire was developed using WHO guidelines on COVID-19 developed by Department of Medical education SZABMU.

In view of the pandemic many of the medical calls were related to COVID-19 therefor, among the medical calls two groups were labeled as 'COVID-19 calls' and 'non COVID-19'. All

COVID-19 callers were asked about their travel history, contact with COVID-19 positive patients, their symptoms e.g. fever, flu, dry cough. These calls were scored using a specially designed COVID 19 scoring system used in our hospital. The calls were categorized into three grades according to score. All callers were segregated according to score and advised a medical plan accordingly. The ones scored zero were reassured and explained precautionary measures, 'Category-1' were advised to stay at home, 'Category-2' advised to stay isolated at home or a PCR was recommended if symptoms persisted or aggravated, 'Category-3' callers were advised to call the ambulance and visit at the COVID-19 center for consultation. The Non COVID-19 medical calls were connected to the specialty of medicine to which their presenting complaint related.

All the data that was collected was entered into Microsoft Excel 2013. This data was the imported into SPSS-22. After being entered various tests were carried out on the data to check the validity and significance of the results generated. It was concluded that frequency tables and figures were the best way to analyse and present the information collected in the study. SPSS-22 was used to make these tables and figures that have been included below.

RESULTS

The total number of callers included were (n=765). Amongst these 578 (75.6%) were male and 187 (24.4%) were female (fig-1). A mean age

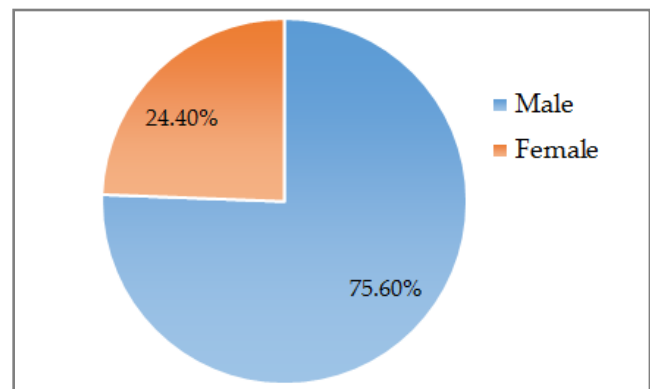


Figure-1: Gender distribution.

of 35.28 ± 15.521 was seen with minimum age of concerned patient 1 year and maximum being 100 years. The callers were divided into six age groups with 82 (10.7%) being less than 20 years of age, 195 (25.5%) aged between 20 to 30 years, 228 (29.8%) aged between 30-40 years, 120 (15.7%) aged between 40-50 years, 74 (9.7%) aged between 50-60 years, and 66 (8.6%) were past the 6th decade of life.

Out of these, 87 (11.4%) patients had associated comorbidities while 678 (88.6%) patients had no known comorbidities. 170 patients (22.2%)

attained 'Score one' and marked category-1, they were advised to stay at home. Category-2 54 (7.1%) patients were advised to stay isolated at home and category-3, 4 (0.5%) patients were asked to call the ambulance and visit the COVID-19 center for consultation (table-I).

General medicine was the most frequently consulted specialty, followed by cardiology, whereas ophthalmology was least consulted (table-II).

Table-I: COVID scores of patients.

S. No.	COVID Score	No. of Callers	Percentage (%)	Advice
1	Zero Score	429	56.1	Reassurance, follow precautionary measures
2	Category-1 (Score 1-3)	278	36.3	Stay at home
3	Category-2 (Score 4 & 5)	54	7.1	Home isolation & PCR advised if symptoms aggravated
4	Category-3 (Score >5)	4	0.5	Call the ambulance and visit at the COVID-19 center for consultation

Table-II: Distribution of consulted medical specialty- non COVID calls.

S. No.	Medical Specialty	No. of Calls	Percentage Amongst Total Medical Calls
1	General Medicine	19	4.7%
2	Cardiac Medicine	13	3.22%
3	Gastroenterology	9	2.23%
4	Gynecology & Obstetrics	9	2.23%
5	General Surgery	7	1.73%
6	Pediatrics	6	1.49%
7	Nephrology	4	1%
8	Otolaryngology	2	0.5%
9	Ophthalmology	2	0.5%

were from Islamabad capital Territory, 243 (31.8%) lived in Rawalpindi city and 351 (45.9%) resided elsewhere. Majority of callers, 742 (97%) callers, would be satisfied from a single call, yet some of them, 23 (3%) callers, found it convenient to call multiple times and utilize this facility.

