TReAT trial: TeleRehabilitation After Knee Arthroplasty project plan (2021-2026)

**Formative phase**
- Desk Review
  - Systematic survey of clinical practice guidelines and recommendations
- Examining practice
  - Scoping review of various technologies for improving adherence to physical therapy following Knee replacement
- Primary data collection
  - E-survey of physiotherapists to identify current practices & preferences followed in India
  - Study 1 - **(Quantitative survey)**
    - Post Knee replacement patients
    - Technology and computer literacy
    - Home environment modifications
    - Expectations & psychological support during recovery
- Designing intervention framework (Behaviour Design thinking)
  - Study 2 - **(Mixed method)**
    - Patients scheduled/underwent knee replacement, physiotherapists and surgeons
    - Facilitators and barriers of rehabilitation adherence
    - Perception on use of technology/m-health for rehabilitation
- Intervention
  - Brainstorming mobile application features
  - Documenting Behaviour Change Techniques (BCTs) for app
  - Education material contents, exercise contents and therapy plan
- Determining needs
  - Summarizing literature on reasons for poor adherence using Capability, Opportunity, Motivation - Behaviour framework (COM-B)
  - Literature review on experiences and perception of end users of mobile application for Knee replacement care

**Pilot phase**
- Pilot testing of intervention delivery
- Intervention functions
  - Education
  - Training
  - Enablement
  - Persuasion
  - Environmental restructuring
  - Modelling
- Development of m-app prototype
  - One-to-one survey and Stakeholder’s consultation for feedback IEC materials, and mobile application prototype/complete intervention package

**Evaluation phase**
- Randomized controlled trial
  - P - Population undergoing knee replacement
  - I - Rehabilitation monitoring via m-health application
  - C - Usual care
  - O - Functional outcomes
  - T - 6 months post knee replacement
- Trial protocol for evaluating intervention
- Protocol development for economic evaluation (Cost-effectiveness)