

# Telemedicine in Urology Clinic in COVID Era and the Inherent Challenges in Developing Countries: Review Article

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## Abstract

Since the start of the COVID-19 situation, social distancing has been adopted globally which has promoted the use of telemedicine technology. It is a virtual relationship between doctors and patients, so it requires the expectations of patients and physicians to be addressed. Patients' privacy, maintaining safe communication and distance learning are equally important for running successful telemedicine programs. Other issues include access to this technology, its acceptability and the level of health literacy. In developing countries patients' understanding of their disease and the long-term management is already lacking even in the ideal circumstances. When it comes to telemedicine interactions it becomes an even more difficult task. All these obstacles need attention in order to address patients' concerns and maintain their satisfaction with the modality of telemedicine. Even developed world countries are learning with the passage of time as to how to deal with various obstacles in patient care in the current pandemic. A risk stratification approach is of paramount importance for any hospital department to carry on with uninterrupted and safe delivery of urological consultation services and local procedures. In this article we review recent telemedicine reports, outline the challenges faced by both healthcare providers and patients, and suggest best practices to overcome these challenges.

**Keywords:** Covid-19 • Challenges • Urology • Clinics • Uro-oncology

## Introduction

Since the start of the COVID-19 situation a few months back, social distancing has been adopted globally which has promoted use of telemedicine technology. It has become a vital back up to mitigate the pressure on physicians and patients alike to make a way out in the current situation [1,2].

The short-term burst in telemedicine practice during the COVID-19 pandemic may not continue to establish itself as a long-term solution owing to healthcare infrastructural and delivery imbalance. Secondly, it

is worth noticing that the type of bond is a virtual relationship between doctors and patients so addressing the expectations of patients and physicians is strongly needed for acceptance of this mode of technology especially in developing countries. Thirdly, addressing issues of patients' privacy, maintaining safe communication and distance learning are equally as important for running successful telemedicine programs [1-3].

It is, however, important to note there are some challenges as well while using this mode of practice. These include issues of access to this technology, its acceptability and level of health literacy. In developing countries patients' understanding of their disease and the long-term management is already not so good even in the ideal circumstances. When it comes to telemedicine interaction it becomes all the more difficult task. During telemedicine interactive sessions, the patient can miss certain instructions such as discussing reports, side effects of medications, importance of compliance with treatment regimen and adjustment of doses. Lack of physical examination may risk missing vital observations including location of tender areas and swellings, blood pressure measurements, respiratory auscultation, cardiovascular exam and bowel sounds. All these obstacles need attention in order to address patients' concerns and maintain their satisfaction with the modality of telemedicine [2,3].

Doctors who have no prior experience with this modality of interaction may face challenges such as absence of patient in physical form, management of time, learning technological aspects used in telemedicine, lack of required computer literacy, team work with information technology and telecommunication staff, and extra responsibility to maintain coherent team work of all stakeholders in the virtual clinic. Some physical signs such as important skin color changes in a potentially critical condition can be difficult to detect in telemedicine practice. Moreover, telemedicine interaction with a patient may not be completed quickly so time management is an important aspect to deal with in first place in a telemedicine clinic. Additional challenges for a doctor are the unfamiliar format for the visit, problems of impersonal interaction, and keeping an organized record for next review. Post visit follow up of the laboratory results and the modification in the treatment plan of a particular patient, if required, is another challenge [2-4].

Other aspects of the challenges are data storage, easy access and keeping privacy of patients. The gap of physical interaction faced in a telemedicine clinic may need to be filled with alternative powerful verbal communication on part of the doctor in order to satisfy and educate patients regarding their conditions. In developing countries, addressing the lack of utilization of technology in healthcare is needed especially in the light of the current situation. Moreover, arrangements for training of the clinicians, acquiring trained experts in information technology and public health are much needed in such countries [3,4]. Monitoring and maintaining the smooth functioning of the hardware, software and the involved personnel are additional challenges. Government's will

and speed of delivery is required in setting an infrastructure needed for telemedicine. Prudent policy making regarding investment in hardware and human resource would be required. Other challenges include privacy concerns, cyber security, and interruptions in internet connection, liability issues, and differing socioeconomic and diverse cultural issues that require attention [2-4].