In the medical call cohort, the patients inquiring about Corona virus infection were 82.92% of the total callers, 17.07% callers were concerned about other medical issues. All the patients who called at the helpline were categorized according to COVID-19 Score. More than half of the patients 429 (56.1%) were 'Score Zero' and were reassured and explained precautionary measures. A signifi-

The non-Medical calls were 361, 47.19% of the total calls and were related to other issues (fig-2).

Most of the callers 737 (96.3%) were fully satisfied with the accessibility and effectiveness of this helpline, (3.4%) said they were satisfied to some extent, while a very small number 2 (0.3%) still had their reservations and were not satisfied from this service (fig-3).

DISCUSSION

The COVID-19 pandemic outbreak has led to a lifestyle change globally particularly due to the lockdown implemented by the governments worldwide, to curtail the spread of virus among

individuals^{2-6,11-17}. The spread of the virus is also possible at hospital outpatient and inpatient departments, from those visiting the hospital and from the hospital staff as well. Patients having low immunity have a higher risk of getting infected. Healthcare providers and hospital staff

determining the state policy for management of COVID-19. The Government of Pakistan has taken a similar initiative. A toll-free Helpline is set up in 22 centers all over the country with doctors responding to patients, whether it is related to COVID or other medical issues⁶. One of these centers has been established at the Shaheed Zulfikar Ali Bhutto Medical University, Islamabad. We have performed an audit of the calls being received at this center and divided them into groups. Since a COVID testing facility has also been established here, along with a distant quarantine and local Isolation and COVID ICU setups, the majority of the calls were related to queries regarding the coronavirus infection. The great number of calls was also related to the anxiety associated with the pandemic and the rising number of emerging cases.

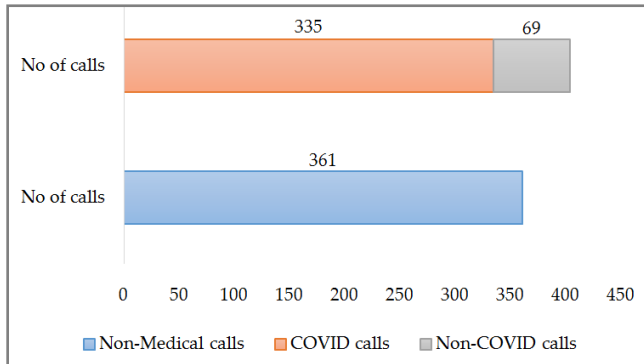


Figure-2: Types of calls.

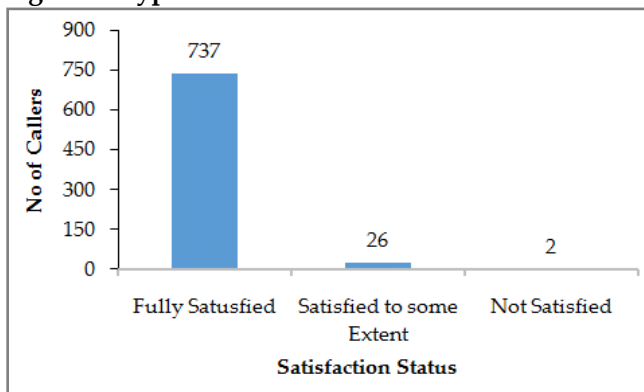


Figure-3: Callers' satisfaction status.

being regularly exposed to high number of patients and their attendants maybe at greater risk of contracting the disease. Keeping this in mind, hospital OPDs were dismissed during the lockdown. This caused a great residual patient load which had to be catered²⁻⁶. This is, therefore, being managed worldwide on phone calls via helplines, and social media^{3,22-24}. Also as per exposure health care workers may be quarantined and thus not available directly. In these circumstances also, these doctors can continue supporting the system with their inputs⁸.

Patients are now approaching healthcare differently, and the ramifications of these changes could last long after the pandemic is over. Overall data reveals critical role of these setups in

Since telemedicine units all over the world are witnessing high number of calls with the majority of calls being COVID related, some health systems are opening hotlines specifically for COVID-19 concerns. Despite the establishment of specialized helplines, telemedicine units still continue to receive calls related to COVID-19^{4-9,10}.

In Italy, despite being the second most affected country, telemedicine was not used on priority and major lapses were seen in the health care system, where the patients had to come the physician in case of even minor symptoms or for regular follow ups². The health ministry in France however, has allowed the reimbursement of video teleconsultations and tele-expertise for patients with COVID-19 symptoms and those confirmed with COVID-19 throughout the country. The decree was aimed to limit unnecessary travel for medical consultations and the number of individuals grouping in waiting rooms, screen and detect suspected patients, and allow follow-up of mild confirmed cases from home^{2,15-23}.

