International Journal of Applied Social Science **REVIEW PAPER**
(An International Double Blind Peer Reviewed / Refereed Research Journal of Social Science) ISSN : 2394-1405 (Print)
Volume 13 (9 & 10), September & October (2026) : 1107-1110 ***Website :*** www.scientificresearchjournal.com
Received : 19.08.2026; Revised : 05.09.2026; Accepted :19.09.2026 **DOI** : https://doi-ds.org/doilink/11.2026-65555232/IJASS/13.9&10/1107-1110

A Review on Exercises and Management of Arthritis

BISWAJIT BHUNIA
Principal
Udaynarayanpur Madhabilata Mahavidyalaya, Howrah (W.B.) India

ABSTRACT

Arthritis is a common issue at the older age of all genders that causes pain in the joints. Regular exercise does not completely prevent all types of arthritis, but it plays a major role in protecting joint health, reducing chronic inflammation, and lowering the risk or delaying the onset of osteoarthritis. However, researchers says regular exercise can reduces joint pain, improves flexibility, and strengthens the muscles surrounding our joints. Arthritis refers to inflammation or degeneration of one or more joints. It causes pain, stiffness, and reduced range of motion. According to data tracked by the World Health Organization and the Global Burden of Disease studies: Approximately 528 million to 595 million people worldwide live with osteoarthritis, representing roughly 7.6% of the global population. About 60% to 62% of individuals with osteoarthritis are women. In fact there is no universal cure, comprehensive management that can control symptoms, slow disease progression, and preserve mobility. Many research articles prove that exercises like Range-of-Motion (Flexibility), Strength Training, Low-Impact Aerobic, Aquatic Exercise, Aquatic Exercise, Mindful Movement and a modified life style can be beneficial for the Arthritis. Now question is that how exercises protect joints? Exercises Strengthens Supporting Muscles, Promotes Joint Lubrication, Supports Weight Management, Reduces Systemic Inflammation, Improves Flexibility and Range of Motion. Other best Joint-Friendly Exercises are Aerobic Activity: Brisk walking, cycling, swimming, or water aerobics (aim for at least 150 minutes per week)., Strength Training: Using resistance bands, light weights, or bodyweight exercises (like gentle squats or sit-to-stands) at least 2 days a week, Flexibility and Range of Motion: Daily stretching or gentle yoga to keep joints mobile. Balance and Mindful Movement: Tai chi or single-leg balance exercises to improve posture and prevent falls. Jointly exercises, maintaining good life style and home care and intake of medication like Analgesics, Non-steroidal Anti-Inflammatory Drugs (NSAIDs):, Corticosteroids, Disease-Modifying Antirheumatic Drugs (DMARDs) and Biologics, Physical and Occupational Therapy, Supportive Devices, Weight Management, Hot and Cold Therapy, Surgical Options, Joint Repair or Fusion, Joint Replacement (Arthroplasty): can effectively manage pain, reduce inflammation, and improve mobility.

Keywords: Arthritis, Prevention, Exercises, Life style, Cure, Treatment, Medication, Management

INTRODUCTION

Arthritis is a known suffering at the older age of all genders. Every year a great number of people suffer across the world from this chronic disease of different types and seek medical assistance. It is said that regular exercise does not completely prevent all types of arthritis, but it plays a major role in protecting joint health, reducing chronic inflammation, and lowering the risk or delaying the onset of osteoarthritis (Fallon *et al.,* 2024). According to data tracked by the World Health Organization and the Global Burden of Disease studies: Approximately 528 million to 595 million people worldwide live with osteoarthritis, representing roughly 7.6% of the global population. About 60% to 62% of individuals with osteoarthritis are women. Around 73% of people living with OA are over the age of 55. The knee is the most commonly affected joint (housing about 365 million cases), followed by the hand and hip. Projections indicate global OA numbers could approach 1 billion by 2050 due to aging populations and rising obesity rates. High body mass index (BMI) is a primary driver, accounting for roughly

How to cite this Article: Bhunia, Biswajit (2026). A Review on Exercises and Management of Arthritis. *Internat. J. Appl. Soc. Sci.,* **13** (9 & 10) : 1107-1110.

