ORIGINAL PAPER

CLINICIANS' PERSPECTIVE ON APPLYING THE TREAT-TO-TARGET STRATEGY IN SPONDYLOARTHRITIS PATIENTS

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ABSTRACT

The treat-to-target (T2T) strategy is valuable in rheumatic conditions since it can prevent damage accrual. The aim of this study was to evaluate clinicians' perspective on this concept in spondyloarthritis (SpA) patients and its implementation in daily practice. A 10-item questionnaire was distributed among clinicians caring for rheumatic patients, investigating the use of disease indices, top priorities in disease assessment, optimal timeframe to target achievement or encountered difficulties when using T2T strategy. A number of 65 physicians digitally filled the questionnaire, working in both public and private workplaces. Most were familiarized with the T2T strategy (75%) and stated as top priorities attaining proposed targets with disease activity indices with they use in every patient visit or patients' satisfaction with the disease course. Number of painful joints or enthesitis are important in peripheral SpA. A considerable percentage consider clinical and radiological improvement. Difficulties in carrying out the T2T scheme is patients' loss from follow-up (50.7%), national protocol regulations (26.1%) or patients' fear of treatment (13.8%). Most physicians are acquainted with the T2T approach, applying it to more than half of SpA patients and mostly considering as essential traditional disease assessment tools and patients' satisfaction. Enhancing rheumatologists' adherence to applying the T2T concept can optimize long-term management of SpA patients.

KEYWORDS: *spondyloarthritis, treat-to-target strategy, daily practice*

INTRODUCTION

The spondyloarthropathies (SpA) comprise a group of inflammatory disorders that share similar clinical features and pathogenic mechanisms, as well as a genetic predisposition [1]. They can be classified as either axial spondyloarthritis – ankylosing spondylitis (AS) and non-radiographic axial SpA or peripheral spondyloarthritis including psoriatic arthritis (PsA), according to prominent disease features [2]. Traditional disease assessment tools are Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) or the more objective Ankylosing Spondylitis Disease Activity Scores (ASDAS), using inflammatory markers (ESR erythrocyte sedimentation rate or CRP C-reactive protein) [3].

The treat-to-target (T2T) approach refers to identifying a satisfactory outcome of the

disease, setting disease goals to obtain in a pre-established timeframe so that further damage is prevented [4].

Understanding the course of SpA, with persistent inflammation proved by high values of inflammatory markers, has led to previous observation of future patients' disability [5].

In SpA, the T2T strategy aims to improve not only the main disease but also to prevent invalidity that can occur in these patients [6]. Apart from structural irreversible changes, SpA patients also add up associated comorbidities like renal or cardiovascular diseases that can influence their disease outcome [7] and add to disease burden.

Apart from implementing the T2T concept in SpA patients, other features should be taken into consideration, like the duration to attain the proposed target and methods of maintain the obtained results [8]. The time required to reach the goal is defined by the period the patient takes a specific treatment or the interval at which the clinician needs to adjust therapy in order to fulfill the objective [9]. Moreover, sustaining the obtained target in time is mandatory, since variations in disease activity might lead to further structural damage and later on to patient disability [10].

If the T2T program is implemented later on in the disease course, interrupting the inflammation mechanism might not induce complete recovery of the structural damage since most changes are irreversible. Once the structural damage has started, its progression might go on without inflammatory evidence and the process can lead to more advanced stages [11].

Implementing the T2T strategy is a difficult chore for Rheumatology societies issuing guidelines and recommendations but also for clinicians in their daily practice. There is a clear difference between an "usual care" which defines that the rheumatologist prescribes treatment following personal knowledge and experience and the T2T scheme that imposes following preset treatment strategies and attaining expected results using preestablished outcome measures in a time interval [12].

MATERIALS AND METHOD

The study was based on a 10-item questionnaire distributed among clinicians caring for patients with rheumatic and musculoskeletal diseases (RMDs). Clinicians were either specialized in Internal Medicine or Rheumatology, since both specialists can follow-up patients with rheumatic conditions. Participants gave consent for data collection and presentation of results and filled the form online and the distribution was national and multicentric. Questions in the survey targeted disease management (both axial and peripheral SpA, including PsA), tools used to assess disease activity and to whom they apply them and in which conditions, the extent of use of the T2T strategy among rheumatic patients. Items also included clinicians' view on the importance of articular and extra-articular manifestations and essential time points in the disease course. Physicians were able to choose from five or six available preset answers.

