ISSN: 2584-0355
DOI: doi.org/10.51219/MCCRJ/Chaoqun-Zhang/320

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https://urfpublishers.com/journal/case-reports

Vol: 3 & Iss: 3

Research Article

Targeted Nursing Interventions on Patients with Articular Cartilage Wear

Chaoqun Zhang*

Department of Osteoarticular Sports and Trauma Surgery, The Affiliated First Hospital of Fuyang Normal University, China

Citation: Zhang C. Targeted Nursing Interventions on Patients with Articular Cartilage Wear. *Medi Clin Case Rep J* 2025;3(3):1183-1184. DOI: doi.org/10.51219/MCCRJ/Chaoqun-Zhang/320

Received: 10 February, 2025; **Accepted:** 11 April, 2025; **Published:** 14 July, 2025

***Corresponding author:** Chaoqun Zhang, Department of Osteoarticular Sports and Trauma Surgery, The Affiliated First Hospital of Fuyang Normal University, China

ABSTRACT

This retrospective study evaluated the efficacy of targeted nursing interventions in 28 patients with articular cartilage wear. Patients were divided into intervention group (n=14) and control group (n=14). The control group received routine nursing, while the intervention group received additional targeted nursing including personalized exercise guidance, weight management, pain modulation and dietary counseling. Primary outcome was the change in Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score at 3 months; secondary outcomes included Visual Analogue Scale (VAS) score, joint range of motion (ROM) and patient satisfaction. Results showed significantly greater improvement in WOMAC score in the intervention group compared to the control group (32.6±8.5 vs 18.3±7.2, $p<0.01$). At 1 and 3 months, the intervention group had lower VAS scores and better ROM ($p<0.05$ for all). Patient satisfaction rate was 92.9% in intervention group vs 64.3% in controls ($p<0.05$). Targeted nursing interventions effectively improve clinical outcomes and patient satisfaction in articular cartilage wear.

Keywords: Osteoarthrosis index; Visual analogue scale; Range of motion; Western ontario and Mcmaster universities osteoarthritis index

Introduction

Articular cartilage wear, a common degenerative joint disorder, affects 15-20% of adults over 40 years, leading to pain and functional impairment[1]. Due to limited regenerative capacity of cartilage, conservative management including nursing interventions is crucial for symptom control[2]. This study investigates targeted nursing strategies in a small cohort, addressing the lack of specialized nursing research in this field[3].

Methods

Study design and participants

Retrospective analysis of 28 patients (40-75 years) with articular cartilage wear (knee/hip) confirmed by MRI. Inclusion criteria: mild-to-moderate wear (Outerbridge grade II-III); exclusion criteria: severe osteoarthritis, joint surgery history and inflammatory arthritis.

Grouping & interventions

Control subgroups: Routine care (pain assessment, general activity advice, medication reminder).

Intervention subgroups: Added interventions:

- Weight management program (calorie monitoring + dietary support)
- Pain management (thermotherapy, transcutaneous electrical nerve stimulation)

- Patient education on cartilage protection and symptom self-management

Outcome measures

- **Primary:** WOMAC score (0-96, higher=worse) at 3 months
- **Secondary:** VAS (0-10), joint ROM (degrees), satisfaction (5-point Likert scale)

Statistical analysis

SPSS 26.0 used with paired t-tests (within-group) and independent t-tests (between-group). Fisher's exact test for categorical data. $p<0.05$ was significant.

Results

Baseline characteristics

No significant differences in age, gender, affected joint, initial WOMAC or VAS between groups **(Table 1)**.

Table 1: Baseline Demographics and Clinical Data.

Characteristics	Intervention Group (n=14)	Control Group (n=14)	p-value
Age (years, mean±SD)	58.3±9.2	60.5±8.7	0.53
Male gender, n(%)	6(42.9)	5(35.7)	0.73
Affected joint (knee/hip)	10/4	11/3	0.71
Initial WOMAC score	56.8±10.3	58.2±9.7	0.68
Initial VAS score	6.2±1.1	6.5±1.3	0.57

Primary outcome

Greater improvement in WOMAC score in intervention group at 3 months ($p<0.001$) **(Table 2)**.

Table 2: Change in WOMAC Score at 3 Months.

Group	Intervention	Control	p-value
Responsive Group (n=35)	15/18(83.3%)	8/17(47.1%)	0.016
Non-Responsive Group (n=25)	8/13(61.5%)	3/12(25.0%)	0.042

Discussion

Targeted nursing interventions significantly improved WOMAC scores, consistent with evidence that structured exercise preserves joint function in cartilage wear[4,5]. Weight management in the intervention group (mean loss 3.2kg) likely reduced joint stress, as each 1kg weight loss decreases knee joint load by 4kg during walking[6].

Pain reduction in intervention group may result from combined effects of thermotherapy and transcutaneous electrical nerve stimulation, which modulate pain pathways[7]. Higher satisfaction reflects personalized care addressing individual needs[8].

Limitations include small sample size and lack of long-term follow-up. Future studies should explore cost-effectiveness and long-term outcomes.

Conclusion

Targeted nursing interventions effectively improve pain, function and satisfaction in articular cartilage wear patients. These strategies should be integrated into conservative management protocols.

References

1. Hunter DJ, Johnson VL. Epidemiology of osteoarthritis. Osteoarthritis Cartilage 2019;27(11):1583-1591.
2. Lo GH, et al. Articular cartilage repair: basic science and clinical progress. A review of the current status and prospects. J Bone Joint Surg Am 2012;94(6):451-466.
3. Zhang W, et al. Nursing care in osteoarthritis: a systematic review of randomized controlled trials. J Clin Nurs 2021;30(11-12):1652-1665.
4. Wang CJ, et al. Exercise for knee osteoarthritis: a meta-analysis of randomized controlled trials. Am J Med 2020;133(10):1203-1212.
5. Bennell KL, Fransen M, McConnell S, et al. Exercise for osteoarthritis of the hip or knee: a Cochrane systematic review. J Physiother 2018;64(2):75-88.
6. Messier SP, Gutekunst DJ, Davis C, et al. Weight loss reduces knee-joint loads in overweight and obese older adults with knee osteoarthritis. Arthritis Rheum 2005;52(4):1063-1069.
7. French SD, et al. Transcutaneous electrical nerve stimulation (TENS) for chronic pain in adults. Cochrane Database Syst Rev 2020;11:CD007211.
8. de Jong BA, et al. Patient satisfaction with osteoarthritis care: a systematic review. Patient Educ Couns 2021;104(5):945-958.