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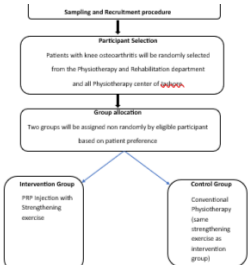
Platelet Rich Plasma with Strengthening Exercise versus Physiotherapy for Knee Osteoarthritis



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We use this protocol and it's working

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Abstract

This protocol describes a randomized controlled trial to compare the effectiveness of platelet-rich plasma (PRP) injections combined with strengthening exercises versus conventional physiotherapy in patients with knee osteoarthritis (Kellgren–Lawrence grade I–III). Sixty participants aged 40–70 years will be randomly assigned to receive either three PRP injections spaced 10 days apart followed by a structured strengthening exercise program, or a conventional physiotherapy program, over an 8-week intervention period with follow-up at 6 months.
The study is expected to show that PRP with strengthening exercises provides greater reductions in pain and improvements in physical function, range of motion, muscle strength, and mobility compared to conventional physiotherapy. Findings may inform evidence-based rehabilitation strategies and improve outcomes for knee osteoarthritis patients in clinical practice.

Attachments

DOCX Protocol Summery.doc... 15KB

DOCX Treatment procedure ... 16KB

Guidelines

Guidelines for Protocol Execution

- **Setting & Oversight:** Single-center RCT at JUST, randomization via computer-generated sequence, allocation concealed in sealed envelopes.
- **Blinding:** Outcome assessors blinded; full blinding of participants/clinicians not possible due to PRP injections.
- **Training:** PRP by trained orthopedic specialists; exercises by certified physiotherapists; assessors trained in NPRS, WOMAC, Goniometer, 30s-STS, TUG.
- **Screening:** Include age 40–70, KL grade I–III knee OA, symptoms >3 months (NPRS ≥3). Exclude infection, coagulopathy, uncontrolled diabetes, recent injections/surgery.
- **Interventions:**

- **Control:** 8-week conventional physiotherapy, 3×/week (50 min).

- **Experimental:** Three PRP injections (4-5 ml PRP , 10 days apart) + strengthening exercise program.
- **Assessments:** Baseline, 8 weeks, 6 months – NPRS, WOMAC, ROM, 30s-STS, TUG by blinded assessors.
- **Data Management:** CRFs, secure password-protected database, weekly quality audits.

Materials

Materials

1. PRP Injection

- Blood collection: 30 ml syringes, CPDA/PT tubes, 21G butterfly needles, alcohol swabs, gloves, tourniquets
- PRP preparation: Centrifuge, 10 ml tubes.
- Injection: 10 ml syringes, povidone-iodine, bandages

2. Strengthening Exercises

- Equipment: Plinths/chairs, resistance bands, dumbbells (1–3 kg), mats, pillows/bolsters
- Instructional: Printed guides, home exercise diaries
- Monitoring: Timer, attendance logs

3. Outcome Assessments

- Pain: NPRS
- Function & mobility: WOMAC, Goniometer, 30s-STS, TUG

4. Data Management

- Forms: Data collection forms (NPRS, WOMAC, Goniometer, 30s-STS, TUG), adverse event forms.

Storage: Computer with database software, external hard drive/secure cloud, secure filing cabinet.

5. Safety & Emergency

- Sharps container, first aid kit, resuscitation kit, disinfectants, emergency contacts

6. Participant Materials

- Consent forms and study information sheets (English/Bengali)

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