Conclusion: Interviewed patients seemed to prefer continuation of IA during an infection if possible. The concern of disease flare might form a barrier for temporary interruption, this is in line with a previous study, showing that RA patients fear disease flare after dose reduction ².

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POS1486-HPR DAILY ACTIVITY IMPAIRMENT IS MEDIATED BY BOTH ORAL DRYNESS AND ORAL HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME

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Background: Both oral functions and oral health-related quality of life (OHRQoL) are poorly affected by low salivary flow rate in patients with primary Sjögren's syndrome (pSS).

Objectives: The aim of the study was to evaluate the effects of oral dryness and OHRQoL on daily life in patients with primary Sjögren's syndrome (pSS).

Methods: In this cross-sectional study, 86 patients with pSS (M/F: 5/81; mean age: 52.4 ± 11.6 years) were included. The data were collected by clinical examination and a questionnaire regarding patient-reported outcome measures (PROMs). Patient filled PROMs regarding Oral Health Impact Profile-14 (OHIP-14) for OHRQoL, Work Productivity and Activity Impairment scale (WPAI) for Daily life and the EULAR Sjögren's Syndrome Patient Reported Index (ESSPRI) for their symptoms. Unstimulated whole saliva flow rates (U-WSFR) of patients were calculated as ml/min. Increases in PROMs and decreases in U-WSFR reflected poor conditions. After preliminary analysis, a mediation analysis was used to evaluate the relations among variables.

Results: WPAI-Daily activity impairment score was higher in patients with low U-WSFR (≤ 0.1 ml/min) than the others (67 ± 29.8 vs 52.5 ± 28.6) ($p=0.042$). Both U-WSFR (0.43 ± 0.57 ml/min) and ESSPRI-Dryness score (6.31 ± 2.71) were correlated with scores of OHIP-14 (25.96 ± 17.13) ($r=-0.38$ $p=0.000$; $r=0.37$ $p=0.000$) and WPAI-Daily activity impairment (57.96 ± 29.71) ($r=-0.36$ $p=0.004$; $r=0.53$ $p=0.000$). Moreover, scores of ESSPRI-Pain (5.16 ± 3.12) and ESSPRI-Fatigue (5.41 ± 2.97) were also related to WPAI-Daily activity impairment score ($r=0.41$ $p=0.001$; $r=0.49$ $p=0.000$, respectively). In the mediation analysis, WPAI-Daily activity impairment score (57.9 ± 29.7) was directly mediated by ESSPRI-Dryness score ($p=0.0010$) and indirectly mediated by OHIP-14 score (25.9 ± 17.1) ($p=0.0357$). After mediation analysis, a bootstrap analysis with 5000 replications was applied to estimate the mediation effect to generate 95% CI. Percentile bootstrap of OHIP-14 score was found to be an effective mediator for Daily activity impairment based on 5000 bootstrap samples.

Conclusion: Both oral dryness and poor OHRQoL in patients with pSS affected daily activity impairment. Therefore, the patients' needs for improving oral health were critical components of treatment plans to improve the daily activity of SjS patients.

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HPR Service developments, innovation and economics in healthcare

POS1487-HPR NEXT-GENERATION ONLINE TELEMEDICINE SYSTEM UTILIZING MIXED REALITY FOR RHEUMATOID ARTHRITIS

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Background: Telemedicine can be performed using a conventional videophone or web conferencing system. Then, joint lesions can only be observed and inferred from two-dimensional images, and it is difficult to perform accurate joint assessments, which is essential for the management of rheumatoid arthritis (RA).

Objectives: To develop the next-generation online telemedicine system utilizing mixed reality for RA.

Methods: We have developed a system that can assess joints accurately in three-dimensions images in real-time, using Azure Kinect DK (depth sensor)/HoloLens 2 (headset), which are mixed reality technologies, and Teams (online interview/chat) provided by Microsoft. Furthermore, by applying artificial intelligence (AI), we plan to implement additionally to this system 1) a function to quickly catch and automatically evaluate the patient's anxiety and changes in facial expressions at the time of examination, 2) a function to record dialogue with the patient in chronological order, 3) a function to support the detection of swollen joints, and 4) function to automatically analyze the questionnaire.

