filtration rate (75 vs 61 vs 73 mL/min/1.73m², $p<0.001$), tender joint count (3.4 vs 1.6 vs 2.1, $p=0.005$), swollen joint count (3.1 vs 1.6 vs 2.9, $p=0.003$), evaluator global assessment (21 vs 14 vs 16 mm, $p=0.03$), health assessment questionnaire-disability index (1.3 vs 1.3 vs 0.9, $p=0.005$), a history of serious infection (28 vs 41 vs 13%, $p<0.001$) and rheumatic disease comorbidity index (1.2 vs 2.2 vs 0.9, $p<0.001$).

Conclusion: There are still 14% of patients with RA were difficult-to-treat in real world in spite of intensive treatment. Their characteristics are distinct by the cause of difficulty to treat, suggesting the approach to difficult-to-treat RA should be personalized.

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Reasons for difficult-to-treat rheumatoid arthritis

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FRI0080

CLINICAL CHARACTERISTICS OF PATIENTS WITH ELDERLY-ONSET RHEUMATOID ARTHRITIS (EORA)

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Background: The onset of rheumatoid arthritis (RA) occurs usually between 35-50 years of age. Since the general population is ageing, beginning of RA in older age is more common. The term *elderly onset of rheumatoid arthritis* (EORA) describes the disease with onset at age over 60. The term *younger-onset rheumatoid arthritis* (YORA) refers to the disease with typical, earlier onset. Observational studies indicate, that substantial differences do occur between the two RA subtypes (EORA and YORA).

Objectives: The goal of the study was to analyze the course of disease and treatment in EORA in comparison to YORA patients.

Methods: The study was conducted in consecutive RA patients, treated in the Department of Rheumatology and Connective Tissue Diseases, Medical University of Lublin, Poland. The study group consisted of 113 patients (93 women, 20 men), with the mean (SD) age 59.4 (19.0), disease duration 12.9 (10.3) years.

The cut off between EORA and YORA was set at 60 years of age. There were 63 (55.8%) EORA and 50 (44.2%) YORA patients. Demographic and clinical information was obtained through structured interview, review of medical records and laboratory tests. Disease activity was assessed based on joint counts and Disease Activity Score of 28 joints (DAS28).

Results: In patients with EORA vs YORA, the mean (SD) age was 73.64 (6.6) vs 41.5 (13.7) ($p<0.001$), the age of RA diagnosis 65.0 (4.2) vs 23.3 (4.8) ($p<0.001$), RA duration 8.6 (5.4) vs 18.3 (12.3) years ($p<0.001$).

The group of patients with EORA compared with YORA, was characterized by: significantly higher number of men [respectively 16 (25.4%) vs 4 (8.0%)], unfavorable metabolic parameters [higher body mass index (BMI): 26.0 (5.8) vs 23.4 (4.1) kg/m² ($p=0.04$); serum uric acid: 5.7 (1.5) vs 4.4 (1.6) mg/dl ($p=0.001$)], as well as unfavorable parameters of RA activity [higher DAS28: 4.4 (1.5) vs 3.2 (1.6) ($p<0.001$); higher tender joints count (TJC): 6.1 (6.2) vs 3.2 (3.7) ($p=0.01$); higher erythrocyte sedimentation rate (ESR) 45.9 (30.3) vs 24.1 (25.6) ($p<0.001$) and white blood cell count (WBC): 8.3 (2.7) vs 7.0 (2.4) $\times 10^3$ /ml ($p=0.01$)]. At the time of assessment, remission or low disease activity was achieved in significantly fewer EORA vs YORA patients [15 (23.8%) vs 25 (50%) ($p=0.007$)].

In EORA patients methotrexate was used as the first disease modifying drug (DMARD) more often [54 (85.7%) vs 26 (52%) ($p<0.001$)], the use of biological DMARDs was less common [5 (7.9%) vs 23 (46.0%) ($p<0.001$)], as well as glucocorticoids (GC) [49 (77.8%) vs 47 (94.0%) ($p=0.04$)]. Significantly more patients with EORA than YORA, were affected by concomitant diseases [62 (98.4%) vs 41 (82%) ($p=0.007$)].