20% to 35% of OA-related disability (DALYs). An estimated 17.6 million to 18 million people globally live with rheumatoid arthritis (England *et al.*, 2023). Women are affected at a much higher rate than men, with a female-to-male ratio of roughly 2.45:1 to 3:1. RA cases are projected to climb toward 31.7 million globally by 2050. Arthritis and related musculoskeletal conditions are among the leading global causes of years lived with disability (YLDs) and work-capacity loss worldwide (Lorig and Holman, 1989).

Observation:

It is observed that a great number of people globally suffers from arthritis. Arthritis is a general term for more than 100 medical conditions that cause inflammation, pain, stiffness, and damage in one or more joints. The suffering from the common types of arthritis are Osteoarthritis (Degenerative Joint Disease): Caused by the gradual wear and tear of joint cartilage over time, commonly affecting weight-bearing joints like knees and hips. It is the most common type, caused by the gradual wear and tear of protective joint cartilage over time. Rheumatoid Arthritis: An autoimmune and systemic inflammatory condition where the immune system attacks joint linings, often affecting multiple joints symmetrically. An autoimmune condition where the immune system mistakenly attacks the lining of the joints, leading to painful inflammation and structural damage. Gout: A form of crystalline arthritis caused by the buildup of uric acid crystals in the joints, leading to sudden, severe attacks of pain and swelling. A metabolic form caused by the buildup of sharp uric acid crystals inside the joints, often triggering sudden, intense flares. Septic Arthritis: A painful and serious bacterial infection inside a joint that requires urgent medical and surgical drainage. Juvenile Idiopathic Arthritis: A chronic inflammatory form that affects children and teenagers before the age of 16. The symptoms which are exposed with the arthritis are Joint pain: Achy, sharp, or throbbing sensations in the affected areas. Stiffness: Reduced flexibility or difficulty moving the joint, particularly in the morning or after rest. Swelling and warmth: Inflammation, redness, or heat around the joint line. Decreased range of motion: Trouble with everyday physical tasks or walking. Common Symptoms of Joint pain: Achy, sharp, or throbbing sensations in the affected areas, According to data tracked by the World Health Organization and the Global Burden of Disease studies: Approximately 528 million to 595 million people worldwide live with osteoarthritis, representing roughly 7.6% of the global population. About 60% to 62% of individuals with osteoarthritis are women. Around 73% of people living with OA are over the age of 55.The knee is the most commonly affected joint (housing about 365 million cases), followed by the hand and hip (van Baar *et al.,* 1998). Projections indicate global OA numbers could approach 1 billion by 2050 due to aging populations and rising obesity rates. High body mass index (BMI) is a primary driver, accounting for roughly 20% to 35% of OA-related disability (DALYs).An estimated 17.6 million to 18 million people globally live with rheumatoid arthritis. Women are affected at a much higher rate than men, with a female-to-male ratio of roughly 2.45:1 to 3:1.RA cases are projected to climb toward 31.7 million globally by 2050.Arthritis and related musculoskeletal conditions are among the leading global causes of years lived with disability (YLDs) and work-capacity loss worldwide.

