

Treatment Strategies: Examining Different Treatment Approaches used in Rheumatology, Including Pharmacological Interventions, Physical Therapy, and Lifestyle Modifications, and Evaluating their Effectiveness, Side Effects, and Long-Term Outcomes

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Abstract: This study aimed to shed light on the strategies used to treat rheumatoid where it was done. A cross-sectional study was conducted in Iraq in several different hospitals. In total, 90 rheumatology patients with different diseases were included. The participants were divided into two groups according to gender, with 50 men and 40 women where the study compared patients' quality of life before and after treatment using the VAS scale. Rheumatologists from Iraq, aged 30-60 years, were recruited through questionnaires. Written informed consent was obtained from the patients. Statistical analysis was performed using IBM SPSS Soft 22.0 and Microsoft More 2013 programs, using logistic regression to determine the risk coefficient for patients with a P-value less than 0.05. Several different strategies, including pharmacological and non-pharmacological interventions, were used in this study to improve the quality of life of Iraqi rheumatology patients. Non-steroidal anti-inflammatory drugs can improve patient's quality of life by 40%, while non-pharmacological interventions also contributed significantly to improving and developing outcomes. On the positive side, there was a direct correlation between the improvement in quality of life and the use of treatment. Early diagnosis also made a significant contribution to improving quality of life across the board.

Keywords: Diagnosis, Improve, QOL, RA, Treatment strategies, Rheumatology.

INTRODUCTION

Rheumatic diseases are generally defined as pain, limitations, and deformities that arise in the structures that make up the musculoskeletal system. Systemic diseases that are evaluated under the name rheumatic infections today affect many parts of the body and have an important place in the practice of rheumatology [Almutairi, K. *et al.*, 2021; Aletaha, D. *et al.*, 2018; Fraenkel, L. *et al.*, 2021]. It is also known that rheumatic infections appear in individuals who have a genetic predisposition of the immune system with environmental factors to trigger an inappropriate or excessive reaction response. Rheumatic diseases can be seen at any age, including childhood, and it is noted that the frequency of this group of diseases increases with age [Smolen, J. S. *et al.*, 2022; Schoels, M. *et al.*, 2010; Aletaha, D. *et al.*, 2018].

Rheumatology treatment approaches. Medications, physical therapy, lifestyle changes, and surgery are used to manage symptoms and slow disease progression, with effectiveness evaluated based on side effects and long-term outcomes [Aletaha, D. *et al.*, 2018; Fraenkel, L. *et al.*, 2021].

The therapy of rheumatism involves the use of corticosteroids, non-steroidal anti-inflammatory drugs (NSAIDs), disease-modifying antirheumatic drugs (DMARDs), and immune molecule inhibitors. Innovative care initiatives prioritize the

implementation of efficient practice structures, fostering interdisciplinary teamwork, providing comprehensive patient education, and utilizing effective screening techniques [Smolen, J. S. *et al.*, 2022; Schoels, M. *et al.*, 2010]. Researchers are currently investigating the use of machine learning and high-throughput technologies in the field of precision medicine [Akil, M. *et al.*, 1995].

Early diagnosis and appropriate treatment are of great importance in the prevention of disability due to rheumatic diseases or additional problems in internal organs. Correct diagnosis is given initially, and appropriate and modern treatments are applied based on patient-centered assessments. This approach helps to avoid the potential medical and economic costs that may arise from future disability or related problems [Singh, J. A. *et al.*, 2012].

Most rheumatic diseases are chronic diseases that require follow-ups at regular intervals. Consequently, the appropriate utilisation of the therapeutic modalities employed and the continued monitoring by the physician can assist in the evaluation of the response to treatment, as well as the identification of any adverse effects that may arise at an early stage, thus facilitating the early detection of disease complications [Brennan, A, 2004].

In addition to the utilization of traditional fundamental pharmaceutical agents in the treatment of rheumatic diseases, there are also treatments known as biological drugs, which can also be applied successfully in patients in whom the principal treatments are ineffective or cannot be used due to side effects.

MATERIAL AND METHOD

A cross-sectional study was conducted in Iraq across several different hospitals. A total of 90 rheumatism patients with different diseases were included in the study. The participants were divided into two groups according to gender, with 50 males and 40 females. A comparison was made between the results before treatment and after the treatment was administered to patients. The results were evaluated in order to ascertain the efficacy of the treatment.