Results: This system remotely connects a rheumatologist in the Nagasaki University Hospital (Nagasaki City, urban area) and a patient with RA and a non-rheumatologist in the Goto Central Hospital (Goto Island, rural area). A three-dimensional hologram of the patient's hand projected in front of a rheumatologist. Using this system, we are able to evaluate joints more accurately than using a conventional videophone or web conferencing system.

Conclusion: It is expected that this system will enable remote medical care specializing in rheumatology, which is standardized at a high level even in areas without rheumatologists such as remote islands and remote areas. This system remotely connects Nagasaki City and Goto Island, but due to the performance of the system, it is not limited to these areas and it is possible to connect rheumatologists to any area that can be connected to the network. It is also effective for the purpose of avoiding the risk of infection during long-distance hospital visits under the epidemic of COVID-19 infection.

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POS1488-HPR CAN A SPECIALIST NURSE LEAD A COMPREHENSIVE OSTEOPOROSIS SERVICE WITH REMOTE SUPERVISION – AN INNOVATIVE CONCEPT

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Background: Specialist services traditionally rely on a consultant to lead a multidisciplinary team and provide patient facing activities. However, demand

outstrips the limited expertise available and therefore significant delays occur in treatment pathways. There is an urgent need to expand the skill set of the employed workforce and think 'outside the box'. A service run by clinical nurse specialists (CNS) can be an effective solution. CNS are already an integral part of multidisciplinary teams caring for a diverse range of patients including those with chronic conditions such as osteoporosis.

Objectives: We designed an innovative osteoporosis service with patients consulting only a metabolic bone CNS with a consultant rheumatologist providing remote oversight. The aim of the project was to improve the efficiency of the service by eliminating consultant appointments and reducing unnecessary hospital visits while continuing to deliver a high-quality and safe service.

Methods: A new pathway was implemented where a consultant rheumatologist and a CNS virtually triaged postmenopausal women over the age of 65 into the service. A dedicated proforma provided the template for the CNS to undertake new patient telephone consultation. Relevant investigations were requested during the telephone clinic and treatment related information was despatched to help with shared decision making. All patients were then reviewed in a Rheumatologist-CNS virtual MDT. An appropriate parenteral treatment option was agreed and confirmed to each individual. The CNS worked through a safety checklist and provided further advice and support to the patient as necessary. Using the database, we compared the timelines for the patient journey to the conventional pathway, obtained the number of consultant follow-up appointments saved by implementing this service, and calculated total savings.

Results: In the pilot phase, 116 patients were triaged into the new service. The patient cohort was a combination of new referrals and patients taken from the consultants' waiting lists. The mean age of the participants was 78 years (65-93). The median time: from referral to virtual triage was 20 days (0-308); from triage to new patient CNS telephone consultation was 20 days (0-137); and from virtual MDT to treatment authorisation was zero days (0-331 days). 45 patients had anabolic therapy commenced via home care. The remainder had anti-resorptive therapy. No patient requested face-to-face review. Only one patient fed back that they would've preferred to see the consultant once. 116 new patient consultant appointments were saved and the median delay in treatment commencement was reduced from 84 to 38 days.

Conclusion: To our knowledge, this is the first successful example of an innovative service wholly provided by CNS for commencing parenteral anti-osteoporotic therapy with only remote consultant supervision. Our service redesign has significantly improved the efficiency of the parenteral osteoporosis pathway with reduction in treatment delay and a more streamlined patient journey. A nurse-delivered osteoporosis treatment pathway is highly effective, safe and provides an innovative solution to address thinly stretched health care resources for people with chronic conditions.

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POS1489-HPR TELEMEDICINE CONSULTATIONS IN RHEUMATOLOGY: IDENTIFIED PROBLEMS OF NEW TECHNOLOGY

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Background: Telemedicine counseling (TMC) has gained rapid development during the COVID-19 pandemic. The prospect of using this technology in rheumatology was based on the possibility of getting maximum information about the patient during the survey, examination and interpretation of laboratory and instrumental data, that is excepting direct contact with the patient. Several rheumatological clinics have reported on the success of using TMC. However, there is very little data of the difficulties that can be encountered when organizing this process.

Objectives: To characterize the identified problems during TMC in rheumatology, to suggest potential directions for their elimination.

