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BRIEF COMMUNICATION

Healthcare access and attitudes towards telehealth during the early phase of the COVID-19 pandemic among an Australian cohort with inflammatory arthritis

Adam Rischin,[1] David Liew,[2,3] Rachel Black,[4,5,6] Ashley Fletcher,[7,8] Rachelle Buchbinder,[7,8] Marissa Lassere,[9,10] Lyn March,[11,12] Philip C. Robinson[13] and Catherine Hill,[4,5,6] The ARAD Steering Committee[†]

[1]Department of Rheumatology, The Alfred Hospital, [2]Department of Rheumatology, Austin Health, [3]Department of Medicine, University of Melbourne, [7]Monash Department of Clinical Epidemiology, Cabrini Institute, and [8]Department of Epidemiology and Preventive Medicine, School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, [4]Rheumatology Unit, The Queen Elizabeth Hospital, [5]Rheumatology Unit, The Royal Adelaide Hospital, and [6]Adelaide Medical School, The University of Adelaide, Adelaide, South Australia, [9]School of Population Health, UNSW Medicine, [10]Department of Rheumatology, St George Hospital, [11]Florance and Cope Professorial Department of Rheumatology, Royal North Shore Hospital, and [12]Institute of Bone and Joint Research, University of Sydney, Sydney, New South Wales, and [13]University of Queensland Faculty of Medicine, Department of Rheumatology, Royal Brisbane Hospital, Brisbane, Queensland, Australia

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Correspondence
Adam Rischin, Department of Rheumatology, The Alfred, PO Box 315, Prahran, Vic. 3181, Australia.
Email: a.rischin@alfred.org.au

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Abstract

Community restrictions due to COVID-19 have changed healthcare, including increased telehealth use. During the early pandemic phase, a cohort of Australian patients with inflammatory arthritis was surveyed. Self-reported access to healthcare was maintained and physical health was more likely to be self-rated poorly than mental health. There was a high level of support for telehealth during and after the pandemic.

Patients with inflammatory arthritis are at increased risk of infection both due to underlying disease and from immunomodulating disease-specific treatments. Near the start of the current pandemic, Australia instigated community restrictions to curb the spread of the COVID-19 infection. As with many aspects of societal function, healthcare delivery was significantly affected. However, the Australian government implemented strategies to maintain a functioning system, including wider accessibility to telehealth.[1]

This study sought to understand broadly the impacts of the first phase of the COVID-19 pandemic on Australian patients with inflammatory arthritis, including their overall mental and physical health. We aimed to determine the level of difficulty and patient confidence in accessing healthcare services, including pathology, radiology, pharmacy, general practitioner (GP) and rheumatology consultations. The other major objective was to determine if telehealth use was deemed suitable to patients during and after the pandemic.

This study was a collaboration between the COVID-19 Global Rheumatology Alliance (GRA), an international collaborative registry formed in March 2020 to collect, analyse and disperse up-to-date information about rheumatology patients affected by COVID-19,[2] and the Australian Rheumatology Association Database (ARAD), a national database that collects longitudinal outcome data of inflammatory arthritis patients from self-reported surveys at 6–12 month intervals.

The GRA created a patient experience survey to capture how the pandemic affected disease management, patient behaviours and mental health.[3] Australian-

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[†]Other members of the ARAD Steering Committee: Claire Barrett, Graeme Carroll, Franca Marine, Lionel Schachna, Premarani Sinnathurai.

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Table 1 Patient demographics, self-reported overall health and access to healthcare

