Figure 2. Chin Tuck Against Resistance Exercise (CTAR)

Figure 3. Shaker Exercise

Figure 4. Chin Tuck Exercise with Theraband

Results: A statistically significant difference was found between three groups in terms of normalized suprahyoid muscle activity ($p < 0.001$) (Table 1). The difference between three groups was caused by the difference between Group 1 and Group 2 ($p < 0.001$) and between Group 1 and Group 3 ($p = 0.040$) in favor of Group 1. No difference was found between Group 2 and Group 3 ($p = 0.104$) (Table 2-4).

Table 1. Comparison of Normalized Suprahyoid Muscle Activation between groups

	Group 1 (n:14) Mean ±SD	Group 2 (n:14) Mean ±SD	Group 3 (n:14) Mean ±SD	X ²	p
Normalized Suprahyoid Muscle activation (%)	0.791 ±0.380	0.306 ±0.116	0.472 ±0.284	15.760	* < 0.001

* $p < 0.05$

Table 2. Comparison of Normalized Suprahyoid Muscle Activation between Group 1 and Group 2

	Group 1 (n:14) Mean±SD	Group 2 (n:14) Mean±SD	p
Normalized Suprahyoid Muscle activation (%)	0.791 ±0.380	0.306 ±0.116	* < 0.001

* $p < 0.05$

Table 4. Comparison of Normalized Suprahyoid Muscle Activations of Group 2 and Group 3

	Group 1 Mean±SD (n:14)	Group 3 Mean±SD (n:14)	p
Normalized Suprahyoid Muscle activation (%)	0.791 ±0.380	0.472 ±0.284	* 0.040

* $p < 0.05$

Table 5. Comparison of Normalized Suprahyoid Muscle Activations of Group 2 and Group 3

	Group 2 Mean±SD (n:14)	Group 3 Mean±SD (n:14)	p
Normalized Suprahyoid Muscle activation (%)	0.306 ±0.116	0.472 ±0.284	0.107

* $p < 0.05$

Conclusion: In conclusion, primarily CTAR exercise should be included in rehabilitation to increase the suprahyoid muscle activation. In addition, chin tuck exercise with Therband can also be considered as an alternative to CTAR.

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Education

AB1337

A VIRTUAL BIOLOGIC PATHWAY TO IMPROVE CARE STANDARD, REDUCE TREATMENT DELAYS AND IMPROVE COST EFFICIENCY - THE WHIPPS CROSS VIRTUAL BIOLOGIC CLINIC EXPERIENCE

Hoda Alkomy¹, Simon Donnelly¹, Hasan Tahir¹. ¹Whipps Cross University Hospital, London, United Kingdom

Background Biologic therapies have become standardised as best practice for treatment of Rheumatoid Arthritis (RA), Psoriatic Arthritis (PsA) and Axial Spondyloarthritis (AS) in the UK. There are more stringent criteria for access versus Europe and the USA. There is no agreed mechanism to choose a specific agent over and above locally agreed criteria that are disease specific. Most UK rheumatologists make an individual decision based on personal experience and guidelines as well as evidence. There are cost implications and inherent delays within locally agreed pathways that involve a pharmacist and a patient education process that may be nurse led. The overall process to initiate this treatment takes months. To this end a weekly one hour Virtual Biologic Clinic (VBC) has been set up: attended by the multi-disciplinary team of all consultants, clinical and research nurse specialists, lead pharmacist and an administrator.

Objectives We compared waiting time for biologic initiation before and after the VBC, assessed numbers whose treatment plan was altered and we attempted a cost analysis.

Methods All patients with RA, PsA, AS and a relevant connective tissue disease (CTD) attending VBC between Nov 2017 and Jun 2018 were included in this retrospective observation. All patients starting a biologic therapy one year earlier (Nov 2016-17) were compared. The time between decision to treat and prescription receipt by delivery company/day unit (for IV admin) was measured (by Mann-

Whitney U test) in both groups. In the VBC group time between decision to treat until funding approval obtained was measured and overall saving by all estimated drug cost was calculated.

Results 122 patients were discussed at VBC - 75 started a biologic (50 new, 25 switched) and 6 entered a clinical trial. The remaining 41 were agreed as unsuitable for a biologic table 1.

Table 1. Patient not suitable for biologics through VBC IFR: individual funding requests, cDMARDs: Conventional disease modifying ant rheumatic drugs.

Reasons for not receiving biologic	(n=41)	%
IFR application (rejected)	6	12.1%
Patient factor*	5	12.1%
Disease activity not meeting NICE criteria	22	53.60%
Alternative treatment offered (eg: cDMARDs)	6	14.60%
Other **	2	4.8%

*1 recurrent infection, 3 did not do their screening test, 1 did not do the recommended vaccination.

**1 relocated, 1 was referred to gastroenterology team

Comparing groups 69 patients (missing data = 6) waited an average of 35 days (median 27 days) to start a biologic vs 105 average days (median 85) pre VBC for 120 patients (U is 1033, p-value is < .00001 two tailed).

