

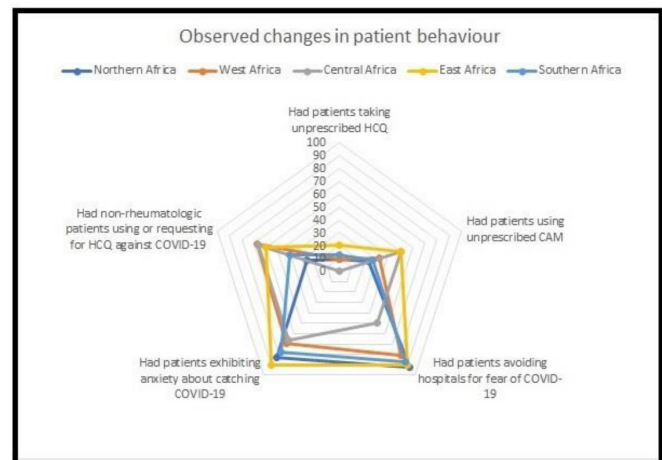
## COVID-19 and the practice of rheumatology in Africa: big changes to services from the shockwave of a pandemic

The onset of the COVID-19 pandemic has led to far-reaching changes in the delivery of healthcare services across Africa. A number of drugs used in the management of rheumatic diseases have been touted to have roles to play in the treatment and/or exacerbation of COVID-19 symptoms and this has resulted in significant changes in the practice of rheumatology. The global rheumatology community has risen to this challenge by demonstrating collaborative partnership, resulting in the establishment of the global rheumatology registry to collect data on rheumatic patients infected with COVID-19.<sup>1</sup> In view of the study by Gianfrancesco *et al*,<sup>2</sup> an online survey consisting of 40 practice and experience questions ((online supplementary file 1) and (online supplementary file 2)) was created by the COVID-19 African Rheumatology Study Group which was formed through the network of the African League of Associations for Rheumatology (AFLAR). The aim of the study was to identify the changes in rheumatology practice and patient behaviour, as well as to highlight key concerns of rheumatologists across Africa resulting from the ongoing COVID-19 pandemic.

A total of 554 completed responses were received from 20 African countries. There were 431 (77.8%) responses from Northern Africa, 43 (7.8%) from West Africa, 6 (1%) from Central Africa, 20 (3.6%) from East Africa and 54 (9.8%) from Southern Africa. The scope of practice was adult only in 296 (53.4%), paediatric only in 15 (2.7%) and both in 243 (43.9%). A total of 288 (52.9%) of the respondents practised in academic institutions, while 162 (29.2%) practised primarily in a private setting. Forty-four (7.9%) were using hydroxychloroquine (HCQ) more than before, 19 (3.4%) admitted to have prescribed HCQ to prevent severe COVID-19 disease, 92 (16.6%) were avoiding the use of steroids, while 77 (13.8%) were avoiding commencing a biologic. Also, 112 (20.2%) of the respondents have had to reduce the dose of HCQ so that the supplies of the drug could last and 67 (12.1%) have had to switch from HCQ to other disease modifying anti-rheumatic drugs (DMARDs) due to shortage of HCQ.

HCQ shortage was being experienced in the practices of 368 (66.4%) respondents. The advice to use complementary medicine against COVID-19 has been given by 182 (32.9%), while 271 (48.1%) have advised the use of vitamins to boost immunity against COVID-19. All forms of rheumatology services have been shut down in the practices of 78 (14.1%) respondents, while 341 (61.6%) have either reduced the frequency of blood monitoring for DMARDs or suspended it entirely. Fifty-seven (10.3%) practitioners have had patients who took unprescribed HCQ and 146 (26.4%) have had patients who used unprescribed complementary medicines to prevent COVID-19 (figure 1). Taking the infection home was the most prevalent concern reported by 489 (88.3%) doctors, while 447 (80.7%) were concerned about rheumatology patients getting infected with the virus (figure 2).

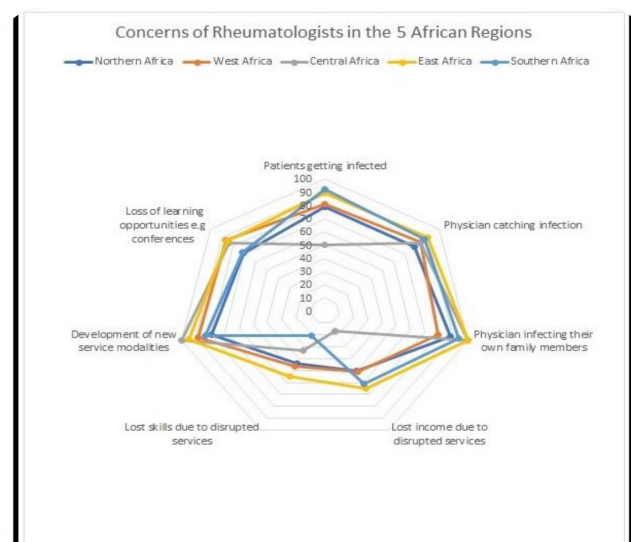
This is the first collaborative work of experts from most member countries of AFLAR and it was driven by the unprecedented experience of the COVID-19 pandemic. This surge of unity in adversity has been similarly reported among rheumatologists in Europe and North America since the advent of COVID-19.<sup>3 4</sup> The long-term experience and daily practice of