Digital result gathering and analysis were performed with Microsoft Excel while open-enquiry data on years of practice, area of specialty and workplace setting were reported separately.

RESULTS

A total of 65 clinicians agreed to anonymously take part in the survey and complete the digital form.

The first data regarded physicians' experience expressed in years of practice as specialist in the field. The majority of the doctors (47.7%) who participated in our study had up to 5 years of practice, followed by 26.2% who had worked for 6 to 10 years and around 7% of respondents who had more than 10 years of practice. The majority of doctors were specialized in Rheumatology representing 86.2% of the total number of respondents, the rest of 13.8% adding Internal Medicine as area of expertise. More than half of the doctors (63%) who participated in our survey were working in public health institutions, while the rest of 37% practiced in private clinics, all of them being localized in urban areas.

Responses to designed questionnaire are presented in Figures 1-6.

Asked on how familiar they felt with the T2T concept in SpA patients, most of the physicians (74%) stated they were very familiar or had an idea (25%) about the strategy, while

only 1% of them were not at all familiar. Rheumatologists were more likely to be acquainted with the T2T approach (79% very familiar, 29% somehow familiar), while internists had lower percentages (57% confirmed a degree of familiarity, 14% of them were not familiar at all).

Doctors who had up to 5 years of medical practice had a relatively good knowledge of T2T, 74% of them were very familiar with the concept and only 3% were not familiar at all. As the years of experience increased so did the knowledge of T2T and doctors with up to 30 years of experience were all very familiar with the concept of T2T treatment.

From the doctors who were working on the public system, 73% of them were very familiar with the concept of T2T treatment, 25% were somehow familiar and only 2% were not at all familiar, rates relatively comparable to doctors working on the private system (76% very familiar, 24% somehow familiar).

When it came to indicating the most important factors for an optimal management in SpA, 43% of doctors chose achievement of targets based on disease activity indexes as essential, while 31% chose patients' satisfaction with the results as being important. For 17% of the doctors, improvement from baseline represented the most important indicator for the optimal management of SpA while only 9% chose the frequent clinical follow-up of the patients as indicator (Figure 1).

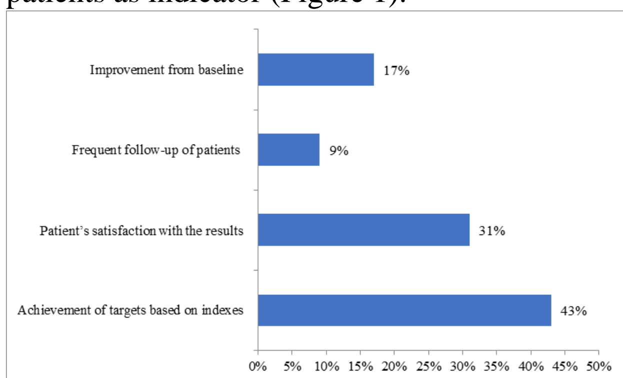

Figure 1 – With what parameter do you evaluate axial SpA in clinical practice?

When asked what parameters they use to evaluate axSpA in clinical daily practice, the majority of doctors (81.5%) chose traditional tools like BASDAI and ASDAS scores. 8% of clinicians also stated they used inflammatory markers like ESR, CRP to assess axSpA, while very few of physicians utilize patients' mobility measurements (4%). 2.5% said they rarely used indexes (Figure 2).

