Methods: 81 patients with RA, aged between 40 and 70 years, were recruited. Body composition was assessed by total body dual-energy x-ray absorptiometry (DXA) for measurement of fat mass index (FMI;Kg/m²) and fat free mass index (FFMI;Kg/m²).The patients were categorized as rheumatoid cachectic if FFMI was below the 10th percentile and FMI above the 25th percentile[1],and if FFMI was below the 25th percentile and FMI above the 50th percentile[2].Disease features assessed were disease activity score 28 (DAS28). Functional capacity was assessed by muscle strength (hand grip test;Kg) and gait speed (Time up and Go (TUG;m/s)). Frequency analysis, McNemar test and GEE analyses were used and statistical significance was considered as p<0.05.

Results: Of the 81 patients analyzed, most were women (88.9%;72/81), with mean age of 56.8±7.3, mean disease duration time of 11.9±9.6 years. At baseline, the prevalences of RC using both diagnostic criteria were similar to the prevalences described in literature (table 1), and they did not change during the 12 month follow-up(p>0.05).FMI increased after 12 months and patients with moderate disease activity showed higher FMI when compared with other DAS28 categories (p<0.05).Thus, over 12 months, DAS28 affected FMI, and had no impact on FFMI (p>0.05).Muscle strength decreased significantly after 12 months, and patients with high disease activity showed less muscle strength when compared with other DAS28 categories(p<0.05).Gait speed increased after 12 months(p<0.05).

Table 1

	Baseline	12 months
FMI(kg/m ²)	10.8±4.3	11.1±4.2*
FFMI(kg/m ²)	16.3±1.9	16.4±1.8
RC [1]	12(13.3%)	12(13.3%)
RC [2]	27(30.0%)	22(24.4%)
DAS28	3.7±1.3	4.0±1.3*
Muscle strength(kg)	16.6±10.4	9.7±8.7*
Gait speed (m/s)	0.5±0.1	0.6±0.1*

*p<0.05 between baseline and 12 months.

Conclusions: In this study, RC prevalence was similar to the prevalence described in literature. DAS28 score of our patients increased over 12 months, and it affected FMI, muscle strength and gait speed of RA patients. However, no effect was observed on FFMI. Our results show that the patients that are not in remission by DAS28 have decreased muscle strength and increased fat mass, possibly due the inflammatory process and the reduced physical activity level, creating a vicious circle.This vicious circle may negatively impact on life quality of RA patients.

REFERENCES:

- [1] Engvall IL, et al. Scand J Rheumatol 2008.
- [2] Elkan AC, et al. Arthritis Res Ther. 2009.

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FRI0725-HPR UNDERSTANDING THE BURDEN OF RHEUMATOID ARTHRITIS USING QUALITATIVE RESEARCH: WHICH IMPACTS ARE NOT CAPTURED BY PATIENT-REPORTED MEASURES?

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Background: Existing measures of disease burden in rheumatoid arthritis (RA) include patient-reported measures (PRMs) of physical and mental functioning, symptoms and work disability. However, these measures may be inaccurate if interpreted by respondents in unintended ways and may not capture some impacts of RA of importance to patients.

Objectives: To explore the perspectives of RA patients on PRMs used in The National Data Bank for Rheumatic Diseases (Forward) registry and to identify impacts of importance to patients that may not be captured by commonly used measures.

Methods: Semi-structured ethnographic interviews were conducted with adult RA patients in the United States participating in Forward. Interviewees were asked to discuss the impact of RA on their lives and their perspectives on PRMs used in Forward. Interviews were audio-recorded and transcribed verbatim. Transcripts were analyzed for themes related to: 1) perspectives on PRMs, and 2) important impacts of RA.

Results: We interviewed 18 patients aged 27–80 years, with RA durations of 4–40 years and Forward participation of 1–19 years. Participants' perspectives on PRMs fell into 4 categories (table 1). Several patients doubted that the PRMs adequately captured the severity of their symptoms. Important impacts of RA not measured by Forward included: expenditures on adaptive devices and measures,

impact on life goals and activities (educational and career plans, family responsibilities, and valued activities) and interaction with stressful life events (such as family deaths).

Table 1 Patient Perspectives on PRMs

Category	Perspectives
Ease of responding to questions	<ul style="list-style-type: none"> - Numerical measures are easy to comprehend - Anchors for scale endpoints are too vague - Difficulty remembering severity of past symptoms - Difficulty understanding questions - Questions could be emotionally disturbing
Communication of symptoms	<ul style="list-style-type: none"> - Numerical measures were preferred to open-ended survey questions because communicating symptoms in words can be difficult - Difficulty quantifying symptoms and feelings - Infrequent assessments cause gaps in measurement
Factors biasing responses	<ul style="list-style-type: none"> - Patients may interpret questions in unintended ways - Adaptation and high tolerance for symptoms may lead patients to underreport the severity of symptoms - Patients may underreport the severity of past symptoms not clearly remembered
Interpretation of responses	<ul style="list-style-type: none"> - PRMs do not assess shifts in expectations for health that may affect responses - Responses from 1 patient at different times/from different patients may not be comparable

Conclusions: Challenges in interpreting and answering questions may reduce the accuracy of PRMs of RA symptoms. The PRMs discussed by participants may not fully capture the impact of RA on patients' financial burdens and on their pursuit of life goals and activities. Future efforts to improve the accuracy and comprehensiveness of burden of disease measurement in RA should help to address these issues. Use of qualitative methods (such as ethnography) may also help to illuminate aspects of living with RA that are not captured by existing PRMs.

