subsequent studies identified complex of clinical, laboratory and morphological factors contributing to development of trajectories. Structural OA variants are diverse depending on visualization methods, and many of them can be naturally considered phenotypes, since they drive certain clinical OA manifestations. Morphological changes were described at macro- and microscopic levels; it is interesting to note the absence of histopathological norm in patients without OA. Laboratory profiles of patients are determined by content of systemic (serum, urinary) or local, "proximal" (in synovial fluid) biomarkers, which seem to be more precise. Metabolomic analysis is perspective new direction of laboratory studies based on joint metabolic products identification in the synovial fluid. New trend in OA research is molecular phenotyping. The specific molecular pathway explaining observed phenotype properties is called "endotype". Endotype is related to certain pathobiological scenario, and laboratory markers are potentially effective for its diagnosis.

Conclusion: Thus, a large amount of accumulated information and its diversity soon will probably lead to qualitatively new knowledge level with deep understanding of phenotype-associated strategy for managing OA patients.

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AB0583 FRAILITY IN THE PATIENTS WITH OSTEOARTHRITIS OF THE KNEE WAS NOT CAUSED BY SARCOPENIA

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Background: Osteoarthritis of the knee (knee OA) decreases mobility of the elderly, which function could be significantly improved with artificial joint replacement in many cases. Successful results of the surgery depend on several factors including preoperative muscle strength of lower limbs.

Objectives: We assessed morbidity and skeletal muscle mass and strength in patients with knee OA immediately before undergoing arthroplasty and investigated the relationship between impairment of mobility and skeletal muscle function.

Methods: All patients scheduled to undergo knee arthroplasty at our hospital after July 2020 were assessed for basic attributes, clinical assessment, blood tests, radiography, whole-body mode DXA, knee muscle strength by dynamometer with written consent (UMIN ID: 000040940). And Japanese Cardiovascular Health Study criteria for frailty, and sarcopenia by Asian Working Group for Sarcopenia 2019 criteria were evaluated.

Results: Among 46 patients (40 women, mean age 75.4 years) the overall distribution in frailty is no: 15.9%, pre-frailty: 56.8%, and frailty: 27.3%. That in sarcopenia is no: 91.3%, yes: 2.2%, and severe: 4.3%. Ninety-one % of the patients with frailty did not suffer from sarcopenia. Between the patients with frailty and those without frailty there was a significant difference in walking speed (0.71 ± 0.29 m/sec, 1.12 ± 0.29 m/sec; $p=0.004$ adjusted by age and sex). Meanwhile, between those 2 groups of patients no significant differences were observed in skeletal muscle mass (6.40 ± 0.87 kg/m², 6.59 ± 1.09 kg/m²; $p=0.35$) and knee extension power (120.4 ± 37.4 N, 143.7 ± 67.9 N; $p=0.88$) adjusted by age and sex. Together with these results, decrease in lower limb motor functions of the patients with knee OA was not caused by sarcopenia. In other words, improvement of mobility in the patients with knee OA could be expected by surgical intervention because of pain relief and ROM improvement.

Conclusion: In the patients with knee OA immediately before arthroplasty, frailty was not caused by sarcopenia.

Disclosure of Interests: None declared.

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AB0584 THE QUALITY OF REPORTING IN RANDOMIZED CONTROLLED TRIALS OF HOME BASED REHABILITATION FOR KNEE OSTEOARTHRITIS: UTILIZING PEDRO SCORE AND CONSORT CRITERIA

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Background: Osteoarthritis of the knee (KOA) is a very common rheumatic disease, and its global burden is gradually increasing (1). The benefits of exercise in patients with KOA are supported by high-level evidence and take their place in primary care therapy (2). Today, coronavirus disease 2019 has developed as a pandemic all over the world, creating difficulties in healthcare and highlighting home-based rehabilitation (HBR) (3). Randomized controlled trials (RCTs) are considered the gold standard for evaluating the effects of clinical interventions, but poorly reported results can have negative consequences. The Physiotherapy Evidence Database (PEDro) evaluates the methodological quality of RCTs (4). The CONSORT (Consolidated Standards of Reporting Trials) statement has been developed to improve the reporting quality of RCTs (5). There are no studies examining the quality of RCTs related to HBR in patients with KOA.

