Figure 1. Themes of nurse-led care from the perspective of people with RA

Providing knowledge and skill. This theme delineated rheumatology nursing as providing professional expertise in the planning and delivery of care. The rheumatology nurse-led service included easy access via telephone helpline, consultations with the clinical nurse specialist for assessment of disease activity and care needs, planning of care, disease information and education, supporting self-management, and referral to rheumatologist and the multi-disciplinary team. People with RA highly valued the nurse expertise and specialist knowledge provided at nurse-led clinics. *'She was very good at informing me, so I have only praise for this ... because I have never had it like this before'.* (Person with early RA).

Using a person-centred approach. This theme showed nurse-led care using a person-centred approach combined with empathy and good communication skills, which created a good therapeutic environment. People with RA appreciated the person-centeredness, empathy and involvement of the nurse. *'She is very sensitive. She can see if I am feeling bad and comes straight to me and asks: "How are you today?" ... You are treated and taken seriously'.* (Person with early RA).

Meeting patients' care needs. This theme presented nurse-led care as creating a sense of being empowered and psychologically supported in the management of RA and its impact. Nurse-led care made people with RA feel cared for, secure and confident. It added value to rheumatology care and made care complete. *'The thought of sticking a needle into my own stomach... it felt a bit like I would never manage to do that. However, they have been absolutely wonderful here ... and now I can do it myself'.* (Person with early RA).

Conclusion: Nurse-led care for people with RA is characterised by provision of rheumatology expertise using a person-centred approach, and patients' holistic care needs are being met. This study found a dearth of literature on perceptions of nurse-led care in people with early RA, which highlights the need for further research in this population.

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SAT0644-HPR COMPLIANCE OF BIOLOGIC DISEASES MODIFYING ANTI-RHEUMATIC DRUGS (BDMARDS) WITH SYSTEMIC IMMUNO-INFLAMMATORY RHEUMATIC DISEASES (SIRDS). AN ASSESSMENT OF PATIENTS' ADHERENCE AND NON-ADHERENCE CONCERNS.

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Background: Patients with systemic immunoinflammatory rheumatic diseases (SIRDS) are often treated with bDMARDs when the response to conventional disease-modifying antirheumatic drugs (csDMARDs) is inadequate. There are, however, concerns about non-adherence to bDMARDs among patient. The non-adherence to bDMARDs may be caused by the various factors.

Objectives: 1. The main objective of present study was to find out the cause of discontinuation of bDMARDs

2. To find out the adherence and non-adherence rate for bDMARDs.

3. To identify the factors that are modifiable.

Methods: 800 patients with SIRDS prescribed bDMARDs were interviewed to find out the demographic information, their socioeconomic status, and the disease duration. Additional information gathered included the comorbidities, the time for starting bDMARDs, the route of administration of bDMARDs, beliefs and perceptions about treatment efficacy and side effects if any. This was followed by looking at the adherence of bDMARDs; if they had discontinued then efforts were made to find out the reasons for the same.

Based on these findings the patients were classified into adherent and non-adherent categories. The data were analyzed further for

1. Factors that associated with persistence of bDMARDs.

2. Factors that were associated with discontinuation of bDMARDs.

Results: A total of 800 patients were interviewed that included patients with ankylosing spondylitis 430 (52.4%), rheumatoid arthritis 300 (37.7%), psoriatic arthritis 45 (5.2%), and others 25 (0.7%). On analysis 610 (76%) patient were compliant but 190 (24%) patient had discontinued the bDMARDs on their own. On comparison of both groups

Factors that were significantly related to self-discontinuation were:

- Negative beliefs about biologics (37%)
- Cost (33%)
- Reading side-effect profile on Google search (25%)
- Other co-morbidities (6%)

Factors that were significantly related to persistence of biologic treatment were:

- Good counseling by rheumatologist and rheumatology nurse (60%)
- Faith in the treating rheumatologist (25%)
- Fear of deformities and pain (15%)

On analysis it was found that a good counseling and clarifying the doubts of the patients regarding bDMARDs before starting the treatment encourages the patient to continue the biologic treatment, especially it allays their doubts about the drug adverse effects.