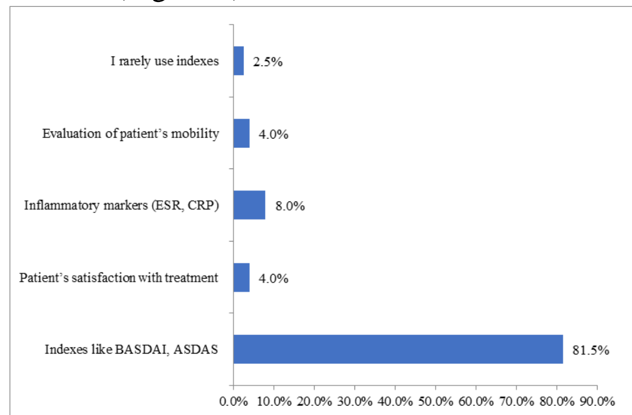

Figure 2 – What is the most important to you for the optimal management of SpA in clinical practice?

Regarding parameters to evaluate PsA, 63.08% of doctors chose instruments like DAPSA (Disease Activity in Psoriatic Arthritis), MDA (minimal disease activity) achievement. 16.9% chose inflammatory markers and 9.2% the number of swollen or tender joints. Only 7.6% chose patients' satisfaction as indicator to evaluate PsA in daily practice.

Regarding frequency of disease assessment tool use, 47.7% of the doctors use formal indexes in all patients at all visits, while 24.6% use them only when the patient treatment file is updated which is around every six months. 13.8% use evaluation through indices when treatment requests a change, and small percentages of doctors responded in case of a flare (3.1%), at the time of diagnosis (6.2%) or never/rarely use them (Figure 3).

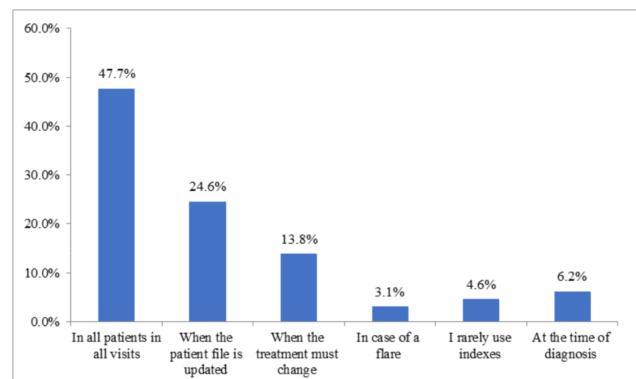

Figure 3 – In what patients and when do you use the formal indices?

Almost half of the doctors affirmed that they apply the T2T strategy in between 50-75% of the patients, 20% of them apply it at 25-50%

of patients and 15.3% in more than 75% of the cases. An insignificant percentage (1.5%) stated they never applied this concept at all (Figure 4).

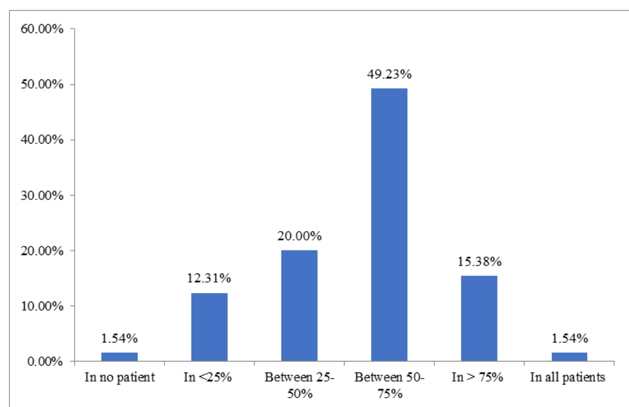

Figure 4 – In what percentage of patients do you estimate you are applying the treat to target?

More than half of the doctors (50.7%) participating in our survey chose the clinical and radiological improvement as the highest priority in order to achieve the desired result in patients with SpA. 38.4% chose the improvement of spinal pain, 26.1% chose as priority proof of improvement on imaging, while only 3.08% chose the clinical improvement in joints or entheses as top priority in attaining targeted results in SpA patients.

Most of the doctors (64.6%) chose clinical improvement in peripheral joints as the highest priority in order to achieve the desired result in patients with peripheral SpA or PsA, while 18.4% said they would expect proof of improvement on imaging (X-ray, MRI or ultrasound). Only 1.54% expect clinical improvement in enthesitis and none chose improvement in dactylitis as essential goal.

