Shashi Bharti
Research Scholar, Home Sc
Faculty KNIPSS Sultanpur, Uttar
Pradesh, India

Kiran Agrahari
Advisor & Assistant Professor,
Home Sc Faculty KNIPSS,
Sultanpur, Uttar Pradesh, India

Dr. Mamta Jaiswal
Co Advisor & Assistant
Professor, Home Sc Faculty
KNIPSS, Sultanpur, Uttar
Pradesh, India

Archana Singh
Co Advisor & Assistant
Professor, Home Sc Faculty
KNIPSS, Sultanpur, Uttar
Pradesh, India

A study on the nutritional assessment of arthritis patients in Sultanpur district

Shashi Bharti, Kiran Agrahari, Dr. Mamta Jaiswal and Archana Singh

Abstract
Arthritis is a term often used to mean any disorder that affects joints. Symptoms generally include joint pain and stiffness. Other symptoms may include redness, warmth, swelling, and decreased range of motion of the affected joints. In some types other organs are also affected. Onset can be gradual or sudden. District hospital of Sultanpur city was selected for the survey. Total 100 arthritis patients male and female woth were randomly selected for study purpose. A self-prepared questionnaire was used for the data collection. Maximum 68% respondents were male and minimum 32% of respondents were female. Maximum 50% of respondents were had vegetarian, dietary habit while minimum 10% respondents were had eggetarian dietary habit. Maximum 60% of respondents were taken meal twice in a day while minimum 5% respondents were taken meal four times in a day. Maximum 60% respondents was consumed milk in their daily diet while minimum 10% respondents were not consumed milk daily. Maximum 80% of respondents were consumed curd in their daily diet while minimum 20% respondents were not consumed curd daily. Maximum 80% of respondents were suffered from joint pain some time, while minimum 20% respondents were suffered from joint pain every time. This was concluded that maximum above 50 years of respondents were had problem of arthritis.

Keywords: study, nutritional assessment, arthritis, Sultanpur district

1. Introduction
"Arthritis is a term often used to mean any disorder that affects joints. Symptoms generally include joint pain and stiffness. Other symptoms may include redness, warmth, swelling, and decreased range of motion of the affected joints. In some types other organs are also affected. Onset can be gradual or sudden. There are over 100 types of arthritis. The most common forms are osteoarthritis (degenerative joint disease) and rheumatoid arthritis. Osteoarthritis usually occurs with age and affects the fingers, knees, and hips. Rheumatoid arthritis is an autoimmune disorder that often affects the hands and feet. Other types include gout, lupus, fibromyalgia, and septic arthritis. They are all types of rheumatic disease. Osteoarthritis affects more than 3.8% of people while rheumatoid arthritis affects about 0.24% of people. Gout affects about 1 to 2% of the Western population at some point in their lives. In Australia and the United States more than 20% of people have a type of arthritis. Overall the disease becomes more common with age. Arthritis is a common reason that people miss work and can result in a decreased quality of life. The term is from Greek arthro- meaning joint and –it is meaning inflammation.

1.1 Classification
There are several diseases where joint pain is primary, and is considered the main feature. Generally when a person has "arthritis" it means that they have one of these diseases, which include
- Osteoarthritis
- Rheumatoid arthritis
- Gout and pseudo-gout
- Septic arthritis

Correspondence
Shashi Bharti
Research Scholar, Home Sc
Faculty KNIPSS Sultanpur, Uttar
Pradesh, India

1.2 Osteoarthritis

An artificial joint typically lasts 10 to 15 years **Osteoarthritis** (**OA**) is a type of joint disease that results from breakdown of joint cartilage and underlying bone. The most common symptoms are joint pain and stiffness. Initially, symptoms may occur only following exercise, but over time may become constant. Other symptoms may include joint swelling, decreased range of motion, and when the back is affected weakness or numbness of the arms and legs. The most commonly involved joints are those near the ends of the fingers, at the base of the thumb, neck, lower back, knee, and hips. Joints on one side of the body are often more affected than those on the other. Usually the symptoms come on over years. It can affect work and normal daily activities. Unlike other types of arthritis, only the joints are typically affected.