Conclusion: Despite negative beliefs and misconceptions about bDMARDs, patient non-adherence at our center is not alarming. A positive reinforcement counseling appears to be the most significant factor to overcome the negative belief of patients. The affordability of the biologic treatment however remains a limiting factor in our centre as in other parts of India.

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SAT0645-HPR MYTHS AND MISCONCEPTION ABOUT THE ILLNESS AND CONVENTIONAL SYNTHETIC DMARDS (CSDMARDS) IN PATIENTS WITH SYSTEMIC IMMUNO-INFLAMMATORY RHEUMATIC DISEASES (SIRDS): A STUDY BY RHEUMATOLOGY NURSE COUNSELOR

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Background: Myths and misconceptions about illness and conventional disease modifying anti-rheumatic drugs directly influence adherence to the prescribed treatment. It is estimated that 30–50% of patients do not adhere to their prescribed treatment due to various reasons where the beliefs of the patients play a crucial role. At our centre we the specialist rheumatology nurse counsel the patients at every visit and try to remove their myths and negative beliefs about the disease as well as the medications.

Objectives: • To explore the common myths and misconceptions of regarding their disease and regarding the csDMARDs.

• To assess the efficacy of counseling in allaying their unfounded fear.

Methods: A total of 450 patients with SIRDS at least 3 times attended the rheumatology out-patient clinic on csDMARDs were enrolled to complete a questionnaire that, besides demographic information, socio-economic status, and co-morbidities, had the following questions:

1. Self reported adherence to medication
2. Misbelieves regarding food items
3. What kind of health-provider was consulted at the onset of the symptoms
4. Their belief/knowledge regarding:
 - A. The need for physiotherapy.
 - B. Life style modification requirement
 - C. About osteoarthritis
 - D. Medication requirement during remission
 - E. Pregnancy and DMARDs
 - F. The need of vaccination

G. Health hazards of smoking and alcohol use

H. Harms of discontinuing treatment when they felt well

Results: A total of 450 patients included spondyloarthritis 150(34%), rheumatoid arthritis 200(45.7%), psoriatic arthritis 45(10%), and others 25(5.5%). The following observations were made:

1. Self-reported adherence to medication was in 250 (55%) patients; 200(45%) patient were non-adherent to treatment

2. 382/450 (85%) patients had misbeliefs regarding different food items.

3. 225/450(50)% of the patients were not doing regular physiotherapy they were totally dependent on medications for symptoms relief.

4. 387/450 (86%) patients confused the symptoms of osteoarthritis with that of RA.

5. 315/450 (70 %) patients did not feel the requirement of continuing drugs during remission.

6. 135/450 (30%) patients believed that while on DMARDs they cannot contemplate pregnancy.

7. 351/450(78%) patients accept the need for vaccination when starting DMARDs

8. 360/450 (80%) patients aware about side effect of smoking in disease but only 40 % were able to quit.

9. 273/450 (60%) patients felt that more expensive medicines e.g. bDMARDs have more effects.

10. 360/450 (80%) patients believed that DMARDs were 'steroids' and they increased weight. On analysis one patient have more than two myths simultaneously.

Conclusion: Increased awareness of the patient's beliefs about medicines is needed among health care providers. We should encourage patients to express their views about medicines as well as disease in order to optimize and personalize the information process. This can stimulate concordance and adherence to medication and follow up. These myths are deeply rooted in our society, single sitting counseling is not enough, and reinforcement is needed.