The study was conducted in accordance with a comparison established prior to and following treatment. The results were based on the assessment of the quality of life, in addition to the negative effects observed after treatment, their percentage, and their impact on the patients. The

patients' quality of life was quantified according to VAS established measurement scale in this study.

The study was conducted based on questionnaires, with patients who were treated by rheumatologists being recruited from across Iraq. Rheumatologists who were willing to participate in the study were requested to send questionnaires to patients who met the inclusion criteria and were willing to take part.

This study included patients whose ages ranged from thirty to sixty years. Written consent was obtained from the patients to conduct this study without mentioning the names of the patients in the research.

The statistical analysis in this study was carried out according to the IBM SPSS Soft 22.0 program, in addition to the Microsoft More 2013 program, where the strength of the statistical relationships between the parameters discussed in this study was measured. A logistic regression measure was also used to determine the risk coefficient on His patients at P-value less than 0.05

RESULTS

Table 1: Characteristics outcomes main of patients

Variable	Patients, N=90
Age	
Mean \pm SD	40.6 \pm 6.7
BMI	
Male (Mean \pm SD)	29.9 \pm 4.8
Female (Mean \pm SD)	27.5 \pm 3.2
Sex	
Male, F (p%)	50 (55.55)
Female, F (p%)	40 (44.4)
Education	
Primary	20 (22.22)
Secondary	33 (36.6)
College	30 (33.3)
High	5 (5.55)
Outcomes F (p%)	
300-800\$	55 (61.1)
900-1500\$	20 (22.2)
>1500\$	15 (16.6)
Comorbidities F (p%)	
1	40 (44.44)
2	25 (27.7)
3	15 (16.6)
4	10 (11.1)
Types of rheumatic diseases F (p%)	
Osteoporosis	15 (16.6)
Rheumatoid arthritis	55 (61.1)
Systemic lupus erythematosus	7 (7.7)

Sclerotic spondylitis	5 (5.5)
Psoriatic arthritis	8 (8.8)
Frequency of administration F (p%)	
Twice daily	30 (33.33)
Once every in 2 weeks	20 (22.2)
Once every four weeks	23 (25.5)
Once every 5 to 10 months	17 (18.8)
Any current injectable	
yes	50 (55.55)
no	40 (44.4)
Smoking	
yes	33 (33.3)
no	67 (66.69)