**Figure 1** Observed changes in patient behaviour. HCQ, hydroxychloroquine.

rheumatologists are getting more attention since a number of drugs regularly used in rheumatology have been linked, for mechanistic reasons, with various potential roles in the treatment of COVID-19.<sup>4</sup>

Major changes have occurred to the practice of rheumatology all across Africa, from the advice given by the doctors to the service offered in their practice. Some of these are based on largely anecdotal evidence and others are simply dictated by the unprecedented constraints and precariousness of the pandemic. The acute shortage of HCQ has been experienced by almost 7 out of 10 rheumatologists, and 1 out of 5 has had to reduce the doses they prescribed to patients in order to enable the supply to last. While HCQ has been promoted in the media to possibly have an important role to play in the treatment of COVID-19 disease, the enthusiasm for it seems to be based on *in vitro* efficacy and not much of empirical evidence in clinical trials.<sup>5 6</sup> Unfortunately, millions of patients with rheumatoid arthritis, systemic




**Figure 2** Concerns of rheumatologists in the five African regions.

lupus erythematosus and other rheumatic diseases who depend on this drug on a day-to-day basis face the uncertainty of guaranteed access. It is therefore crucial to protect the supply of HCQ for the safety of these patients for whom the regular use of HCQ is not a choice.<sup>7</sup>

With the shutdown of a significant proportion (14.1%) of rheumatologists' services across Africa, the already constrained rheumatology service with low workforce faces even more dire consequences. There is a lot of uneasiness regarding the safety of the highly immunosuppressive DMARDs such as rituximab and the JAK inhibitors or even the uncertain potential usefulness of the interleukin-6 inhibitors in the treatment of severe COVID-19.<sup>7,8</sup> As much as 14% of African practitioners will avoid starting patients on biologics and more than 6% have reduced the dosing of conventional DMARDs. Amidst this confusion, the WHO has advised that patients with COVID-19 should not be routinely treated with steroids,<sup>9</sup> a family of drugs for which rheumatologists are famous. Ironically, this tends to be the rheumatologist's go-to drug in the event that DMARD treatment is interrupted and bridge therapy is required.

Emerging data have raised the suggestion that patients on various DMARDs may not be more prone to suffer worse outcomes from COVID-19 and are not certain to be more likely to get infected.<sup>10,11</sup> In the study by Gianfrancesco *et al*,<sup>2</sup>  $\geq 10$  mg/day of glucocorticoids was associated with a higher odds of hospitalisation, while antitumour necrosis factor decreased the odds of hospitalisation in patients with rheumatic disease. DMARDs and non-steroidal anti-inflammatories (NSAIDs) were not associated with increased odds of hospitalisation. In Africa, there is a variable degree of uneasiness among the prescribers of these drugs, and the difficulty with regular blood monitoring due to widely disrupted services is a major concern.

While there is still a lot to learn, the strength of this study is its capture of a large number of African rheumatologists and its far-reaching multinational nature. It also likely signifies a potential for more international research collaborations among member countries of the AFLAR. A limitation is the inability to ascertain with accuracy the number of practising rheumatologists across Africa for various reasons including the fact that some are no longer practising within the continent. The already overstretched rheumatology services across Africa which have been perennially plagued by poor funding and low manpower have been thrown into the chaos of a pandemic resulting in major unforeseen changes. The practitioners and patients alike carry various anxieties and the traditional uses of DMARDs have seen various shifts in the current era.

Richard Oluyinka Akintayo <sup>1</sup>, Akpabio Akpabio,<sup>2</sup> Asgar Kalla,<sup>3</sup> Dzifa Dey,<sup>4</sup> Angela Migowa,<sup>5</sup> Hakeem Olaosebikan,<sup>6</sup> Rachid Bahiri,<sup>7</sup> Yasser El Miedany,<sup>8</sup> Djohra Hadeif,<sup>9</sup> Wafa Hamdi,<sup>10</sup> Omondi Oyoo,<sup>11</sup> Samy Slimani,<sup>12</sup> Abubakar Yerima,<sup>13</sup> Yassmin Taha,<sup>14</sup> Adewale Adebajo,<sup>15</sup> Olufemi Adelowo,<sup>6</sup> Mohammed Tikly,<sup>16</sup> Imad Ghozlani,<sup>17</sup> Kawther Ben Abdelghani,<sup>18</sup> Nermeen Ahmed Fouad,<sup>19</sup> Doaa Mosad,<sup>20</sup> Dalia El Mikkawy,<sup>8</sup> Mohamed Hassan Abu-Zaid,<sup>21</sup> Rasha A Abdel-Magied<sup>22</sup>