Causes include previous joint injury, abnormal joint or limb development, and inherited factors. Risk is greater in those who are overweight, have one leg of a different length, and have jobs that result in high levels of joint stress. Osteoarthritis is believed to be caused by mechanical stress on the joint and low grade inflammatory processes. It develops as cartilage is lost and the underlying bone becomes affected. As pain may make it difficult to exercise, muscle loss may occur. Diagnosis is typically based on signs and symptoms, with medical imaging and other tests occasionally used to either support or rule out other problems. In contrast to rheumatoid arthritis, which is primarily an inflammatory condition, in OA, the joints do not typically become hot or red. Treatment includes exercise, efforts to decrease joint stress, support groups, and pain medications.

Efforts to decrease joint stress include resting and the use of a cane. Weight loss may help in those who are overweight. Pain medications may include paracetamol (acetaminophen) as well as NSAIDs such as naproxen or ibuprofen. Long-term opioid use is generally discouraged due to lack of information on benefits as well as risks of addiction and other side effects. If pain interferes with normal life despite other treatments, joint replacement surgery may help.

1.3 Signs and symptoms

Osteoarthritis most often occurs in the hands (at the ends of the fingers and thumbs), neck, lower back, knees, and hips

The main symptom is pain, causing loss of ability and often stiffness. "Pain" is generally described as a sharp ache or a burning sensation in the associated muscles and tendons, and is typically made worse by prolonged activity and relieved by rest. Stiffness is most common in the morning, and typically lasts less than thirty minutes after beginning daily activities, but may return after periods of inactivity. OA can cause a crackling noise (called "crepitus") when the affected joint is moved or touched and people may experience muscle spasms and contractions in the tendons. Occasionally, the joints may also be filled with fluid. Some people report increased pain associated with cold temperature, high humidity, and/or a drop in barometric pressure, but studies have had mixed results. OA commonly affects the hands, feet, spine, and the large weight-bearing joints, such as the hips and knees, although in theory, any joint in the body can be affected. As OA progresses, the affected joints appear larger, are stiff, painful and may swell, but usually feel better with gentle use but worse with excessive or prolonged use, thus distinguishing it from rheumatoid arthritis.

1.4 Objectives

- To assess the prevalence & nutritional status of respondents suffering from arthritis.

2. Method and material

The study entitled "A study on the nutritional assessment of arthritis patients in Sultanpur district." will be conducted by using the following methodology described in this chapter. The detail of material used, procedure followed and techniques adopted during the course of the present investigation will be elaborated in this chapter.

2.1 Research Design

- **Selection of location**

The location of the study was district hospital of Sultanpur city.

- **Sample Size**

Sample size consisted of 100 male and female of middle and old age group, were randomly selected.

- **Questionnaire prepare**

A self-prepared questionnaire was used for collecting the relevant information regarding the study and random sampling will be used.

- **Statistical Analysis**

The collected data were analyzed with the help of the following way-

Percentage % = n/N*100

     n = number of respondents

     N = Total Number of Observation

3. Result and Discussion

The data collection of the different aspect per plan was tabulated and analyzed statistically. The result from the analysis are presented and discussed in the following sequence.

Table 1: Distribution of respondents on the basis of their Gender

Gender	Frequency (N=100)	Percentage (%)
Male	68	68
Female	32	32
Total	100	100

Above table shows that maximum 68 % of respondents were male while minimum 32 % of respondent were female.

