DOI: https://doi.org/10.53350/pjmhs22168269

**ORIGINAL ARTICLE**

# Acceptability, Attitude and Utilization Towards Telemedicine among People of Southern Punjab during COVID19 Pandemic

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## ABSTRACT

COVID-19, highly infectious, respiratory illness caused by SARS-CoV2 (Severe Acute Respiratory Syndrome) virus. It has devastating effects with high mortality.Infection become worse in patients with pre-existing medical conditions. Hospitals increased the number of critical care units in order to stabilize the pandemic's crisisand to minimize person to person transmission, installation of telemedicine networks, distant workers and internet-based health visits.

**Objective:** To assess the acceptability, attitude and utilization towards telemedicine among COVID19 pandemic.

**Materials and Methods:** In Sheikh Zayed Hospital, Rahim Yar Khan, a telemedicine network was quickly set during COVID-19 epidemic. A descriptive cross-sectional study comprising 144 study subjects aged between 34-58 year who seek telemedicine problems of surgery, cardiology, ENT, dermatology, gynaecology and obstetrics, pulmonology, medicine and paediatrics.

**Results:** Out of 144 study subjectswith telemedicine consultation percent distribution of ENT and pulmonology was (48) 33.3% followed by medicine, gynaecology and obstetrics, dermatology, pediatrics and surgery.Patient's satisfaction level was 62.5% in cardiac patients. In department of gynaecology and obstetrics patients satisfaction towards telemedicine was 88.9%, (65%) patients in medicine were satisfied, followed by surgery 41.7%. Gender wise distribution showed 64.1% males were satisfied followed by 61.3% females

**Conclusion:** The COVID-19 pandemic is creating a historic global challenge for health care providers, patients, and societies. Telemedicine is now widely available at low-cost, and broadly acceptable by physicians and patients. Current study highlights the use of telemedicine and effective applications throughout COVID-19 crisis. Telemedicine played an important role for medical practitioners to manage the COVID-19 situation.

**Keywords:** Telemedicine, COVID-19, Pandemics, Crisis, Gynaecology and Obstetrics

## INTRODUCTION

Initially, COVID-19 is a respiratory illness caused by the SARS-CoV-2 virus, which is highly infectious and often results in serious illness (Song et al., 2020). As a result, it has a devastating impact on the health of millions. Since there are more than 3 million instances in the United States and 150,000 of our countrymen are susceptible to it, it's a given that it will happen (Kronenfeld & Penedo, 2021). A new threat to healthcare personnel, patients, and society throughout the globe is developing in the form of SARS coronavirus 2 (Jaffri & Jaffri, 2020). COVID-19's most prevalent symptoms are mild to moderate respiratory infections, which generally resolve on their own without the need for further medical care. Fever, cough, trouble breathing, and pneumonia in both lungs are all normal side effects (Salman & Abu-Naser, 2020). More severe cases of this disease are more common in the elderly and those with pre-existing medical conditions such as heart and lung disease, diabetes, and cancer. Sneezes, coughs, and other respiratory secretions are the most common methods of human-to-human transmission of COVID-19 (Qiu et al., 2020). Hospitals are boosting the number of critical care units in order to counteract the pandemic's impacts. During the preparation for the inflow of COVID-19 cases by doctors and hospital systems, there developed an efficient requirement to give patients with optimal health care without physical interaction in an office environment (Bouey, 2020). Fundamental methods are required to avert a medical crisis as soon as possible in response to this issue (Peine et al., 2020). With the installation of powerful telemedicine networks, distant workers and internet-based health visits are able to meet their health care demands (Knop et al., 2021). For the purposes of providing long-distance clinical treatment, telemedicine makes use of electronic information and telecommunications technology (Dasgupta & Deb, 2008). Despite the fact that roughly 76 percent of American hospitals were already employing telemedicine before the pandemic, the bulk of patients were still treated in person (Rosen et al., 2021). A health care system's global footprint is substantially enhanced by the capacity to provide treatment to patients in distant locations (Kamdar & Jalilian, 2020). As a result of telemedicine contacts, patients benefit from shorter waiting times and less time spent driving to and from appointments (Ballester et al., 2018). Two critical characteristics were necessary for the effective deployment of telemedicine programs. Health care providers and patients alike needed to be trained on how to properly consult with each other remotely through a new technological infrastructure, clinical workflow improvements, and workflow modifications (Shaw et al., 2013). A broad range of telemedical techniques have been developed into patient care routines in the ambulatory and hospital sectors (from the home setting through admission, treatment, and discharge) and metrics have been devised for each use case in order to provide effective care to patients globally (Bhaskar et al., 2020).