Asked what would be an optimal time frame to reach the proposed target in axSpA, most of the clinicians (63.08%) chose an interval within 6 months from diagnosis or treatment initiation or change. 18.4% expect improvement after one month of continuous NSAID intake, 12.3% said immediately after diagnosis and only 4.62% stated immediately after biological therapy initiation. A minority of 1.54% said they had no proposed time limit to reach a target, since there is no risk for further damage (Figure 5).

When it came to the difficulties that clinicians encounter in applying the T2T strategy in daily practice in SpA, patients' loss from regular follow-up visits was one of the most frequent reasons (50.7%), followed by the national protocol regulations (26.1%) and the patients' fear of treatment (13.8%). Less responses were for treatment-related costs (7.6%) or lack of experience (1.5%) (Figure 6).

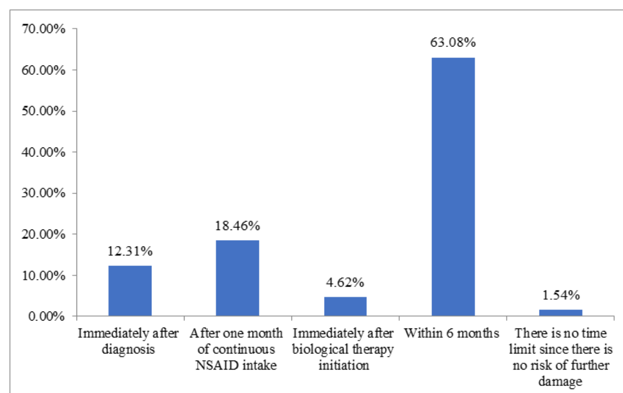

Figure 5 – What would be an optimal time frame to reach the target in axSpA?

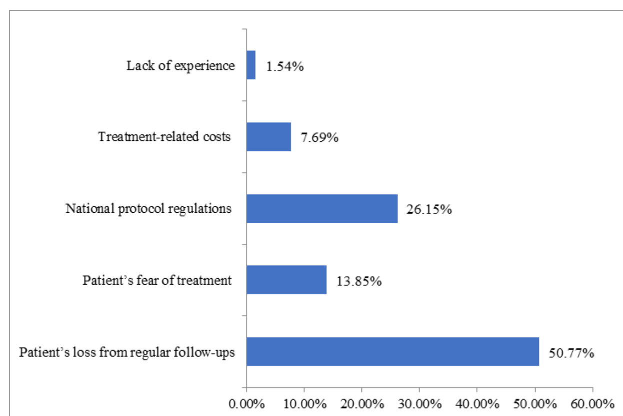

Figure 6 – What are clinicians' difficulties in applying the T2T strategy in SpA patients?

DISCUSSION

According to this questionnaire, most physicians caring for RMD patients are well acquainted with the T2T strategy applicable in SpA patients and are successful in implementing it in more than half of their patients. Essential aspects in patients' management are achievement of pre-established targets based on disease activity indices (43%) or patients' satisfaction with disease course and therapy (31%) or improvement from baseline (17%).

The number of swollen or tender joints as well as the course of active enthesitis accounts for a significant number of physicians when mostly assessing peripheral SpA or PsA patients.

The majority of doctors adhere to using traditional disease assessment tools in both axSpA and PsA (BASDAI, ASDAS, DAPSA). These instruments are highly used in all follow-

up visits or every six months, when patients' treatment files need to be updated.

Clinicians ranked as top priority in the long-term management of SpA patients the clinical and radiological improvement and selected as optimal time frame a disease amelioration within 6 months from diagnosis or treatment change.

National protocol regulations still represent a setback in applying the T2T strategy when it comes to mandatory criteria for initiation of biological therapy.

The effects of the T2T strategy has proved considerable value in rheumatoid arthritis and psoriatic arthritis [13], [14]. Its implementation in SpA is still under experts' evaluation but data in the literature point out that T2T should be applied as early as possible in the disease evolution and the target set should refer to disease activity monitored through traditional composite indices and aim for remission or low disease activity. Therapy should be changed if no improvement is seen after 3 months or target not obtained after 6 months of treatment [5].

Rheumatologists should be actively involved in both applying and disseminating knowledge on the T2T concept so that collection of results in national databases can lead to future strategies in long-term management of SpA patients.

