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OPINION ARTICLE

Tele dermatology: From the Tempest of Debate to Calmer Waters[☆]



Tele dermatología, del debate a la calma

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According to a 2010 report on telemedicine published by a World Health Organization (WHO) initiative called the Global Observatory for eHealth “Access, equity, quality, and cost-effectiveness are key issues facing health care in both developed and less economically developed countries. Modern information and communication technologies, [...] are revolutionizing how individuals communicate with each other... These technologies have great potential to help address contemporary global health problems.”¹

The breadth of the WHO’S vision of the role these technologies can play in improving the various dimensions of healthcare (equity, access, quality, and cost-effectiveness) stands out in contrast to the debate that has been taking place in the West over the last decade on the subject of telemedicine in general, and tele dermatology (TD) in particular.² TD, which is the use of information and communication technologies to deliver dermatological healthcare services, is the third most common application of telemedicine in number of active programs, coming after teleradiology and telepathology.¹

Over the last 15 years, references to TD in the literature have been numerous and increasingly frequent. A

basic search of the MEDLINE database (via PubMed) using the search term *tele dermatology* identified 477 articles between 2000 and 2015. In many cases these articles were primary studies by authors who assessed the validity and reliability of the different modalities of TD (store and forward, real time, and mobile) in the diagnosis of skin disease.^{3–7} In general, they reported better results, measured in terms of the reproducibility and validity of the decisions taken, for in-person clinical consultations than for teleconsultations. However, there is no need or justification in this context for us to defend the merits of any of the modalities of teleconsultation or to compare them to the nuanced judgments, assessment, and decisions facilitated by an in-person consultation with a patient. There is no comparison between the detailed medical history complemented by a physical examination (observation and palpation) and other exploratory techniques (dermoscopy or even ultrasound) that can be obtained in the context of a conventional face-to-face consultation and the prioritization of clinical situations and referral of patients facilitated by TD.

Other studies have evaluated the usefulness of TD as a healthcare process or services delivery method. From this perspective, researchers have studied the effectiveness and efficiency of TD and evaluated the satisfaction of both service providers and users. All these aspects have been evaluated in various care settings (urban, rural, etc.) and using TD for different clinical objectives (screening for skin cancer and/or other skin conditions, presurgical assessment, etc.).^{7–10} In this context, TD offers clear advantages over the classic procedures used to prioritize and refer patients from primary care to a dermatologist.¹¹ Based on

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this evidence, and in order to resolve a decade-long debate, we need to accept the basic premise that, in most cases, teleconsultation complements in-person consultation with a dermatologist rather than replacing patient visits with a specialist clinician. However, what TD can reliably replace (and is replacing) are the traditional referral procedures, and in this context it achieves better results than traditional methods. Before the implementation of the current TD programs, patient referrals to a different level of care (primary, secondary, etc.) were made through written requests from the primary care physician or referring specialist. These traditional procedures have been shown to be clearly inadequate in terms of the appropriate prioritization of patients according to the seriousness of their clinical condition, even when the model of care prioritizes patients who may have cancer.¹¹

In various forums, we have expressed our opinion that the principal achievement of tele dermatology in our country has been to improve the quality of the healthcare processes managed with information and communication technologies. In order to make such an assertion we need to refer to some of the many characterizations that have been used to define quality in healthcare. One of the most pragmatic and specific definitions of quality in healthcare was issued by the Department of Health in the United Kingdom in 1997: "Doing the right things, at the right time, for the right people, and doing them right the first time... the quality of the patient's experience as well as the clinical result, quality measured in terms of prompt access, good relationships and efficient administration." However, we must recognize that the principle of "doing the right things, at the right time, for the right people, and doing them right the first time" has not been applied fully in the practice of conventional clinical dermatology. We must ask ourselves whether, applying this definition of quality, we would consider adequate and efficient the care provided in hospital dermatology clinics to patients with common skin lesions (common warts, acrochordons, lipomas, etc.) or mild and transient skin conditions (acute urticaria, seborrheic dermatitis, etc.) Similarly, the fact that the same standards and waiting time targets are applied to all requests for a consultation with a specialist dermatologist, irrespective of the seriousness of the patient's condition, represents a failure to fulfill the criteria embodied in the concept of quality healthcare. Finally, TD improves the process of referring the patient to a specialist or directly to a surgeon (presurgical teleconsultation, for example)⁹ and even offers the possibility that patients who have reduced mobility or are confined to bed can be assessed by a specialist without having to leave their own homes. These advantages also reflect a level of care that meets the standards of quality which should apply from the patient's first contact with the healthcare system.