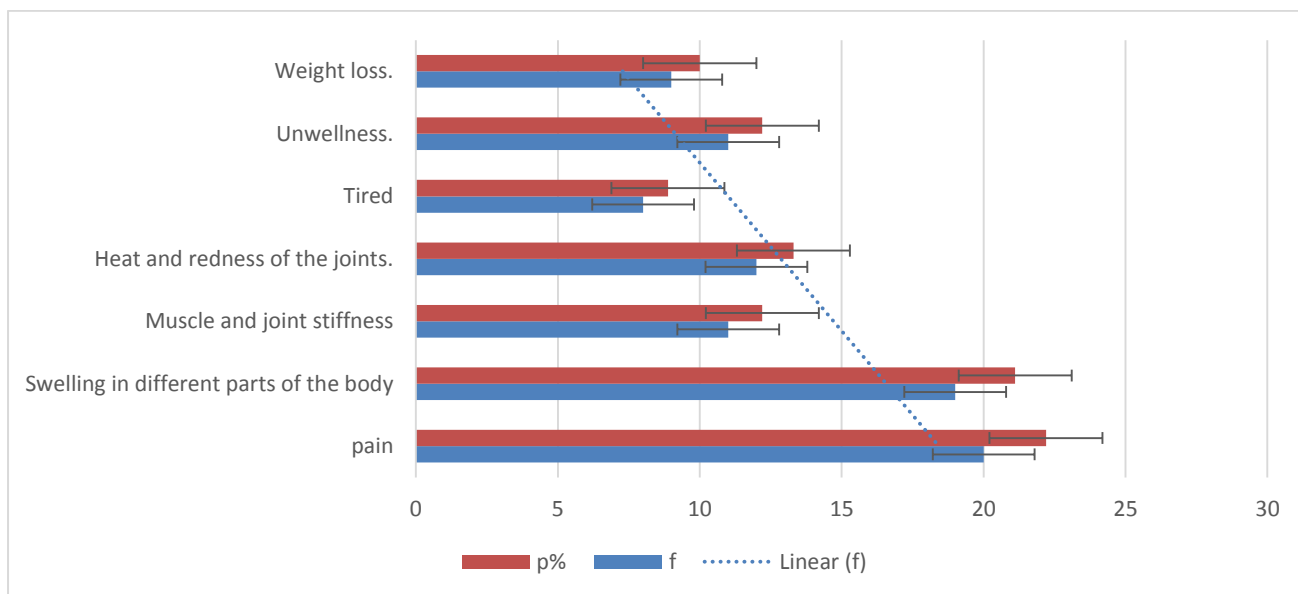


Figure 1: Distribution of patients according to symptoms

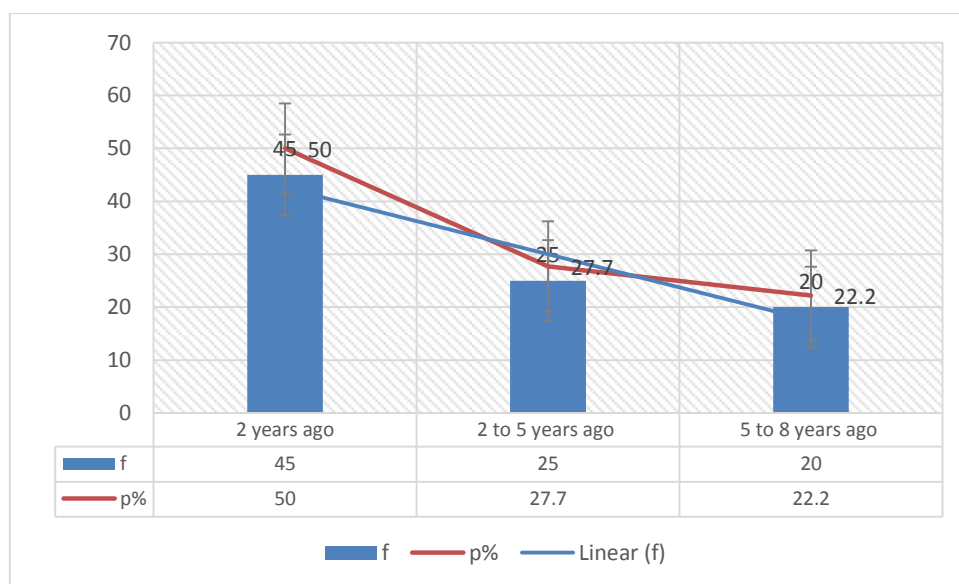


Figure 2: Distribution of patients according to Onset of RA (time of diagnosis)

