AB0481 PATIENT'S PERSPECTIVE ON PATIENT EDUCATION IN AXIAL SPONDYLOARTHRITIS: A QUALITATIVE STUDY

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Background: Within the EULAR recommendations patient education (PE) is stated as the basis of axial spondyloarthritis (axSpA) management, since PE contributes to reaching treatment goals.[1] However, educational needs are scarcely qualitatively studied in patients with axSpA and the EULAR recommendations of PE are primarily based on research in patients with rheumatoid arthritis. The World Health Organization advocates the incorporation of qualitative research into the development of guidelines and recommendations,[2] since it generates rich and detailed data providing explanations and understanding of the complexity of human behaviour and decision-making.[3]
Objectives: To explore perceptions, experiences and needs of PE in patients with axSpA.
Methods: An interpretive phenomenological approach was applied and data was collected through semi-structured in-depth interviews with axSpA patients with a broad variation in characteristics. The data collection and analysis was conducted in an iterative manner. Thematic analysis was applied to translate experiences and perceptions from the interviews into themes.[4] Multiple strategies were used to enhance credibility: data saturation, research triangulation, bracketing, member checking, theoretical notes, and peer debriefing.
Results: Twelve patients participated, for characteristics see Table 1. From the participants' perspective three interrelated themes regarding PE are important for healthcare professionals (HCP) to pay attention to: *illness perception, content* and *availability*. 1) *Illness perception*, defined as patients' personal understanding and belief about their disease, affects how patients experience and process PE which consequently influences coping strategies with their disease. 2) The following topics concerning *content* are reported as most important in PE for patients with axSpA: prognosis, treatment, and the influence of lifestyle aspects. 3) *Availability* of PE: face-to-face contact with a HCP is the preferred method for exploring patients' personal needs in PE. Additionally, active self-education is preferred to learn more about the different subjects which patients can apply when preferred. Furthermore, participants reported a relationship of trust between patient and HCP and sufficient amount of time in combination with a comprehensible amount of information to support their understanding (health literacy) as prerequisites for effective PE.

Table 1. Characteristics of the patients with axSpA in this study

Participants	Sex	Age	Symptom years	Diagnosis years	ASDAS	Disease activity	PASS	Level of education	Marital status
1	M	39	18	15	0.47	ID	Yes	ISCED 7	Single
2	M	56	30	30	2.90	HDA	No	ISCED 3	Divorced
3	M	24	10	9	0.88	ID	Yes	ISCED 7	In a relationship
4	M	32	20	13	1.04	ID	Yes	ISCED 6	In a relationship
5	M	66	24	23	1.33	LDA	Yes	ISCED 3	Married
6	M	33	7	5	1.20	ID	Yes	ISCED 7	Married
7	M	56	9	6	2.72	HDA	-	ISCED 2	Married
8	F	30	15	9	2.11	HDA	No	ISCED 3	Single
9	F	36	14	12	1.22	ID	Yes	ISCED 7	Married
10	F	56	18	17	3.23	HDA	-	ISCED 2	Married
11	F	33	10	5	1.66	LDA	Yes	ISCED 3	Divorced
12	F	27	3	2	1.90	LDA	No	ISCED 7	In a relationship

M = Male; F = Female; ASDAS = Ankylosing Spondylitis Disease Activity Score; ID = inactive disease, LDA = low disease activity, HDA = high disease activity; PASS = Patient Acceptable Symptom State Questionnaire; ISCED 2011 = International Standard Classification of Education 2011

Conclusion: This first bottom-up qualitative study exploring perceptions, experiences and needs of PE in patients with axSpA, shows that HCP should pay attention to patients illness perception to promote effective delivery of PE. Additionally, diagnosis, treatment and lifestyle aspects are important subjects and a combination of face to face contact and self-education is preferred by the patients. These results will provide disease specific content for future guidelines regarding PE in axSpA.

