IJNRD.ORG ISSN : 2456-4184

INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG

An International Open Access, Peer-reviewed, Refereed Journal

A CLINICAL STUDY ON WAJA-UL-MUFASIL (RHEUMATOID ARTHRITIS) AND ITS MANAGEMENT IN UNANI MEDICINE

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ABSTRACT:

Introduction: Rheumatoid arthritis (RA) is a long-standing inflammatory condition of undetermined causative factors with the hallmark of symmetric joint involvement. It is an autoimmune disease in which the body's immune system of the patient innocently targets its own body tissues. It principally attacks the synovial membrane. The most prevalent inflammatory arthritic condition, Rheumatoid arthritis (RA) affects 0.5% to 1% of the global population. It affects 15% (180 million) of the population of India. In the classical Unani literature, waja-ul-mufasil (RA) occurs in various joints caused by derangement of the body's natural humours i.e., dam (blood), balgham (phlegm), safra (bile), and sauda (black bile) with various explanations mentioned by great scholars in Unani literature.The onset of the disease is insidious, beginning with prodrome of fatigue, weakness, joint stiffness, vague arthralgias and myalgias followed by pain and swelling. The most common age of onset is between 30 and 50 years.The cause is multifactorial and genetic and environmental factors play a part. Female gender is more susceptible.

AIMS & OBJECTIVES: To evaluate the safety and efficacy of unani drugs in cases of Waja-ul-Mufasil (Rheumatoid Arthritis) and to prevent the long term side effects of DMARD'S, NSAID'S and CORTICOSTEROIDS.

Methodology: The study of Waja-ul-Mufasil (Rheumatoid Arthritis) and its management with unani medicine was carried out in OPD of Govt. Nizamia General Hospital, Charminar, Hyderabad. It is A Single blind clinical trial to evaluate the safety and efficacy of Waja-ul -Mufasil (Rheumatoid Arthritis) with polyherbal unani formulation. Sample size of RA is 40 patients of either sex 18-50 years were taken. In this study patients were given polyherbal unani formulation for the total duration of treatment of 51 days i.e., orally in the form of decoction for 21 days based on formulations of unani Drugs having properties like Mushil balgham o sauda

(Purgative), Mohalil e auram (Resolvent). After the period of 21 days of decoction, patients were given unani medicine possessing the properties of Musaffi khoon (Blood purifier), Musakkin Alam (Analgesic), Muqavvi Aasab (Nervine tonic) for next 30 days.

Results and Conclusion: The study revealed that the drug showed extreme statistical significance P value <0.0001 in subjective parameters like Pain, Tenderness, Swelling, Morning stiffness, and Any deformity. The objective parameters like RA factor, ESR also showed the significant difference P value <0.0001. No adverse effect or toxicity was observed during clinical trial.

Key word: Waja-ul-Mufasil (Rheumatoid Arthritis), Autoimmune disease, Unani medicines, Humours, Mushil balgham o sauda (Purgative), Mohalil e auram (Resolvent), Musaffi khoon (Blood purifier), Musakkin Alam (Analgesic), Muqavvi Aasab (Nervine tonic).

LIST OF ABBREVIATIONS

A	Absent
Anti-CCP	Anti cyclic citrullinated peptide
ASO	Anti Streptolysin O
AT	After Treatment
BC	Before Christ
CBP	Complete Blood Picture
CRP	C Reactive Proteins
CVS	Cardiovascular System
DM	Diabetes Mellitus
DMARDS	Disease Modifying Anti rheumatic drugs
ESR	Erythrocyte sedimentation rate
F	Female
F.U.	Follow up
Govt.	Government
HLA	Human leukocyte antigen
HM	Home Maker
IPd	In patient department
M	Male
MCP	Metacarpophalangeal
MTP	Metatarsophalangeal joints
NSAID'S	Non Steroidal anti inflammatory drugs

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OPD	Out patient Department
PIP	Proximal inter phalangeal
RA	Rheumatoid Arthritis
Reg.no	Registration Number
WHO	world Health Organisation

INTRODUCTION

DEFINITION:

RHEUMATOID ARTHRITIS (RA) is a chronic systemic inflammatory disorder. It principally attacks the joints, producing a non suppurative proliferative and inflammatory synovitis that often progresses to destruction of articular cartilage and ankylosis of joints. The onset of the disease is insidious, beginning with prodrome of fatigue, weakness, joint stiffness, vague arthralgias and myalgias followed by pain and swelling of joints usually in symmetrical fashion, especially involving joints of hands wrist and feet. About 1% of world's population is afflicted by RA, women are effected 3-5 times more often than men.The onset is most frequent during fourth and fifth decades of life, with 80% of all patients developing the disease between the age of 35 and 50.It is most common in those 40-70 yrs old, but no age is immune. The incidence of RA is more than six times greater in 60-64 years old women compared to 18-29 years old women.

The prevalence of RA based on four electronic data bases were searched (ProQuest Central, MEDLINE, Web of science, and EMBASE) that report estimates from 1980 to 2019. A total of 67 studies were included in meta-analysis, containing report estimation of global prevalence of RA is 460 cases per 1 lakh population, with variation due to geographical location and study methodology. RA effects all populations, although a few groups have higher prevalence rates (eg: 5-6% in some Native American groups) and some have lower rates in rural (eg:Sub-Saharan Africa and in Caribbean blacks).

This is multifactorial and genetic and environmental factor plays an important role. With an increased incidence in first degree relatives, about 10% of patient with RA have first degree relative and high concordance amongst monozygotic twins (upto15%) atleast four times more concordant for RA than dizygotic twin (upto 3.5%) who has similar risk of developing RA as nontwin siblings.

EPIDEMIOLOGY :

Rheumatoid Arthritis has a world-wide distribution and effects 0.5-1% (with a female preponderance) of the population. The prevalence is high in pima Indian population and low in black Africans and Chinese people. The incidence, however appears to be falling. Rheumatoid Arthritis is a significant cause of disability and mortality and carries a high socio-economic cost. It presents from early childhood (when it is rare) to late old age. RA is associated with an increased risk of comorbidities such as cardiovascular disease, respiratory issues, and osteoporosis. The presence of comorbid conditions can impact the overall health outcomes for individuals with RA.

RA poses a significant burden on affected individuals, healthcare systems, and society as a whole due to its chronic nature and potential for disability. Understanding the economic and social implications of RA is crucial for healthcare planning and resource allocation.

AIMS AND OBJECTIVES

1. To evaluate the efficacy of unani drugs in the cases of Rheumatoid Arthritis (Waja-ul-Mufasil).

2. To prevent the long-term side effects of DMARD'S (Disease Modifying Anti Rheumatic drugs), NSAID'S (Non Steroidal Anti Inflammatory Drugs) and Corticosteroids.

3. To provide alternate safe and effective herbal medicine with maximum efficacy and minimal side Effects.

REVIEW OF LITERATURE

In Classical unani literature, **HIPPOCRATES** (Late fifth Century B.C) had a believe that there were various forms of ailments of joints which were determined by factors common to all people i.e., harmful effects of air, water and soil and by individual circumstances like occupation, diet, age.[39]
The introduction of Rheumatism was given by **GALEN** (second century A.D.) to indicate the pain resulting from discharge of peccant humours into body cavity or surface was labelled 'Rheumatic' and Arthritis was only one of them. this dropping into the joint cavity was given the name of 'Gout' to any form of arthritis.

SAMARKHANDHI states that substance (madda) which causes Waja-ul-mufasil is dirty in consistency and white mucous in colour.[4]

SHAIK-BU-ALI-IBN-SINA described that the matter (madda) resembles like pus although it is not pus.[4]

SHAIK-UR-RAYEES states that sometimes people believe that this is the gastric disease, the main cause of which is a substance or specific in a type of cognitive impairment in digestion, it accumulates in blood to such an extent that the kidneys cannot excreate it well, which has characteristic effect on connective tissue, muscles membranes, fibrous tissues, ligaments and joints.[4]

CAUSES WAJA-UL-MUFASIL

There is a difference of opinion.

(1) Some people believe that it is a gastric disease.

(2) Some people believe that the cause of this disease is a certain type of acidity, which accumulates in the blood due to indigestion to such an extent that the kidneys do not excrete it well which has a characteristic effect on the white matter of the body, on the fibrous structures, on the fibrous membranes, on the ligaments and joints.

(3) Some also believes that joint pain is a neurological disease.

Causes of Stomach is not only the cause to have it every time, but mostly it occurs between 16 and 35 years of age, the inhabitants of cold countries are more prone to it, especially in the months of September and October, besides this, stress, depression, people only on meat. Also, using them, living a life of poverty and hard work, getting wet in rain or cold water, getting cold, indigestion, amenorrhoea, lactating mothers, gonorrhea, syphilis, etc. This disease is hereditary.

Sexual intercourse is also one of the strongest causes of this disease, especially in the condition of fullness of the stomach. (**SAMARKHANDI**)

SAMARKHANDI has written that: The cause of this disease is the weakness of the joints and the lack of substance or matter in joints, although the cause of the disease is **Su-e-Mizaj.**

This disease does not occur in small children, transgender and women. The substance or madda that is administered due which the disease is the most common is balgham (Phelgmatic), dam (Sanguinous), safra (bile) and sauda (black bile) is responsible. Sometimes these are a combination of two or more mixtures.

Types:

There are two types Haad (Acute) and Muzmin (Chronic).

Haad:

In the beginning of this disease, a sudden onset of fever with chills, the temperature of which is 102 to 105, then after 24 hours there is stiffness in the joints of the hands and feet and the pain intensifies, sometimes It happens that after a long period of mild pain in different parts of the body, one big joint becomes swollen and sometimes even three joints become swollen.

They become painful and feel pain and discomfort even by the touch of clothes. If proper measures are not taken, the inflammation and swelling of the joint continues to progress day by day, even if it happens the both sides of the joint become numb together, and one joint after the other and the third after the second. There is swelling and pain in the joints, fever lasts for eight to ten days, which becomes milder in the morning, sometimes the fever reaches 109 to 110 degrees, the pulse is rapid, the face is red, the tongue is white. The body becomes bloated, the thirst becomes more, the appetite disappears, the patient complains of constipation, the amount of stool decreases, the color of which is deep red, the sweat, saliva, and urine increases.

Types according to khilt or Madda:

(a) Waja-ul-Mufasil Damvi (Sanguinous)

(b) Waja ál- Mafasil Safravi (Bilious)

(c) Waja-ul-Mufasil Balghami (Phelgmatic)

(d) Waja-ul-Mufasil Saudavi (Melancholic)

(e) Waja-ul-Mufasil Murakkab (Compound)

(a) Waja-ul-Mufasil Damvi (Sanguinous) :

The skin is red, swelling is present on the effecting joint, the pain is severe and hence the blood is predominant cause here.

(b) Waja -ul- Mufasil Safravi (Bilious) :

The color is yellow, the edema is less swollen and the inflammation is severe, cold foods are beneficial and there are other symptoms of predominance of bile, patient's previous measures such as the age of the patient, the weather and the country, and patient addiction and habits.This disease is rarely caused by pure bile. Rather, it is produced from biliary blood.

