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RESEARCH ARTICLE

Evaluation of Prescription Pattern of Drugs for Rheumatoid Arthritis Patient

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ABSTRACT

Rheumatoid Arthritis has emerged as important clinical and public health problem Rheumatoid arthritis is an autoimmune disease that causes chronic inflammation of the joints. Autoimmune diseases are illnesses that occur when the body's tissues are mistakenly attacked by their own immune system. The current objective of study is to screen the prescription trends in Rheumatoid Arthritis patients. In this study, 80 cases were collected in which determines the therapy was administered for Rheumatoid Arthritis patients rules out generic or essential drug prescribing. The study was Simple Prospective observational study which was carried out for a period of six months. In this study 80 cases involving drugs administration were included. Maximum numbers of patients were in the age group of 41- 60 years (63.75 %) and among 80 cases, males constituted 35 (43.75 %) and females 45 (56.25%). Out of 80 patients 27 patients (33.75 %) patients were found suffering with co morbid concurrent illness hypertension followed by cardio complications associated other comorbidities are Diabetes Mellitus, Spondylosis, Fever, Dyslipidemia, Acute Pancreatitis, Hypothyroidism and Asthma. The percentage of patients on Rheumatoid Arthritis immunotherapy (32, 29.12%) and combination therapy (78, 70.98%). The study reveals that human Hydroxychloroquin is the most prescribe in monotherapy. Clinical effectiveness of therapy is influenced by prescriber agent selection and therapy changes as well patient's adherence with prescribed drug regimens.

Keywords: Prescription patterns, Rheumatoid Arthritis, Generic Drugs, and Therapy.

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1. Introduction

Rheumatoid arthritis is a chronic systemic inflammatory disorder that may lead to erosion of cartilage and bone.

Uncontrolled RA is associated with joint deformity and significant health care related expenses. RA affects

approximately 1% of adult population globally [1]. The prevalence of RA in the adult population in India is approximately 0.75%. These guidelines recommend the initiation of DMARDs in early RA of <6 months duration as immunotherapy for patients with low disease activity and as combination therapy for moderate- or high-disease activity. Biologics should be the initial choice of drugs in persons with high RA activity and poor prognostic factors. The use of DMARDs and other drugs for RA are associated with number of adverse drug reactions such as gastritis, leucopenia, hepatotoxicity, stomatitis, pruritus, and thrombocytopenia [2].

Drug prescribing studies aim to provide feedback to the prescriber and to create awareness among them about rational use of medicines. The term arthritis literally means “joint inflammation,” but it is generally used to refer to a family of more than 100 different conditions that affect the joints and may also affect muscles and other tissues. The most common form of arthritis degenerative arthritis or osteoarthritis results from the breakdown of the tissue inside the joints. It affects more than 20 million people in the U.S. The other form inflammatory arthritis results from swelling in the joints [4].

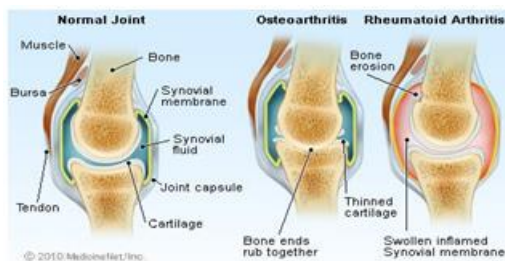
Person does not move freely. The other synonym of Osteoarthritis is degenerative arthritis or degenerative joint disease. It is common since ancient time. When a person suffers from osteoarthritis, there is a breakdown of the joint's cartilage [5]. Osteoarthritis may first appear without symptoms between 20 and 30 years of age. The symptoms, such as pain and inflammation, become visible in middle age. Till the age of 55 it occurs equally in both sexes. But after 55, women are more prone to this disease. Many studies have demonstrated that age is not a foremost factor to the start of Osteoarthritis. Many medical professionals have found that overweight may be the reason of having this disease. When a person is obese, there are more chances of experiencing some pain in the knees and in most cases; osteoarthritis develops in these areas [6].

The aim of the study is to determine the prescribing pattern of patient with Rheumatoid Arthritis. Estimating deserve clinical attention to therapy outcomes contrasting study on use of generic drug prescription as well essential drug prescription. The current objective of study is to screen the prescription trends in Rheumatoid Arthritis patients [7].

