



Telemedicine and Social Media in the Management of COVID-19: Tunisian Experience

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Abstract

In Tunisia, as elsewhere in the world, severe forms of Acute Respiratory Distress Syndrome (ARDS) related to SARS-Covid 19 were observed. In this pandemic period and given the large number of patients, the challenge was how to manage these serious patients from a distance by guiding other practitioners not trained in this cutting-edge care. For example to manage the operation of the ECMO machine, usually reserved for expert and specialized centers in the field.

Our department of cardio-vascular surgery in La Rabta teaching hospital of Tunis has tried the experience of management of ECMO implanted in the different intensive care units of Tunis, remotely, using telemedicine and social networks. Thus, a Facebook-Messenger discussion group was created and enabled the management of patients under ECMO via video conferencing in real time involving all stakeholders.

to the mechanical ventilation, the "Extracorporeal Membrane Oxygenation" or ECMO has proven to be effective [4].

ECMO is a respiratory or cardiorespiratory assistance technique ensuring oxygenation and perfusion of organs in case of their failure. It may be central or peripheral and provides partial or total circulatory support. It uses the concept of Extracorporeal Circulation (ECB), and includes a system of 'artificial lungs' membranes.

Tunisia has witnessed a significant increase in the number of cases since September. As elsewhere in the world, serious forms have been identified justifying the implantation of ECMO in some Covid19 patients [5]. The department of cardiovascular surgery of CHU la Rabta in Tunis has drawn up recommendations guiding indications for ECMO in ARDS in these patients and tried the experience of social media in the management of ECMO [6].

Once the ECMO was implanted, the call to local medical teams (resuscitators, nurses, nursing aides, etc.) and remote management of machine parameters was done thanks to telemedicine.

In Tunisia, the Covid19 health crisis has enabled several platforms of remote medical consultation to see the light of the day, with the help of the Ministry of Health. These teleconsultation platforms, accessible to citizens during the period of lockdown, were mainly intended to relieve the pressure on the emergencies and calls to the SAMU (190). They represented a model of digital communication between doctor-patient during this pandemic [5,6].

For hospitalized Covid-19 patients, requiring ECMO, we used the most famous social network in Tunisia: Facebook and created a Messenger group of communication between the various stakeholders responsible for taking charge these patients (surgeons, resuscitators, perfusionists, etc.). The choice of using this social network was made for its functionality, accessibility

Keywords: SARS-Covid 19; Telemedicine; Social Media; ECMO

Introduction

Coronavirus 2019 or Covid-19 disease caused by SARS-Cov2 is considered as an emerging infectious disease and was classified on March 11, 2020 by WHO as a pandemic [1]. The main clinical manifestations of this disease are fever, dry cough, dyspnea with radiological signs of viral pneumonia [2]. While the majority of patients with Covid-19 have mild symptoms, around 15%-30% of these develop Acute Respiratory Distress Syndrome (ARDS) requiring their admission to a specialized intensive care unit [3].

For some severe forms of ARDS with a refractory hypoxemia

and the possibility it offers to interact quickly and in real time while in bed [6]. Indeed, the generalization of smartphones and the development of internet networks have contributed to the development of digital information sharing. Since the 2000s, the use of social networking has become an essential part in daily life and even in the medical field: Twitter, Skype, WhatsApp, Zoom [7,8]. These applications, among others, have made it possible, to achieve professional training, facilitate remote and real-time interactions during congresses or conferences, share unprecedented cases to seek feedback from colleagues and to video communicate by video between several doctors [9].

In our experience, the use of this application made it possible to take charge of Covid-19 patients via videoconferences where ECMO parameters were on live stream discussion: ECMO flow rate, vital constants monitoring, ACT rate to ensure effective anticoagulation, blood gas measurement, proper functioning of circuits with the absence of thrombi and finally to know the results of biology.

It is true that the use of social networks in the medical sector can come up against ethical constraints. As Basterdot et al. state "Any shared information becomes permanent and accessible to everyone" [7].

In this "Cyber space" offered by social networks, the infinite sharing of information creates this false impression of confidentiality. Thus, criticisms have been voiced concerning the social networks and respect for professional secrecy. Public disclosure of patient information is supposed to be strictly confidential and is considered as a violation of the ethical code.

In order to preserve the identity of patients and out of respect for medical ethics, scientific societies considered the rules for using social networks in the medical field and have thus published good practice recommendations for social networks [9].

Thus, in our Tunisian experience during the Covid-19 pandemic, this problematic was circumvented by the decision to preserve the anonymity of Covid-19 patients under ECMO: non-nominative case, sharing of the faces of patients was prohibited during videoconferences, discussion group closed to the public.

In the digital age and even more in times of pandemic, the use of social networks is an essential tool for health professionals. This communication using these applications is often a source of anxiety because the legal framework in this area is particularly demanding and we recommend to quickly create a platform

between healthcare professionals for the rapid and real-time exchange of medical information and to provide remote staff in complete safety and above all without legal prejudice [6].

Conclusion

Social media have invaded everyone's daily lives and health professionals are not exception to this trend. The Covid-19 pandemic has only strengthened this digital alternative with the goal of efficiency and patient interest. While their use in a professional setting offers many advantages, it must nevertheless be done in compliance with the rules of ethics and bring real benefit.

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