A rising response has been observed in other helpline facilities across the world. The helplines that were already in service in various U.S states, noticed a significant outburst of calls¹⁰. A rising

percentage of callers were concerned about coronavirus infection. CareNet Health in the U.S has seen a 60% rise in the number of calls and there has been a 1600% increase in calls related to the corona virus. After two weeks this increase continued to be 142% of call volume and a week later a 26% increase was seen as compared to the week prior. This gave them a total of 553% increase as compared to the previous three weeks.

There are more than 50 health care facilities who are offering virtual medicine for COVID-19.¹⁰ In Arizona USA, Banner Health created a dedicated helpline for COVID and was receiving about 5,600 calls per day, reaching nearly 6,000 on the busiest days. They got about 50% of the calls in the first 2 hours. Their non-coronavirus hotlines also saw an increase in calls, with about 30% COVID-19 related.

Centers in Europe were overloaded with calls at times. In Italy, on 16 February when there was still no confirmed case of COVID-19, yet, 5,086 calls were made. The first case was confirmed on 17 February and on 22 February the center had already received 10, 657 COVID related calls. In Spain, calls to the helpline tripled. In the last week of March 2020, 11,457 calls were received rather than 4,500 per day, with 57.5% asking questions regarding the virus. Calls also increased in Croatia not only in number but also in duration.

In Dubai, the initiative which was facilitating family medicine services was now offering COVID related health guidelines virtually all over Dubai and experienced a marked increase in calls, primarily callers concerned about the corona virus. Dubai has also, used its WhatsApp helpline to keep the population updated and give them guidelines as and when required¹⁰. Service in Australia called, On the Line has received an increase in calls over the last weeks of March, as the Coronavirus disease (COVID-19) spread across Australia.

In this hour of need, similar centers are operating around the clock, along with specialized centers for patients concerning the issues faced by

people during the pandemic. Since mental health would remain a big concern and the current situation will raise anxiety levels, the already diagnosed mental health patients especially with OCD need re-consultations. The mental health of health care professionals and the paramedics is also being affected across countries. Over a month of the COVID-19 crisis, CareNet analysis showed a 166% rise in behavioral and mental health telehealth cases.

The North Carolina Department of Health and Human Services in the USA has come up with two new mental health resources to support their population during the pandemic crisis. Also, mental health and resilience supports for health care professionals, emergency medical specialists, first responders, other staff who work in health care settings and their families throughout the state who are experiencing stress from being on the front lines of the state's COVID-19 response.

A related facility "Hope 4 Healers" is also available 24 hours per day, seven days a week for people to reach out for support; they are then contacted quickly by a licensed mental health professional for follow-up.

An Australian Organization specializes in supporting clients along the mental health continuum. The organization is delivering 25 mental health support services on behalf of the government and commercial funders, being concerned about the impact COVID-19 has on their lives now and into the future. Trained counsellors provide help with depression, anxiety, relationship issues, loneliness and social isolation.

Amongst the medical calls received at our hotline, the patients inquiring about corona virus infection were 70. 65% of the total callers, 29.35% callers were concerned about other medical issues. Patients calling our facility were primarily of a younger age group and three fourths were male, Care Net Health has also found their consumer population to be younger in their ten-day data analysis. Elderly and low-income groups were less likely to call. WHO shares that in Algeria mostly women and the majority of house-

wives were anxiously calling due to their concern for their families. Telemedicine has had a similar response in most centres and this feature can be utilized in a focused way to reach these masses^{4-10,18-24}.

In our results 742 (97%) callers, would be satisfied with a single call, some of them, 23 (3%) callers, found it convenient to call multiple times and utilize this facility. The callers who were repeatedly calling were more satisfied, probably due to their familiarity and a better understanding of the facility. Similar responses were observed by other Helpline facilities and if sustains may further validate the effectiveness of this tool^{9-16,22}.

At our center, most of the callers 737 (96.3%) were fully satisfied with the response, some callers 26 (3.4%) said they were satisfied to some extent while a very small number 2 (0.3%) constituted those who were not satisfied with this service at all. Patient satisfaction is high in call centers that have been working on a large scale for longer and the recently introduced facilities and lacking enough phone lines as the patient response is large, in Europe all lines commonly get busy^{11,22-24}. In Romania WHO discloses a mismatch between the human resource capacity and the technical capacity.

RECOMMENDATION

Similar centers should be increased in number and hours of work and should be maintained on regular caller feedbacks and staff reviews. An efficient system will be consumer based.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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