Telerheumatology – breaking barriers to access care in Rheumatology

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Only a few months delay in diagnosis and in adequate treatment of Rheumatic diseases can result in a significant increase in the risk of irreversible joint damage and disability. Unfortunately, early diagnosis and access to treatment in rheumatic diseases are hampered by long waiting lists to specialized care. The mean waiting time for a Rheumatology appointment in Portugal is approximately 200 days for patients triaged as non-priority, based on data from the National Health Service (SNS)[1]. Moreover, several regions in mainland and islands are lacking access to Rheumatologists as highlighted in the document "Rede Nacional de Especialidade Hospitalar e de Referenciação de Reumatologia"[2] and in the last edition editorial of Acta Reumatol Port by Canhão et al.[3].

The limited access to Rheumatologists is a global phenomenon, affecting developing countries, where Rheumatology as a specialty is lacking, but also developed countries[4-6].

Telehealth applied to rheumatology, known as telerheumatology, is an emerging field in healthcare in many countries[7]. It constitutes a promising approach with the potential to anticipate the contact of patients from remote areas with Rheumatologists, leading to earlier diagnosis and treatment, and thus probably to better long-term outcomes.

Implementation of telerheumatology has been impaired by doubts on the reliance of remote physical exam by a non-rheumatologist[8]. However, a systematic review showed a good correlation of diagnoses of rheumatic inflammatory conditions made by telerheumatology compared to face-to-face visits[9]. In the United Kingdom, telerheumatology has been successfully used for the management of patients living in rural areas, with a wide range of applications, including the management of patients on high-risk medication, such as conventional synthetic disease-modifying drugs (csDMARDs) or biologic DMARDs (bDMARDs)[7].

Many other different telehealth services and devices exist, that go beyond the scope of this article. In Portugal, telehealth has reached several specialties and applications, such as anticoagulation telemonitoring[10], teleradiology to screen colorectal cancer[11] and forensic telepsychiatry[12].

On the other hand, the presence of the patient may sometimes be dispensable. In this modality, the health provider communicates asynchronously with no need to align schedules. Examples of its application include the submission by the general practitioner (GP) of specific clinical questions, laboratory results, photos or a request of face-to-face referrals[5]. In Canada, where long waiting times for a Rheumatology appointment are also problematic, this strategy led to a reduction of 38% in the Rheumatology referrals. Prevention of referrals were particularly effective for diagnosis such as osteoporosis, osteoarthritis, crystal arthropathies and fibromyalgia[5].

Definition of criteria for an effective teleconsultation is crucial for the success of the concept of telerheumatology. Not all patients are suitable for teleconsultation and others may benefit from telemedicine consultations with intercalated face-to-face visits, such as patients with inflammatory arthritis in remission. Telemedicine offers good levels of patient satisfaction, travel time and costs reduction and leads to a more productive workforce due to less hours of working absence[13]. For the GP, telemedicine constitutes a learning opportunity and a method to improve communication with the specialist. Good levels of satisfaction for GPs have also been demonstrated[13].

Because there is a lot of variation in the model and structure of healthcare systems between different countries, data on telerheumatology from other countries should not be directly transferred to Portugal. However, we believe that the current state of the access to

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TABLE I. TELEMEDICINE ADVANTAGES IN RHEUMATOLOGY

Telemedicine advantages	Description
	Pre-evacuation
Education	• Real time discussion of patients • Continuous long-distance training
Rationale and mutual selection of referred patients	• Avoid referral of patients that can be managed locally, reducing travel costs and possible even hazardous travels for some patients who have unstable clinical conditions • Optimize the allowed annual ceiling of referred patients, so that less severe patients don't hinder assess to more severe patients • Offer local information about possible treatments and exams, before considering the patient needs to be dislocated
Provide early correct diagnosis and treatment	• Early diagnosis and treatment contribute for reduction of damage and better prognosis in rheumatic diseases • Consequently, patients may have less need for specialized surgery or of biotechnological drugs, thus reducing the number of patients that will require long-term or endlessly treatment and follow-up in Portugal
	After evacuation
Provide missing information	• Avoid unnecessary treatments previously known to have failed or be harmful • Avoid unnecessary exams with cost reduction and avoidance of related adverse reactions • Avoid the repeating of standard immunizations and related adverse reactions and costs
Multidisciplinary discussion and planning patient return to home	• Discuss with the local doctors the discharge of the patient to the country of origin and their capability to provide further follow-up or the possibility of occasional (e.g. annual) appointments in Portugal • Provide of appropriate follow up after return to the home country • Consequently, avoid new displacements due to the impossibility of providing continuation of current treatments or proper follow-up in the home countries

specialized Rheumatology care, makes telerheumatology a promising tool to provide equality of care between metropolitan and rural areas and reduce waiting lists to a Rheumatology consultation. The main barriers to implementation of telerheumatology are its costs, the need to train GPs in musculoskeletal examination and lack of experience with this technology, leading to subsequent reduced acceptance. It is, therefore, crucial to provide incentives and financial support to its implementation. Future research will be crucial to determine the clinical and cost-effectiveness of telerheumatology in Portugal.

TELERHEUMATOLOGY UNDER THE SCOPE OF INTERNATIONAL COLLABORATIONS

On the grounds of long-lasting cultural affinities, Portugal and the Portuguese-speaking African populations (PALOP) held a cooperation agreement in order to improve the access of these populations to specialized healthcare. An annual ceiling of authorized medical referrals to Portugal is defined for each country[15]. This collaboration was intended to compensate for the scarce medical resources of these populations and to reduce the delay in diagnosis and treatment. Nonetheless, the bureaucratic process that mediates the displacement of patients to Portugal is invariably complex and by the time patients eventually receive specialized medical support, disease progression is often irreversible. Moreover, displaced patients frequently lack financial support to pay for treatments,

meals, housing and transportation.

Despite the obvious advantages of the medical referral of PALOP patients, there are innumerous socioeconomical and clinical barriers, as well as the need for improvement of the local awareness on rheumatic diseases. Experts have pointed early referral of patients to rheumatologists and lack of bDMARDs as the main challenges for the implementation of EULAR recommendations for rheumatoid arthritis in Africa[16].

We believe that telerheumatology may improve the access of the PALOP population to Rheumatology care, resulting in proper shared decisions for patient's evacuation, preventing family separation and reducing the costs associated to intercontinental dislocations.

In our Department, telemedicine consultations with Cape Verde started in March 2018 and have already brought multiple significant advantages to the care of patients. These advantages according to our experience are summarized in Table I.

The main limitations of expanding telemedicine to other African countries include equipment requirements and low local perception of Rheumatology needs. In smaller countries such as Cape Verde, Guinea-Bissau and São Tomé and Principe, a few telemedicine local points will be sufficing to cover the most challenging Rheumatology cases and to educate the most interested physicians. The referral process of a patient coming from a PALOP country to Portugal and the return of the same patient to home country has still an unsatisfactory pathway.

Taking in account our recent experience, telerheumatology is in our opinion, is an innovative, easy and effective method of improving the overall care of patients in particular those with difficult access to a Rheumatology specialist.

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