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AB0482 PHARMACOLOGICAL TREATMENT OF ENTHESITIS - A SYSTEMATIC REVIEW ON THE EFFICACY OF THE AVAILABLE OPTIONS

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Background: Enthesitis is a recognized as a hallmark of spondyloarthrtis (SpA), including psoriatic arthritis (PsA). However, it is an underestimated disease domain in both in clinical trials and clinical practice (1).
Objectives: This systematic literature review (SLR) assessed the efficacy of the available pharmacological options for enthesitis.
Methods: A SLR was conducted following the PRISMA reporting guidelines. Studies were sourced from PubMed and Embase databases, using the MeSH terms: enthesitis, entheses, treatment, spondylarthritis, ankylosing spondylitis and psoriatic arthritis. The search was limited to articles in English published between January 2000 and July 2020. Two independent reviewers screened the titles and abstracts.
Results: A total of 65 articles matched the research criteria. The included populations, the time to assessment of the primary endpoint and the chosen outcome for assessment of enthesitis was heterogeneous across studies. There were no studies assessing the effect of non-steroidal anti-inflammatory drugs, glucocorticoids, or csDMARDs. In PsA, all TNFis showed superiority in monotherapy against placebo (PBO). However, when combined with methotrexate (MTX), only some TNFi showed superiority against MTX monotherapy. In SpA, there was conflicting evidence regarding the efficacy of TNFi in enthesitis. Regarding IL23i in PsA, Ustekinumab was superior to PBO, and to TNFis. Guselkumab was superior to PBO when given every 4 weeks. Regarding IL7i, Secukinumab (SEC) was superior to PBO, only for some dosing schemes. Ixekizumab (IXE) was superior to PBO for the treatment of enthesitis only in TNF-naïve patients. Studies comparing SEC and IXE to ADA, showed no difference. There was no reported data on IL17i for enthesitis in SpA. In PsA, Tofacitinib was superior to PBO in naïve patients, and Tofacitinib 10mg was superior to PBO in bioexperienced patients. Apresmilast 30mg showed superiority to PBO for enthesitis. All finding are summarized on Table 1.

Table 1. Findings of the systematic literature review on treatment options for enthesitis

Disease	Tested drug vs Reference	Superiority of the treatment arm against reference arm (p<0.05)	Reference
PsA	TNFi vs PBO	YES	NCT00051623 (IFX)
			NCT00265096 (GOL)
			NCT01087788 (CZP)
	TNFi+MTX vs PBO+MTX	NO	NCT00367237
	(PBO+ETN one study) vs PBO+MTX		(IFX) NCT02065713 (GOL)
			NCT02376790 (ETN)
	UST vs PBO	YES	NCT01009086
	UST vs TNFi	YES	NCT01077362 EudraCT 2017-003799-29 β
	GUS q4w vs PBO	YES	NCT03162796
	GUS q8w vs PBO	NO	NCT03158285
	SEC (pooled dose) vs PBO	YES	NCT01392326
			NCT01752634
	SEC 300mg vs PBO	YES	NCT01989468
	SEC 150mg vs PBO	NO	
	SEC 300mg with loading vs PBO	YES	NCT02404350
	SEC 150mg with loading vs PBO	YES	
	SEC 150mg no loading vs PBO	NO	
	IXE vs PBO	YES	NCT01695239
	ADA vs PBO	NO	
	IXE vs PBO	PsA Bionaive NO	NCT02349295
	IL17i (SEC/ ADA) vs TNFi	PsA Bioexperienced NO	NCT02745080 (SEC)
			NCT03151551 (ADA) β
	APR 20mg vs PBO	NO	NCT01172938
	APR 30mg vs PBO	YES	
	TOF 5mg vs PBO	NO	NCT01877668
	TOF 10mg vs PBO	YES	(TNFi-naive)
	ADA 40mg vs PBO	NO	
	TOF vs PBO	NO	NCT01882439 (TNFi-failure)
SpA	ETN vs SSZ	YES (imaging)/ NO (clinical) axSpA	NCT00844142
	ETN vs PBO	YES for nr-axSpA	NCT01258738
	ADA vs PBO	YES for r-axSpA	NCT00195819
		NO for nr-axSpA	NCT00939003
		YES for perSpA	NCT01064856
	GOL IV vs PBO	YES for r-axSpA	NCT02186873
	GOL 100mg vs PBO	YES	NCT00265083
	GOL 50mg vs PBO	NO	
	GOL vs PBO	For r-axSpA YES nr-axSpA	NCT01453725