Promoting cost effective treatment & assured rational use of medication suffer significant social and economic disadvantages. Scope of prescribing pattern emphasize study on every pattern of therapy impose in treatment goal of Rheumatoid Arthritis. Especially use and choice of drugs as mono therapy, dual therapy, triple therapy.

The hallmark of determination of drug interaction and associated study on Rheumatoid Arthritis complications therapy incidence was precisely covered in the study for further relevancy in therapeutic monitoring of drug with achievable dosing schedules [8].

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Normal and Arthritic Joints

Fig 1: Normal and Arthritic Joints

2. Materials and Methods

In this study, 80 cases were collected in which describing the selection therapy and drugs were administered for Rheumatoid Arthritis as well choice ascertained to concurrent illness. The study was Simple Prospective observational study which was carried out for a period of six months. The patients were involved in the study based on inclusion and exclusion criteria [9]. In this study, the type of administered to patients whether single or in combination triple therapy was evaluated. The gender, age of the patient, type of therapy and type of co morbid concurrent illness with relevancy were studied. However it collectively notifies the chance of actual and potential drug interactions of drugs essentially severe. The results were analyzed.

Study site: The study was conducted at department of general medicine, ACSR Government medical college, Nellore [10].

Study period: A period of six months in ACSR Government medical centre and hospital.

Inclusion criteria: Type2 diabetes (m & f patients), Age>18years, Hospitalized for complications like Fatigue, Joint pain, Joint tenderness, Joint swelling, Joint redness, Joint warmth, Joint stiffness, Loss of joint range of motion [11], Limping, Joint deformity, Many joints affected (polyarthritis), Both sides of the body affected (symmetric), Loss of joint function, Anaemia, Fever.

Exclusion criteria: 1. Age below 18 years 2.Gestational diabetic patients 3 Juvenile D.M patients [12].

Data collecting method:

The study was conducted on the basis of patient perspective and is a sort of prevalence based study [13]. The medical history consisting of inpatient medical records are reviewed for specific period of time. Data recorded as patient demographic characteristics, clinical status duration of disease, type of complication, length of stay [14].

3. Results and Discussions

In this study 80 patients with the diagnosis of Rheumatoid Arthritis visited the Orthopaedic department during the six months in which data was collected. Prescriptions of all 80 patients were analyzed and the following demographic details were obtained. Maximum numbers of patients were in the age group of between 41- 60years (63.75 %) and among 80 cases, males constituted 35 (43.75 %) and females 45 (56.25 %). In our study the prevalence of Rheumatoid Arthritis was high in females in percentage of 56.25 % (n=45). Females have predominance in the study population with the results of various studies in India. The

present study indicates the general trend of administration of drugs and comorbid illness drugs treating in the general medicine ward of hospital. The Demographic characteristics showed that out of 80 patients, administration of drugs, to male were 35 (43.75%) and female were 45 (56.25 %) and the maximum distribution of use of drugs were administered in the patients between the age group of middle age between 41-60 (63.75 %) and followed by young age 18-40 (22.5 %) and old age of 60 years (13.75 %) as shown in table 01 & figure 02. There was high prevalence in middle age group due to life style habits, obese, physical inactivity, smoking; alcoholism (males) unmasks blood sugar to rise as shown in Table 2.

However the pattern of Rheumatoid Arthritis drug utilization most common therapy in which the oral Rheumatoid Arthritis drugs prescribed were mono therapy was (29.12%) and in combination therapy, followed by (70.98%) respectively as shown in table 7. Distribution of the patients based on smoking habit was found to be smoker of 23% and the non smoker was 77%. The main reason for reduce in the smoker case is due to increase in female number in the case subject. Based on the exercise pattern subject were report the high in no exercises with the percentage of 46%, followed by other exercises 34% and waking 20%. In this study the classes of drugs prescribed were DMARDs (48.23%), NSAIDs (30.94%), Corticosteroids (10.01%), SYSADOA (2.73 %) and Analgesics (8.19 %). The results revealed that DMARDs were the choice of drugs prescribed in (48.23%) patients followed by NSAIDs in (30.94%) patients. In case of route of administration it's observed in the study that 79 (71.89 %) drugs were prescribed by oral route, followed by 26 (23.66 %) drugs as injectables and 5 (4.55%) drugs as topical as shown in Table 13. The study shows that more number of patients were treated with combination therapy 78 (71.98%) followed by Monotherapy 32 (29.12 %). In some cases the frequency of anti ulcer agents prescribed were prescribed in 15 patients as shown in the table. Among this Ranitidine being the most preferred one [6 (40%)] of choice. In single therapy Diclofenac 17 (50 %) was found to be more prescribed than other classes of NSAIDs for Rheumatoid Arthritis and in case of DMARDs classes Hydroxychloroquine 30 (56.7%) was found to be more prescribed than other and the results are shown in the fig and table. Corticosteroid class of drugs Prednisolone 7 (63.63 %) was found to be more prescribed than other.

