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Editorial

Telemedicine and rheumatology



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“Once you say you are going to settle for second, that’s what happens to you in life”

John F. Kennedy.

The Covid-19 pandemic has been a boon to telemedicine as technology has matured and is readily available to all with low cost and the convenience of a mobile phone. At its height patients requiring assessment and follow-up, monitoring and therapeutic intervention as well as those in clinical trials had little choice but to risk face to face consultation with appropriate precautions and risk spreading infection, being infected or to embrace telemedicine.

From an Australian perspective, due to the tyranny of distance and with the bulk of rural patients being poorly served by medical services in particular specialist services such as rheumatology, patient attendance often requires travel over vast distances. For this reason and the expense involved, telehealth measures have been reimbursed by Australian governments for over 6 years so the use of telemedicine there is quite mature. Indeed, the Royal Flying Doctor Service has paved the way for remote access service and rescue for critically ill patients from all regions of rural Australia. Further, like many countries, there is a very significant manpower shortage in rheumatology so that alternate means of the delivery of rheumatological services that are patient focused and cost-effective are increasingly utilized. These include nurse practitioners and general practitioners with an interest in musculoskeletal medicine.

In this issue of the journal, Bernard and colleagues [1] have studied in an open-label, randomized, prospective, monocentric, clinical trial, the cost-effectiveness of connected monitoring utilizing a digital smartphone application plus clinical case manager compared with conventional DMARD therapeutic monitoring in a group of RA patients commencing a DMARD. Sufficient understanding to perform the measures on a smartphone correctly was a requirement. The authors had demonstrated in a prior study [2], this method led to a reduction in the number of physical visits with continued control of disease activity. Outcomes studied included gain in quality-adjusted life years (QALY) (using EuroQol-5D), resource use and health outcomes. Disease activity

was measured by RAPID-3 and auto-DAS28. Their findings showed a non-significant gain in QALY, the economic analysis showed a modest cost reduction, and cost-efficacy was shown using an incremental cost-utility ratio.

The connected monitoring group had on average less visit numbers, more telephone contacts, lesser distance travelled, and lower costs for hospital visits and in-patient admissions. The smartphone application and equipment costs were commensurately high but would improve with scale. The study concluded that the most efficient approach was that of a combination of digital e-health backed by contact with a case manager. Whilst one could argue that the costs reduction was small as was the average visit number reduction and that the study needs repetition in multiple sites and with bigger subject numbers, what are the wider implications of this type of telehealth for the practicing rheumatologist? A number of associations have developed recommendations for the use of telemedicine in rheumatology [3–7] which highlight a number of elements. These include:

1. triage by telehealth;
2. the importance of shared decision making;
3. diagnosis and initiation of DMARDs should be made face to face – all patients need to be examined in full not only as a joint assessment but to exclude important pathology separate to joints
4. use telehealth for education, monitoring symptoms and pathology testing, dose adjustments, and facilitating adherence;
5. patient training and indeed physician training are important;
6. use telehealth for a period less than 12 months before further face to face review;
7. barriers to telehealth include patient reluctance, digital and health literacy, racial and ethnic disparities, translation to many languages, equipment access;
8. issues of data security;
9. method of rheumatologist reimbursement;
10. impossibility of face to face clinical examination in certain circumstances e.g. a pandemic;
11. use measures recommended but not validated for telehealth including PROs which require minimal changes e.g. RAPID-3, and HAQ, however formal joint counts calculated by patient reported tender and swollen joint counts need education and validation;
12. video preferred over telephone;
13. practice T2T;

14. utilize health care professional's support as demonstrated in the Bernard et al study.

What do the patients think?

Using a combined analysis of surveys and in-depth interviews (1340 patients and 111 clinicians) Sloan et al. [8] found both rated telemedicine as worse than face-to-face consultations in almost all categories, although >60% found it more convenient. Building trusting medical relationships and assessment accuracy were great concerns. Telemedicine was perceived to have increased misdiagnoses, inequalities and barriers to accessing care. Participants reported highly disparate telemedicine delivery and responsiveness from primary and secondary care. Others have found higher patient satisfaction and willingness to have further telehealth consultations but a mixed model that includes face to face especially to include physical examination remains a popular model [9].

So, in conclusion, there is no doubt that telehealth was vital during the Covid pandemic when patients were physically unable, reticent or not allowed to physically attend. Preventing delayed diagnosis of time-critical disease from acute vasculitis to septic complications from therapy as well as monitoring and assessing response to already commenced therapy is important and telehealth played an important role. Nevertheless, whether cost-effective or not to imagine that diagnosis and management across the Immune mediated rheumatic diseases spectrum including the use of potentially toxic antirheumatic therapy in the absence of an adequate physical examination can be fraught with danger. We are now used to determinations like number needed to treat to achieve remission or low disease activity or number needed to harm per serious adverse event perhaps number needed to be treated by telehealth per missed serious pathology or incorrect assessment in the absence of an adequate examination is just as important. It is straightforward to diagnose and commence appropriate therapy such as methotrexate in a patient with a strongly positive anti-CCP ab who has an acute onset of painful symmetrical polyarthritis. However, if the examination revealed bibasal pulmonary crackles or an enlarged liver with signs of chronic liver disease or a peripheral vasculitic rash, choice of therapy would be significantly impacted indeed dangerous choices could be avoided by physical examination.

Our patients deserve to be managed by physician's expert in rheumatic diseases aided appropriately by other health care professionals as evidenced by the study of Bernard et al. and not by rheumatoid arthrologists with an iphone.

Disclosure of interest

The authors declare that they have no competing interest.

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