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HPR Service developments, innovation and economics in healthcare

FRI0726-HPR STUDY ON THE EFFICACY OF CURCUMIN THERAPY IN EARLY STAGES OF JUVENILE OLIGOARTHRITIS

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Background: Juvenile arthritis is one of the most common rheumatic diseases in childhood. With all remission drugs, a high percentage of patients continue to have an active disease as young adults and sometimes locomotor and ocular sequelae. Turmeric originated in South Asia is used as spice in these regions and has in its structure a polyphenolic compound called Curcumin, very well known for its anti-microbial, anti-inflammatory, anti-oxidative effects and anti-cancer action. Pleiotropic effects are demonstrated by inhibition of transcriptional-kappa B nuclear factor and subsequently of tumor necrosis factor, IL-12 and IL-2 cytokines involved in the inflammatory cascade. Curcumin has been successfully administered in rheumatoid arthritis, but less investigated in juvenile arthritis.

Objectives: Aim of study was to evaluate the effects of curcumin administration in patients with Oligoarticular Juvenile Idiopathic Arthritis (OJIA) as an integrated therapy at the onset of the disease.

Methods: Thirty-two children aged 8–16 years with OJIA were included in a randomized placebo controlled trial from May 2014 – May 2017. All patients were initially hospitalized at the "St. Mary" Emergency Hospital for Children, Iasi and met the criteria of the American College of Rheumatology (ACR). Patients and their parents/legal guardians signed an informative consent on the treatment with curcumin at Laser Clinic. Patients were randomly assigned to one of the two groups: Group 1 (16 patients) received UltraCur 600 mg of Protein Curcumin Complex (15,000-fold bioavailability supplement), 1.8 g per day (in 3 doses, during meals) for 9 months and Group 2 (16 patients) received placebo; all patients were under their standard treatment. Disease activity was evaluated at 0, 3, 6 and 9 months using ACR Pedi30 score. This score defines the improvement of at least 30% from baseline in three of the six variables in the base set, while no more than

one of the remaining variables may worsen by >30%. Core set criteria were: physician global assessment of disease activity (0–10 cm VAS); parent/patient global assessment of overall well-being (0–10 cm VAS); functional ability; number of joints with active arthritis; number of joints with limited range of motion; and ESR.

Results: All patients completed the study. After 3 months from the initiation of Curcumin therapy, patients in group 1 had an improvement of 75% ACR Pedi30, compared to only 37.5% ($p=0.0353$) in control group. In the end, ACR Pedi30, 50, 70 and 90 scores improved by 87.50%, 81.25%, 68.75% and 43.75%; compared to only 56.25% ($p=0.0508$), 50% ($p=0.0670$), 37.5% ($p=0.0813$) and 12.75% ($p=0.0553$) in the control group. Curcumin at 1.8 g/day associated with standard therapy was well tolerated, did not induce major reactions and ultimately reduced rheumatic disease activity scores statistically significant ($p<0.05$) compared to placebo.

Conclusions: Results proved that curcumin in combination with standard therapy is safe, well tolerated, available at a low cost and has significantly improved the outcome in early stages of OJIA.

REFERENCES:

1. Ramsewak RS, DeWitt DL, Nair MG. Cytotoxicity, antioxidant and anti-inflammatory activities of curcumins I–III from *Curcuma longa*. *Phytomedicine* 2000;7:303–308.
2. Xu YX, Pindolia KR, Janakiraman N, Chapman RA, Gautam SC. Curcumin inhibits IL1 alpha and TNF-alpha induction of AP-1 and NF-kB DNA-binding activity in bone marrow stromal cells. *Hematopathol Mol Hematol* 1997;11:49–62.

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FRI0727-HPR IMPLEMENTATION OF A MODEL FOR THE MEDICATION RECONCILIATION PROCESS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Medication reconciliation is defined as “the process of identifying the most accurate list of all medications a patient is taking, including the name, dosage, frequency, and route of each medication, and using this list to provide the correct medications for the patient anywhere within the health care system”. It has been demonstrated that inadequate prescribing due to inaccurate medication histories and reconciliation can lead to medication errors, which have been associated with increased morbidity, mortality, and healthcare costs.

Objectives: The aim of study was to design an intervention model led by pharmaceutical personnel in order to implement the reconciliation medication process in patients with RA in a specialized center.

Methods: We included patients with RA; we analyzed their particular situation regarding their pharmacological therapy, dosage, frequency among others. Additionally, we applied checklists to find out about the pharmaceutical processes previously established in the RA center and applied a SWOT analysis (strengths, weaknesses, opportunities, and threats) to plan according to the needs diagnosis.