Patients should be more aware of this strategy plan so that they can report their disease-related outcomes in a more objective manner and thus, contribute to setting optimal goals in the care of the chronic rheumatic disease.

Strong points of the study were the national and multicentric distribution of the questionnaire, gathering a representative number of physicians that could be extrapolated to the country's current state of practice. Survey included clinicians with various degrees of professional experience from both public and private sectors. The questions included were applicable to daily practice so that they can reflect the real-life clinical setting.

Limitations of the study would be the inclusion of physicians working only in urban areas who have more access to novelties in the Rheumatology field and the lack of open questions in the survey that could offer freedom to express desired targets to attain in SpA or professional struggles in achieving outcomes.

REFERENCES

[1] O. Akgul and S. Ozgocmen, "Classification criteria for spondyloarthropathies.," World J. Orthop., vol. 2, no. 12, pp. 107–15, Dec. 2011.
[2] A. N. Malaviya, R. Rawat, N. Agrawal, and N. S. Patil, "The Nonradiographic Axial Spondyloarthritis, the Radiographic Axial Spondyloarthritis, and Ankylosing Spondylitis: The Tangled Skein of Rheumatology," International Journal of Rheumatology, vol. 2017. 2017.
[3] H. Che et al., "Evaluation of collected outcome measures in axial spondyloarthritis in daily-care rheumatology settings: the experience of the RHEVER network.," Clin. Exp. Rheumatol., Sep. 2015.
[4] P. M. Machado and P. Agrawal, "Recent advances in managing axial spondyloarthritis," F1000Research, vol. 9. 2020.
[5] M. M. Schoels et al., "Treating axial and peripheral spondyloarthritis, including psoriatic arthritis, to target: results of a systematic literature search to support an international treat-to-target recommendation in spondyloarthritis.," Ann. Rheum. Dis., vol. 73, no. 1, pp. 238–42, Jan. 2014.
[6] C. Fernández-Carballido et al., "Impact of Comorbidity on Physical Function in Patients with Ankylosing Spondylitis and Psoriatic Arthritis Attending Rheumatology Clinics: Results From a Cross-Sectional Study," Arthritis Care Res., vol. 72, no. 6, pp. 822–828, 2020.
[7] L. Ljung, B. Sundström, J. Smeds, M. Ketonen, and H. Forsblad-d'Elia, "Patterns of comorbidity and disease characteristics among patients with ankylosing spondylitis—a cross-sectional study," Clin. Rheumatol., vol. 37, no. 3, pp. 647–653, 2018.
[8] D. Wendling, "Treating to target in axial spondyloarthritis: defining the target and the arrow," Expert Rev. Clin. Immunol., vol. 11, no. 6, pp. 691–693, 2015.
[9] V. Bruner, M. Atteno, A. Spanò, R. Scarpa, and R. Peluso, "Biological therapies for spondyloarthritis.," Ther. Adv. Musculoskelet. Dis., vol. 6, no. 3, pp. 92–101, Jun. 2014.
[10] W. P. Maksymowych, "Progress in spondylarthritis. Spondyloarthritis: lessons from imaging.," Arthritis Res. Ther., vol. 11, no. 3, p. 222, 2009.
[11] P. C. Robinson et al., "The window of opportunity: a relevant concept for axial spondyloarthritis," Arthritis Res. Ther., vol. 16, no. 3, p. 109, 2014.
[12] Y. El Miedany, "Treat to target in spondyloarthritis: the time has come.," Curr. Rheumatol. Rev., vol. 10, no. 2, pp. 87–93, 2014.
[13] J. S. Smolen et al., "EULAR recommendations for the management of rheumatoid arthritis with

synthetic and biological disease-modifying antirheumatic drugs: 2016 update," Ann. Rheum. Dis., vol. 76, no. 6, pp. 960–977, 2017.

[14] H. Almoallim and A. Kamil, "Rheumatoid arthritis: Should we shift the focus from 'treat to Target' to 'treat to Work?'" Clinical Rheumatology, vol. 32, no. 3, pp. 285–287, 2013.