Variable		Responders (*n* = 1032)	Non-responders (*n* = 551)	*P*-value
Age, mean (SD) (years)		59.7 (11.8)	55.5 (15.1)	<0.001
Disease duration, mean (SD) (years)		20.4 (11.5)	18.1 (10.8)	<0.001
Disease-specific disability†, mean (SD)	Health Assessment Questionnaire (HAQ) Score‡	0.6 (0.7)	0.7 (0.7)	0.21
	Assessment of Quality of Life (AQoL)§	0.6 (0.2)	0.6 (0.3)	0.037
SF-36 Standardised Physical Health Summary¶, mean (SD)		39.7 (11.9)	39.8 (12.7)	0.91
SF-36 Standardised Mental Health Summary¶, mean (SD)		48.6 (10.9)	46.4 (11.8)	<0.001
Gender, *n* (%)	Female	683 (66.2)	384 (66.4)	
Baseline education completed, *n* (%)	Tertiary	628 (60.9)	335 (58.6)	
	Secondary	269 (26.1)	134 (23.4)	
	Not completed secondary	134 (13.0)	103 (18.0)	
Socioeconomic index, *n* (%)	SEIFA 5 High	271 (28.3)	160 (29.9)	
	SEIFA 4	219 (22.9)	129 (24.1)	
	SEIFA 3	183 (19.1)	107 (20.0)	
	SEIFA 2	171 (17.9)	92 (17.2)	
	SEIFA 1 Low	113 (11.8)	47 (8.8)	
Living residence, *n* (%)	Major cities	666 (65.1)	384 (67.7)	
	Inner regional	244 (23.9)	122 (21.5)	
	Other (outer regional, remote, very remote)	113 (11.0)	61 (10.8)	
Diagnosis, *n* (%)	Rheumatoid arthritis	575 (55.1)	310 (53.6)	
	Psoriatic arthritis	230 (22.1)	132 (22.8)	
	Ankylosing spondylitis	227 (21.8)	109 (18.9)	
Smoking status, *n* (%)	Current	44 (4.3)		
	Former	432 (41.9)		
	Never	556 (53.9)		
Alcohol use past three months, *n* (%)	Increased	220 (21.3)		
	Unchanged	681 (66.0)		
	Decreased	131 (12.7)		
Current medication use, *n* (%)	Biologic DMARD	700 (67.8)		
	Targeted synthetic DMARD	103 (10.0)		
	Methotrexate	449 (43.5)		
	Other conventional synthetic DMARD	307 (29.7)		
	Glucocorticoids	185 (17.9)		
Patient-reported current mental health, *n* (%)	Excellent to good	863 (83.6)		
	Fair to poor	169 (16.4)		
Patient-reported current physical health, *n* (%)	Excellent to good	686 (66.5)		
	Fair to poor	346 (33.5)		
Patient-reported healthcare interrupted, *n* (%)	Not at all or only a little	883 (85.6)		
Patient-reported healthcare compromised, *n* (%)	Not at all or only a little	924 (89.5)		
Access to pathology in-person (*n* = 720), *n* (%)	No difficulty accessing	636 (88.3)		
	Some difficulty or unable to access	84 (11.7)		
Access to pharmacy in-person (*n* = 912), *n* (%)	No difficulty accessing	821 (90.0)		
	Some difficulty or unable to access	91 (10.0)		
Access to community radiology (*n* = 302), *n* (%)	No difficulty accessing	267 (88.4)		
	Some difficulty or unable to access	35 (11.6)		
Access to GP in-person (*n* = 759), *n* (%)	No difficulty accessing	585 (77.1)		
	Some difficulty or unable to access	174 (22.9)		
Access to GP telehealth (*n* = 610), *n* (%)	No difficulty accessing	555 (91.0)		
	Some difficulty or unable to access	55 (9.0)		
Access to rheumatologist in-person (*n* = 490), *n* (%)	No difficulty accessing	322 (65.7)		
	Some difficulty or unable to access	168 (34.3)		
Access to rheumatologist telehealth (*n* = 527), *n* (%)	No difficulty accessing	467 (88.6)		
	Some difficulty or unable to access	60 (11.4)		

†At the time of the last ARAD survey.

‡Range 0–3, higher score = poorer function.

§Range 0–1, higher score = better quality of life.

¶Range 0–100, higher score = better function.