Results: In our specialized RA center we found as strengths 1. the existence of analysis committee for the evaluation of patient's therapy, 2. the open mind of the managers in order to implement the reconciliation process 3. The continued education opportunities that the health professionals receive in the specialized RA center. As weaknesses we found: 1. The absence of processes regarding the reconciliation process. 2. In the medical charts there was no registry of the chemical pharmaceutical professional procedures into the patient's therapy. We performed 900 consultations as a pilot to implement the reconciliation medication process, as a result we found 73 patients with a clear need of medication reconciliation the reasons were therapeutic failure or adverse events related to medications. Probably attributed to the existence of multiple pathologies in 81% of patients. Regarding the pharmacological therapy 83% had a conventional DMARD primarily methotrexate in any pharmacological presentation, and biological therapy and, 12% had prescribed only biological DMARDs.

Conclusions: With these results we will implement a new model where there will be a process to perform a medication reconciliation in patients with RA, we will review the medical charts in order to identify patients that have needs with the medication process interactions among others. Additionally, we will start new research projects in order to provide evidence of the usefulness of these types of interventions.

REFERENCES:

1. Al-Rashoud I, Al-Ammari M, Al-Jadhey H, Alkatheri A, Poff G, Aldebasi T, et al. Medication discrepancies identified during medication reconciliation

among medical patients at a tertiary care hospital. *Saudi Pharmaceutical Journal*: SPJ 2017;25(7):1082–5.

2. Kraus SK, Sen S, Murphy M, Pontiggia L. Impact of a pharmacy technician-centered medication reconciliation program on medication discrepancies and implementation of recommendations. *Pharmacy Practice* 2017;15 (2):901.

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FRI0728-HPR COST-REDUCING AND IMPROVING QUALITY OF LIFE IN JUVENILE ARTHRITIS BY BLUE LASER AND ULTRABIOAVAILABLE CURCUMIN

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Background: Juvenile idiopathic arthritis (JIA) is associated with significant disease- and treatment-related morbidity, despite all modern management efforts. Photo biomodulation counts today more than 5,000 peer-reviewed published papers, including randomized controlled clinical trials. A review of the literature shows that Curcumin has the potential to be a safe, effective and an affordable alternative in the treatment of chronic inflammation. Its anti-inflammatory mechanism is a molecular response to the down-regulation of enzymatic activity of COX-2, lipoxygenase, and inducible nitric oxide synthase. Photobiomodulation at the maximum absorption spectra of curcumin is an innovative approach due to its complex immuno-modulatory effect.

Objectives: Aim was to investigate the effects of sublingual photo biostimulation with blue laser in association with ultrabioavailable curcumin in extensive oligoarticular and polyarticular forms of JIA.

Methods: 48 children with an average age of 13.8 years, diagnosed with JIA were included in a randomized placebo controlled trial from January 2014 to December 2017. Patients together with the legal owners signed an informed consent. Group 1 (28 patients) was administrated along with the standard treatment, Ultra Bioavailable Curcumin (15,000-fold bioavailability) 1200 mg/day p. o. and after 30 minutes was applied sublingual blue laser (447 nm), 5 mW maximum output power continuously, 10 minutes each session. Patients received one session every two days, 5 sessions per month, repeated monthly, for 6 months. Group 2 (20 patients) as control, received only conventional therapy and placebo.

Disease activity was evaluated at 0, 4, 12 and 24 weeks with JADAS-71 scores, including: physician's global assessment and parent's global assessment of well-being, both measured on 0–10-cm VAS, normalized ESR (0–10) and active joint count. Childhood Health Assessment Questionnaire (CHAQ) – Disability Index was calculated as a mean of the eight functional areas, on a 4 point scale of difficulty, scored from 0–3 each. Pain level was quantified on 0–10-cm VAS (0-no pain, 10-severe pain).

Results: In the end of study, median JADAS-71 significantly improved ($p=0.0228$) in Group I (from 13.8 to 2.8), comparatively with Group II, where the evolution was less favourable (from 14.2 to 7.4). Pain level initially estimated at 7.5 significantly decreased to 2.5 in Group I (66.7%), comparatively to the evolution from 7.4 to 5.2 in placebo group (29.7%) [$p=0.0125$]. Daily functional activity assessed by the CHAQ score improved with 62.7% in Group I, comparatively with only 13.93% in Group II ($p=0.0003$). In the end of study the most important economic aspect was that the percentage of patients receiving remissive medications and the corresponding costs per patient have decreased for methylprednisolone by 72.25% in Group 1, comparatively with only 35.04% in placebo group ($p=0.0111$); methotrexate decreased by 66.7% in Group I, comparatively to only 31.25% for placebo group ($p=0.0165$).

Conclusions: Blue laser and curcumin proved to be a safe, efficient and money saver integrative therapeutic intervention with direct impact on JIA patient's quality of life.

REFERENCE:

1. Trubilla KM, Adams L, Francio VT, Brown T. Exploring the Molecular World of Turmeric: An Alternative in the Treatment of Chronic Inflammation. *MOJ Cell Sci Rep* 2017;4(1):00077. doi:10.15406/mojcsr.2017.04.00077

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