Discussion

Arthritis is generally a chronic (long-term) condition, though it is not a single disease. Instead, "arthritis" is an umbrella term for over 100 different joint-related conditions and diseases. Most types of arthritis are ongoing or recurring, meaning symptoms can persist for years, come and go, or gradually worsen over time. The experts recommend the following exercise frequency with duration to get relief from arthritis (Resnick, 2001). The experts and different organized institutes recommend the following weekly schedule for the best health and joint protection results, Aerobic Activity: At least 150 minutes of moderate-intensity aerobic exercise per week (such as 30 minutes a day, 5 days a week). Practitioners can break sessions into smaller chunks, such as three 10-minute walks per day. Muscle-Strengthening: At least 2 days per week of resistance training (using light weights, resistance bands, or body-weight sit-to-stand exercises). Range-of-Motion and Flexibility: Daily gentle stretching or flexibility movements (such as yoga or tai chi) to keep joints loose and reduce morning stiffness. Balance Exercises: Practiced regularly (especially for older adults or those with lower-body joint instability) to prevent falls and improve stability. Best Joint-Friendly Activities. Low-impact walking, Swimming and water aerobics. Stationary or outdoor cycling. Tai chi and yoga. However, exercise can prevents and manages arthritis by strengthening the muscles around our joints, keeping our bones strong, and lubricating the cartilage with synovial fluid. It also helps

control weight, which reduces physical load and stress on weight-bearing joints like the knees and hips. Now question is that how exercise protects joints? Answer is that exercises strengthen Supporting Muscles: Building muscle around vulnerable joints absorbs shock and reduces direct wear and tear on the bone and cartilage. Lubricates Cartilage: Moving joints through their full range of motion pumps nutrient-rich fluid into the joint space and flushes out waste. Reduces Weight Stress: Lowering overall body weight decreases cumulative pressure on joints, lowering the risk of developing osteoarthritis. Reduces Inflammation: Regular physical activity lowers systemic inflammation and triggers the release of natural pain-relieving hormones (endorphins).Improves Flexibility and Range of Motion: Consistent movement keeps tendons and ligaments flexible, preventing stiffness and joint freezing. Best Joint-Friendly Exercises. To protect the joints safely, focus should be on low-impact and supportive activities Aerobic Activity: Brisk walking, cycling, swimming, or water aerobics (aim for at least 150 minutes per week).Strength Training: Using resistance bands, light weights, or bodyweight exercises (like gentle squats or sit-to-stands) at least 2 days a week. Flexibility and Range of Motion: Daily stretching or gentle yoga to keep joints mobile. Balance and Mindful Movement: Tai chi or single-leg balance exercises to improve posture and prevent falls. According to the experts another few Best Types of Exercise are Range-of-Motion (Flexibility): Daily stretching, gentle yoga, or rolling movements to reduce stiffness and improve reach, Strength, Training: Using light weights, resistance bands, or bodyweight exercises at least 2 days a week to build supporting muscle, Low-Impact Aerobic: Brisk walking, stationary cycling, or swimming to boost heart health and stamina without jarring the joints, Aquatic Exercise: Working out in a warm pool uses water's natural buoyancy to take stress off painful joints, Mindful Movement: Practices like Tai Chi or gentle yoga to enhance balance, posture, and relaxation (Hartman *et al.,* 2011). Safe Practice Tips are as follows workout should be started slowly: Gradually duration and intensity should be built up. Warm up: Spending time should be 10 to 15 minutes of muscles before starting. Avoidance of high impact: Skipping of high-intensity jumping, heavy running, or exercising directly on hot, swollen joints. Another few suggested Consultation with a professional: Talking to a doctor or a physical therapist before starting a new routine, especially if a person already experiences joint discomfort. Patient who severely suffers from arthritis can follow the following treatment Strategies in consultation with a specialized medical person1. Medications: Analgesics: Over-the-counter pain relievers like acetaminophen (Tylenol) manage pain but do not reduce inflammation. Non-steroidal Anti-Inflammatory Drugs (NSAIDs): Options like ibuprofen (Advil, Motrin IB) or naproxen (Aleve) reduce both pain and inflammation, available orally or as topical gels/creams. Corticosteroids: Pills or direct joint injections (such as cortisone) rapidly suppress severe inflammation. Disease-Modifying Antirheumatic Drugs (DMARDs) and Biologics: Drugs like methotrexate or biological agents target immune-driven conditions like rheumatoid arthritis to stop joint damage. 2. Physical and Occupational Therapy: Low-Impact Exercise: Regular movement like walking, cycling, or water aerobics strengthens muscles around joints without adding high-impact stress. Supportive Devices: Using braces, splints, canes, or specialized shoe inserts helps stabilize joints during daily tasks. 3. Lifestyle and Home Care: Weight Management: Shedding excess weight significantly reduces mechanical load and pain on weight-bearing joints like the knees. Hot and Cold Therapy: Applying heating pads or ice packs provides localized relief for stiffness and swelling. 4. Surgical Options Joint Repair or Fusion: Smoothing joint surfaces, removing damaged linings (synovectomy), or permanently fusing small bones (joint fusion) to eliminate pain. Joint Replacement (Arthroplasty): Replacing severely damaged hip or knee joints with artificial implants to restore function.