Table 2 Attitudes towards telehealth during and after the COVID-19 pandemic

		Support for telehealth AFTER the pandemic		Total
		+	−	
Support for telehealth during the pandemic	+	679	141	820
	−	42	170	212
	Total	721	311	1032

+, largely support; −, do not largely support.

specific questions (including access to regular medication supply, pathology, radiology, GP and rheumatologist visits) were added to the GRA survey in REDCap and sent to all current ARAD participants who had completed an online questionnaire in the last 24 months ($n = 1583$). Survey responses were completed from 23 April to 23 May 2020. The survey data were exported from REDCap and linked to respondents' ARAD data. We extracted respondents' demographic details, medications, comorbidities, disability and quality of life measures from the ARAD database. All analyses were performed using Stata 14 (College Station, TX, USA).

ARAD has ethics approval from Monash University and multiple other sites including the Central Adelaide Local Health Network Human Research Ethics Committee that provided ethical approval for this specific study.

There were 1032 adult respondents (response rate 65%). Eleven respondents with juvenile idiopathic arthritis (JIA) were excluded from the analysis due to low response numbers. Compared with non-respondents, respondents were older (mean (standard deviation (SD)): 59.7 (11.8) vs 55.5 (15.1) years) and had marginally longer disease duration (mean (SD): 20.4 (11.5) vs 18.1 (10.8) years), but other baseline characteristics were comparable (Table 1).

A total of 683 (66.2%) respondents was female. A majority was currently receiving either a biological (67.8%) or targeted synthetic (10%) disease-modifying anti-rheumatic drug (bDMARD, tsDMARD), with 185 respondents (17.9%) reporting current glucocorticoid use. All of the Socio-Economic Indexes for Australia (SEIFA) categories were included, with approximately half of respondents living in more advantaged socio-economic areas (SEIFA 5: 28.3%; SEIFA 4: 22.9%). Most ($n = 666$, 65.1%) respondents lived in major cities, with 244 (23.9%) living in inner regional areas and 111 (11.0%) in outer regional, remote or very remote locations.

A minority of respondents that needed to access community health services during the early pandemic reported having difficulty, including 84 of 720 (11.7%) accessing pathology at a collection centre, 91 of 912 (10%) accessing medication supply at a community pharmacy and 35 of 302 (11.6%) accessing radiology at community providers (Table 1). There were no major differences between age groups, living location, SEIFA, education level or current medications (data not shown). A significant proportion of respondents that needed medical appointments reported difficulties in access. Over one-fifth (174/759, 22.9%) reported difficulty accessing their GP in person and over one-third (168/490, 34.3%) reported difficulty accessing their rheumatologist in person. However, fewer reported difficulties accessing their doctors via telehealth (GP: 55/610, 9%; rheumatologist: 60/527, 11.4%). Compared with respondents not taking second-line therapy, respondents taking bDMARD or tsDMARD were more likely to report no difficulty accessing their rheumatologist in person or via telehealth (68.8 vs 56.7%, $P < 0.05$ and 90.8 vs 79.5%, $P < 0.05$ respectively).

There was high reported confidence in being able to access community health services. Confidence to access GP and rheumatologists was higher for telehealth (86.8 and 82.7%) compared with in-person review (65.6 and 63.3%). People living away from major cities and inner regional locations had less confidence accessing in-person rheumatologist reviews (50.4% vs 64.8% vs 65.0%, $P < 0.05$), but similarly high confidence for telehealth access (80.5% vs 82.4% vs 83.0%).

The majority (820, 79.5%) of respondents completely, mostly or moderately agreed that telehealth and telephone consultations during the COVID-19 pandemic were acceptable at that stage (Table 2). Of those, 679 (82.8%) also agreed telehealth or telephone consultations would continue to be acceptable after the pandemic. There were no significant differences in patient acceptability of telehealth by age, living location, SEIFA, education level or current medications (data not shown).

Despite changes in healthcare delivery during the early pandemic phase, most respondents thought their inflammatory arthritis healthcare had been either only a little or not at all interrupted (883, 85.6%) or compromised (924, 89.5%) (Table 1). A total of 184 (16.4%) rated their mental health at that time as poor or fair, while an even higher number (346, 33.5%) rated their physical health as fair or poor.