Objectives: The aim of this study was to assess the reporting quality of HBR trials for KOA, and explore the factors associated with the reporting.

Methods: Two independent researchers investigated HBR RCTs in patients with KOA published between 1999 and 2020 were sourced from PubMed, the Cochrane Reviews and Web of Science. Each researcher evaluated the methodological quality of the included studies using the PEDro scoring and reporting aspects using 9 items from CONSORT. The relationship between adherence to the CONSORT criteria and the PEDro score were evaluated.

Results: Twenty-five RCTs met our eligibility criteria. The mean PEDro score of studies is 5.76 ± 1.48 . Only one study found high quality (PEDro score: ≥ 9). The PEDro scores were: randomization type (96%, 24/25) and baseline comparability (92%, 23/25); all studies described group comparisons and variability measures. In contrast, concealed allocation (18%, 7/25), blinding of participants (16%, 4/25) and therapists (0%) were not included in most studies. The CONSORT criteria were: flow diagram (92%, 23/25), sample size, subgroup analysis and sources of funding (56%, 11/25 for all three), while the majority of studies the trial registration number (16%, 4/25) was not available. A high level of correlation was found between meeting the CONSORT criteria and PEDro scores ($r=0.820$, $p<0.001$).

Conclusion: The majority of RCTs based on HBR for KOA are low-to-moderate quality studies based on the PEDro score. Adherence to the CONSORT criteria is linked to high quality scores. If the studies are planned and written in accordance with the CONSORT criteria, we think that better quality studies will emerge.

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AB0585 COMPARISON OF THE EFFECTIVENESS OF HYALURONIC ACID PREPARATIONS WITH DIFFERENT MOLECULAR WEIGHTS AND IN COMBINATION WITH CHONDROITIN SULFATE DEPENDING ON THE STAGE OF OSTEOARTHRITIS OF THE KNEE JOINT

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Background: intra-articular (IA) injections of hyaluronic acid (HA) preparations are one of conservative treatment of the knee osteoarthritis (OA). However, the results of this treatment are inconsistent.

Objectives: to evaluate the effectiveness of HA preparations with different molecular weights and in combination with chondroitin sulfate (HS) for IA injections in the treatment of patients with stage I-III knee OA.

Methods: IA HA injections were performed 160 patients with primary and post-traumatic knee OA of the I-III stages at the department of rheumorthopaedic and rehabilitation, V.A. Nasonova Research Institute of Rheumatology for the period from September 2017 to June 2019. Patients were divided into 4 groups. Group 1 consisted of 80 patients treated with low molecular weight (LMW) HA, group 2 - 20 patients treated with medium molecular weight (MMW) HA, group 3 - 30 patients treated with high molecular weight (HMW) HA, and group 4 - 30

patients who were intraarticular introduced HA with HS. The course of IA injections was 2 for LMW, HMW, and HA with HS, and 3 for MMW HA. Injections were performed with an interval of 1 week. To evaluate the results of treatment, we studied the intensity of pain according to VAS and the total score of KOOS before treatment and on follow-up examinations 1, 3 and 6 months after the course of IA HA injections.