## Materials and Method

We did search on PubMed, Medline database publications using: COVID-19, challenges, urology, clinics, uro-oncology. The publications included were special communications, reviews, conferences, books and research studies regarding the subject matter over last one year.

## Discussions and Literature Review

Telemedicine is a mode of clinical interaction that includes delivering of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies. This method of communication has helped in averting cancellation of clinical consultations in developed world countries in the current pandemic situation. Telemedicine has the potential to be utilized for most of the routine cases and oncological and non-oncological consultations. As far as urology is concerned, some local procedures such as flexible cystoscopy for initial diagnostic purposes in cases of hematuria and lower urinary tract symptoms are indispensable and need physical interaction with the patients. As mentioned earlier virtual communication with the patient cannot replace the face to face interaction, however, it still can be accommodating in many of the routine scenarios. The challenge of lack of important physical findings in such a virtual interaction still haunts the minds of urologists in the current pandemic. Moreover, the dependence on the previous notes and electronic form of records have to be relied upon to make treatment decisions for the patients in virtual clinic [4,5].

## Patient Isolation

According to some centres in the developed world, all patients were told beforehand to self-isolate themselves for at least 7 days duration before undergoing surgical procedures in the Urology Theatre. Additionally, they were instructed to have mandatory negative COVID-19 test before proceeding for the procedures [3-5].

## Tackling the Risk of Patients Contracting COVID-19 during Hospital Stay

Ample personal protective equipment (PPE) protocol has been followed for anesthetic and surgical staff in the western world centers during the pandemic based on local guidelines [6-8]. It is imperative to know the inherent risk of COVID-19 transmission from or to the patients while staying in the hospital setup. Patients' counseling is necessary in this regard. In one study 116 procedures were performed in a urology unit over two months study duration and surprisingly none of their patients developed any signs, symptoms or complications related to COVID-19. Majority of the consultations (66.3%) were virtual consultations in their study, 20% were face-to-face, 5.9% were cancelled by the hospital and 7.7% were cancelled by the patient. More than fifty percent of the direct face-to-face (57%) consultations were related to flexible cystoscopy. A Total of 193 stone patients were also dealt with successfully. Based on their study it was evident that despite the adversities posed by the COVID-19 pandemic, virtual outpatient urology clinic and emergency urological procedures can be undertaken safely if appropriate safety measures are taken by the patients, doctors and hospital staff. Adopting a telemedicine clinic model helps to minimize disruption of the routine clinical work and patients flow. Utilizing a combination of telemedicine and direct face-to-face visits, 86% of oncological and 91% of benign urological outpatient activities were accomplished in their study period [9].

## Risk Stratification

A risk stratification approach is of paramount importance for any hospital department to carry on with uninterrupted and safe delivery of urological consultation services and local procedures. This approach also potentially attenuates the disappointing impact on the patients whose procedures are delayed due to the menace of COVID. Surgical interventions should be judiciously planned and discussed with patients in the light of the urgency and inherent risks if patients proceed with the hospital stay

and the required interventions. Patients' counseling regarding the intricate balance of risk and benefit of procedures in such a precarious pandemic situation is very much vital. Patients should be educated as to why social distancing is necessary even for their own health and life and in such a situation it's in their own interest to opt for the tele clinic interaction with their treating doctor. In cases where physical examination or office based local procedures are not urgently required, it is better to skip the face to face interaction [6-9].

