workshop. 97% believe that this educational intervention will improve the diagnostic approach to patients with suspected RA.

Abstract AB1393 – Figure 1

Conclusions: The present research is a pioneer and innovator in the field of rheumatology education. We have shown the usefulness of clinical simulation by an improvement in the diagnostic sensitivity towards the diagnosis of RA, highlighting the semiology as a key element at the time of making the diagnosis. A significant decrease in the total number of exams requested for each of the clinical cases analysed was documented, which can have a positive effect on costs for the national health systems.

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- [1] Fernández-Ávila DG, Ruiz AJ, Gil F, Mora SA, Tobar C, Gutiérrez JM, Rosselli D. The effect of an educational intervention, based on clinical simulation, on the diagnosis of rheumatoid arthritis and osteoarthritis. *Musculoskeletal Care*. 2017;1–5. DOI: 10.1002/msc.1228

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AB1394 DEVELOPMENT OF A SERIES OF SIMULATORS AND DESIGN OF A COURSE BASED ON CLINICAL SIMULATION, FOR TEACHING DIAGNOSTIC APPROACH TO PATIENTS WITH JOINT PAIN AND SUSPECTED RHEUMATIC DISEASES

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Background: The teaching of clinical approaches to patients with RA (Rheumatoid Arthritis) and SpA (Spondyloarthritis) requires both a practical and a theoretical component, and there are difficulties in having real patients for teaching. Previously our group has shown the use of clinical simulation in rheumatology, an area in which it had not been used. We demonstrated the effectiveness of an educational intervention based on clinical simulation to improve the diagnostic approach to RA1. Thus, the idea emerged to apply clinical simulation in the field of RA and SpA teaching. An exhaustive search of the scientific literature through May 2017 revealed no works on clinical simulation for rheumatic diseases. The simulation models received a patent for intellectual property and utility for education, with a 10-year protection.

Methods: Design and installation a life-sized mannequin and separate anatomical parts (five hands, six fingers, three feet) with a set of semiological findings for SpA and RA

Results: We have designed unique simulation models –a life-sized mannequin and separate anatomical parts (five hands, six fingers, three feet) with a set of semiological findings for SpA and RA. Each simulator (artificial hands, finger or feet) has natural size and was made of epoxy resin. The simulators ligaments, muscles and support tissues were made of silicone rubber, and the simulator was covered by polyurethane skin on an acrylic support. Each hand, feet or finger has various semiological findings of SpA and RA (synovitis, pannus, enthesitis,

dactylitis, joint deformities, classical findings of psoriatic nails and psoriatic plaques) made from materials that generated textures very similar to those found in real patients. Learning is transferred from interacting with the models by using the sense of touch to feel and perceive how the clinical manifestations of the diseases are. The workshops comprise a six-stage rotation where the anatomical models are accompanied by a brief video describing a clinical case. After viewing the video participants interact with the models to understand and recognise each of the clinical features of SpA and RA, as if in a real patient. Whereas in regular workshops where knowledge is transfer through a keynote speaker and visual images, this one is a total learning by the experience of touching and feeling.

Abstract AB1394 – Figure 1

Conclusions: The present research is a pioneer and innovator in the rheumatology education. In this vein, we hope that this research is the first in the context of a new way of teaching rheumatology, educational process and eventually will have a global projection that allows the creation of a course for early diagnosis and initial treatment of rheumatic diseases, similar to what is currently done in cardiology with ACLS and in trauma with ATLS

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AB1395 EFFECT OF AN EDUCATIONAL INTERVENTION BASED ON CLINICAL SIMULATION IN THE DIAGNOSIS OF SPONDYLOARTHRITIS (SPA) FROM GENERAL PRACTITIONERS, A STUDY BEFORE AND AFTER

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Background: Previously our group has shown the use of clinical simulation in rheumatology. We demonstrated the effectiveness of an educational intervention based on clinical simulation to improve the diagnostic approach to RA1, so we wanted to apply this same principle in the learning of SpA (Spondyloarthritis).

Objectives: This paper wants to quantify the rate of improvement in the diagnosis of Spondyloarthritis (SpA) among a group of general practitioners who receive an educational intervention based on clinical simulation.