In today's high-tech age, telemedicine visits are becoming more common, and new criteria have been developed to determine the urgency of medical or surgical procedures (Ahn et al., 2020). Patients are extensively relied upon to offer accurate reports of their progress as symptoms are monitored remotely. When it comes to preventing the transmission of illness, we should also make every effort to relieve the symptoms of sickness via in-person consultations (Ahn et al., 2020). Sheikh Zayed Hospital in Rahim Yar Khan, Pakistan, quickly set up a telemedicine network in response to the COVID-19 epidemic. Telemedicine was found to be a "feasible, acceptable, and successful" method of providing health care in the initial findings of the retrospective success study. To stop the spread of illness, innovative data-driven containment tactics based on mobile sensors and contact tracking have been swiftly developed and implemented. According to our knowledge, no comprehensive study of the crises' telemedical services has been carried out, taking into consideration the varying degrees of care and medical professional specialties. Because of this, we examine how well the public perceives the quality of information provided in order to determine how well we can communicate with the aforementioned service providers.

**Objective:** To assess the acceptability, attitude and utilization towards telemedicine among people of South Punjab during COVID19 pandemic.

## MATERIALS AND METHODS

This was a descriptive cross-sectional study including 144 study subjects aged between 34-58 year, who have consulted on telemedicine helpline for problems of cardiology, dermatology, ENT, pulmonology, gynaecology and, medicine, pediatrics and surgery in time frameMay 06, 2022 to July 09, 2022.Data was collected at Center for Telemedicine SZMC/H, RYK which would include the patients name, age, gender, address, speciality of illness etc. The collected data was statistically analyzed using Statistical Package for Social Sciences (SPSS) Program for version 20.

## RESULTS

A total of 144 of study subject who have consulted on telemedicine helpline for problems of cardiology (16) 11.1%, dermatology (18) 12.5%, ENT and pulmonology (48) 33.3%, gynaecology and obstetrics (18) 12.5%, medicine (20)13.9%, pediatrics (12)8.3% and surgery (12)8.3% were included in this study. Mean age of the study subjects was 34±22 years. Overall 64 (44.4%) of the study subjects were male. type of care provided to patients included; for treatment 69 (47.9%), anxiety 29 (20.1), follow up 27 (18.8%), side effects query 13 (9%) and dosage 6 (4.2%). Majority of the patients were satisfied 90 (62.5%) and 19 (13.2%) patients were unsatisfied, whereas 35 (24.3%) patients satisfaction level was neutral about telemedicine (Figure-1).

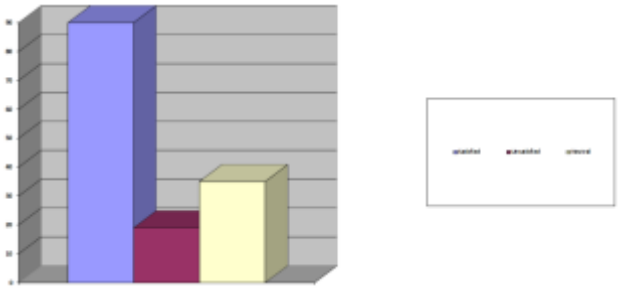

Figure 1: Satisfaction level of patients toward telemedicine

Department wise patient satisfaction with telemedicine help was also monitored. Patient satisfaction to telemedicine services for cardiac diseases was 10 (62.5%) and 6 (37.5%) neutral. Patient satisfaction in dermatology diseases was observed as 6 (33.3%), 6 (33.3%) unsatisfied and 6 (33.3%) as neutral. Patient satisfaction in ENT/Pulmonology department observed as 32 (66.7%) satisfied, 5 (10.4%) unsatisfied and 11 (22.9%) as neutral. In gynaecology and obstetrics department satisfaction towards telemedicine facility was recorded as 16 (88.9%) as satisfied and 2 (11.1%) non-satisfied patients. Patient's satisfaction level was also monitored in medicine where 13 (65%) patients were satisfied, followed by 5 (25%) neutral, and 2 (11.1%) non-satisfied patients. Telemedicine also helpful in paediatrics care where 8 (66.7%) were satisfied, 3 (25%) unsatisfied and 1 (8.3%) neutral about telemedicine care provided. Care provided by telemedicine in surgery showed that 5 (41.7%) patients were satisfied, 5 (41.7%) not satisfied and 2 (16.7%) neutral patients (Table-I).Gender-wise distribution and response towards care provided by telemedicine showed that 41 (64.1%) males were satisfied followed by 16 (25%) not satisfied and 7 (10.9%) neutral patients, whereas 49 (61.3%) females were satisfied followed by 19 (23.8%) not satisfied and 12 (15%) neutral patients (P value=0.7)

Table-II showed patients response and outcomes during COVID crisis by telemedicine. Table-III showed that majority 16 (88.9%) of the patients who sought telemedicine consultation for gynaecology related were satisfied (P value (0.01).