(c) Waja-ul-Mufasil Balghami (Phelgmatic) :

Skin is white in color, inflammation and swelling is less when compared to waja-ul mufasil dammvi, and is deep inside the joints, it gives benefits from warm compression.

(d) Waja-ul-Mufasil Saudavi (Melancholic) :

There is no severity in pain, dryness can be seen in joints, the color of the area is black or blue, tension is reduced, edema is firm.

(e) Waja-ul-Mufasil Murakkab (Compound) :

Samarkandi states that the one in which two or more mixtures accumulate, it is a sign that only Haar or only barid is beneficial, and the time of benefit of these medicines is also different, so one medicine at a time can reduce the pain from it and at other times there is another medicine for it. these symptoms are also mixed with the symptoms of two madda.

Complications:

Many diseases can arise due to this diseases, such as pericarditis, endocarditis, pleural effusion, pneumonia, asthma, epilepsy, etc., but the most dangerous condition is, While the substance of joint pain causes mental anxiety and depression in the patient. Therefore, in the same case, the temperature rises suddenly, the face becomes heavy, the intellect becomes defective and the thoughts are scattered, and the patient dies as a result of sleeplessness and restlessness.

USOOL-E-ILAAJ:

According to **Ibn-e-Sina**, the management of Waja-ul-Mufasilshould be diversion (Imala-e-Mawad) and evacuation (Istefragh) of morbid humours, Munzij-wa-Mushil (Concoctive and Purgative) therapy, strengthening of joints and its Quwa helps in restoring the joint in normal condition and prevent disabilities. In the Unani system of medicine, the main principles of management are, Ilaj-bil-Ghiza (Dietotherapy), Ilaj bil Tadbeer (Regimenal therapy) Ilaj bil Dawa (pharmacotherapy) for the management of Waja-ul-Mufasil(RA).

Zakaria Razi suggests that fish and poultry are favorable for Waja-ul-Mufasil patients. Other foods that are advised include, particularly Bengal gram, Indian Millet, Big beans, French beans, Palak, Pyaz, Chuqandar, Carrot, Chilly, black pepper, Injeer, Badam, Akhrot, Khajoor, Apricot, Angoor, Aaloo, Pure ghee, Methi, Shaljam, Seb, Makka, Pineapple,Strawberry, and Papita.

ILAAJ BIL TADBEER (Regimenal Therapies) :

Many regimenal therapies are used in waja-ul-mufasil or hudar to reduce their symptoms like:

Hijama (Cupping)

Fasd (Venesection)

Nutool (Irrigation)

Takmeed (Hot fomentation)

Dalk (Massage)

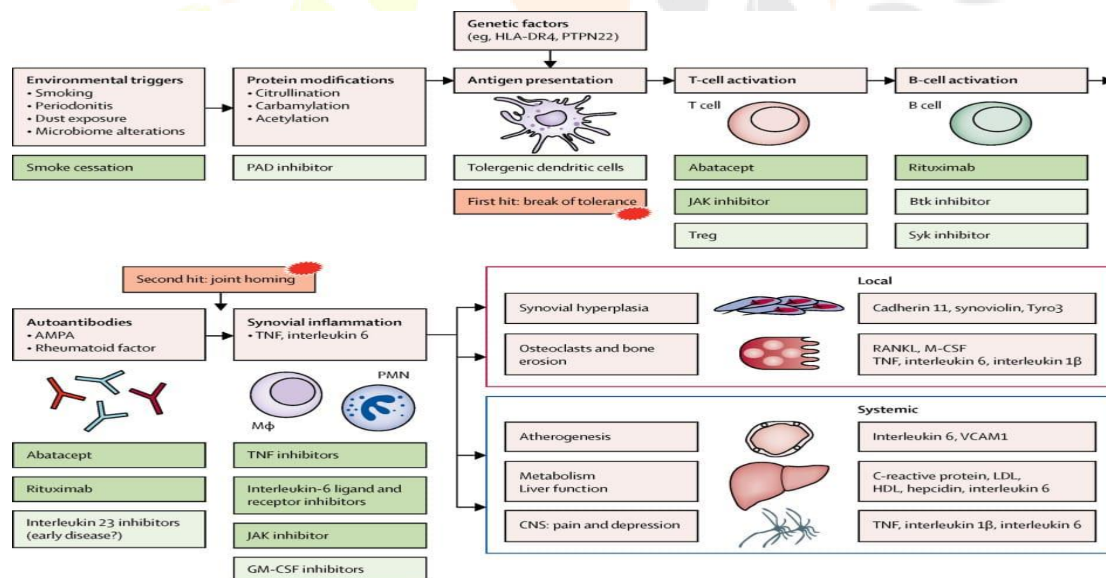
Bukhoor (Steam fomentation) etc.,

AETIOLOGY AND PATHOGENESIS :

The cause is multifactorial and genetic and environmental factors play a part. Women before menopause are affected three times more often than men. After the menopause the frequency of onset is similar between the sexes. Evidence for the importance of genetic susceptibility comes from higher concordance rates in monozygotic (12-15%) than in dizygotic twins (3%) and an increased frequency of disease in first degree relatives of patients with RA. Up to 50% of the genetic contribution to susceptibility is due to genes in the HLA region. It is likely that genetic factors influence both susceptibility and severity, with positivity more common in those with severe erosive disease.

Female gender is a risk factor and this susceptibility is increased by post-partum and by breastfeeding. Cigarette smoking is a risk factor for RA and for positivity for Rheumatoid factor in non-RA subjects. Whatever the initiating stimulus, RA is characterised by persistent cellular activation, autoimmunity and the presence of immune complexes at sites of articular and extra-articular lesions . This leads to chronic inflammation, granuloma formation and joint destruction

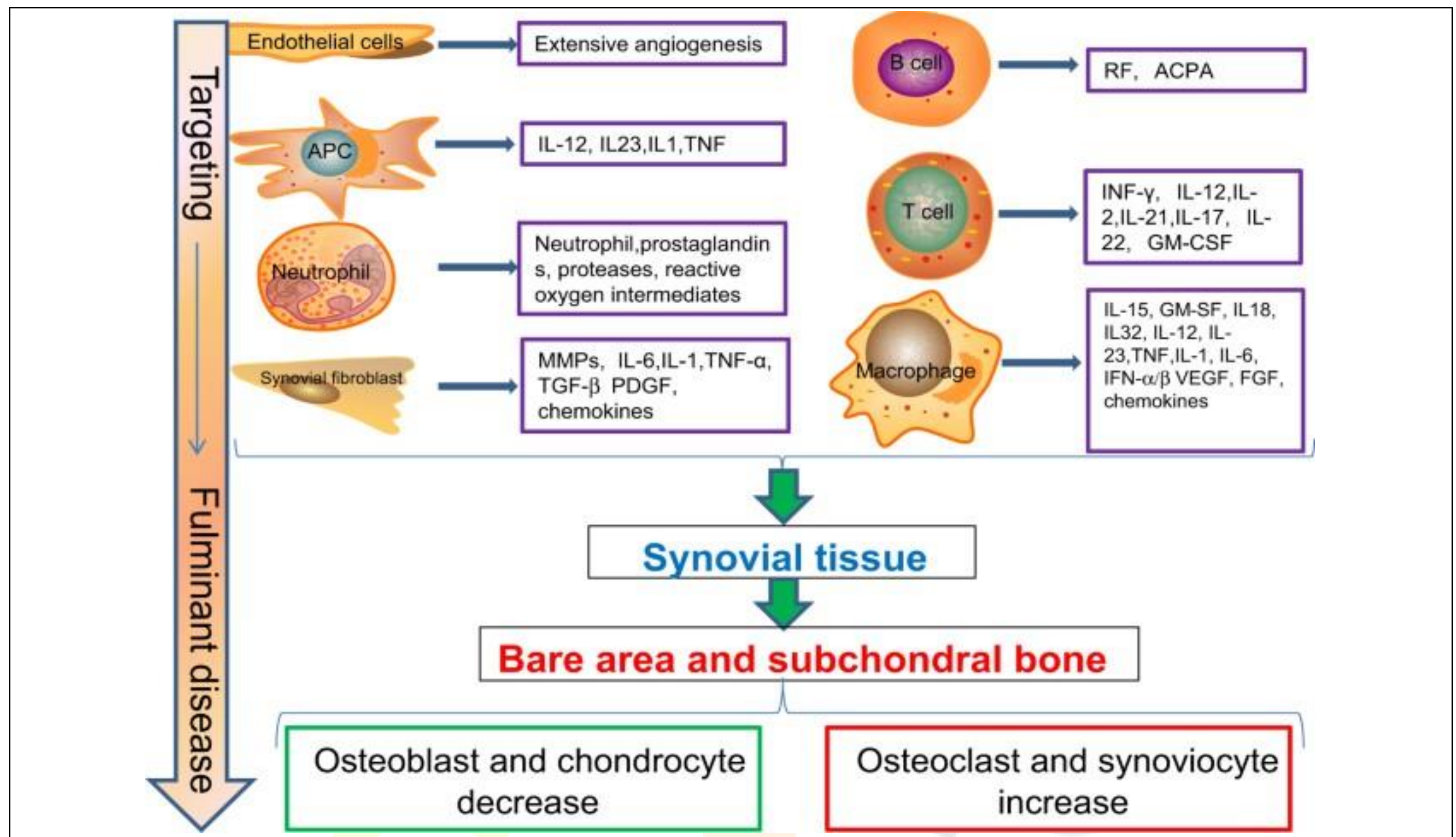
Pathogenesis of Rheumatoid Arthritis



CLINICAL FEATURES :

The diagnosis of RA can only be established by an accurate and careful history and physical examination. Only limited help is provided by laboratory tests. The clinical hallmark of inflammatory joint disease is persistent synovitis. In patients with isolated small joint synovitis the acute phase response may be normal, because the magnitude of this response is correlated with the amount of inflammatory activity (synovitis bulk). The requirement for symptoms to persist beyond 6 weeks is a useful cutoff to ensure that self-limiting or viral arthritis is not labelled prematurely as RA. As its irreversible damage occurs early in RA and diagnosis and treatment should not be delayed.

The most common presentation is with a gradual onset of symmetrical arthralgia and synovitis of small joints of the hands, feet and wrists. This insidious onset has traditionally been considered to imply a poor prognosis, possibly because of the delay in presenting for medical advice. A dramatic acute onset, sometimes over just a few days, with florid morning stiffness, polyarthritis and pitting oedema.



Pathological Mechanism of Rheumatoid Arthritis

SPECIFIC JOINTS :

The hand is crucial to overall patient function and provides a good reflection of overall disease activity. The typical features are symmetrical swelling of the metacarpophalangeal (MCP) and proximal interphalangeal (PIP) joints. These and other joints are considered to be actively inflamed if they are tender on pressure, and have stress pain on passive movement or non-bony effusion/swelling. Specific hand abnormalities include **'swan neck'** deformity, the **boutonnière** or **'button hole deformity'**, and a **Z deformity of the thumb**. Dorsal subluxation of the ulnar styloid of the wrist is common and may contribute to rupture of the fourth and fifth extensor tendons. Triggering of fingers may occur due to nodules in the flexor tendon sheath.