However, despite the obvious potential of TD, reports published by the WHO and other organizations recognize the existence of barriers which, in recent years, have hindered the more generalized implementation of TD programs in routine care settings. Among the barriers cited by the WHO are budgetary considerations (particularly in developing countries), legal issues arising from the delivery of telemedicine services in different countries, and cultural factors associated with physicians as well as patients.¹

In Spain, we have encountered the same barriers and difficulties, which have been the result of multiple factors. Contributing factors range from the current configuration of Spain's health services to the view of TD held by medical professionals and the health services in the country's different autonomous communities. The division of Spain's healthcare system into 17 separate health services (one for each autonomous communities governed by a regional government) has made it impossible to implement common telemedicine strategies, the approach recommended by the WHO. This fragmentation gives rise to significant variability in how and why we use TD in dermatology departments across the country. The fact that some health administrations view TD as a short-term and less expensive solution to the age-old problem of waiting lists has been one of the principal obstacles to the full incorporation of TD into our services. The presentation of TD as an alternative to face-to-face consultation with a dermatologist triggered very strong resistance within our own community because dermatologists viewed the introduction of TD into the system as a threat to jobs in the field of dermatology. In many cases, TD programs were put in place with little or no input from the dermatologist during the development phases of the project, even to identify needs. The lack of a clear legal and regulatory framework for telemedicine has in recent years been another reason for insecurity and even anxiety among medical professionals, particularly in teleconsulting projects involving different territories.

After 10 years of debate on TD, we have reached a situation in which the threats to the profession have dissipated, the strengths of the new systems have been observed, and the areas of dermatological care improved through telemedicine have been identified; and the Spanish dermatologist now occupies a privileged position.¹² Spain is the third country worldwide in scientific production on the subject of TD, only surpassed by the United States and the United Kingdom (according to a search using the term *tele dermatology* in the www.gopubmed.org search engine). Furthermore, the number of TD programs in our country tripled in only 5 years from 21 in 2009 to 68 in 2014 (survey carried out by the AEDV's eDermatology and Imaging Group coordinated by Dr. Guillermo Romero and Dr. Diego de Argila).

This privileged position should translate into a more settled scenario in which we can start to develop a framework for working with TD that will provide guarantees of safety for both patients and professionals and ensure the quality of telemedicine services. Three basic principles are fundamental to the formulation of such a framework and objectives and should underpin all future development of TD services: the dermatologist must play a leading role in the design, development, implantation, and coordination of all TD programs; all TD activity must be integrated into the portfolio of services authorized by the health services; and scientific associations and working groups must develop guidelines and standards for the practice of quality TD.

The teams involved in the development and implementation of TD programs are necessarily multidisciplinary (primary care physicians, technicians, decision-makers, etc.) and, in this context, the leadership of the dermatologist will make it possible to identify from the outset the problems that can be improved through the intensive

application of information and communication technologies. In other words, it is essential to avoid at all cost situations in which TD programs are launched in response to an instruction received from a health agency or administration without first identifying the target area that can be improved by TD, and this analysis must be done by experts in the field, namely, dermatologists.

TD activity must be integrated into the portfolio of services authorized by hospitals and health services. After completion of the preliminary phase involving analysis and validation, all TD activity should be integrated into the system in the form of an official and authorized program recognized by the hospital and the health authorities. Moreover, like other official programs, TD systems should be assigned specific resources (the necessary working time and appropriate equipment). This integration of TD activity into the hospitals' official portfolio of services carries with it implicit recognition of the organization's responsibility for the appropriate legal coverage required by the medical professionals involved.

Since the beginning of this debate, professionals involved in TD programs have lacked proper guidelines to help them rationalize and optimize the use of this tool. In recent years, however, a number of scientific societies and related organizations—*American Telemedicine Association*, *British Teledermatology Society*, *American Academy of Dermatology*, etc.—have published standards and recommendations on the practice of quality TD (<http://www.americantelemed.org/>, www.bad.org.uk/healthcare-professionals/specialist-groups/british-teledermatology-society, www.aad.org/forms/policies/uploads/ps/ps-teledermatology.pdf). These documents, which are of great interest, are serving as the basis for the work currently being undertaken by the recently created Grupo Español de e-Dermatología e Imagen (GEDEI, the Spanish eDermatology and Imaging Group) at the request of the Spanish Academy of Dermatology and Venereology (AEDV). The aim of this work is to create a framework for TD activity that can guarantee standards of quality in care that would be difficult to achieve without the rational application of current information and communications technologies.

Finally, after a decade of intense debate about TD, we are sailing into calmer waters.

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