Similarly: G Janossy *et al.* (2015) studies that in rheumatoid arthritis the synovial membrane has many of the characteristics of a hyperactive, immunologically-stimulated lymphoid organ.
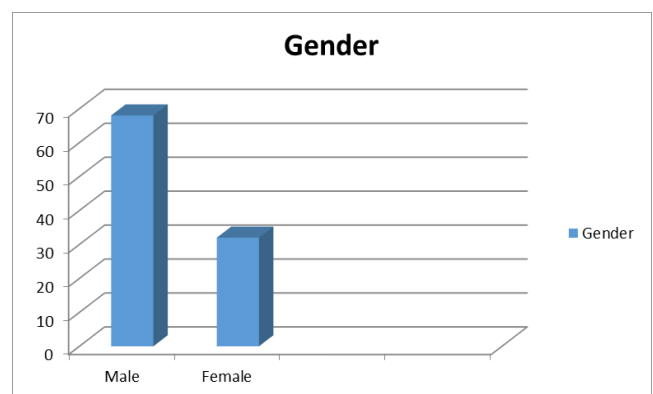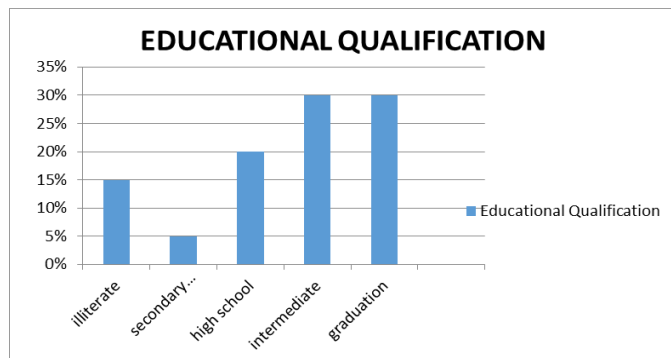

Fig 2: Distribution of respondents on the basis of their Gender.

Table 2: Distribution of respondents on the basis of their education qualification.

Education qualification	Frequency(N=100)	Percentage Age (%)
Illiterate	15	15%
Secondary school	5	5%
High school	20	20%
Intermediate	30	30%
Graduation	30	30%
Total	100	100%

Above table shows that maximum 30% respondents were had Intermediate and Graduation qualification while minimum 5% respondents were had Secondary school qualification.

Similarly: Malaviya (2015) study that Rheumatoid arthritis (RA) can lead to severe disability. This literature review assessed the descriptive epidemiology, comorbidities and extra-articular manifestations, functioning abilities and quality of life, and treatment patterns of RA patients in India.

Fig 2: Distribution of respondents on the basis of their Education qualification.

Table 3: Distribution of respondents on the basis of their food habits.

Food habits	Frequency(N=100)	Percentage Age (%)
Vegetarian	50	50%
Non- vegetarian	40	40%
Eggetarian	10	10%
Total	100	100%

Above table shows that maximum 50% of respondents were had vegetarian, dietary habit while minimum 10% respondents were had Eggetarian dietary habit.

Similarly: Anyfanti, P *et al.* (2014) studied that the overall world prevalence of rheumatoid arthritis (RA) ranges from 0.5-1.0%. The annual incidence of RA in most European countries ranges from roughly 0.4 to >2.5 per 1,000 adults, increasing with age.
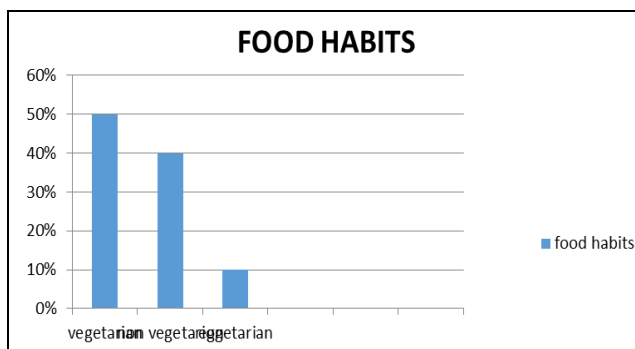
Fig 3: Distribution of respondents on the basis of their food habits.

Table 4: Distribution of respondent on the basis of their meal taken in a day.