β-Open-label; PsA: Psoriatic arthritis; r-axSpA: Radiologic axial spondylarthritis; nr-axialSpA: non radiological axial spondylarthritis; PBO: Placebo; TNFi: Tumor necrosis factor inhibitors; ETN: Etanercept; IFX: Infliximab; ADA: Adalimumab; GOL: Golimumab; UST: Ustekinumab; CZP: Certolizmab; GUS: Guselkumab; SEC: Secukinumab; IXE: Ixekizumab; APR: Apremilast; TOF: Tofacitinib; MTX - Methotrexate

Conclusion: This SLR emphasizes the current heterogeneity in the assessment and report of enthesitis. There is still an unmet need for further studies to improve our understanding about enthesopathy.

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AB0483 CAN WE PREDICT WHICH PATIENTS WITH SPONDYLOARTHRITIS WILL NEED DOSE ESCALATION OF SECUKINUMAB TO 300 MG MONTHLY?

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Background: Secukinumab is a fully human monoclonal antibody against interleukin-17A, approved in several countries for the treatment of ankylosing spondylitis (AS) and psoriatic arthritis. It is known that some patients benefit from increasing the monthly dose of secukinumab from 150mg, the most commonly used dose, to 300mg. However, the baseline clinical characteristics that differentiate these patients are not yet fully understood.

Objectives: This study aimed to investigate whether there are any variables at the beginning of biologic therapy that might predict a greater probability of having to increase the dose of secukinumab to 300mg in order to obtain a response to treatment.

Methods: This is a retrospective cohort study, including all the spondyloarthritis and psoriatic arthritis patients under secukinumab at our Rheumatology Department and registered in the national database (Reuma.pt).

Demographic, clinical and laboratorial characteristics and disease activity measures were collected from the first visit before the patient began secukinumab. For comparison between the 2 groups, continuous variables were analyzed using Mann-Whitney U and T-tests and categorical variables were analyzed using a Chi-square test. Multivariate regression analyses assessed the impact of selected variables on the need to increase the dose of secukinumab to 300mg.

Results: Thirty-two patients with a mean age of 53±11.96 years were included, 19 (58%) were females and 16 (48.5%) had psoriasis. Twenty-seven (81.8%) patients were under a nonsteroidal anti-inflammatory drug (NSAID), 11(33.3%) were under corticosteroid and 11(33.3%) were under conventional synthetic disease-modifying antirheumatic drug (csDMARD); 25 (75,8%) had previously been treated with a biological disease-modifying antirheumatic drug (bDMARD). The mean patient baseline VAS and physician baseline VAS were 74,39±19,77 and 47,55±23,38, respectively; the mean erythrocyte sedimentation rate (ESR) and C-Reactive Protein (CRP) were 26,33±22,62 mm/hr and 10,81±16,88 mg/dL, respectively; the mean swollen joint count (SJC) and tender joint count (TJC) were 1,30±1,63 and 3,67±3,14, respectively; the mean Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Ankylosing Spondylitis Disease Activity Score (ASDAS) were 6,18±2,06 and 3,41±0,84, respectively; the mean Bath Ankylosing Spondylitis Metrological Index (BASMI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were 4,22±1,58 and 6,28±2,53, respectively; the mean Maastrich Ankylosing Spondylitis Enthesitis Score (MASES) was 2,85±3,23.

Nineteen patients (57.6%) had the dose of secukinumab increased to 300mg. At the baseline visit, the group of patients which had their secukinumab monthly dose increased to 300mg were more frequently men (12 vs 2, p=0.005) and had psoriasis (12 vs 4, p=0.049). On the other hand, these patients also exhibited lower MASES values (2±1.089 VS 4±0.501, p=0.022).