Results: the maximum reduction in pain with IA HA injections at stage I of knee OA occurred by 3 months after the course of treatment. Moreover, improvement was detected by 1 month in 84.3% of cases, and remained until the end of the study in 71.1% of patients. All HA preparations used in stage I of knee OA were effective. At stage II of the knee OA after 3 months after the course of IA HA, different efficiencies of HA preparations were revealed. So, in the groups of LMW, MMW and HA with HS, the improvement persisted up to 3 months, and in the group of HMW HA - up to 1 month. After 3 months, the best results were shown by HA with HS, by 6 months the results were comparable. IA HA injections at the II stage of knee OA led to good and excellent results 1 month after the course of treatment in 53.9% of cases, but by the end of the study, improvement remained in only 30.8% of patients. In the case of the use of HA in stage III of the knee OA, the effectiveness of the studied drugs was comparable, and the maximum improvement was achieved by 1 month. The positive effect of IA HA injections in patients with stage III of the knee OA one month after the course of treatment was obtained in 40.6% of cases, by 3 months it decreased to 18.8%, and by 6 months - to 15.7% of patients.

Conclusion: IA injections of HA at stage I of the knee OA is a highly effective method of conservative treatment, which allows to relieve pain and improve the condition of the knee joint for a period of 6 months or more. The use of HA preparations at stage II of the knee OA allows reducing pain up to 3 months with IA injections of LMW and MMW HA, as well as HA with HS. HMW HA helps reduce pain intensity for a period of 1 month. The use of HA preparations in stage III of the knee OA leads to a short-term relief of symptoms of OA.

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AB0586

PREVALENCE OF EARLY SYMPTOMATIC KNEE OSTEOARTHRITIS ACCORDING TO THREE CLINICAL CLASSIFICATION CRITERIA

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Background: Knee osteoarthritis (KOA) is a heterogeneous disease. Different classification criteria for symptomatic KOA (SKOA) have been proposed. Determining the prevalence and comparing the different criteria of SKOA in patients with knee pain will serve as a base when studying the predictive ability of these criteria in a longer perspective.

Objectives: To study the prevalence of SKOA in individuals with knee pain according to three different classification criteria: the American College of Rheumatology (ACR), (1), the European League Against Rheumatism (EULAR)(2), and the National Institute for Health and Care Excellence (NICE) (3).

Methods: Baseline data from an ongoing longitudinal study (HALLOA) including 296 individuals with knee pain, recruited by advertisement, were analysed. The individuals were categorized according to the classification criteria of SKOA (ACR, EULAR and NICE) based on age, clinical examination (crepitation), and self-reported data from KOOS (pain, symptoms, ADL, and sport/recreation), and dichotomized as fulfilling the criteria (SKOA) or not (no SKOA). BMI was measured (kg/m²). Radiographic KOA (RKO) was assessed according to Ahlback criteria (1-5), defined as RKO with grade 1 or more in at least one knee. Prevalence was calculated (frequencies, %) for each criterion, and Chi-Square test or the Independent-Samples t-test were used for comparisons between individuals fulfilling SKOA or not.

Results: The mean age was 52 (min-max 24-73) years, 70% were women and 22% were classified with RKO. The prevalence of SKOA according to each criterion was 57% (ACR), 51% (EULAR) and 73% (NICE) respectively. In total, 48% had SKOA according to all three criteria and whereof 32% had RKO, compared to 10% RKO among individuals with no SKOA. Regardless of the criterion, significantly more individuals classified with SKOA also had RKO compared to

individuals with no SKOA, $p < 0.001$. Those classified as SKOA were significantly older and had higher BMI compared with no SKOA (Table 1).

Conclusion: Approximately 50-70% of the individuals with knee pain were classified as having SKOA, where EULAR criteria had the lowest prevalence. A better understanding of early knee pain classification according to different clinical criteria is essential for the ability to capture and follow the long-term prognosis of early SKOA. Further longitudinal studies are needed.