In the forefoot dorsal subluxation of the metatarso- phalangeal (MTP) joints results in **'cock-up' toe deformities**. In the hindfoot, calcaneovalgus (eversion) is the most common deformity, reflecting damage to the ankle and subtalar joint. This is often associated with loss of the longitudinal arch (flat foot) due to rupture of the tibialis posterior tendon.

MANAGEMENT :

The following are the key management goals in RA:

- Relief of symptoms
- Suppression of inflammation
- Conservation and restoration of function in affected joints
  (joint protection) environmental modification if appropriate.

- Patient education, counselling and a coordinated multidisciplinary approach are required for successful management.[8]
- Physical rest, targeted anti-inflammatory therapy and passive exercises are the mainstay of treatment for acute RA Hospital admission in order to undergo multiple intra- articular injections, joint splinting, regular hydrotherapy. physiotherapy and education may be beneficial. However, most flares can be managed out of hospital by judicious use of either intramuscular or intra-articular steroids, oral analgesics and NSAIDS, and adjustment of DMARDS. Periodic assessment of disease activity, progression (damage) and disability is required.

PROGRESSION AND PROGNOSIS

Past views about the treatment of Rheumatoid Arthritis were based on the concept that it was a benign, non-fatal and slowly evolving disease, often responsive to simple therapy. This led to a conservative management approach, predominantly based on the use of NSAIDs, that has been challenged by the following findings:

- There is increased mortality in RA patients, highest in those with the most severe disease.
- Average lifespan is reduced by 8-15 years by RA and the 5-year survival for patients with severe disease is only 50%.
- Around 40% of patients will be registered disabled within 3 years.
- Around 80% will be moderately to severely disabled within 20 years and 25% will have required a large joint replacement.

Functional capacity decreases most rapidly at the beginning of disease and it is therefore essential to control disease as soon as possible. Joint damage and erosions occur early, and the functional status of patients after only 1 year of RA is often predictive of long-term outcome. It is not possible to predict the outcome accurately at the time of diagnosis, so caution and careful follow-up are needed in all patients. However, the following factors at presentation are associated with a poor prognosis:

- Higher baseline disability
- Female gender
- Involvement of MTP joints
- Positive rheumatoid factor
- disease duration of over 3 months.

METHODOLOGY

MATERIAL & METHODS:

The clinical study was done to assess the efficacy of unani medicine in "Waja-ul-Mufasil" the study was conducted in Dept. of Moalejat, Govt.Nizamia tibbi college and hospital, charminar, Hyderabad. Patients was taken from out-patient Room no:107, department of General medicine, Govt. Nizamia general hospital, patients those who were suffering from joint pain and stiffness of joints and gives the symptoms of Rheumatoid Athritis were selected on the basis of clnical findings and lab investigations. Patients were selected with from either sex belonging to different age groups, fulfilling the inclusion and exclusion criteria were invited to participate in research study. Patients were selected after registration and were explained about the research work nature of study, and drug with the mode of Administration . After giving the consent form to participate voluntarily, they were asked to sign in the informed consent and included in the study. Apart from this, patient were selected through the advertisements in the local newspapers all the findings were recorded on the case record proforma, designed for the study.

Duration of Study : The Study has been carried out for a period of 1year.

Duration of therapy : 51days

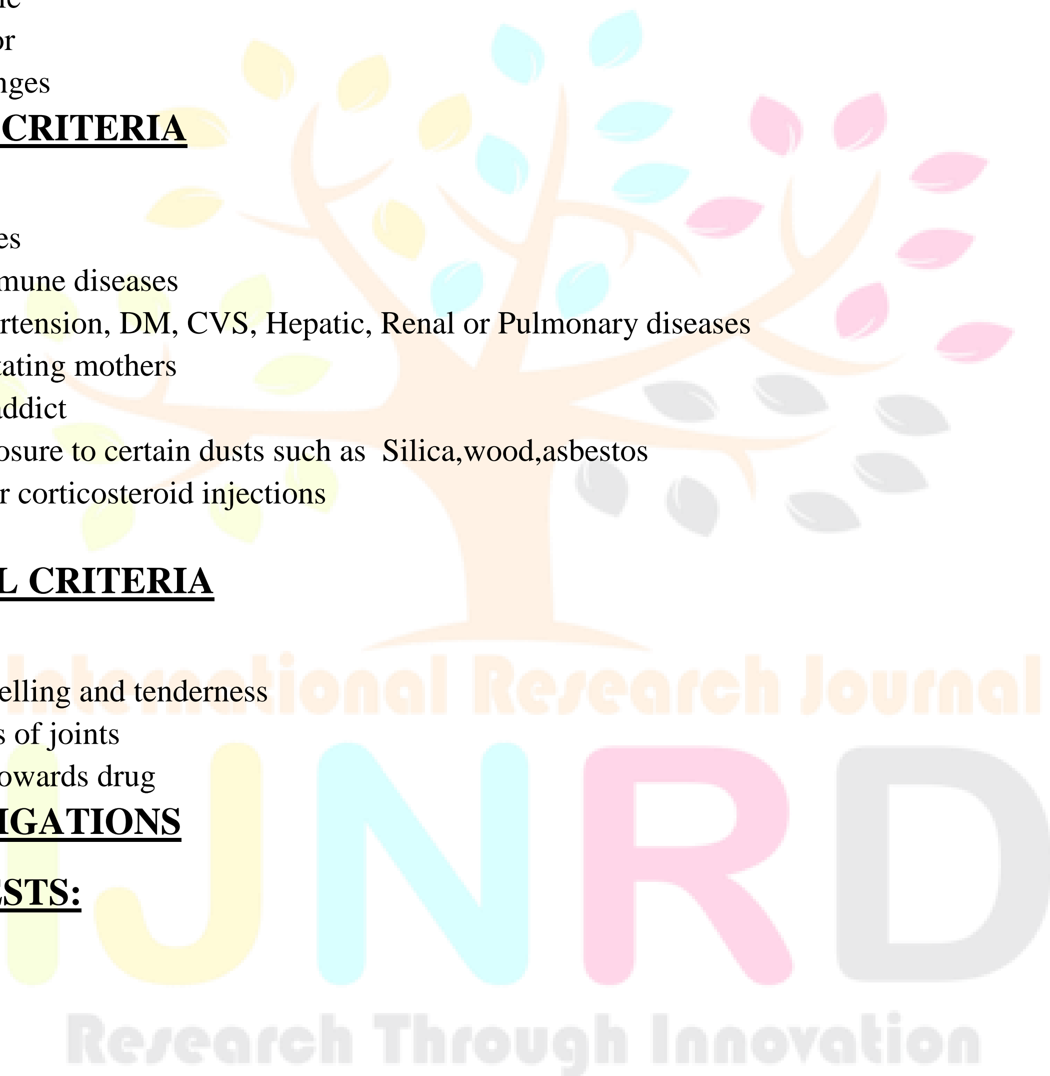
Selection of cases : Criteria used for selection of patients - Physical Examination, Clinical History & investigations.

INCLUSION CRITERIA

- Any Gender (male & female)
- Age 18-50 years
- Morning Stiffness >1 hr
- Symmetrical Arthritis
- Arthritis of 3 or more joint area
- Rheumatoid nodule
- Rheumatoid Factor
- Radiological Changes

EXCLUSION CRITERIA

- Age >50 years
- Other joint diseases
- Any other autoimmune diseases
- Patient with Hypertension, DM, CVS, Hepatic, Renal or Pulmonary diseases
- Pregnant and Lactating mothers
- Drug or Alcohol addict
- Occupational exposure to certain dusts such as Silica,wood,asbestos
- H/O Intra-articular corticosteroid injections



WITHDRAWL CRITERIA

- Not following up
- Increased pain,swelling and tenderness
- Increased stiffness of joints
- Any side-effects towards drug

LAB INVESTIGATIONS

ROUTINE TESTS:

- CBP
- ESR
- CRP
- RA FACTOR
- X-RAY OF JOINTS

OPTIONAL TEST

- Anti-CCP (Anti-cyclic citrullinated peptide)
- ASO TITRE
- ANA profile

- **STUDY DESIGN:** Single blind study.
- **SAMPLE SIZE:** Total 40 cases were studied.
- **DURATION OF TREATMENT:**

  Duration of treatment was 51 days and assessment of therapeutic response were done every week and findings were recorded on a proforma prepared for the purpose.

OUTCOME MEASURES:

SUBJECTIVE PARAMETER

- Pain, Swelling and Tenderness
- Stiffness of Joints
- Rheumatoid Nodule
- **SWAN-NECK** deformity (or) **BUTTON HOLE** deformity and **Z-DEFORMITY OF THUMB**
- **"COCK UP" TOE DEFORMITY**

OBJECTIVE PARAMETER

- RAISED ESR
- RAISED RA FACTOR
- ABNORMAL CRP LEVELS
- X-RAY OF JOINTS
- Anti-CCP (OPTIONAL)
- ASO TITRE (OPTIONAL)

SAFETY ASSESSMENT:

No adverse effect or drug reaction is seen during the study.

- **FOLLOW UP DURING TREATMENT :** During treatment patients were kept under observation with duration of 51 days they were advised to follow up at an interval of 7days. At every visit patient were asked about the progression or regression in their symptoms and were investigated. After withdrawal of treatment or recurrence and non-recurrence of symptoms patients were asked to come every 15 days for a period of 2 months.

SELECTION OF DRUGS FOR CLINICAL TRAIL

- When selecting the drugs the fact was kept in the mind of the special pharmacological action according to unani pharmacology, beneficial mode of their action in relieving symptoms of Rheumatoid Arthritis.
- The drugs are selected according to their properties actions and uses, temperament and the modren research data available. All the drugs selected and studied for their usefulness in pain, swelling, and stiffness of joints and rheumatoid nodule in various research centres of country.
- In this present study the following drugs are selected consists of single drugs, Which are having anti-inflammatory, carminative, analgesic, diuretic and purgative in action.

MEDICINE IN DECOCTION FORM:

- 1.Afteemoon -5gms
- 2.Bisfaij Fastaqi -5gms
- 3.Ushba Desi -5gms
- 4.Tukm karafs -5gms
- 5.Turbud Mujawif -5gms

METHOD OF PREPARATION:

The above drugs grinded well to coarse powder form and dispensed to the patients instructed to soak in 2 glass of water for entire night. Then the next day morning the water along with drugs to be boiled till the water reduced to half, the obtain filtered to be given in morning on empty stomach for 21 days.

MEDICINE IN POWDER FORM

- 1.Suranjan -2gms
- 2..Asgand -2gms
- 3.Bozidan-2gms

METHOD OF PREPARATION:

- The above mentioned drugs were grinded and seive to a very fine powder.
- 6gms of powder to be taken after meals twice a day for 30 days.