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SAT0646-HPR

PATTERN AND INFLUENTIAL FACTORS IN PROMOTING TREAT-TO-TARGET (T2T) FOR FOLLOW-UP OF ANKYLOSING SPONDYLITIS (AS) PATIENTS WITH A RHEUMATOLOGIST-PATIENT INTERACTIVE SMART SYSTEM OF DISEASE MANAGEMENT (SSDM): A COHORT STUDY FROM CHINA

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Background: Ankylosing Spondylitis Disease Activity Score (ASDAS) is adopted to evaluate the degree of disease activity and the inflammatory response in AS patients. ASDAS score ≤ 1.3 represents inactive disease status and achievement of T2T. SSDM is a mobile application for disease management.

Objectives: To evaluate the patterns of T2T and related influential factors among AS patients after applying SSDM in the real world.

Methods: AS Patients were trained to master SSDM by healthcare professionals (HCPs) and to conduct ASDAS self-assessments. Patients were also required for repeating self-assessments after leaving the hospital. After entry by patients, data can be synchronized to the SSDM terminal of authorized rheumatologists. Based on these data, the patients can apply for consultation to their physicians and rheumatologists can provide medical advices to their patients.

Results: From Jan 2015 to Jan 2020, 17,870 AS patients enrolled in SSDM with the mean age of 34.62 ± 10.98 years old and the median disease duration of 3.58 years. Among them, 1,127 AS patients from 150 hospitals were followed up for more than 6 months through SSDM. The results at baseline and in final follow up were summarized in Table 1.

Table 1. The T2T results at baseline and in final follow up.

Baseline/Final follow-up	n	%	x $\leq$ 1.3	%	1.3 < x $\leq$ 2.1	%	2.1 < x $\leq$ 3.5	%	3.5 < x	%
x $\leq$ 1.3	315	27.95%	206	65.40%	74	23.49%	26	8.25%	9	2.86%
1.3 < x $\leq$ 2.1	340	30.17%	138	40.59%	114	33.53%	75	22.06%	13	3.82%
2.1 < x $\leq$ 3.5	363	32.21%	95	26.17%	106	29.20%	133	36.64%	29	7.99%
3.5 < x	109	9.67%	24	22.02%	25	22.94%	42	38.53%	18	16.51%
Total	1,127	100%	463	41.08%	319	28.31%	276	24.49%	69	6.12%

The rate of T2T achievers were 27.95% (315/1,127) at baseline, and improved significantly to 41.08% (463/1,127) after 6 months follow up, $p < 0.01$. Among T2T achievers at baseline, 65.40% (206/315) maintained T2T, 34.60% (109/315) relapsed. Of patients who didn't achieve T2T at baseline, only 31.65% (257/812) achieved T2T after 6 months follow up.

The impact of the online interaction between patients and physicians and the frequency of self-assessment for ASDAS on T2T has been analyzed. Compared with 544 patients who didn't interact online with their physicians and self-assessed less than 3 times, 104 patients with online interaction and monthly assessments achieved significant higher improvement rate of T2T (9.19% vs 23.08%, $p < 0.01$). The more frequent of the self-assessments being performed by patients, the higher improvement of T2T rate will be. The improvement of T2T rate(y) was positively correlated with times of self-assessment for ASDAS(x) independently. The regression equation as " $y = 0.0304x + 0.0521$ ", $r = 0.9107$, $p < 0.01$ (Figure 1).

Figur1. The correlation between the improvement of T2T rate(y) and the times of self-assessment for ASDAS(x)

Figure 1.

Conclusion: Significant improvement was observed under applying SSDM through empowering AS patients. After proactive disease management via SSDM for more than 6 months, patients with ASDAS ≤ 1.3 score at baseline had a significantly higher retention rate of inactive disease activity. The patients who performed more frequent self-assessments had lower probability of relapse and higher rate of T2T. Online interaction between patients and physicians contributed to promote the improvement rate of T2T. SSDM is a valuable tool for long term follow-up through empowering patients.

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SAT0647-HPR

DEVELOP A MACHINE LEARNING MODEL AND ALGORITHM BASED ON SMART SYSTEM OF DISEASE MANAGEMENT (SSDM) BIG DATA FOR RA FLARE PREDICTION

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