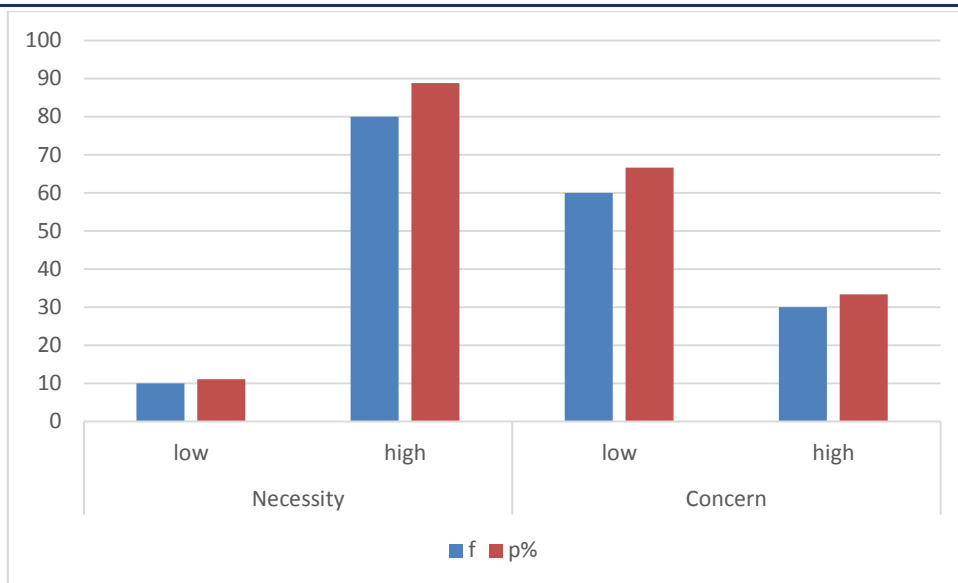


Figure 3: Distribution of patients according to modified BMQ

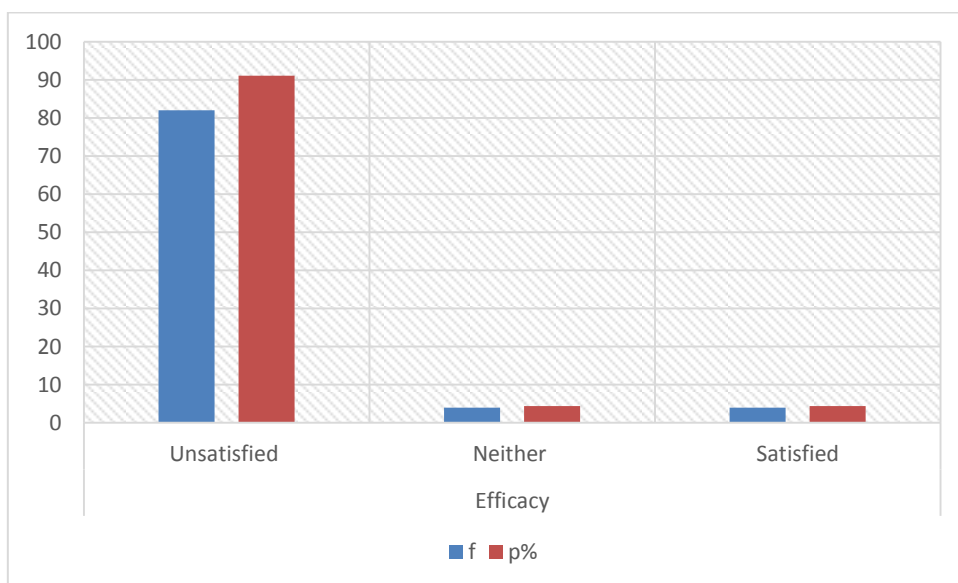


Figure 4: Evaluating the results of Iraqi patients according to the drug satisfaction

Table 2: Assessment outcomes of Iraqi patients according to QOL before treatment

Variable	Mean ±SD
Social side	62.2±4.4
Anxious	51.1±4.4
depression	53.2±4.2
Angry	55.7±6.2
Embarrassed	67.4±3.86
Frustrated	58.8±7.9

Table 3: Treatment strategies to examining different treatment approaches used in rheumatology

Variable	F (p%)
nonsteroidal anti-inflammatory drugs (NSAIDs)	
ibuprofen	12 (13.33)
naproxen	15 (16.6)
aspirin	13 (14.4)
disease-modifying antirheumatic drugs (DMARDs)	
methotrexate	10 (11.11)
hydroxychloroquine	6 (6.6)
sulfasalazine	5 (5.5)
Others	
Physical Therapy	4 (4.4)
Lifestyle Changes	5 (5.5)
Surgery	10 (11.11)

Table 4: Clinical Implications of use treatment in the study

Variable	Value F (P%)
Gastrointestinal bleeding	2 (2.2)
Diarrhea	3 (3.3)
Stomach ache	1 (1.1)
infection	3 (3.3)
Nerve injury	2 (2.2)