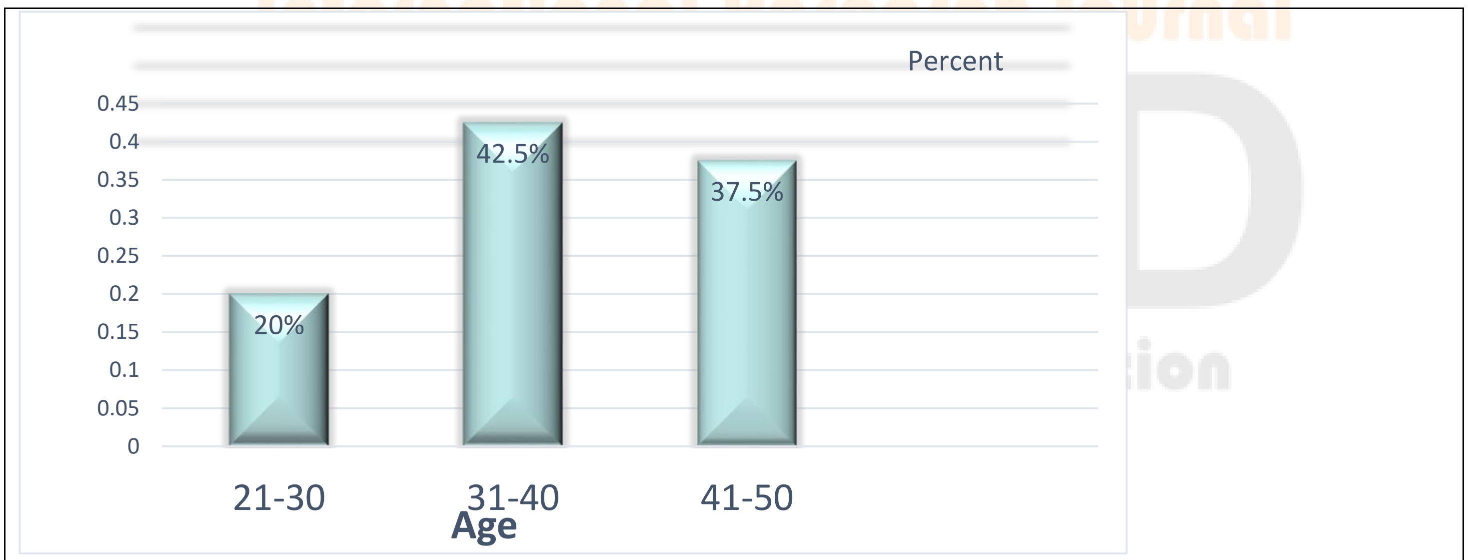
OBSERVATIONS AND RESULTS

Observation:

Out of 40 patients maximum number of patients were observed in the age group of 31 - 40 years i.e., 17 (42.5%) followed by 8(20%) in 21 – 30 years and 15(37.5%) in 41 – 50 years. (Table no. 1)

Table No.1: Distribution according to Age

Age	Frequency	Percent
21 – 30 years	8	20
31 – 40 years	17	42.5
41 - 50 years	15	37.5
Total	40	100.0

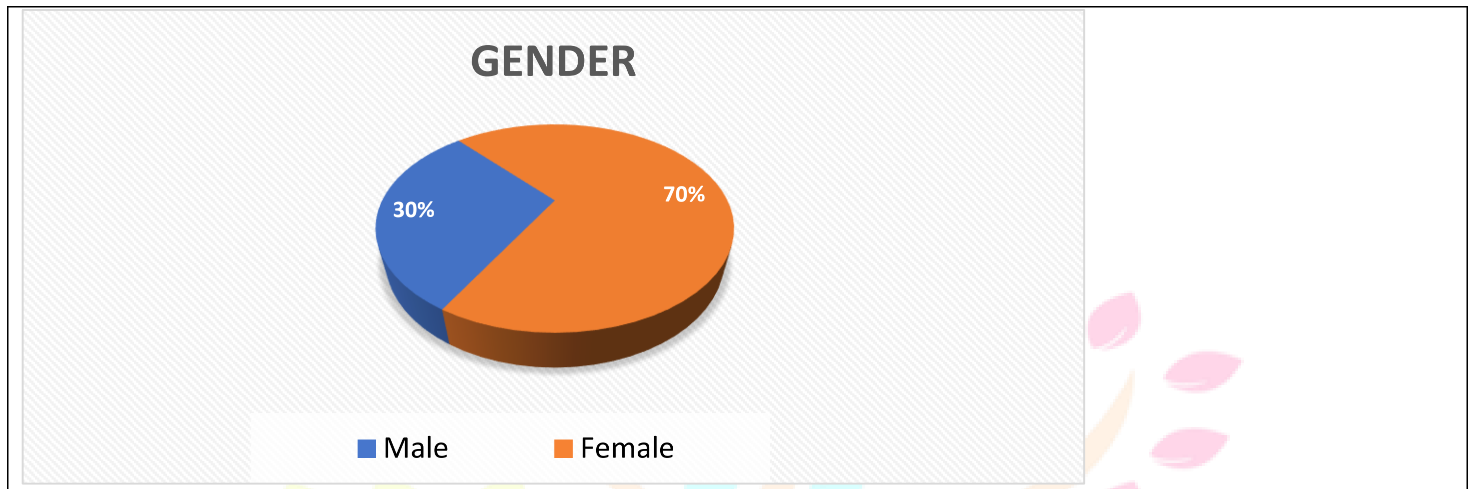


Observation:

Out of 40(100%) selected patients of Waja-ul-mufasil (RA), 28 (70%) patients were female and 12(30%) patients were male (Table No:2)

Table No. 2: Distribution according to Gender

Gender	Frequency	Percent
Female	28	70.0
Male	12	30.0
Total	40	100.0

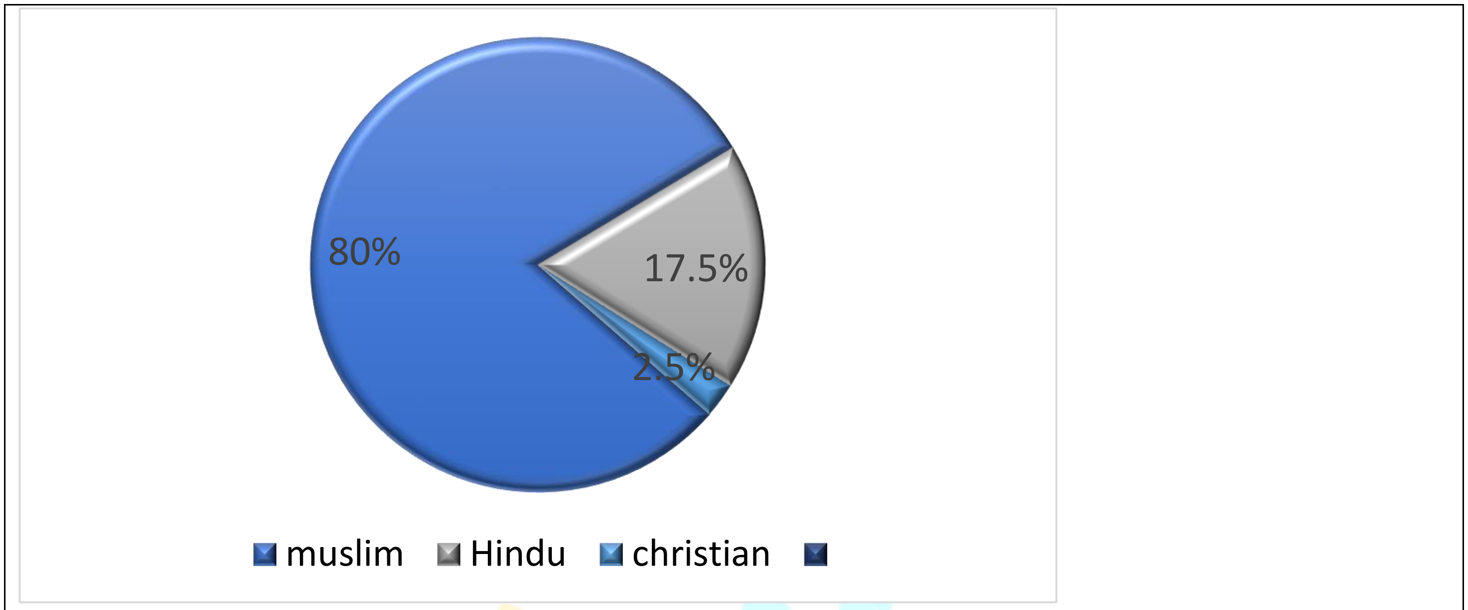


Observation:

Out of 40(100%) patients, 32(80%) patients were Muslim,7(17.5%) patients were Hindu, and 1(2.5%)patient was Christian. (Table no. 3)

Table No.3: Distribution according to Religion

Religion	Frequency	Percent
Christian	1	2.5
Hindu	7	17.5
Muslim	32	80.0
Total	40	100.0



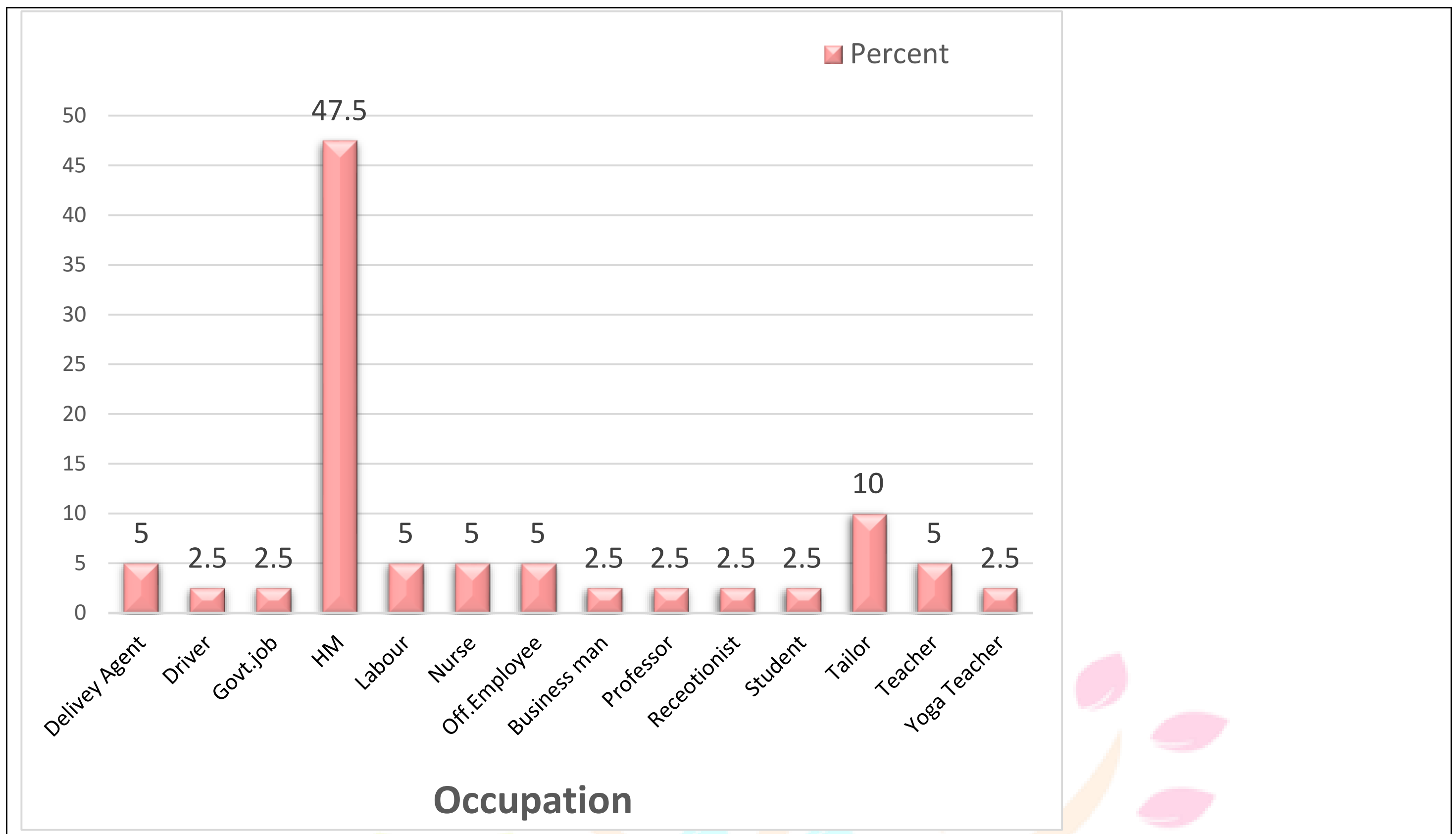
Religion

Observation:

Out of 40 patients , 19(47.5%) patients were house wives, 2(5%) were labors, 1(2.5%) patient was govt employed, 4(10%) were tailor, 1(2.5%) patient was businessman, 1(2.5%) patient was Drivers, 2(5%) patients were nurse, 2(5%) patients were office employee, 1(2.5%) patient was yoga teacher, 2(5%) patient was delivery agent, 1(2.5%) patient was professor,1(2.5%) patient was receptionist, 2(2.5%) patients was teacher,1(2.5%) patient was student (Table No: 4)

Table No.4: Distribution according to Occupation

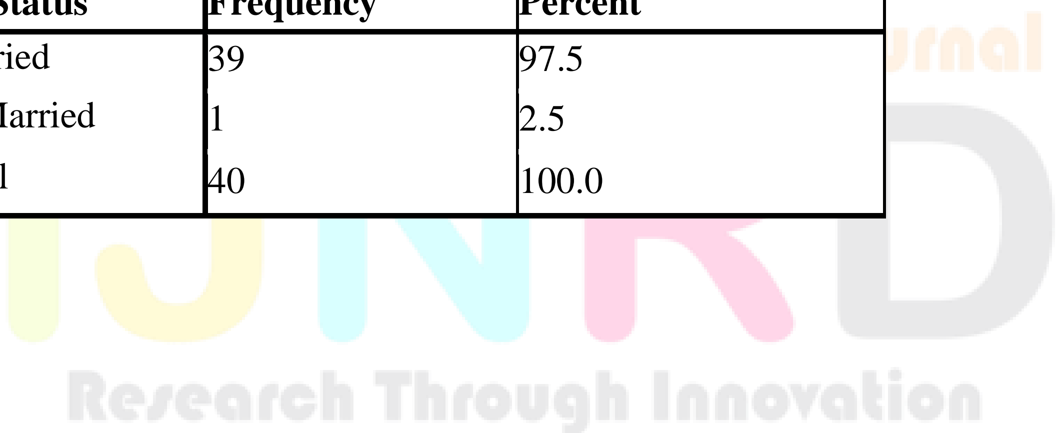
Occupation	Frequency	Percent
Business man	1	2.5
Delivey Agent	2	5.0
Driver	1	2.5
Govt.job	1	2.5
HM	19	47.5
Labour	2	5.0
Nurse	2	5.0
Professor	1	2.5
Office Employee	2	5
Receotionist	1	2.5
Student	1	2.5
Tailor	4	10.0
Teacher	2	5.0
Yoga Teacher	1	2.5
Total	40	100.0



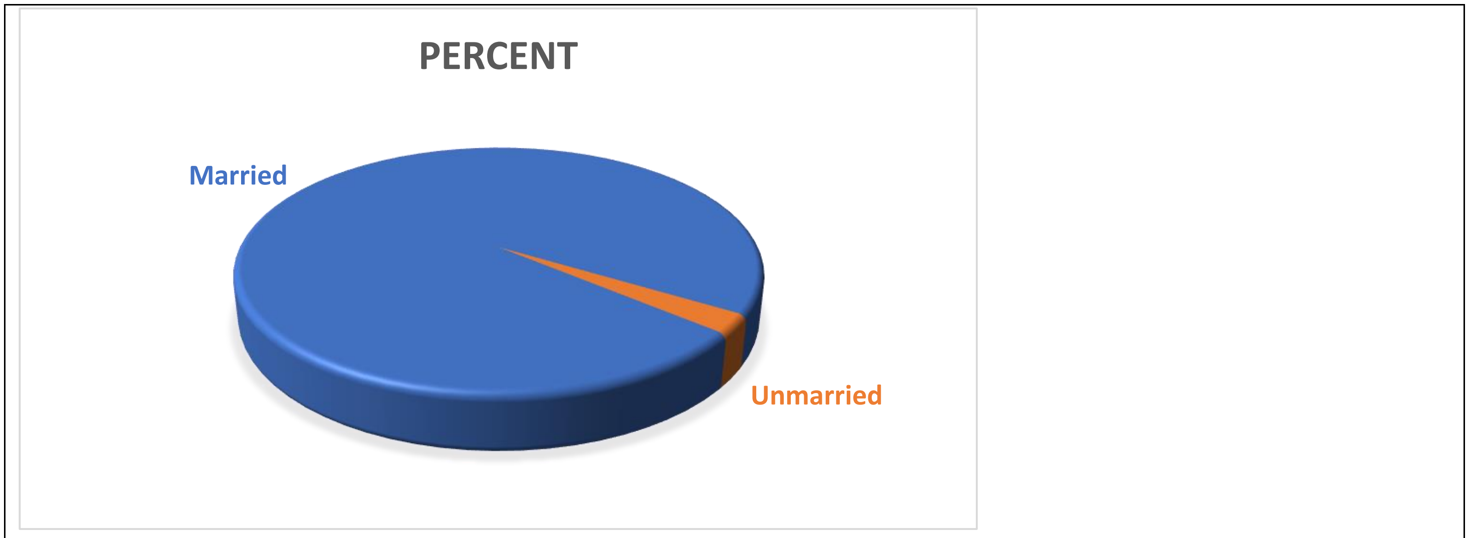
Observation:

Out of 40(100%) patients of Waja-ul-Mufasil (RA), 39(97.5%) patients were Married and 1(2.5%) was Unmarried. (Table No.5)

Table no.5: Distribution according to Marital Status



Marital Status	Frequency	Percent
Married	39	97.5
UnMarried	1	2.5
Total	40	100.0

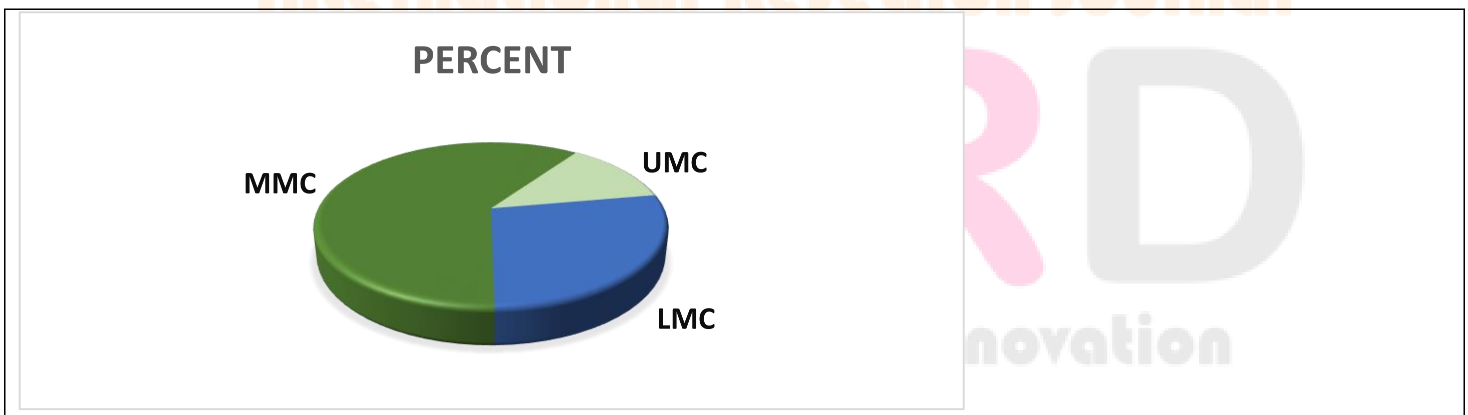


Marital Status

Observation:

The highest incidence of patients, 24(60%) patients were in Middle middle class, 11(27.5%) patients were in Lower middle class, followed by 5(12.5%) in Upper middle class. (Table No:6)

Socioeconomic status	Frequency	Percent
LMC	11	27.5
MMC	24	60.0
UMC	5	12.5
Total	40	100.0



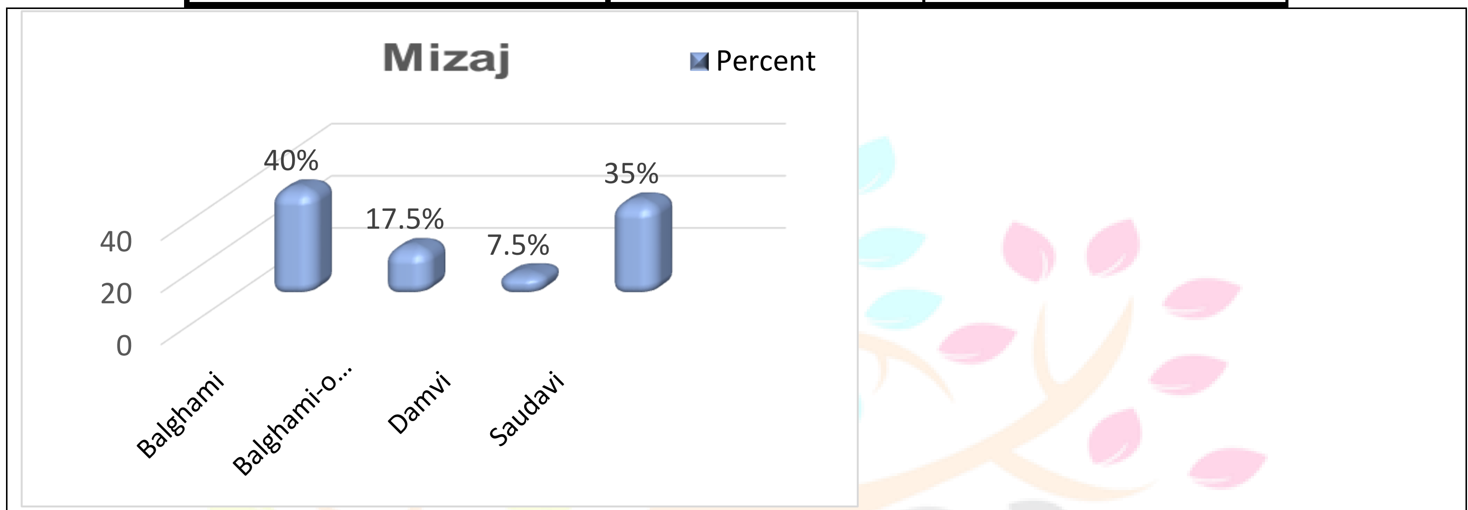
Socioeconomic Status

Observation:

A maximum of 16(40%) patients were having Balghami mizaj followed by 14(35%) patients were having Saudavi, 3(7.5%) patient was having Damvi, 7(17.5%) patients were Balghami-o-Saudavi mizaj and 0(0%) patient having the Safravi mizaj. (Table No: 7)

Table No. 7: Distribution according to Mizaj / Temperament

Mizaj	Frequency	Percent
Balghami	16	40.0
Balghami-o-Saudavi	7	17.5
Damvi	3	7.5
Saudavi	14	35.0
Total	40	100.0

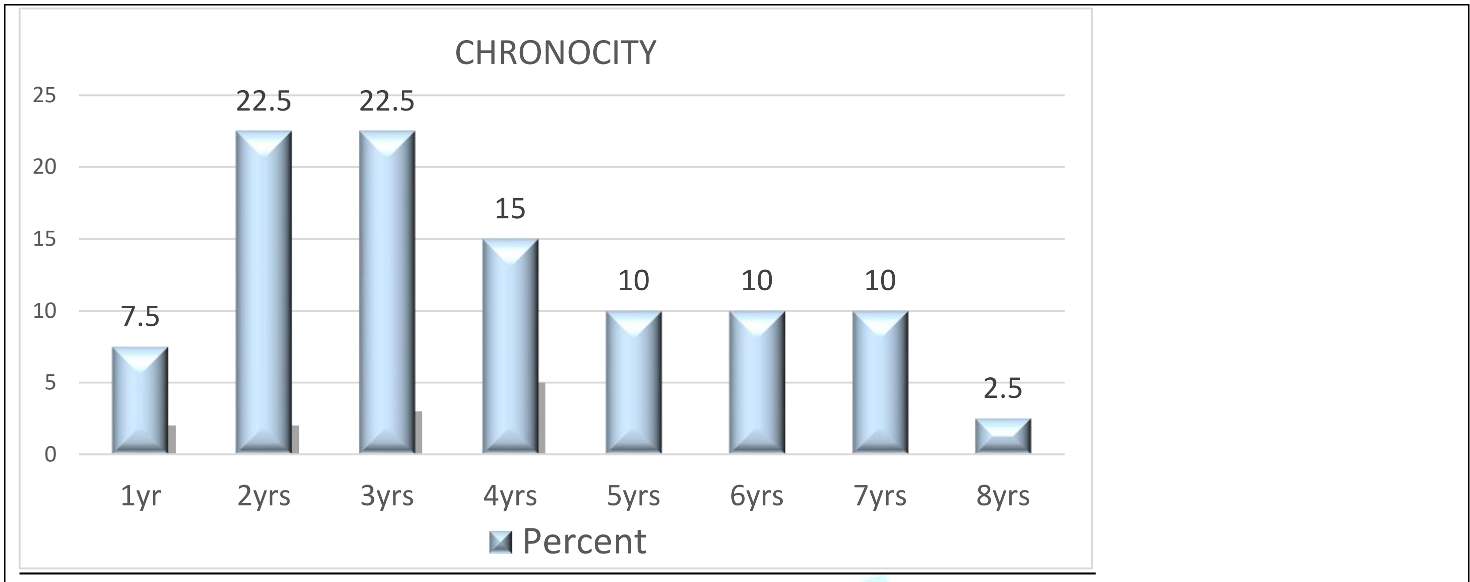


Observation:

Out of 40 patients of which, 9(22.5%) patients were having the disease since 3years, followed by 9(22.5%) patients were having since 2 years and 6(15%) patients were having since 4 years, 3(7.5%) patients were having the disease since 1 year, 4(10%) patients were having since 5 years and 4(10%) patients since 6years, 4(10%) patients were having since 7 years and 1(2.5%) patients was having since 8 years. (Table No: 8)

Table No. 8: Comparative distribution according to Chronicity:

Chronicity	Frequency	Percent
1yr	3	7.5
2yrs	9	22.5
3yrs	9	22.5
4yrs	6	15.0
5yrs	4	10.0
6yrs	4	10.0
7yrs	4	10.0
8yrs	1	2.5
Total	40	100.0



Observation:

The distribution of patients shows that Out of 40(100%) patients of Waja-ul-Mufasil (RA), 14(35%) patients had family history and 24(65%) patients were not having any family history. (Table No:9)

Table No. 9: Distribution according to family history:

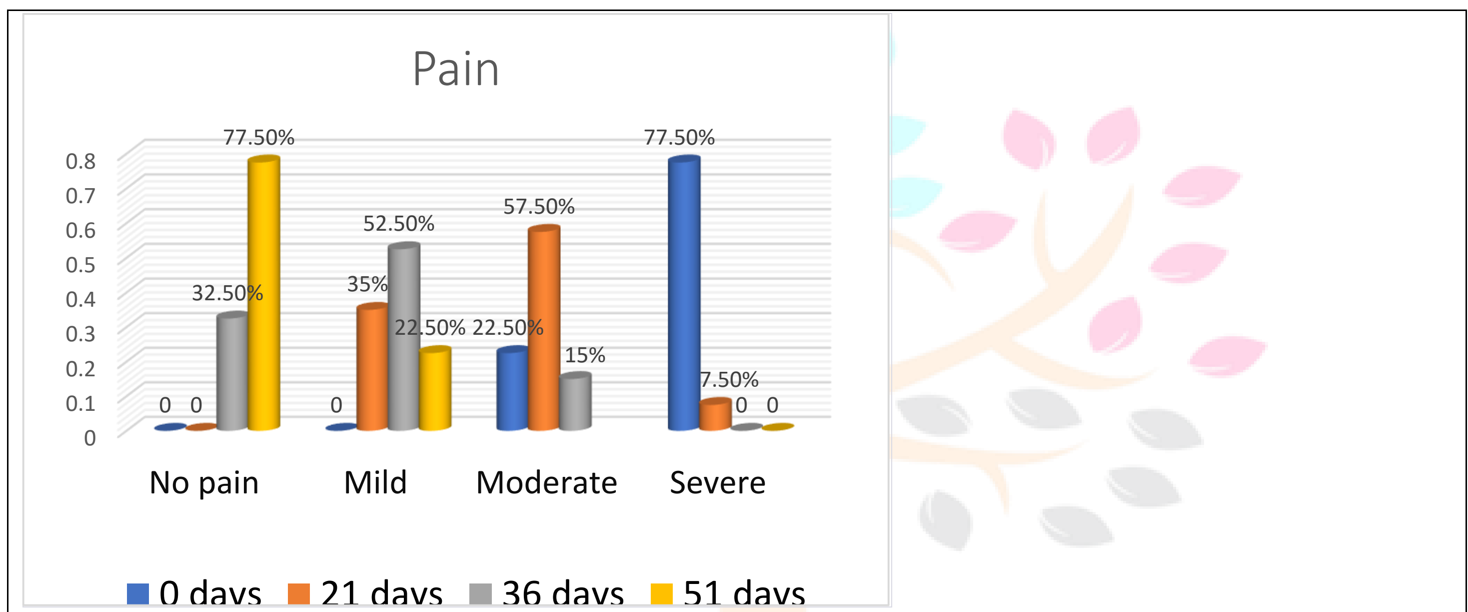
Family history	Frequency	Percent
YES	14	35.0
NO	26	65.0
Total	40	100.0

Pain:

The comparative distribution shows that out of 40(100%) patients of waja-ul-mufasil with complain of moderate pain is 22.5% followed by 77.5% of patients complained of severe pain,at 21 day it was about 35% with mild pain, 57.5% with moderate pain and 7.5% with severe pain.now at 36 day of treatment 32.5% of patients don't have any pain , 52.5% were having mild pain and 15% having moderate type of pain, nowat the end of treatment i.e., after 51vdays 77.5% of patients don't have any complain of pain and 22.5% of patients have mild pain. (Table No. 10)

Table No. 10: Comparative distribution of Pain according to Treatment intervals

Pain	0 days	21 days	36 days	51 days
No pain	-	-	32.5%	77.5
Mild	-	35%	52.5%	22.5%
Moderate	22.5%	57.5%	15%	-
Severe	77.5%	7.5%	-	-
Total	100%	100%	100%	100%

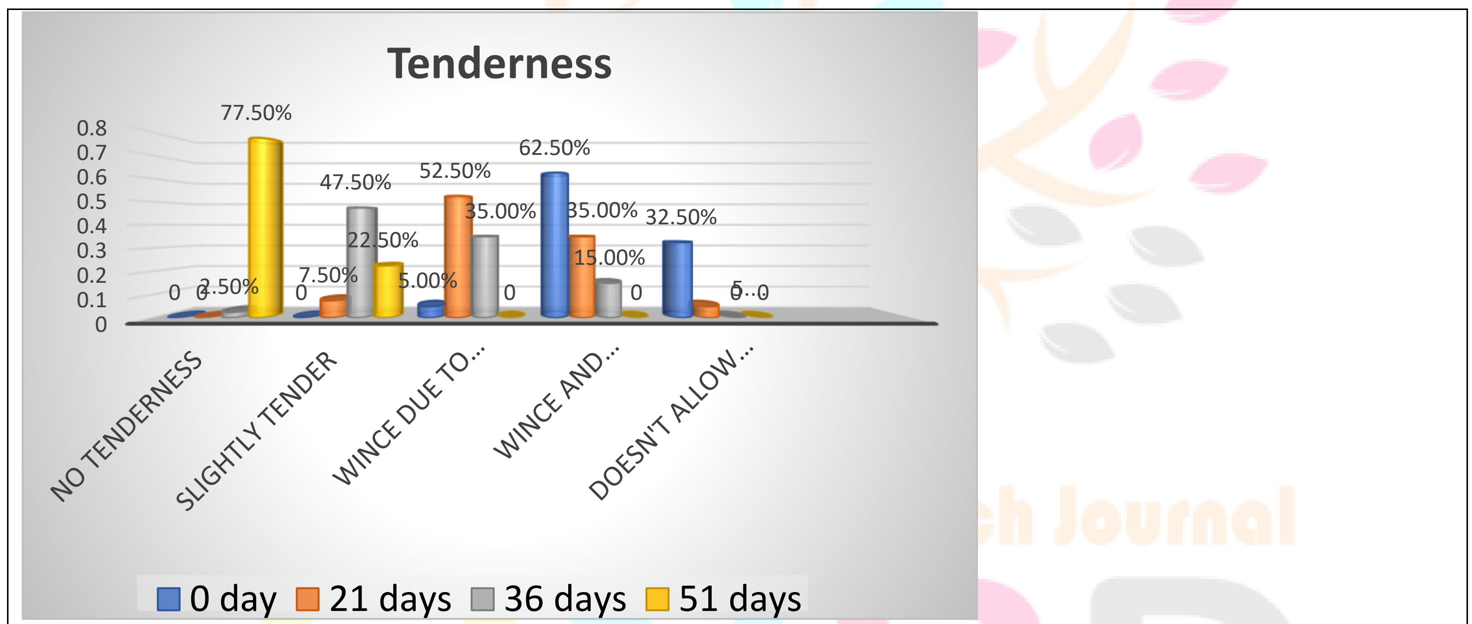


<u>Tenderness</u> :