The prevalence of joint erosions, extra-articular manifestations and antibodies typical for RA (rheumatoid factor, RF-IgM and/or anti-citrullinated peptide, ACPA) did not differ significantly between the groups.

Conclusion: In our study group, EORA patients were characterized by higher proportion of men, higher inflammatory parameters and higher disease activity, in comparison with YORA. In patients with EORA we also found unfavorable metabolic parameters and higher incidence of concomitant diseases, which could affect the method of treatment (less common use of GC and biological DMARDs).

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FRI0081

WERE FRAIL RA PATIENTS AT YOUNGER AGE MORE LONELY, DEPRESSED OR ANXIOUS THAN NON-FRAIL RA PATIENTS?

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Background: Frailty is a state that reflects reduced reserve and resistance to stressors among elderly persons. A preceding study showed that 38 out of 90 (42%) RA patients aged ≥ 55 years who visited our outpatient clinic were frail. Presence of frailty was not age-dependent. Patients were mainly classified as frail because of positive answers on single items that report on depressive feelings (73.7%), anxiety (57.9%), missing people around (65.8%) and emptiness (63.2%) [1]. It is unclear whether frailty is a cause, consequence or comorbidity of poor psycho-emotional health. Alternatively, they could also be congruent conditions. Exploring whether poor psycho-emotional health might be a longitudinal predictor of frailty, might shed light upon the relation between frailty and psycho-emotional health.

Objectives: In this mixed qualitative / quantitative study, we assessed whether older frail RA patients were already more lonely, depressed, and/or anxious than non-frail RA patients at 40 years.

Methods: All 90 RA patients who participated in our previous study on frailty in 2017 were invited for the current study. Participants were invited to rate validated multidimensional questionnaires on depression and anxiety (Geriatric Depression Scale (GDS) and Hospital Anxiety and Depression Scale (HADS)), loneliness (de Jong Gierveld loneliness scale) social support (Social Support List) for their current situation, but also retrospectively for their situation at the age of 40. Current frailty was assessed by the Groningen Frailty Indicator (GFI).

Semi-structured interviews took place in an age-stratified sample to explore how the diagnosis of RA has influenced patients' life. Items of questionnaires were compared using the chi-square test. Interviews were annotated by two independent readers. Codes were taxonomically organized and linked to themes using NVivo 12.

Results: 32 (36%) of the 90 invited patients participated and 28 completed all psycho-emotional questionnaires. Twelve out of 32 patients (37.5%) were classified as frail by the GFI. On the GDS at current age, 6/12 frail patients had signs of depression compared to 2/17 non-frail patients ($p=0.04$) (Table 1). More frail patients had signs of an anxiety disorder on the HADS, both at current age and age 40 (age 40: 7/11 frail patients versus 0/0 non-frail patients, $p<0.01$; Table 1). Results on the individual level were more blurred: 3 (42%) out of 7 frail patients were anxious at age 40, but not at current age. The loneliness, social support and HADS depression questionnaires showed no difference between frail and non-frail patients, both at current age and age 40. A stratified sample of 10/32 (31%) patients were interviewed of which 5 (50%) were frail on the GFI. Frail patients more often expressed anxious feelings at current age. Since the diagnosis of RA, frail patients worried more about the future, i.e. about the progression of RA. Non-frail patients tended to be more optimistic. In the interviews, patients expressed not having feelings of depression and anxiety at age 40.

Table 1. Number of frail and non-frail patients per questionnaire at current age and age 40.

Questionnaire	Frail	Non-frail	Total	p-value
GDS now				
No depression	6	15	21	0.04
Depression	6	2	8	
GDS age 40				
No depression	9	17	26	0.06
Depression	3	0	3	
HADS anxiety now				
No indication anxiety	6	17	23	0.01
Indication anxiety	5	0	5	
HADS anxiety age 40				
No indication anxiety	4	17	21	<0.01
Indication anxiety	7	0	7	

Conclusion: Although it is difficult to disentangle the causal conundrum between psycho-emotional health and frailty, frail patients were on a group level more anxious at younger age on the HADS in our study. Psychiatric symptomatology might be misinterpreted for frailty at current age. Limitations of our study include a high chance on amplified memory bias.

