Telehealth for ‘non-critical’ Patients with Chronic Diseases during the Pandemic

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Abstract

During the recent COVID-19 pandemic, greater attention has been drawn to telehealth to emphasize its role in reducing hospital presentations from both the COVID-19 and usual patients, whilst supporting the home isolation experienced by patients with mild symptoms. The needs of patients with chronic diseases tend to be overlooked during the pandemic. With reduced opportunities for routine clinic visits, chronic patients are adopting various telehealth services such as video consultation and remote monitoring. We advocate more innovative designs to be considered to enhance patients’ feelings of 'co-presence’ – the sense of connection with another interactant via digital technology – with their healthcare providers during this time. The co-presence enhanced design has been shown to reduce patients’ anxiety and enhance confidence in managing their chronic disease condition and has the potential to reduce the patients’ needs of having to reach out to healthcare providers during a pandemic when there are healthcare resources being stretched.

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Viewpoint paper

Abstract

During the recent COVID-19 pandemic, greater attention has been drawn to telehealth to emphasize its role in reducing hospital presentations from both the COVID-19 and usual patients, whilst supporting the home isolation experienced by patients with mild symptoms. The needs of patients with chronic diseases tend to be overlooked during the pandemic. With reduced opportunities for routine clinic visits, chronic patients are adopting various telehealth services such as video consultation and remote monitoring. We advocate more innovative designs to be considered to enhance patients' feelings of 'co-presence' – the sense of connection with another interactant via digital technology – with their healthcare providers during this time. The co-presence enhanced design has been shown to reduce patients' anxiety and enhance confidence in managing their chronic disease condition and has the potential to reduce the patients' needs of having to reach out to healthcare providers during a pandemic when there are healthcare resources being stretched.

Keywords:

Telehealth, Chronic Diseases, COVID-19*, Coronavirus, Pandemic, Remote Monitoring, Co-presence*

Introduction

Given the current COVID-19 outbreak, telehealth is being adopted widely and in innovative ways, so that patients can access care while maintaining social distancing without risking exposure to and spread of the coronavirus. Telehealth also promotes the safety of the much-needed clinical staff during the pandemic. Additionally, using telehealth can avoid unnecessary hospital presentations, thereby providing some relief to the currently over-stretched health resources [1]. With modern telehealth services, patients can arrange a video consultation (VC) with their GPs or specialists instead of traveling to the clinics [2]. Remote patient monitoring (RPM) and patient engagements are also major components of telehealth, which allow patients to share their health-related data with their healthcare workers in real-time [3] and get involved in shared decision making with improved health literacy [4, 5]. One of core enabler of telehealth is the provision of timely intervention to patients based on their real-time health indicators from e.g., RPM, before their next scheduled formal visit or via VC service.

As healthcare resources may be limited during the pandemic, the allocation of the resources will focus on managing acutely sick patients with the COVID-19 rather than non COVID-19 patients [6]. During the pandemic, patients with chronic conditions (such as obesity, diabetes, cardiovascular disease, and kidney disease) are not only at a higher risk of developing serious complications of COVID-19 and dying [7], but there are concerns that these patients miss out on their usual ongoing care which can lead to adverse health outcomes.

Another complication is patients with chronic conditions also being fearful of accessing their usual healthcare to minimise risk of catching infections and subsequently suffering complications from the infection [8]. As a consequence, patients with chronic conditions in

self-isolation are not accessing their usual healthcare through clinic visits that not only provide clinical service, but the interaction during a clinic visit is also a source of motivation for maintaining adherence to medications and behaviour changes such as diet and exercise, required to treat the chronic condition. With reduced clinic visits, patients' communication channels with clinicians and nursing staff are cut off, thereby compromising the gains there were obtained with such interactions before the COVID-19 pandemic.

Telehealth for patients with chronic diseases, during the pandemic, is increasingly important and we suggest that there is an opportunity with innovative adoption of digital technologies that can continue to provide the valuable patient-clinician communication, not only for clinical care, but also for maintaining adherence and behaviour changes. We are suggesting that the care providers to consider the inclusion of 'co-presence' concept which can be used to enhance the perception of presence and thus the relationship between patients with clinicians in the telehealth era. Co-presence refers to the sense of connection with another interactant [9]. It is the perception by a communicator that another person in a mediated or online environment is real, immediate, or present [10]. When a person has a high co-presence with the others in a digitally mediated communication setting, he/she tends to feel more satisfied with the medium and is more likely to use the digital tools. The feeling of co-presence does not have to be built through rich or advanced technologies; it can be achieved by building up social cues for the interactions. Co-presence was widely studied in the field of human-computer interactions and its application has been used in the context of online shopping experience [11] and virtual team collaborations [12]. Co-presence, when incorporated, can provide patients with the feeling that the clinicians are virtually with them, while not operationally increasing the workload of the clinical staff. We provide three co-presence strategies that can be readily applied to ease the burden on the care delivery and challenges to patients with chronic diseases during the pandemic.