Out of 40 patient, at the commencement of the study **0 day** 5% of patient winces due to tenderness, 62.5% patients winces and withDr.aw, 32.5% patients doesn't allow to touch is specific data on tenderness was recorded. After **21 days** of treatment, 7.5% were slightly tender, 52.5% wince due to tenderness, 35% winces and withDr.awl and 5.0% did not allow touch. By the **36-days** mark, the distribution shifted, with 2.5% reporting no tenderness, 47.5% being slightly tender, 35.0% wincing due to pain, and 5.0% not allowing to touch. Finally, at the conclusion of the **51-days** treatment period, a significant improvement was observed, with 77.5% of patients reporting no tenderness, 22.5% being slightly tender, and a complete absence of data for wincing due to pain and not allowing touch. **(Table No. 11)**

Table No.11 : Comparative Distribution of Tenderness Across Different Treatment Intervals

Tenderness	0 days	21 days	36 days	51 days
No tenderness	-	-	2.5%	77.5%
Slightly tender	-	7.5%	47.5%	22.5%
Wince due to pain	5.0%	52.5%	35.0%	-
Wince and withdrawl	62.5%	35.0%	15.0%	-
Doesn't allow to touch	32.5%	5.0%	-	-
Total	100%	100%	100%	100%

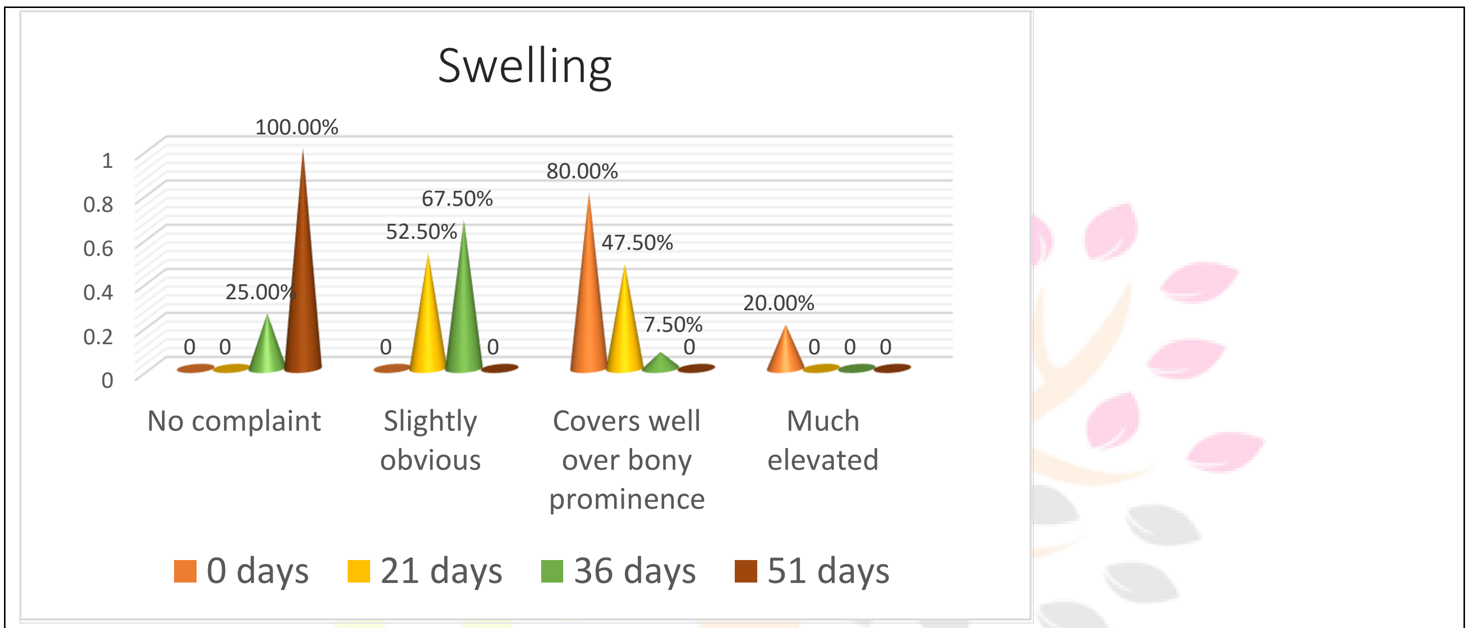


Swelling:

Out of 40 patient, at the commencement of the study, At **0 days:** 80% patients complains about swelling covering well ovr the bony prominence, and remaining 20% has much elevated swelling. At **21 days:** As treatment progressed, 52.5% reported slightly obvious swelling, and 47.5% reported swelling that covered well over bony prominence. At **36 days:** Substantial improvement was observed, with 25.0% reporting no swelling, 67.5% experiencing slightly obvious swelling, and 7.5% indicating swelling that covered well over bony prominence. At **51 days:** The final assessment demonstrated remarkable progress, with 100.0% of patients reporting no swelling. **(Table No. 12)**

Table No.12 : Comparative Distribution of Swelling Across Different Treatment Milestones

Swelling	0 days	21 days	36 days	51 days
No complaint	-	-	25.0%	100.0%
Slightly obvious	-	52.5%	67.5%	-
Covers well over bony prominence	80.0%	47.5%	7.5%	-
Much elevated	20.0%	-	-	-
Total	100%	100%	100%	100%



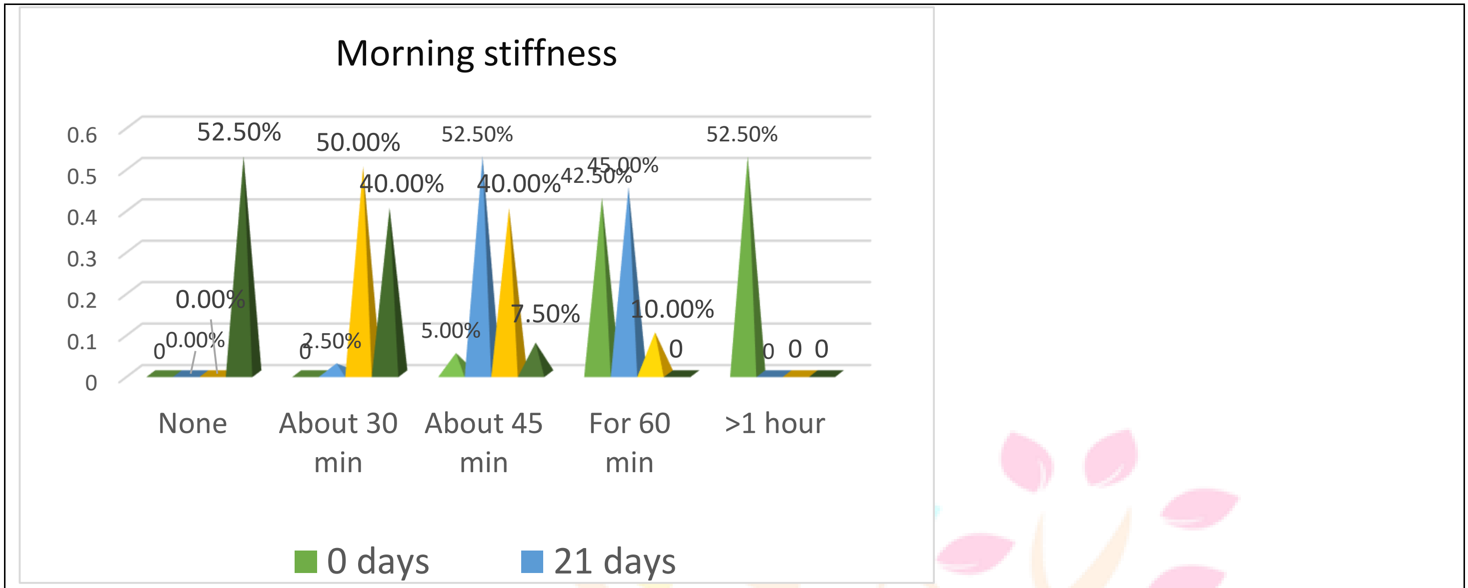
Morning Stiffness:

Out of 40 patients, **0 days:** At the beginning of the study, 52.5% patients complains about morning stiffness for morethan 1hr, 42.5% having stiffness for 60 mins, 5% having stiffness for 45 mins. **21 days:** Gradual changes were observed, with 2.5% reporting 30 mins morning stiffness, 45% experiencing about 60 minutes of stiffness, and 52.5% indicating about 45 minutes of stiffness. **36 days:** Further improvements were evident, with 50.0% reporting 30 mins morning stiffness, 10% experiencing about 60 minutes of stiffness, and 40.0% noting about 45 minutes of stiffness. **51 days:** The final assessment demonstrated substantial progress, with 52.5% reporting no morning stiffness, 40.0% experiencing about 30 minutes of stiffness, and 7.5% indicating about 45 minutes of stiffness. **(Table No. 13)**

Table No.13 : Comparative Distribution of Morning Stiffness Across Different Treatment Milestones

Morning Stiffness	0 days	21 days	36 days	51 days
None	-	-	-	52.5%
About 30 min	-	2.5%	50.0%	40.0%
About 45 min	5.0%	52.5%	40.0%	7.5%
For 60 min	42.5%	45.0%	10.0%	-