References:

[1] Cleutjens et al. *Ann Rheum Dis* 2018;77(Suppl 2):577.

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FRI0082 SLEEP PROBLEMS IN EARLY RHEUMATOID ARTHRITIS

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Background: It is well known that patients with established RA suffer from problems with sleep quality[1]. There are however few, if any, studies on sleep quality among newly diagnosed patients.

Objectives: To investigate the sleep quality among patients newly diagnosed with RA.

Methods: We used the Swedish study Epidemiological Investigation of RA (EIRA) including patients at the time of diagnosis, based on the 1987 ACR criteria during 2008-2016. At 1 and 3 years after diagnosis, the patients were sent a questionnaire in which they were asked to rate their sleep quality on 10 different questions. We then calculated 6 different sleep components consisting of insomnia, non-restorative sleep, sleep problems, general quality of sleep, if poor sleep affected the health and if they were getting enough sleep[2].

Sleep problems were defined as mostly or always having problems with either of the following: falling asleep, many awakenings with difficulties to go back to sleep, waking up early or having disturbed/restless sleep. Insomnia was defined

as answering mostly or always on either problem with falling asleep, many awakenings with difficulties to go back to sleep or waking up early, in combination with mostly or always being tired during the day.

Having problems with non-restorative sleep was defined as mostly or always having trouble waking up or not feeling well rested when waking up. We defined having problem with not getting enough sleep, sleep quality affecting the health and poor sleep quality as reporting any of the two highest scores on the corresponding questions.

We then calculated the proportion of people experiencing no problems at 1 or 3 years after RA diagnosis, developing problems, improving or always having problems with their sleep.

Results: We identified 1483 patients with data at either one or both time points. The mean age was 59 years (IQR 19), and 1063 (72%) were women. At 1 year, 36% of the patients reported having at least one type of sleep problem, after 3 years, this figure was 29%. Over 20% of the patients reported having "Rather big" or "Very big" problems with sleep after one year (Table 1) and 31% had problems at one or both time points (Table 2). Disturbed sleep was a problem for their health in 20% of the patients and 11% reported having "poor" or "very poor" sleep quality at both times. Insomnia was experienced by 118 (10%) patients at 1 year and 112 (11%) at 3 years.

Table 1. Sleep problems at 1 and 3 years after diagnosis of RA.

	1 year	3 years
Insomnia	118 (9%)	112 (11%)
Not getting enough sleep	102 (8%)	113 (11%)
Problems with sleep in general	270 (22%)	231 (22%)
Sleep quality affecting health	238 (19%)	197 (19%)
Poor sleep quality	218 (17%)	209 (20%)
Problem with non-restorative sleep	218 (17%)	154 (14%)

Table 2. Individuals experiencing no problems, developing problems, improving or always having problems with their sleep at 1 and 3 years after diagnosis of RA.

	No problems at any time point	Improved	Developed problems	Problems at both 1 and 3 years
Insomnia	702 (85%)	43 (5%)	46 (6%)	39 (5%)
Not getting enough sleep	719 (86%)	36 (4%)	47 (6%)	34 (4%)
Problems with sleep in general	576 (69%)	81 (10%)	78 (9%)	103 (12%)
Sleep quality affecting health	616 (74%)	65 (8%)	70 (8%)	85 (10%)
Poor sleep quality	623 (74%)	57 (7%)	66 (8%)	91 (11%)
Problem with non-restorative sleep	654 (78%)	71 (8%)	46 (5%)	67 (8%)

Conclusion: In a population-based early RA cohort receiving today's standard care, 30% of the patients reported some type of sleep problem during the first 3 years. Although this is a lower rate than has been reported in established RA, this is a significant proportion of RA patients, and these findings warrant further studies to closer identify the course of sleep problems and the factors influencing it such as pain.

References:

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[2] Åkerstedt T et al PMID 18484368

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FRI0083 GLUCOCORTICOID USE IS ASSOCIATED WITH DETERIORATION OF MUSCLE QUALITY AND FUNCTION: FROM THE CHIKARA STUDY

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