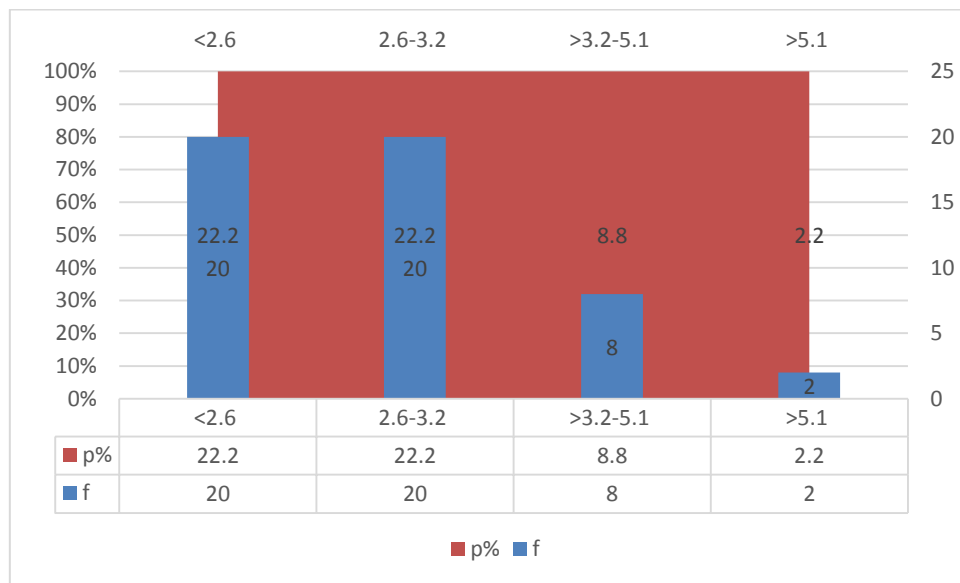


Figure 5: Outcomes of patients according to DAS28-ESR for Rheumatoid Arthritis

Table 5: Final outcomes of patients according to QOI after treatments

Variable	Value
Social side	45.5±4.1
Anxious	39.9±2.7
depression	43.3±1.8
Angry	37.7±2.7
Embarrassed	49.9±3.3
Frustrated	37.99±5.6

Table 6: Logistic regression to assess risk factors in patients

Variable	CS (OI)	P-value
Age	2.2 (1.5-4.2)	0.001
Sex female	1.7 (1.2-2.9)	0.55
RA	1.88 (1.1-2.3)	0.847
QOI Social side	2.5 (1.8-3.3)	<0.05
infection	1.4 (0.8-1.9)	0.74
Nerve injury	1.23 (0.77-1.6)	0.98

DISCUSSION

Rheumatology employs a range of treatment options to control diverse conditions. In controlling rheumatic conditions, medicinal approaches play an important role that cannot be overlooked. Some of the regular drugs used in rheumatology are nonsteroidal anti-inflammatory drugs (NSAIDs). These drugs act to reduce pain and inflammation in conditions such as arthritis. This means that the extent to which inflammation is withheld in the body becomes much lower. DMARDs are employed in the treatment of rheumatoid arthritis before it progresses to a more severe stage. This is the recommendation of all available studies [Choi, H. *et al.*, 2002].

These elements are known as biological response modifiers, which are one type of DMARD that act on certain immune system proteins responsible for inflammation (biologics). The term is often applied to such biologicals when they are used in conditions such as rheumatoid arthritis or psoriatic arthritis. Corticosteroids, which are potent anti-inflammatory agents, are used to alleviate symptoms associated with lupus and vasculitis. Finally, analgesics such as paracetamol are employed in the management of mild or moderate pain associated with some rheumatic conditions.

Diseases of the bones, joints, and muscles have a profound impact on health, society, and economics. They affect a significant number of people, many of whom are handicapped to a certain extent [Clark, W. *et al.*, 2004].

The time frames of osteoarthritis and rheumatoid arthritis result in gradual deterioration, leading to constant pain or joint deformation and, consequently, a reduction in body function. This, in turn, forces patients to rely on others for survival. In addition to the aforementioned factors, the clinical picture may not survive alone [Siebert, U. *et al.*, 2012].

Cuperus, *et al.*, (2018) found that 14 patients with OA exhibited lower quality of life scores in their physical well-being compared to their mental well-

being. This finding was corroborated by the work of Ambriz-Murillo, *et al.*, (2018), which examined patients with RA and rheumatoid arthritis. Diseases of the bones, joints, and muscles have a profound impact on health, society, and economics. They affect a significant number of people, many of whom are handicapped to a certain extent. [Karnon, J. *et al.*, 2012; Moore, A. *et al.*, 2004]

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The majority of measures indicate a disparity between the two groups, particularly in terms of limitations due to physical functioning, social functioning, and pain. However, a statistical analysis using a statistical analysis test revealed that the observed difference was statistically significant. In the context of the SF-36 findings, this study involved comparing scores obtained by individuals without disabilities who had undergone tests to ascertain their degree of alignment with those recorded for groups of RA patients [Zabinski, R. A. *et al.*, 2001].

To rephrase, the study revealed significant variations in the well-being of patients included in the study relative to the broader public. The timing of interventions was found to be of particular importance in addressing the problem.

It was determined that the participants who underwent the treatment experienced a higher quality of life than during the pre-treatment period. Furthermore, the study identified treatment-

induced functional disability as the primary factor associated with quality of life.

CONCLUSION

A review of the available treatment options for rheumatologic conditions reveals that a practical approach to managing these conditions necessitates an integrated and comprehensive plan that addresses the underlying causes as well as the immediate symptoms. This approach is best implemented in collaboration with a multidisciplinary team, including rheumatologists, family physicians, physical therapists, and other healthcare professionals, to ensure that patients receive the comprehensive care they deserve. Furthermore, if they remain abreast of current research and implement practices that have been validated by empirical evidence, there is a potential for the lives of individuals with rheumatic diseases to improve.

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