Table-1: Speciality of the care provided

| Speciality of Care | Frequency | Percent |
|---|---|---|
| Cardiology | 16 | 11.1 |
| Dermatology | 18 | 12.5 |
| ENT/Pulmonology | 48 | 33.3 |
| Gynaecology and Obstetrics | 18 | 12.5 |
| Medicine | 20 | 13.9 |
| Pediatrics | 12 | 8.3 |
| Surgery | 12 | 8.3 |
| Total | 144 | 100.0 |

Table-2: Monitoring of Patients Response

| Type of Care | Frequency | Percent |
|---|---|---|
| Dosage and Timing Inquiry | 6 | 4.2 |
| Side Effects Query | 13 | 9.0 |
| Follow-up | 27 | 18.8 |
| Anxiety | 29 | 20.1 |
| Treatment | 69 | 47.9 |

Table-3: New treatment sought versus patients satisfaction with telemedicine help provided

| New treatment | Patients Satisfaction with Telemedicine Help Provided | | | Total |
|---|---|---|---|---|
| | Satisfied | Not Satisfied | Neutral | |
| Cardiology | 10 (62.5%) | 0 (0.0%) | 6(37.5%) | 16(100%) |
| Dermatology | 6 (33.3%) | 6 (33.3%) | 6(33.3%) | 18(100%) |
| ENT/Pulmonology | 32 (66.7%) | 5 (10.4%) | 11 (22.9%) | 48 (100%) |
| Gynaecology and Obstetrics | 16(88.9%) | 0 (0.00%) | 2 (11.1%) | 18(100%) |
| Medicine | 13 (65.0%) | 5 (25.0%) | 2 (10.0%) | 20 (100%) |
| Pediatrics | 8 (66.7%) | 1 (8.3%) | 3 (25.0%) | 12 (100%) |
| Surgery | 5 (41.7%) | 2 (16.7%) | 5 (41.7%) | 12(100%) |
| Total | 90 (62.5%) | 19 (13.2%) | 35 (24.3%) | 144(100%) |

Table-4: Type of care provided via telemedicine versus patients satisfaction

| Type of Care | Patients Satisfaction with Telemedicine Help Provided | | |
|---|---|---|---|
| | Satisfied | not Satisfied | Neutral |
| Dosage and Timing Inquiry | 5 (83.3%) | 0 (0%) | 1 (16.7%) |
| Side Effects Query | 11 (84.6%) | 0 (0%) | 2(15.4%) |
| Follow-up | 26 (96.3%) | 1 (3.7%) | 0 (0%) |
| Anxiety | 22 (75.9%) | 2 (6.9%) | 5 (17.2%) |
| Treatment | 26 (37.7%) | 16 (23.2%) | 27 (39.1%) |
| Total | 90 (62.5%) | 19 (13.2%) | 35 (24.3%) |

Patients response towards telemedicine care provided showed that 26 (96.3%) were satisfied with the care provided for follow-up, followed by side effects query which showed that 11 (84.6%) patients were satisfied and 5 (83.3%) patients were satisfied to medicine dosage and time inquiry, 22 (75.9%) patients were satisfied towards anxiety. Patients satisfaction towards treatment advised via telemedicine care provided showed that 26 (37.7%) were satisfied. (Table-IV).

## DISCUSSION

In reaction to the COVID-19 pandemic, telemedicine has emerged as a key technology to bring high-level medical care to patients while reducing the transmission of COVID-19 among patients, families, and clinicians. We conducted this study to assess the extent of the current implementation of lifesaving telemedical treatment from patients who are infected that require medical attention. Out of 144 study subjects, who have consulted telemedicine helpline diagnosed with problems of cardiology (16) 11.1%, dermatology (18) 12.5%, ENT/pulmonology (48) 33.3%, gynaecology and obstetrics (18) 12.5%, medicine (20)13.9%, pediatrics (12)8.3% and surgery (12)8.3%. Mean age of the study subjects was 34±22 years. Similar findings were report by Grace et al in US(Wei et al., 2021). This study showed that majority 16 (88.9%) of the patients who sought telemedicine consultation for gynaecology and obstetrics related were satisfied, similar study showed that 76% of telemedicine consults in obstetrics and gynaecology were successful. The service offered an opportunity to women with chronic conditions to access specialist services and those with follow-up visits affected by the lock down to consult by telemedicine (Moyo & Madziyire, 2020). Overall 90 (62.5%) patients were satisfied with telemedicine services while following dosage, side effects, time of inquiry, side effects and treatment,

these finding are in accordance with a study conducted in china (Liu et al., 2020). Telemedicine has become one of the most rapidly-expanding components of the health care system.

## CONCLUSION

The COVID-19 pandemic is creating a historic global challenge for health care providers, patients, and societies alike. When technological, regulatory, and infrastructural burdens can quickly be overcome, telemedicine has the chance to transform from model implementations to a global supply structure, potentially saving thousands of patients' lives. The aim of this paper is to assess the current status of the availability and routine use of telemedical solutions, user acceptance, and the subjectively perceived burdens on telemedical approaches. Furthermore, we seek to assess the perception of public information quality among professional groups and their preferred communication channels.

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