In the VBC group average delay occurred as follows: referral to VBC meet 14 days (n=74), discussion to funding approval 9 days (n=69), medication receipt by homecare 10 days (n=64) and first order 11 days (n=46).

We assume that in our clinic pre VC and, indeed, in the majority of UK Rheumatology Departments about 90% of patients recommended for a biologic by a specialist eventually ends up taking that medication and given that assumption potential costs savings with this model are estimated as equivalent to 35 patients (approx. £140K/yr. - drug costs savings calculated vs current cheapest option, SB4 (£4080/yr)).

Conclusion: Our study highlights that transforming biologic prescribing with a one-step virtual MDT clinic improves efficiency, significantly reduces patient access time and should ensure the most cost- effective treatment is agreed. Integration of the local research team in the VC allows eligible patients to be recruited for clinical trials where available offering further NHS cost savings. The VC creates a reliable, excellent training environment to maintain and enhance specialist knowledge and to deliver high standards of patient care.

Disclosure of Interests None declared

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AB1338

PATIENT EDUCATION IN PSORIATIC ARTHRITIS : ADDRESSING AN UNMET NEED

Keziah Austin¹, Nia Jones², Roopa Prasad¹. ¹University Hospitals Bristol NHS Foundation Trust, Department of Rheumatology, Bristol, United Kingdom;

²University Hospitals Bristol NHS Foundation Trust, Department of Medicine, Bristol, United Kingdom

Background: Patient education should be integral to the care of people with inflammatory arthritis [1]. Research suggests that the majority of patients with Psoriatic Arthritis (PsA) would like to receive education about their condition [2]. There are limited studies in PsA but randomised controlled trials in rheumatoid arthritis have demonstrated that patient education improves compliance to medication [3], disease specific knowledge [4] and coping mechanisms [5]. In our department, patient education in PsA was recognised as an unmet need.

Objectives: To pilot an educational session for PsA patients, to assess whether this improved patients' understanding of their condition, and to determine whether an education programme would be a useful adjunct to patient care.

Methods: Adult PsA patients attending their rheumatology clinic appointments were asked to complete a short survey on whether they would be interested in attending an education session and the aspects they would like to have covered. Those who expressed interest were invited to attend a 2.5 hour multidisciplinary team (MDT) session which covered 1) a general overview of PsA; 2) medications used in PsA; 3) the role of physiotherapy and occupational therapy; 4) flares and self management. Patients were asked to evaluate their knowledge or understanding before and after each topic covered, on the same day, using a series of 1-10 Likert scales. They were specifically asked whether they found the education session helpful; whether they would recommend it to other PsA patients; whether they would be interested in developing a PsA patient support group.

Results: 25 patients were invited to the session and 9 patients attended. There were 5 males and 4 females, across a wide range of age categories. There were statistically significant improvements in all topics covered, including a mean improvement of 120% in how well informed patients

felt about PsA in general (p<0.0001); a mean improvement of 79% in confidence in accessing help from the MDT (p<0.01); a mean improvement of 211% in how well informed patients were about medications available (p<0.0001); a mean improvement of 86% in confidence in self-managing a flare (p<0.0001). All patients found the session helpful overall and all patients stated they would recommend it to others. Several patients expressed interest in developing a PsA patient support group.

Conclusion: All PsA patients demonstrated a greater awareness and understanding of their condition following a 2.5 hour education session. This study indicates that an education programme is a useful and important adjunct to patient care and supports extending this to the wider PsA patient population.

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AB1339

ONLINE CME IMPROVES ADOPTION OF JAK INHIBITORS IN CLINICAL PRACTICE BY RHEUMATOLOGISTS

Elaine Bell, Robert McCarthy. Medscape LLC, New York, United States of America

Background: The treatment landscape for RA is evolving rapidly. The JAK inhibitors are oral small molecules that have recently been approved for use in RA.

Objectives: This online CME-accredited educational activity was designed to address the challenges of integrating JAK inhibitors into clinical practice in RA and measure changes in practice

Methods: Non-US rheumatologists, dermatologists and primary care physicians (PCPs) participated in an online activity consisting of a 30-minute video roundtable discussion between 4 experts, with synchronized slides, posted online on August 25 2017. A Planned Change Assessment (PCA) survey (data collected through April 3 2018) with qualitative follow-up interviews was used to measure intent to change and actual change in clinical practice following participation in the activity.

A 2-question PCA survey in multiple choice format, which was administered immediately following the activity, asked:

What will you do differently in your practice as a result of participating in this activity?

What do you perceive as barriers to making the above selected changes in your practice?

A follow-up survey sent out approximately 8 weeks later included questions about completed changes and barriers to change. Finally, qualitative telephone interviews were conducted to ask learners why certain changes were selected, whether the changes were made and barriers to making the changes.

Results:

- 287 non-US physicians completed the initial PCA survey and 44 completed a follow-up assessment approximately 8 weeks later, resulting in a matched subset of 37 learners. Qualitative interviews were conducted with 13 learners