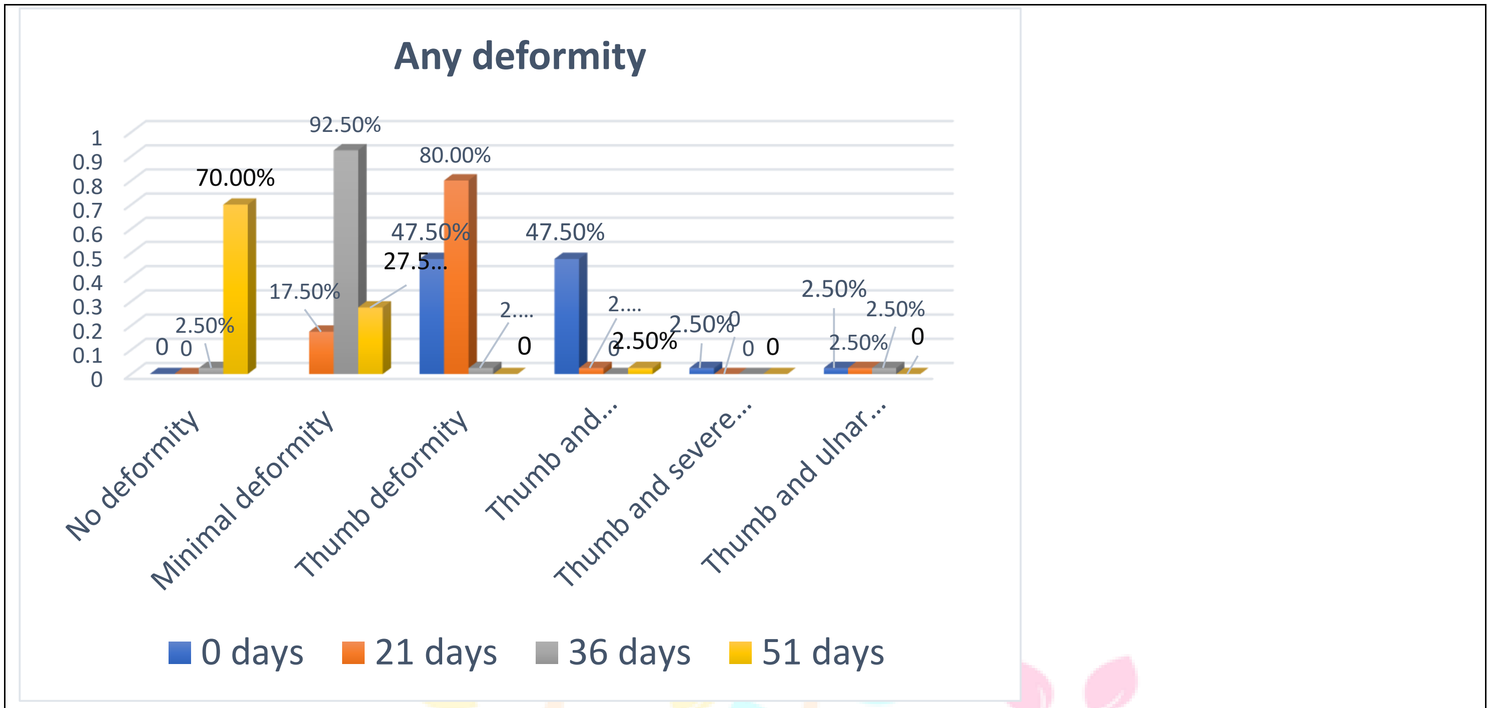
Morning Stiffness	0 days	21 days	36 days	51 days
>1 hour	52.5%	-	-	-
Total	100%	100%	100%	100%



Any Deformity:

Out of 40 patients, **0 days:** At the beginning of the study, 47.5% patients complains about thumb deformity, 47.5% patients having thumb and boutonniere deformity, 2.5% having thumb and ulnar drift, 2.5% having thumb and sever swan neck deformity. **21 days:** Gradual changes were observed, with 2.5% reporting thumb and ulnar drift , 80% experiencing thumb deformity, and 17.5% indicating about minimal deformity. **36 days:** Further improvements were evident, with 92.5% reporting minimal deformity, 2.5% experiencing no deformity, 2.5% noting thumb deformity, and 2.5% patient showing thumb and ulnar drift. **51 days:** The final assessment demonstrated substantial progress, with 70% reporting no deformity, 27.5% experiencing minimal deformity, and 2.5% indicating thumb and boutonniere deformity. **(Table No. 14)**

Any Deformity	0 days	21 days	36 days	51 days
No deformity	-	-	2.5%	70.0%
Minimal deformity	-	17.5%	92.5%	27.5%
Thumb deformity	47.5%	80.0%	2.5%	-
Thumb and boutonniere deformity	47.5%	-	-	2.5%
Thumb and severe swan neck deformity	2.5%	-	-	-
Thumb and ulnar deformity	2.5%	2.5%	2.5%	-
Total	100%	100%	100%	100%

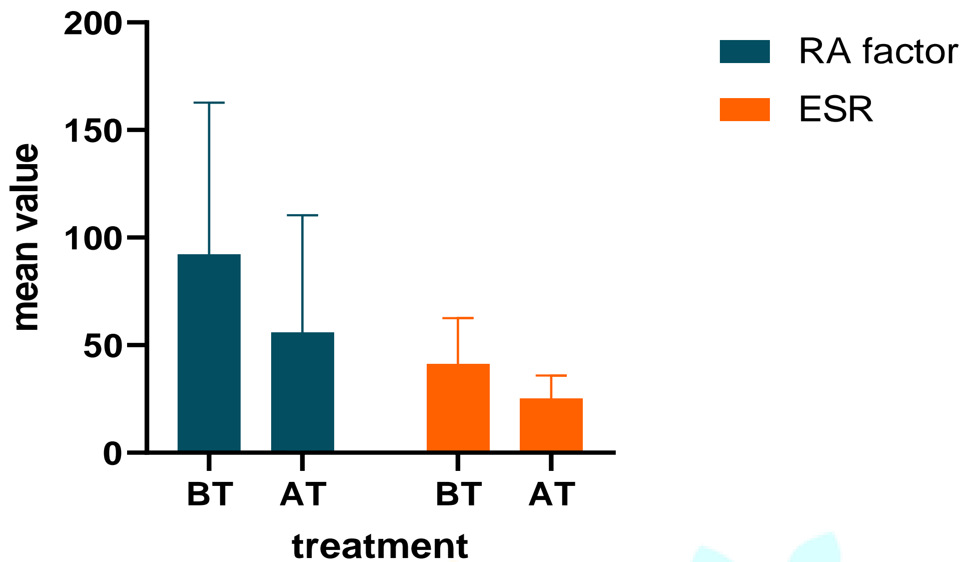


MEAN ,STANDARD DEVIATION AND THERAPEUTIC RESPONSE OF DISEASE

Šídák's multiple comparisons test	Mean Diff.	Summary	Adjusted P Value
BT – AT			
RA factor	36.13	****	<0.0001
ESR	16.10	****	<0.0001

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
RA factor BT	40	20.00	320.00	92.1730	70.59689
RA factor AT	40	8.00	250.00	56.0387	54.40873
ESR BT	40	18.00	110.00	41.3000	21.33397
ESR AT	40	12.00	59.00	25.2000	10.73265
Valid N (listwise)	40				



CONCLUSION AND SUMMARY

Waja-ul-Mufasil (Rheumatoid arthritis) is a chronic autoimmune disorder characterized by inflammation of the synovium, the lining of the membranes surrounding the joints. This condition primarily affects the joints, leading to pain, swelling, and stiffness. RA is considered an autoimmune disease because the body's immune system mistakenly attacks its own tissues, in this case, the synovium.

The inflammation caused by RA can result in joint damage and deformities, impacting the overall quality of life. The disease often progresses symmetrically, affecting joints on both sides of the body. While joints are the primary target, RA can also affect other organs and systems.

Common symptoms include joint pain, morning stiffness, fatigue, and swelling. The severity of RA varies among individuals, and its course can be unpredictable. Early diagnosis and intervention are crucial in managing the symptoms and preventing long-term joint damage.

Rheumatoid arthritis (RA) affects 0.5% to 1% of the global population. It affects 15% (180 million) of the population of India.

A gender difference in Waja-ul-Mufasil (Rheumatoid Arthritis) can probably noted as Hormonal factors, particularly estrogen, have been suggested to play a role. Estrogen is thought to have immunomodulatory effects, and changes in estrogen levels, such as those occurring during puberty, pregnancy, and menopause. Women generally have a more robust immune response than men. Due to the involvement of immune system in development of RA, and differences in immune function between men and women may contribute to the gender disparity in RA prevalence. The most common age of onset is between 30 and 50 years.The cause is multifactorial and genetic and environmental factors play a part.

Treatment for RA aims to reduce inflammation, alleviate pain, and improve joint function. Medications such as disease-modifying antirheumatic drugs (DMARDs), nonsteroidal anti-inflammatory drugs (NSAIDs), and corticosteroids are commonly prescribed. Lifestyle modifications, physical therapy, and in some cases, surgery may also be recommended.

While there is no cure for RA, advancements in medical research have led to more effective treatments. Regular monitoring, medication adherence, and a holistic approach to managing the disease, including maintaining a

healthy lifestyle, are essential for individuals living with RA. With proper care, many people with rheumatoid arthritis can lead active and fulfilling lives.

According to Unani concept, the pathological changes in the joints are caused mainly by derangement of Humoural temperament and accumulation of mawad-e-faseda in the joint spaces.
In the present study an attempt is made to treat the patients of Rheumatoid Arthritis by unani drugs for internal use to evolve an effective treatment. The clinical study was carried out as A Single blind clinical trial to evaluate the safety and efficacy of poly herbal unani formulation in management of Waja-ul-Mufasil (Rheumatoid Arthritis) forty diagnosed patients were given polyherbal unani formulation for the total duration of treatment of 51 days i.e., orally in the form of decoction for 21 days based on formulations of unani Drugs having properties like Mushil balgham o sauda (Purgative), Mohalil e auram (Resolvent). After the period of 21 days of decoction, patients were given unani medicine possessing the properties of Musaffi khoon (Blood purifier), Musakkin Alam (Analgesic), Muqavvi Aasab (Nervine tonic) for next 30 days. Patients were under strict observation and assessment of efficacy of treatment unani medicine was carried out on the basis of subjective and objective parameters.

The study reveals that the polyherbal unani medicine showed statistically significant difference on subjective parameters like Pain ($P < 0.0001$), Tenderness ($P < 0.0001$), Swelling ($P < 0.0001$), Morning stiffness ($P < 0.0001$) and Any deformity ($P < 0.0001$). The percentage of remission in objective parameters were consistent as evident from the data of investigation of RA factor and ESR .

On the basis of above results and observations it may be concluded that the unani medicine is effective in reducing the symptoms of Waja-ul-Mufasil (Rheumatoid Arthritis) and also normalised the objective parameters. Further no obnoxious side effects were observed during and after study and overall compliance to the treatment was satisfactory.

On the basis of these result it can be concluded that unani formulation were given are safe and can be used in the treatment of Waja-ul-Mafasil (Rheumatoid Arthritis). The response of unani medicine is also dose depended, while in this study fixed dose of the medicine was given. However, longterm study with a bigger sample size is required to elucidate further pharmacological action of the test medicine. The response of therapy/treatment was defined as Good Response, Partial Response and Poor Response. Therapeutic response of) patients got Good response,) patients got Partial response and) patients got Poor response

Therapeutic response shows that out of 40 patients, 25 (62.5%) of patients got Good Response, 10(25%) patients got Partial Response and 5(12.5%) of patients showed Poor Response from their clinical features.It is evidenced that this study shows the effective results in relieving Sign and symptoms of Waja-ul-Mufasil were improved. At the end of the study, statistically significance of result was noted. It was concluded that, the efficacy of Unani formulations on Waja-ul-Mufasil was found clinically & statistically significant. Unani medicines are safe, economical, affordable & effective in the management of Waja-ul-Mufasil (Rheumatoid Arthritis).

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