Meal taken in a day	Frequency(N=100)	Percentage Age (%)
Twice	60	60%
Thrice	35	35%
Four time	5	5%
Total	100	100%

Above table shows that maximum 60% respondent s were taken meal twice in a day while minimum 5% respondents were taken meal four times in a day.

Similarly: Eric G Boyce (2013) studied that rheumatoid arthritis is a chronic, progressive autoimmune disease associated with inflammation and destruction of joints and systemic effects, which result in significant impact on patient's quality of life and function.
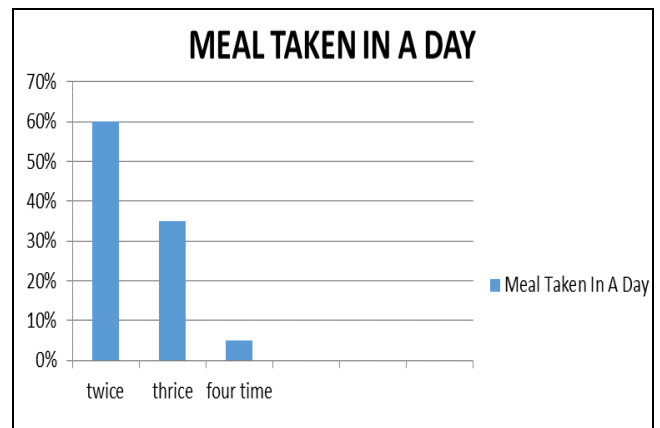
Fig 4: Distribution of respondents on the basis of their meal taken in a day.

Table 5: Distribution of respondents on the basis of their daily milk intake.

Daily Milk Intake	Frequency(N=100)	Percentage Age (%)
Yes	60	60%
No	10	10%
Some times	30	30%
Total	100	100%

Above table shows that maximum 60% 0f respondent was consumed milk in their daily diet while minimum 10% respondents were not consumed milk daily.

Similarly: Lyn (2013) found that the global prevalence of RA was 0.24% (95% CI 0.23% to 0.25%), with no discernible change from 1990 to 2010. DALYs increased from 3.3 million (M) (95% CI 2.6 M to 4.1 M) in 1990 to 4.8 M (95% CI 3.7 M to 6.1 M) in 2010. This increase was due to a growth in population and increase in aging.
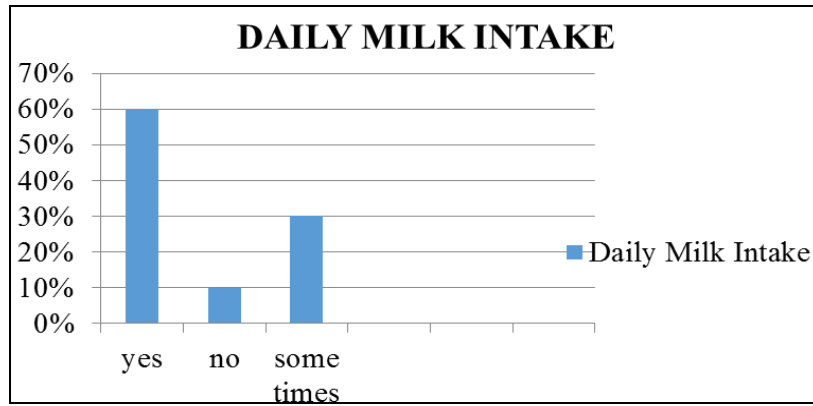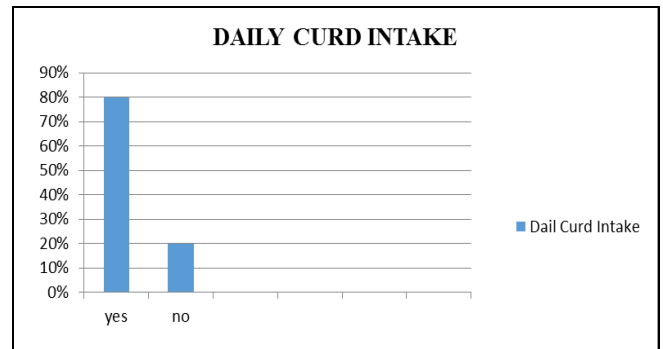
Fig 5: Distribution of respondents on the basis of their Daily Milk Intake.