## COVID-19 Era and Challenges in Uro-Oncology

Dealing with patients of general urology can be efficiently and smoothly dealt with using social distancing principles and telemedicine clinics, however, there is concern regarding the provision of timely cancer treatment in the present menace of the pandemic. On one hand there is threat of exposure to COVID-19 and on the other hand is the progression of the stage of cancer if not treated and followed in time [10]. It has been unfortunate in present times that there have been practice changes in the management of malignant diseases, undue delay, or cancellation of cancer treatments [11]. Some eminent oncology societies have reiterated to devise the timing of treatment with curative intent and, when feasible, also for those subjects who have metastatic disease, in the safest and most practicable way [12,13]. As far as the precautions are concerned they include prevention of potential contact with suspected contagious people, thus diminishing the contact to health care workers [14,15].

In a uro-oncology department an early extensive outbreak of COVID-19 among the ward personnel led to swift adoption of telemedicine in their outpatient clinic [16]. Patient's susceptibility to COVID-19 and the obligation to avert infections are primary interests that have to be taken care of in this crisis by imposition of telehealth. It is of utmost importance that while providing the cancer treatment, the physicians must explore the patients' fears and expectations and how they can be supported by provision of a prudent and balanced strategy to continue cancer therapy with safe practices. Despite the great potential of telehealth as a safe mode of communication between doctor and patient, it is pivotal to gauge whether this kind of virtual interaction is an acceptable mode for patients and also if it should be advocated for the future [17].

Those cancer patients, who are commenced on systemic treatment for cancer are presumably at more risk of catching a severe course of COVID-19 because of the immunosuppressive effects of these medications and repeated hospital visits [17,18]. However, according to Rodler, et al. patients queried in their uro-oncology department were more anxious regarding their metastatic disease as compared to the menace of the global pandemic. There is still paucity of studies regarding the perception of anxiety and fear of COVID-19 among cancer patients. A survey accomplished by Kidney Cancer Research Alliance on kidney cancer patients in the USA, demonstrated an increased level of anxiety for both COVID-19 and renal cell carcinoma [19]. However these differences in anxiety levels among cancer patients in different countries may be due to differences in severity, speed and extent of the COVID-19 spread [20].

This pandemic has provided urologists and all other doctors around the globe an opportunity to learn to use this virtual mode of clinic where necessary. Adoption of telemedicine modality has sharply risen during this COVID-19 era and it is hoped that it can become a useful tool even in non-pandemic times later on. Will is needed in this regard not only at the individual hospital staff level but also at the policy makers at the top in governments [8,9,11,13]. Hence, further training of the healthcare professionals is the need of the hour in telemedicine. As most of the health care providers had to postpone treatment for urological conditions and surgical lists due to the threat of COVID-19, time has come to look forward and to make a way out for the health care centers and the urologists alike to lessen the pain of the ailing humanity. Patient's urgent conditions and necessary procedures should be prioritized in a prudent manner to alleviate perturbation of patients who are in need of urgent care. This requires team work, flexibility of local hospital policies and education of community and doctors alike. It is the only way out in the present testing times to restart the urological clinical activities without further delays and also maintain patients' safety at the same time [18-21].

There is a ray of hope in developing countries as well in future, as over the last few years, more and more physicians have started using telemedicine. Telemedicine can flourish with the help of good team work, enhancement of trust between patients and doctors, and friendly healthcare network. The Current pandemic has provided health care

systems with an unprecedented opportunity throughout the world and especially in developing countries of Asia and Africa. These developing countries have a great opportunity to convert this challenge into an opportunity for growth of their health care system in terms of being digitalized and achievement of electronic access to records. Naturally, this will pave a way for further development in this novel field of clinical interaction. This is the right opportunity to provide health care equally across varied cultural, socioeconomic and geographical regions [3,4]. We cannot get a better opportunity than this to educate physicians, patients, and community and policy makers as a whole.

## Conclusion

Telemedicine has provided a new window of opportunity to explore prospects of virtual clinic regarding safety of both the health care personnel and the patients. Routine follow up visits can be dealt with efficiently in urology clinic, however, the challenge still needs to be solved in case of oncology cases. During this COVID-19 era, there is a strong need to introduce more personal but safe interactions where needed especially for oncology patients. Developing countries need more investment in terms of infrastructure and human development to promote telemedicine in all types of vital medical clinics including urology.

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