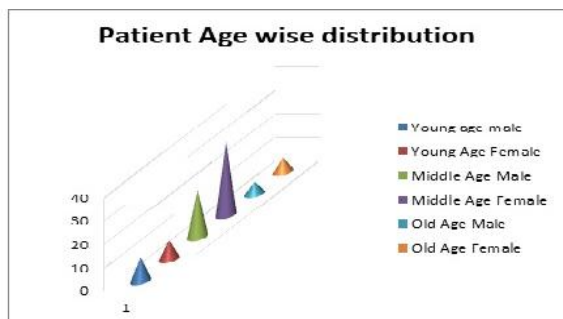


Fig 2: Patient Demographic Characteristic (Sex and Age Wise Distribution)

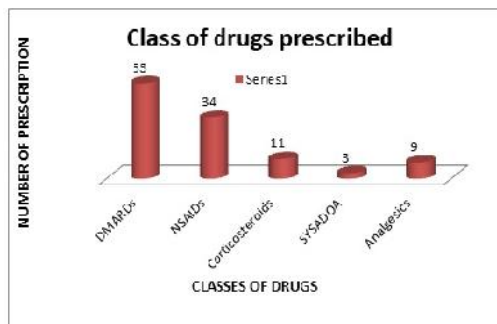


Fig 3: Classes of Drugs Prescribed In Rheumatoid Arthritis

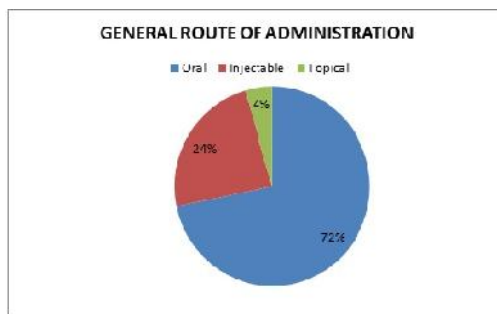


Fig 4: General route of administration

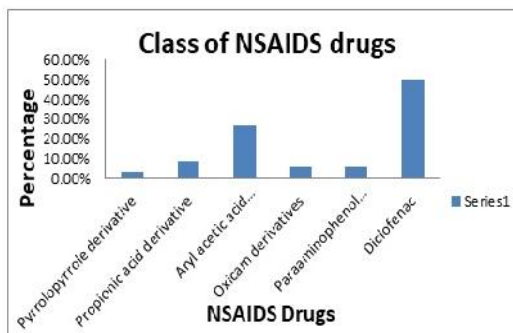


Fig 5: Details of Class of NSAIDs in RA

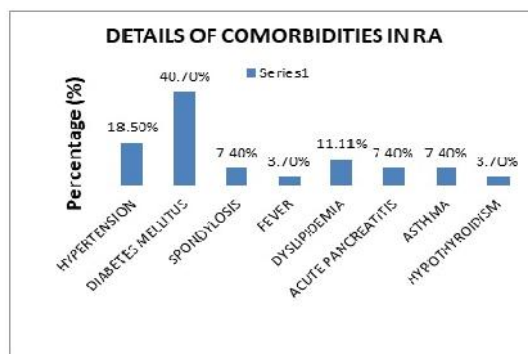


Fig 6: Details of Comorbidities in RA

4. Conclusion

The present study shows that DMARDs are still the preferred treatment of RA. The higher use of DMARDs and their combinations reveal intensive therapy whereas NSAIDs and Steroids for symptomatic relief. Diclofenac was the most preferred drug in case of RA. In most of our prescriptions we found out the irrational use of NSAIDs that result in gastric irritation. Therefore one should take