Methods: Intervention study before and after

Results: 102 general practitioners received an educational intervention based on clinical simulation. The topic of this educational intervention was Spondyloarthritis (SpA). A workshop that includes clinical simulation models of feet, fingers and a mannequin created for this purpose was created, based on the strategy of problem-based learning. The workshop lasted 5 hours, it was divided into two parts: the first was about the of the clinical approach of joint pain and lumbar pain diagnosis and relevant aspects of SpA. In this first part, besides the theoretical support

for the diagnosis of SpA, participants viewed pictures of patients with spondylitis and peripheral involvement (enthesitis, dactylitis, arthritis) seeking to achieve awareness of their sense of sight with respect to the diagnostic approach to patients with suspected SpA and sought to strengthen the logical approach to be implemented when approaching this type of patients. The second part focused on clinical cases applied to clinical simulation models, applying the knowledge acquired during the theoretical phase. Participants made a several stations where they where they could appreciate for periods of 15 min each simulators of 3 feet, 6 simulators simulated fingers and a mannequin where they can identify entheses and psoriasis lesions, improving visual and tactile sensitivity in each semiologic findings for the diagnosis of SpA. The participants filled out an pre and post test, which included clinical cases with simulators and photographs of hands and feet of patients with suspected SpA. 102 participants (59% women), average age 32.3 years (SD 7.1). Improvement in the correct diagnosis of SpA of 47% (the correct diagnosis increased from 39% to 86%). laboratories application in the cases presented decreased significantly, from an average of 8–4 exams requested by each clinical case presented. 98.5% of participants would recommend to other colleagues to make this workshop. 97.7% believe that this educational intervention will improve the diagnostic approach to patients with suspected SpA

Abstract AB1395 – Figure 1

Conclusions: We have shown the usefulness of clinical simulation given by an improvement in the diagnostic sensitivity towards the diagnosis of SpA. A significant decrease in the total number of exams requested for each of the clinical cases analysed was documented, which can have a positive effect on costs for the national health systems.

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- [1] Fernández-Ávila DG, Ruiz ÁJ, Gil F, Mora SA, Tobar C, Gutiérrez JM, Rosselli D. The effect of an educational intervention, based on clinical simulation, on the diagnosis of rheumatoid arthritis and osteoarthritis. *Musculoskeletal Care*. 2017;1–5. DOI: 10.1002/msc.1228

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AB1396

TEACHING THE MILLENNIALS: USING YOUTUBE FOR TEACHING RHEUMATOLOGY IN THE STANDARD EDUCATIONAL SETTINGS

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Objectives: To assess learning potential and educational value of online videos made freely available via a dedicated YouTube channel for undergraduate and post-graduate students studying musculoskeletal medicine.

Methods: The YouTube video database was systematically searched using 5 search terms related to "Joint": examination, anatomy, regional anatomy, OSCE and Ultrasonography. Two independent clinical reviewers assessed videos for procedural technique and educational value using a 5-point global score, ranging from 1=poor quality to 5=excellent educational quality. To be included in the teaching process the clip must score ≥ 4 . Permission for sharing the video was sought from the publisher. 59 undergraduate 55 postgraduate trainees were included in this educational activity. The students were sent the YouTube channel link to the students for viewing prior to the class-time active learning session. The teaching session adopted an interactive learning environment and the course instructor served as a facilitator rather than a dominator and offered timely feedback/guidance to students. Evaluation of the teaching session was assessed using a scenario based learning and an evaluation check list. The students were asked to complete a survey based on a 5-point Likert scale: to assess for their perceived effectiveness and satisfaction. The outcomes of the evaluation sheet and students' survey, were compared to 55 undergraduate and 52 postgraduate trainees, a control group, who were taught in former years on the same topics in a lecture-based model using the standard teaching protocols.

Results: 25 videos met the inclusion criteria and were considered useful for teaching purposes. The average length was 5.31 ± 2.28 min. The mean global score for educational value was 4.3 ± 0.3 . There was no significant difference regarding socio-demographics between the 2 students' groups included in this work. In the study group 93% of the students viewed the videos prior to the class session, and 95% attended the education sessions in comparison to 86% attendance in the traditional teaching group. Students reported an increase in knowledge, a positive learning experiences and perceptions of the online teaching model. Student perceived effectiveness and satisfaction was significantly high among the online flipped learning in contrast to the traditional teaching comparative group (4.88 Vs 4.31, $p < 0.05$). Similarly, analysis of the students' assessment scores after the scenario based learning sessions was higher in the online learning group compared to the students taught by traditional methods ($p < 0.01$).

Conclusions: Making videos on Joint anatomy and OSCE joint examination freely available on a dedicated channel on the YouTube appeared to be suitable and valuable for medical students, fellows, and residents learning. YouTube is a great example for web-based modern musculoskeletal teaching tailored to the students' needs/time, and this educational approach seems to be very well received by the students. However, though the learning potential of the internet is incredible, finding the best content can be a challenge.

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