<sup>1</sup>Rheumatology, Dumfries and Galloway Royal Infirmary, Aberdeen, UK

<sup>2</sup>Internal Medicine, University of Uyo Teaching Hospital, Uyo, Nigeria

<sup>3</sup>Department of Medicine, University of Cape Town, Cape Town, South Africa

<sup>4</sup>Department of Medicine and Therapeutics, University of Ghana Medical School, Korle bu Teaching Hospital, Accra, Ghana

<sup>5</sup>Paediatrics and Child Health, Aga Khan University Faculty of Health Sciences East Africa, Nairobi, Kenya

<sup>6</sup>Medicine, Lagos State University Teaching Hospital, Ikeja, Nigeria

<sup>7</sup>Rheumatology, El Ayachi Hospital, Medical university, Rabat, Morocco

<sup>8</sup>Rheumatology and Rehabilitation, Ain Shams University, Cairo, Egypt

<sup>9</sup>Department of Paediatrics, Faculty of Medicine, Batna 2 University, Batna, Algeria

<sup>10</sup>Kassab institute of orthopedics, Faculty of Medicine, Tunis El Manar University, Tunis, Tunisia

<sup>11</sup>Department of clinical medicine and therapeutics, University of Nairobi College of Health Sciences, Nairobi, Kenya

<sup>12</sup>Rheumatology, Atlas Clinic of Rheumatology, Batna, Algeria

<sup>13</sup>Medicine, University of Maiduguri Teaching Hospital, Maiduguri, Nigeria

<sup>14</sup>Department of Paediatrics, Ahmed Gasim Children's Hospital, Khartoum, Sudan

<sup>15</sup>Faculty of Medicine, Dentistry and Health, University of Sheffield, Sheffield, UK

<sup>16</sup>Division of Rheumatology, Department of Medicine, University of Witwatersrand, Johannesburg, South Africa

<sup>17</sup>Rheumatology, Military Hospital, Agadir, Morocco

<sup>18</sup>Mongi Slim Hospital - faculty of Medicine, University of Tunis El Manar, Tunis, Tunisia

<sup>19</sup>Rheumatology and Rehabilitation, Fayoum University, Fayoum, Egypt

<sup>20</sup>Pediatrics Department, Mansoura University, Mansoura, Egypt

<sup>21</sup>Rheumatology and Rehabilitation, Tanta University, Tanta, Egypt

<sup>22</sup>Rheumatology and Rehabilitation, Elminia University, El Minia, Egypt

**Correspondence to** Dr Richard Oluyinka Akintayo, Rheumatology, Dumfries and Galloway Royal Infirmary, Aberdeen DG2 8RX, UK; richocounlimited@gmail.com

**Twitter** Richard Oluyinka Akintayo @richardakintayo

**Acknowledgements** The authors of this paper are grateful to the following people for various contributions that helped actualise the completion of the project: Dr Kavita Makan, Chris Hani Baragwanath Hospital, Johannesburg, South Africa; Dr Samah El Bakry, Consultant of Rheumatology and Internal Medicine, Faculty of Medicine Ain Shams University, Cairo, Egypt; Dr Waleed A Hassan, Rheumatology and Rehabilitation Department, Faculty of Medicine, Benha University, Egypt; Dr Hala Lofty, Paediatrics and Paediatric Rheumatology, Abu El Reesh Hospital, Cairo University, Egypt.

**Contributors** ROA, A Akpabio, HO and AY contributed to study design, data collation, analysis and writing the first draft. ROA, A Kalla, DD, AM, DH, WH and SS contributed to international team formation, editing of draft questionnaires and data gathering. RB, YEM, OO, AY, YT, A Adebajo, OA, MT, IG, KBA, NAF, DM, DEM, MHA-Z and RAA-M contributed to data gathering and international dissemination. A Akpabio, DD, AY, AM, DH, WH, RB, YEM, OO and A Adebajo contributed to critical reviews of the manuscript. All authors agreed on the final draft.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; internally peer reviewed.

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► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/annrheumdis-2020-218273>).



**To cite** Akintayo RO, Akpabio A, Kalla A, *et al*. *Ann Rheum Dis* Epub ahead of print: [please include Day Month Year]. doi:10.1136/annrheumdis-2020-218273

Received 12 June 2020

Accepted 16 June 2020

*Ann Rheum Dis* 2020;**0**:1–3. doi:10.1136/annrheumdis-2020-218273

**ORCID iD**

Richard Oluyinka Akintayo <http://orcid.org/0000-0002-4177-8981>

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