proper interventions to change such irrational prescribing trends. Furthermore, we also found that paracetamol and SYSADOA were found to be under prescribed in case of RA. Although it is a slow acting drug but having the benefit of causing relatively less gastric irritation it sounds a better

option than other NSAIDs. There were very few prescriptions of non drug therapy such as physiotherapy and exercise. So, instead of taking multiple drug therapy one should also advise patient regarding the non pharmacological treatments and their benefits.

Table 1: Patient Demographic Characteristic (Sex and Age Wise Distribution)

Patient Characteristics	Number of Cases (N=80)		Percentage Distribution
	MALE n=35	FEMALE n=45	
AGE IN YEARS			
Young group(18-40years)	n= 10	n=08	22.5 %
Middle age (41-60 years)	n=20	n=31	63.75 %
Old Age (Above 60)	n=05	n=06	13.75 %
GENDER WISE PERCENTAGE DISTRIBUTION			
Male	35		43.75 %
Female	45		56.25 %

Table 2: Distribution of the patients based on smoking habit

S.NO	TYPES(MALE AND FEMALE)	PERCENTAGE
1	Smoker	23 %
2	Non Smoker	77 %

Table 3: Distribution pattern based on maintaining of food habit According to the prescription

S.NO	TYPES	PERCENTAGE
1	Maintaining	40 %
2	Non Maintaining	60 %

Table 4: Classes of Drugs Prescribed In Rheumatoid Arthritis

S.NO	CLASSES OF DRUGS	NO. OF Prescriptions (N= 110)	Percentage (%)
1	DMARDs	53	48.23 %
2	NSAIDs	34	30.94 %
3	Corticosteroids	11	10.01 %
4	SYSADOA	3	2.73 %
5	Analgesics	9	8.19 %
	Total	110	100

Table 5: General route of administration

S.NO	Route of administration	No. of patients (n= 110)	Percentage (%)
1	Oral	79	71.89 %
2	Injectable	26	23.66 %
3	Topical	5	4.55 %
	Total	110	100

Table 6: Drugs Prescribed In Rheumatoid Arthritis Patients

S.NO	Drugs prescribed in RA
1.	Hydroxychloroquin
2.	Methotrexate
3.	Tramadol
4.	Diclofenac
5.	Prednisolone
6.	Sulfasalazine
7.	Diacerein
8.	Etodolac
9.	Ibuprofen
10.	Acceclofenac

11.	Paracetamol
12.	Piroxicam
13.	Rituximab
14.	Deflazacort

Table 7: Approach to Treatment

Approach to treatment	No. of patients (n=110)	Percentage (%)
Monotherapy	32	29.12 %
Combination therapy	78	70.98 %
Total	110	100

Table 8: Frequency of Anti-Ulcer Agents Prescribed RA

S.NO	Antiulcer Agents	No (n=15)	Percentage (%)
1	Pantoprazole	3	19.98 %
2	Rabeprazole	1	6.66 %
3	Omeprazole	2	13.32 %
4	Ranitidine	6	40 %
5	Esomeprazole	2	13.32 %
6	Sucralfate	1	6.66 %
	TOTAL	15	100

Table 9: Details of Class of NSAIDS in RA

NSAIDS	NO. OF PRESCRIPTIONS (n=34)	% OF PRESCRIPTIONS
Pyrolopyrrole derivative	1	2.94 %
Propionic acid derivative	3	8.82 %
Aryl acetic acid derivatives	9	26.46 %
Oxicam derivatives	2	5.88 %
Paraaminophenol derivative	2	5.88 %
Diclofenac	17	50 %

Table 10: Details of Class of DMARDS in RA

DMARDS	NO.OF PRESCRIPTIONS (n=53)	% OF PRESCRIPTIONS
Methotrexate	8	15.12 %
Hydroxychloroquine	30	56.7 %
Sulfasalazine	15	28.35 %