Use of telehealth for patients with chronic diseases during the pandemic

During the pandemic, telehealth can be used to provide more than conventional VC and RPM through building an efficient 'co-presence' enhanced approach to reduce patients' anxiety while their face-to-face meeting with the clinicians are reduced, and could aid in relieving stress on healthcare workers of the need for constant monitoring of their patients' health-related data. During the pandemic, where healthcare resources are centered around the diagnosis and treatment of COVID-19 patients, it leaves patients with chronic diseases with potentially longer feedback loop due to lack of remote clinical support.

A co-presence enhanced approach

In our prior work, we introduced a concise design to enhance patients' perception of co-presence through sharing information and emotions with their clinicians during remote monitoring [13]. The design has been built into a remote monitoring system for patients undergoing hemodialysis at home. The system allows patients to rate their emotions at the end of a dialysis session as part of the self-health reporting exercise, so the clinicians have a general understanding of patient's feelings at the end of their dialysis sessions. Dialysis data of patients expressing a low mood are reviewed as a priority. Patients can also include a text note as additional comments to each submission and clinicians can send feedback (with or without comments) by simply clicking the confirmed function in the system, to let patients know their dialysis data including their self-reported emotions has been reviewed. The design was shown to reduce patients' anxiety caused by isolation during remote monitoring, and the clinicians and nursing staff also reported ease of sending positive feedback to patients doing well by just one-click.

During the COVID-19 pandemic, because of the social distancing and isolation rules, this remote monitoring system has become even more useful, as patients on home hemodialysis are able to continue managing their dialysis treatments themselves, without having to come to the dialysis clinics. The data from 65 active patients during past five months of COVID-19 (February to June 2020) has led to 3166 recorded sessions. There is no increase in negative emotions expressed by patients after their dialysis treatments. 31% of the sessions are recorded with a text note. Patients continue to report feeling of less isolated and lower anxiety when they receive feedback on the App from their healthcare providers.

Co-presence strategies

Alleviating patients' anxiety of not being able to visit the hospitals

During the pandemic, opportunities for chronic patients to meet their clinicians are reduced despite increased health concerns. With a co-presence enhanced design of telehealth solutions, patients can find an easy-to-access channel to share their feelings and thoughts with their healthcare providers [13]. Allowing patients to express themselves is an important part of clinician-patient communication and it can be effective in reducing patients' anxiety and providing comfort [14]. Even without a real-time or synchronous communication, patients can still benefit from the sense of co-presence and this can result in reduced anxiety that are caused by the disconnection with their healthcare team. Patients' confidence is also enhanced when they receive simple messages as encouragement [15]. They can be more mindful about their health and better adhere to the recommended regimens and behaviors without the need for constant checks and reminders.

Offsetting the demand for Healthcare teams

The current way of adopting telehealth requires an additional investment in time for the healthcare staff, such as with an increased standby time of clinical staff to respond to patient's needs outside of normal working hours [16].Unfortunately, additional resources to monitor patients are not necessarily available, especially during the pandemic. With co-presence enhanced functions, such as one-click acknowledgment from the healthcare providers and prioritized response to patients' records based on their emotions and their health-related data, staff can spend less time on non-urgent responses, thus report less stress in managing patients' expectations of real-time connection with them through telehealth [17].

Providing continuality when the pandemic ends

Patients with chronic disease play a central role in self-management of their medical conditions [17], as they are making changes to their diet and physical activities to cope with their condition over a long period. Telehealth applications for patients with chronic conditions should be built to provide patients with more assistance and support for a positive behavioral change [18]. The co-presence enhanced design might give patients more confidence and assurance through subtle social cues delivered from the telehealth system [13] and has the potential to provide a continuality in nudging the shift from hospital-centric chronic care model to a patient-centric one when the pandemic ends.

Conclusions

During the recent COVID-19 pandemic, more attention has been drawn to telehealth to emphasize its role in reducing hospital presentations in both COVID-19 and non COVID-19 patients and supporting the home isolation of patients with mild symptoms. The needs of patients with chronic diseases tend to be overlooked during the pandemic. With reduced opportunities for routine clinic visits, patients with chronic diseases are adopting various

telehealth services such as VC and RPM. We advocate more innovative designs to be considered to enhance patients' feelings of co-presence with their healthcare providers during this time. The co-presence enhanced design has been shown to reduce patients' anxiety and enhance confidence in managing their chronic disease condition and has the potential to reduce patients' needs of having to reach out to healthcare providers during these times that have seen healthcare resources being stretched in most countries severely affected by the pandemic.

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Supplementary Files