Conclusion:

Regular exercise does not completely prevent all types of arthritis, but it plays a major role in protecting joint health, reducing chronic inflammation, and lowering the risk or delaying the onset of osteoarthritis. While many forms of arthritis are long-lasting or have no permanent cure, treatments—such as medications, physical therapy, lifestyle changes, and surgical options—can effectively manage pain, reduce inflammation, and improve mobility. Medications: Over-the-counter pain relievers, non-steroidal anti-inflammatory drugs (NSAIDs), corticosteroids, or disease-modifying antirheumatic drugs (DMARDs). Physical therapy: Low-impact exercises, stretching, and strengthening to support joint stability. Lifestyle adjustments: Weight management to reduce load-bearing stress on joints, alongside heat or cold

therapy. Surgery: Joint repair, fusion, or complete joint replacement in severe cases. While a person cannot completely prevent all forms of arthritis—since age, genetics, and certain autoimmune factors cannot be changed—a person can significantly lower his/her risk and delay its onset by managing modifiable risk factors. However, experts say arthritis can be prevented with maintaining healthy weight, engaging in regular low-impact exercise, avoidance of tobacco products, Prevention of Joint Injuries and Protecting Mechanics, seeking early medical evaluation should be taken into consideration. Here is the Core Benefits of Exercise: Pain and Stiffness Relief: Movement increases synovial fluid production to lubricate and nourish joints. Muscle Support: Building strength around affected areas acts as a protective brace to lower joint stress. Weight Management: Shedding excess weight takes pressure off weight-bearing joints like the hips and knees. Better Balance and Posture: Core and balance routines lower our risk of falls.

REFERENCES

England, B.R., Smith, B.J., Baker, N.A., Barton, J.L., Oatis, C.A., Guyatt, G., Anandarajah, A. *et al.* (2023). 2022 American College of Rheumatology guideline for exercise, rehabilitation, diet, and additional integrative interventions for rheumatoid arthritis. *Arthritis & Rheumatology*, **75**(8) : 1299–1311.

Fallon, E.A., Foster, A.L., Boring, M.A., Brown, D.R., Odom, E.L. (2024). Arthritis Management: Patient-Reported Health Care Provider Screening, Counseling, and Recommendations for Physical Activity. *Preventing Chronic Disease*, **21**:240074.

Hartman CA, et al. (2011). Complementary and Alternative Exercises for Management of Arthritis" (*Tai Chi for OA* analysis).

Lorig, K. and Holman, H.R. (1989). Long-term outcomes of an arthritis study: effects of reinforcement efforts. *Social Science & Medicine*, **20**(2) : 221–224.

Resnick, B. (2001). Managing arthritis with exercise. *Geriatric Nursing*, **22**(3) : 143–150.

van Baar, M.E., Dekker, J., Oostendorp, R.A., Bijl, D., Voorn, T.B., Lemmens, J.A. and Bijlsma, J.W. (1998). The effectiveness of exercise therapy in patients with osteoarthritis of the hip or knee: a randomized clinical trial. *Journal of Rheumatology*, **25** (12) : 2432-2439.

****