Table 11: Details of Class of Corticosteroid in RA

SYSTEMIC CORTICOSTEROID	NO. OF PRESCRIPTION (n=11)	% OF PRESCRIPTION
Prednisolone	7	63.63 %
Difloxacort	4	36.36 %

Table 12: Details of Class of Analgesics in RA

ANALGESICS	NUMBER OF PRESCRIPTIONS	% OF PRESCRIPTIONS
Opioid analgesics	9	100%

Table 13: Details of Comorbidities in RA

COMORBIDITIES	NO. OF PATIENTS (n=27)	Percentage (%)
Hypertension	5	18.5 %
Diabetes mellitus	11	40.7 %
Spondylosis	2	7.4 %
Fever	1	3.70%
Dyslipidemia	3	11.11 %

Acute pancreatitis	2	7.4 %
Asthma	2	7.4 %
Hypothyroidism	1	3.70 %

Table 14: Details of Sign and Symptoms in RA

SIGNS AND SYMPTOMS	NO. OF PATIENTS (n=42)	Percentage (%)
PAIN	19	45.22 %
MORNING STIFFNESS	7	16.66 %
SWELLING	12	28.56 %
FEVER	4	9.52 %

Table 15: Details of Different Classes and Drugs in 2 Drug Therapies in RA

2 DRUG THERAPY	NO. OF PATIENTS (n=45)	Percentage (%)
DMARD+STERIODS Sulfasalazine+Deflazacort	4	8.88 %
DMARD+DMARD Hydroxychloroquine+Methotrexate	25	55.5 %
NSAIDs+DMARD Diclofenac+ Hydroxychloroquine	10	22.2 %
NSAIDs+NSAIDs Aceclofenac+Diclofenac	6	13.32 %

Table 16: Details of Different Classes and Drugs Used In 3 Drug therapy in RA

3 DRUG THERAPY	NO OF PATIENTS (n=33)	PERCENTAGE (%)
DMARD+DMARD+NSAIDs Methotrexate+Hydroxychloroquin+Diclofenac Hydroxychloroquin+Sulfasalazine+Ibuprofen Hydroxychloroquin+Sulfasalazine+Aceclofenac Hydroxychloroquin+Sulfasalazine+Ibuprofen	24	72.72 %
DMARD+DMARD+SYSADOA Methotrexate+Sulfasalazine+Diacerein	5	15.15 %
DMARD+CORTICOSTEROID+DMARD Hydroxychloroquin+Prednisolone+Methotrexate	4	12.12 %

Table 17: Details of Drugs Used in Monotherapy in RA

DRUGS	NO.OF PATIENTS	PERCENTAGE (%)
Hydroxychloroquin	4	100%

5. References

- [1] Wong JB, Ramey DR, Singh G. Long-term morbidity, mortality, and economics of rheumatoid arthritis. *Arthritis Rheum* 2001; 44:2746-9.
- [2] Kvien TK. Epidemiology and burden of illness of rheumatoid arthritis. *Pharmacoeconomics* 2004; 22, 1:1-12.
- [3] Mijiyawa M. Epidemiology and semiology of rheumatoid arthritis in third world countries. *Rev Rhum Engl Ed* 1995; 62:121-6.
- [4] Choi HK, Hernán MA, Seeger JD, Robins JM, Wolfe F. Methotrexate and mortality in patients with rheumatoid arthritis: A prospective study. *Lancet* 2002; 359:1173-7.
- [5] Mody GM, Cardiel MH. Challenges in the management of rheumatoid arthritis in developing countries. *Best Pract Res Clin Rheumatol* 2008; 22:621-41.
- [6] Bernatsky S, Ehrmann Feldman D. Discontinuation of methotrexate therapy in older patients with newly diagnosed rheumatoid arthritis: Analysis of administrative health databases in Québec, Canada. *Drugs Aging* 2008; 25:879-84.
- [7] Alarcon GS, Tracy IC, Strand GM, Singh K, Macaluso M. Survival and drug discontinuation analyses in a large cohort of methotrexate treated rheumatoid arthritis patients. *Ann Rheum Dis* 1995; 54:708-12.
- [8] Prashker MJ, Meenan RF. The total costs of drug therapy for rheumatoid arthritis. A model based on costs of drug, monitoring, and toxicity. *Arthritis Rheum* 1995; 38:318-25.