Table 6: Distribution of respondent on the basis of their type of milk intake.

Type of milk do you include	Frequency (N=100)	Percentage Age (%)
Fat free	30	30%
Low fat	20	20%
Fat full	50	50%
Total	100	100%

Above table shows that maximum 50% of respondents were consumed fat full milk in their diet while minimum 30% respondents were consumed fat free milk.

Similarly: Rada *et al.* (2009) Rheumatoid arthritis (RA) can lead to severe disability. This literature review assessed the descriptive epidemiology, comorbidities and extra-articular manifestations, functioning abilities and quality of life, and treatment patterns of RA patients in India.

Fig 6: Distribution of respondents on the basis of their type of Milk Intake.

Table 7: Distribution of respondents on the basis of their daily curd intake.

Take curd every day	Frequency (N=100)	Percentage Age (%)
Yes	80	80%
No	20	20%
Total	100	100%

Above table shows that maximum 80% of respondents were consumed curd in their daily diet while minimum 20% respondents were not consumed curd daily.

Similarly: Halvani (2000) reported that methods In the Assessing Very Early Rheumatoid arthritis Treatment phase 3b trial, patients with early active RA were randomized to double-blind, weekly, subcutaneous abatacept 125 mg plus MTX, abatacept 125 mg immunotherapy, or MTX for 12 months.

Fig 7: Distribution of respondents on the basis of their daily Curd Intake.

Table 8: Distribution of respondents on the basis of their Paneer Intake.

Paneer Intake	Frequency (N=100)	Percentage Age (%)
Weekly	25	25 %
Fortnightly	35	35 %
Some time	40	40 %
Total	100	100 %

Above table shows that maximum 40% respondents were taken paneer sometimes in their diet while minimum 25% respondents were taken paneer weekly in their diet.

Similarly: Stamp (2005) Randomized controlled trials (RCTs) indicate that dietary supplementation with n-3 fatty acids provides modest symptomatic benefit in groups of patients with rheumatoid arthritis.
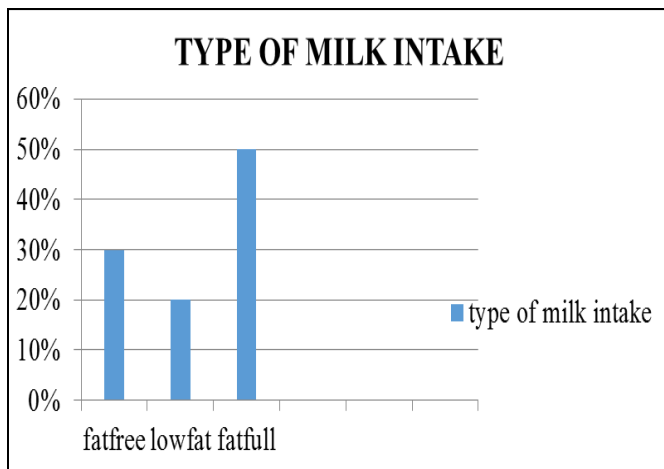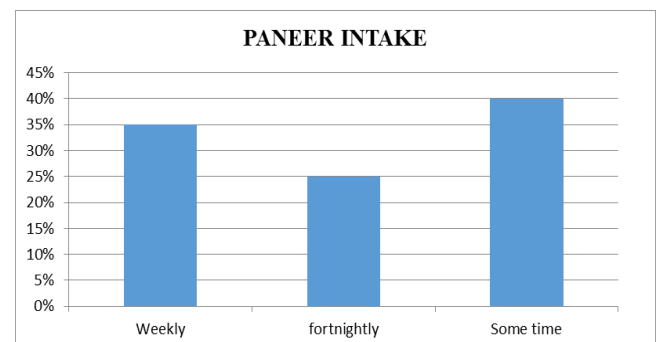

Fig 8: Distribution of respondents on the basis of their Paneer Intake.