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Table 1. Comparisons between the ACR, EULAR and NICE criteria of symptomatic knee osteoarthritis, stratified for symptomatic knee osteoarthritis or not

	ACR			EULAR			NICE		
	Total	OA	No OA	P-value	OA	No OA	P-value	OA	No OA
N (%)	296	170	98		152	114		215	58
	(100)	(57.4)	(33.1)		(51.4)	(38.5)		(72.6)	(19.6)
Age (Y), Mean (SD)	51.6	53.3	49.0	<0.001	54.5	48.1	<0.001	54.7	40.5
	(8.7)	(7.0)	(10.3)		(5.1)	(10.8)		(4.9)	(9.8)
Gender, female (%)	208	121	66	0.511	108	77	0.538	154	36
	(70.3)	(71.2)	(67.3)		(58.4)	(67.5)		(71.6)	(62.1)
BMI (kg/m ²), Mean (SD)	26.4	26.5	25.8	0.179	26.9	25.4	0.005	26.7	24.8
	(4.6)	(4.5)	(4.3)		(4.5)	(4.2)		(4.5)	(3.8)
RKO, n (%)	64	45	12	0.003	47	10	<0.001	58	1
	(21.6)	(26.5)	(12.2)		(30.9)	(8.7)		(27.0)	(1.7)

Independent-samples t-test and Chi-2-test. **Bold**=Significant correlation ($p \leq 0.05$). **OA** = Osteoarthritis. **ACR** = American College of Rheumatology. **EULAR** = the European League Against Rheumatism. **NICE** = the National Institute of Care and Excellence. **BMI** = Body Mass Index. **RKO** = Radiographic Knee Osteoarthritis (Ahlback, with grade ≥ 1 in ≥ 1 knee).

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AB0587

ASSESSING THE CHARACTERISTICS AND MANAGEMENT OF KNEE OSTEOARTHRITIS PATIENTS WITH HYPERTENSION BY CLINICIAN SPECIALITY

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Background: Though the pathogenesis of knee osteoarthritis (OA) is complex, patients with OA frequently have other comorbidities, including hypertension, which eludes to other considerations needed when deciding appropriate treatment management.

Objectives: This study aims to examine the profiles of knee OA patients with hypertension vs. those without any comorbidities, and to elucidate key differences between these patient groups as potential areas of consideration.

Methods: A multi-center, online medical chart review study of patients with OA was conducted between May – July 2020 among US rheumatologists (rheums), orthopedic surgeons (orthos), primary care physicians with a focus in sports medicine (SM PCPs), and pain specialists. Physicians recruited were screened for duration of practice in their specialty (3-50 years) and caseload (≥ 35 knee OA patients personally managed, at least 10 being moderate-severe). Patient charts were recorded for the next 5 eligible patients seen during the screening period. Respondents abstracted patient demographics and treatments used. Descriptive statistics were used to analyse the data.

Results: 260 physicians were recruited and collectively reported 796 knee OA patients; 559 were reported to experience hypertension whilst 237 were reported as not experiencing any comorbidities.

Reported hypertension patients were significantly older (mean 67 vs 59 years old, respectively; $p \leq 0.01$) and weighed more (mean 82kg vs 77kg, respectively; $p \leq 0.01$) than patients without comorbidities; they were also significantly more likely to be previous smokers compared to those without comorbidities (23% vs 8%, respectively; $p \leq 0.01$). With regards to current knee OA severity, both orthos and SM PCPs reported a significantly higher proportion of hypertension patients that were deemed 'severe' (physician opinion) vs patients without comorbidities (orthos: 50% vs 32%, respectively; SM PCPs: 42% vs 23%, respectively; $p \leq 0.01$). Rheums and pain specialists reported greater mild opioid usage amongst hypertension patients compared to those without comorbidities (rheums: 28% vs 10%, respectively ($p \leq 0.05$); pain specialists: 40% vs 9%, respectively; ($p \leq 0.01$)); orthos and SM PCPs stated significantly greater use of corticosteroid injections amongst their reported hypertension patients vs those without comorbidities (orthos: 60% vs 41%, respectively; SM PCPs: 40% vs 19%, respectively; $p \leq 0.01$). Hypertension patients reported by orthos and SM PCPs are more likely to be