Methods: Since June 2021, on the basis of the Medical Association "New Hospital", Yekaterinburg, Russian Federation, 76 TMCs have been performed on the profile of rheumatology in patients aged 29 to 71 years. Of these, 13 applied to the primary TMC, the other patients were preliminarily examined in person. The consultation included the preliminary acquaintance with the examination results, a 20-minute video communication and writing of a conclusion. After each TMC, a survey was conducted between the doctor and the patient, including the identified deficiencies in counseling. The frequency of identified problems is presented as an absolute indicator and as a percentage of the total number of TMCs performed.

Results: We noted a high degree of patient satisfaction: 74 (97.4%) responded that they received answers to all. However, according to the doctor, the following groups of problems were identified.

- [1] Technical problems in 29 (38.2%): most often there were various problems with the Internet, but there were also registered: the end of the charge on the patient's tablet, the patient was not registered in the electronic queue.

Elimination of these violations depends on the work of IT-specialists, but each consulting physician should be prepared for an immediate transition to an alternative form of communication (for example - telephone).

- [2] Lack of objective examination, leading to the impossibility of correct remote diagnosis - 8 (10.5%). This problem was identified due to the inability to establish the presence or absence of arthritis during the initial diagnosis (6 cases) and to clarify the nature of the rash (2 cases). All patients are invited for a face-to-face consultation.
- [3] The need to write prescriptions for psychotropic drugs - 12 (15.8%), which under the conditions of national legislation cannot be done in the TMC regime.
- [4] The time spent directly on remote communication with the patient was 17.2 minutes (from 8 to 31), however, taking into account the study data and writing the conclusion, the total time was 40.7 minutes (from 21 to 73). Thus, it turned out that the average time for remote and face-to-face consultations is the same, while TMC's payment is only about 50% of the face-to-face consultation. This situation reduces the doctor's interest in carrying out TMC. The solution to the problem is associated with reducing the time for the documentation process through technical improvements. In addition, of the 9 patients in whom the TMC process lasted 60 minutes or more, 5 were diagnosed with fibromyalgia. It is possible that with a previously established diagnosis of fibromyalgia, only face-to-face counseling should be recommended to patients.

Conclusion: The TMC system is promising, however, there are a number of problems that need to be improved, since they can reduce the doctor's interest in using this technology.

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HPR Professional education, training and competencies

POS1490-HPR "WHERE DOES IT HURT?": IDENTIFYING PAIN CONTENT AND ITS CONTEXT WITHIN PAEDIATRIC AND ADOLESCENT RHEUMATOLOGY TRAINING

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Background: Complex pain symptoms present across a wide spectrum of long-term musculoskeletal conditions in paediatric rheumatology. Pain training should therefore be part of a core curriculum for the professionals working in this speciality, but it is unclear to what extent this is the case currently.

Objectives: To identify the extent of pain-specific content included in the training of healthcare professionals in paediatric and adolescent rheumatology in the UK.

Methods: A systematic search of documentary data using key internet search engines was conducted using combinations of the following terms: 'training', 'curriculum', 'competency', 'paediatric', 'adolescent' and 'rheumatology'. A targeted search of online content from the main professional organisations followed; doctors (Royal College of Paediatric and Child Health [RCPCH]), nurses (Royal College of Nursing [RCN]), physiotherapists (Chartered Society of Physiotherapy), occupational therapists (Royal College of Occupational Therapists) and psychologists (British Psychological Society). Documents from professional learned societies such as The British Society of Paediatric and Adolescent Rheumatology (BSPAR) and The Scottish Paediatric and Adolescent Rheumatology Network (SPARN) were also included. Document search strategies were designed by the authors in partnership with healthcare professionals. Data were extracted and analysed following a summative content analysis. Pain-related terms were quantified. Latent content was interpreted qualitatively to explore the context in which pain-related phrases were presented.

Results: Nine documents were identified. Pain-related terms represented 0.17% of all words across texts (used 55 times in total). Most pain terms were found in documents aimed at doctors (n=40, 72.7%). Of the pain terms used, most were used in the context of referring to specific pain syndromes such as chronic regional pain, generalized idiopathic pain and pain amplification. Content around