Table 9: Distribution of respondents on the basis of their joint pain.

Joint Pain	Frequency(N=100)	Percentage Age (%)
Some time	80	80%
Every time	20	20%
Total	100	100%

Above table shows that maximum 80% respondents were suffered from joint pain some times, while minimum 20% respondents were suffered from joint pain every time.

Similarly: Kazuhiko YAMAMOTO (2009) reported that Rheumatoid arthritis (RA) is a common autoimmune disease that results in significant morbidity. As with other complex disorders, genome-wide association studies (GWASs) have greatly contributed to the current understanding of RA etiology.

Fig 9: Distribution of respondents on the basis of their Joint Pain.

Table 10: Distribution of respondents on the basis of any type of GIT disorders.

Any of GIT Disorders.	Frequency (N=100)	Percentage Age (%)
Loss of appetite	30	30%
Constipation	20	20%
nausea	30	30%
Liver problem	20	20%
Total	100	100%

Above table shows that maximum 30 % of respondents were suffered from loss of appetite and nausea while minimum 20% respondents were suffered from constipation and liver problem.

Similarly: Juan Ignacio (2009) concluded that Rheumatoid arthritis (RA) is a multisystem chronic, inflammatory disorder characterized by destructive sinusitis with a prevalence of approximately 2% among people aged >60 years.
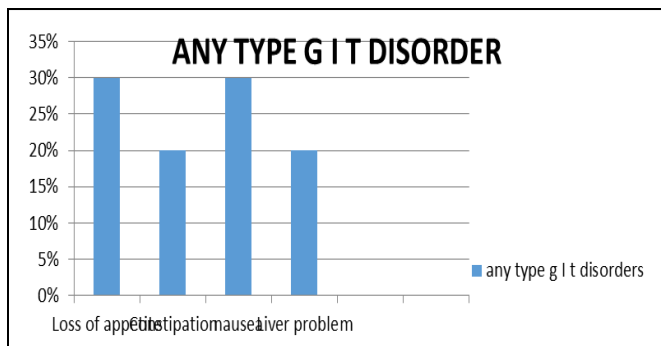

Fig 10: Distribution of respondents on the basis of their any type of G I T disorders.

3.1 Summary and Conclusion

In recent years, mostly people were affected arthritis because dietary habits and nutrition status of old age were bad. Prevalence of arthritis patient shows that their poor dietary habit.

The present study entitled "A study on the nutritional assessment of arthritis patients in Sultanpur district. Maximum 68 % of respondents were male while minimum 32 % of respondent were female. Maximum 30% respondents were had Intermediate and Graduation qualification while minimum 5% respondents were had Secondary school qualification. Maximum 50% of respondents were had vegetarian, dietary habit while minimum 10% respondents were had eggetarian dietary habit. Maximum 60% of respondents were taken meal twice in a day while minimum 5% respondents were taken meal four times in a day. Maximum 60% respondents was consumed milk in their daily diet while minimum 10% respondents were not consumed milk daily. Maximum 80% of respondents were consumed curd in their daily diet while minimum 20% respondents were not consumed curd daily. Maximum 40% respondents were taken paneer some times in their diet while minimum 25% respondents were taken paneer weekly in their diet. Maximum 80% of respondents were suffered from joint pain some time, while minimum 20% respondents were suffered from joint pain every time. This was concluded that maximum above 50 years of respondents were had problem of arthritis.

3.2 Limitations of study
- The study is carried out for short period, so that time and other resources are limited to an extent.
- It was questionnaire schedule method which has its own limitation of respondent dependent information without any alternative.

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