A regression analysis was conducted, estimating the relationships between the outcome binary variable of the monthly dose of secukinumab and the following predictors: gender, psoriasis, MASES value and use of corticosteroid. Female gender (OR 0.070, CI95% 0.005-0.890; p=0.040) and absence of psoriasis (OR 0.104, CI95% 0.011-0.952; p=0.045) were predictors for maintaining secukinumab at a dose of 150mg monthly.

Conclusion: Our data suggest that the most common characteristics of patients in need of increasing the monthly dose of secukinumab from 150 to 300 mg to achieve a better treatment response are: male gender, coexistence of psoriasis and lower MASES value at baseline. The first two variables remained statistically significant in a multivariate model of regression analysis. Nonetheless, we insist it is of paramount importance to conduct larger studies to confirm these findings.

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AB0484 TROUGH LEVELS OF TNF-A INHIBITORS AND THEIR IMMUNOGENICITY IN THE TREATMENT OF RHEUMATIC DISEASES AND INFLAMMATORY BOWEL DISEASES

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Background: The features of the underlying immune-mediated disease can affect the efficacy, pharmacokinetics and immunogenicity of the biologic agents, which are among the important predictors of loss of response to TNF-α inhibitors (TNFi).

Objectives: To compare the frequency of TNFi low trough levels and their immunogenicity in the treatment of rheumatic diseases (RD) (ankylosing spondylitis (AS) and rheumatoid arthritis (RA)) and inflammatory bowel diseases (IBD) (Crohn's disease (CD) and ulcerative colitis (UC)).

Methods: Among 120 patients (40 with AS (33.3%), 19 with RA (15.8%), 42 with CD (35%), and 19 with UC (15.8%)), trough level of infliximab (INX) (n=36, 30%), adalimumab (ADM) (n=45, 37.5%) and certolizumab pegol (CZP) (n=39, 32.5%) and the level of anti-drug antibodies (ADAb) were measured in the serum samples drawn directly before the planned drug administration.

Results: Low drug level (below 0.5 μg/mL for INX[1], 4.9 μg/ml for ADM[2], and 20 μg/l for CZP[3]) was found in 54 (45%) patients: in 33 (55.9%) patients with RD and 21 (34.4%) patients with IBD. In the RD group, low drug trough level was observed more often than in IBD (55.9% vs 34.4%, OR 2.418, 95% CI 1.157 to 5.052, p=0.018). Only in UC was there a relationship between the received low dose of the drug (up to 200 mg of INX, 40 mg of ADM, and 200 mg of CZP) and its low level in the serum (p=0.026). Among the additional factors associated with a low TNFi level, lower dose of concomitant therapy at the time of a biologic initiation (66.7% vs 20.8%, OR 7.6, 95% CI 1.388 to 41.617, p=0.033) and the absence of pseudopolyps (78.9% vs 21.1%, p=0.045) were found in IBD, and in case of RD these factors included the age of 30 to 45 years (72.7% vs 41.9%, OR 3.692, 95 % CI 1.136 to 12.0, p=0.026), the absence of comorbidities (58.6% vs 41.4%, OR 3.44, 1.09 to 10.858, p=0.032) and male gender (78.8% vs 50% in women, OR 3.714, 95% CI 1.194 to 11.552, p=0.02).

ADAb were detected in 29 (24.2%) patients (7 to INX (19.4%), 8 (17.8%) to ADM, 14 (35.9%) to CZP), 23 (79.3%) of which had also a concomitant low trough level of the drug. There were no significant differences in the frequency of ADAb formation between the pathologies. In the AS group, antibodies to CZP were detected in all patients with a low level of the biologic, while only in 25% of patients receiving ADM, a low level was associated with the formation of ADAb (p=0.019). In addition, among patients with AS, ADAb were detected only in those patients who did not take prednisone at the time of blood serum sampling (100% vs 37.9%, p=0.037).

Conclusion: Low level of TNFi is more common in RD than in IBD. For each group, the factors associated with a low trough level of TNFi were identified. There were no significant differences in the frequency of ADAb formation between nosologies.

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