Discussion

This survey portrays the direct and indirect health impacts of the first COVID-19 wave on Australian rheumatology patients with inflammatory arthritis. We found that despite the early lockdown, there was an overall low level of difficulty and high confidence accessing required community health services up to May 2020. Factors that may have increased confidence include Australia having relatively low positive COVID-19 cases compared to many countries at that time,[4] as well as strategies to maintain access such as medication home delivery and scheduled pathology and radiology times to minimise infection exposure. The overall positive impression of healthcare delivery may have been affected by being conducted early in the pandemic, when high appreciation for any access to healthcare was possible. As we expected, a significant number of respondents reported some difficulty accessing a clinic consultation with their GP and/or rheumatologist, but the rapid uptake of telehealth and telephone reviews meant only 9.0 and 11.4% had difficulty accessing their GP and rheumatologist remotely. While not necessarily a consequence of the pandemic, patients from non-metropolitan areas were unsurprisingly less confident about accessing their rheumatologist in person, but had similar confidence accessing their rheumatologist via telehealth, highlighting how telehealth can reduce inequities of access to specialist care.

Telehealth consultations have been Medicare rebatable for specialist reviews with rural and eligible aged-care patients since July 2011.[5] As the early pandemic evolved quickly with a public health mandate for social distancing, the Australian government introduced new COVID-19-specific Medicare rebates for telehealth and telephone consultations.[6] There was broad agreement among respondents that telehealth was acceptable during the pandemic, with only a small proportion not agreeing it was suitable to continue afterwards. Given the survey was conducted during the early stage of the pandemic, the support for telehealth was likely in the context of some respondents having not yet experienced a medical appointment by telehealth or telephone. Previous studies in rheumatology cohorts have suggested many patients are satisfied with telehealth as a consultation option.[7–10] We did not identify any specific patient characteristics in this study associated with support for telehealth. Another local study from the early pandemic found a higher proportion (98.4%) of rheumatology patients that considered the current use of telehealth appropriate, but also more (28.4%) that thought telehealth was only appropriate while strict infection control measures were required.[11] In our cohort, over 80% of respondents' views on telehealth were the same whether it be for use during or after the pandemic, including those that did not support its use at all. The high acceptability and utilisation of telehealth in our cohort during the pandemic may reflect an unmet desire in our patients for telehealth in general.

While general access to healthcare was maintained as much as possible, widespread lockdowns can substantially impact overall physical and mental health.[12] Australian government measures to address this significant concern included increased psychologist and psychiatrist access as part of the National Mental Health and Wellbeing Pandemic Response Plan.[13] Older patients with chronic disease, as represented in this survey, were highly vulnerable to COVID-19 associated societal restrictions. Many respondents reported poor physical and mental health. That physical health was worse than mental health in a significant proportion of this cohort may reflect the short duration of restrictions when surveyed. However, there were still 169 (16.4%) respondents that rated their mental health as poor or fair.

Strengths of this cross-sectional study included the high response rate and similarity of responders and non-responders. Most respondents were being treated with immunomodulating therapies capturing a potentially at-risk group in a pandemic. Limitations include the survey being sent online to regular ARAD respondents who had higher baseline mental health and education level than non-respondents, which may affect generalisability to less engaged patients. This study could not identify the reasons supporting or opposing telehealth use. The survey was also conducted during the first wave of the pandemic with significant unknowns and therefore results may not be generalisable to later time periods when case numbers and restrictions varied across Australia. We were unable directly to compare respondents' current physical and mental health to prior to the pandemic as these attributes were not measured in the same way. Even prior to the pandemic physical and mental health were reduced in our cohort based upon SF-36 Standardised Physical and Mental Health Summaries.

Further research should assess if these findings, including access to healthcare and overall mental and physical health, changed over the course of the pandemic in the context of persistent community-wide health measures. Given variations in community restrictions and public health advice, comparison between different states of Australia may be particularly beneficial. It will also be important to establish the efficacy and safety of telehealth including if clinical outcomes match the apparent high levels of patient-reported support for this emerging modality.

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