tissue characteristics, pelvic floor function, baseline physical capacity, and symptom burden, resulting in variable responses to the same rehabilitation program. Moreover, emerging evidence suggests that pregnancy-related hormonal changes, extracellular matrix remodeling, and differences in mechanical loading may influence tissue healing capacity and responsiveness to treatment (Du et al., 2025; Huang et al., 2025). Future studies should therefore stratify patients based on these key factors and develop tailored rehabilitation protocols according to severity, functional impairment, and recovery stage, for example, emphasizing functional training and education in mild cases, while adopting multimodal strategies including electrical stimulation, taping, manual therapy, or surgical referral in moderate to severe or symptomatic cases (Bigdeli et al., 2025).

The advancement of precision rehabilitation also relies on innovative diagnostic and predictive technologies. AI-assisted ultrasound has demonstrated high agreement with expert measurements, enabling automated and efficient assessment of IRD and tissue characteristics. Additionally, intelligent rehabilitation systems integrating surface electromyography (EMG), inertial sensors, and real-time feedback offer the potential to monitor movement quality, identify neuromuscular activation patterns, and dynamically adjust training intensity and progression. Future research should explore adaptive training algorithms based on biomechanics, muscle fatigue, patient-reported outcomes, and adherence, while evaluating their cost-effectiveness, scalability, and long-term benefits in real-world clinical settings (Radhakrishnan et al., 2024; Huang et al., 2025). Longitudinal studies are also needed to determine whether precision-based rehabilitation can reduce surgical demand, improve long-term functional outcomes, and mitigate associated conditions such as low back pain and pelvic floor dysfunction. Developing dynamically adjustable, individualized intervention systems based on precise assessment will be a key direction for enhancing rehabilitation effectiveness.

7.3 Strengthening multidisciplinary collaboration and digital rehabilitation technologies

The etiology, assessment, and management of DRA involve multiple disciplines, including obstetrics, rehabilitation medicine, general and hernia surgery, imaging, biomedical engineering, and mental health. Therefore, multidisciplinary collaboration is a critical pathway for advancing both research and clinical practice. Recent consensus statements and reviews emphasize the importance of integrating expertise from obstetricians, physiotherapists, surgeons, radiologists, and other specialists to develop comprehensive diagnostic and treatment pathways (Du et al., 2025). Delphi consensus processes and national guidelines have begun to incorporate multidisciplinary perspectives, providing structured recommendations for screening, conservative management, surgical indications, and postoperative care (Bracale et al., 2025). Future research should further evaluate integrated care pathways, focusing on coordination between early screening, conservative rehabilitation, surgical referral, and postoperative recovery, while assessing outcomes related to patient benefit, healthcare utilization, and equity of access. Importantly, psychological support and patient education should be embedded within these pathways, as body image concerns and quality of life are central issues for many patients (Janiszewska et al., 2025; Zhu et al., 2025).

At the same time, digital rehabilitation technologies offer significant opportunities to expand access to multidisciplinary care and improve adherence. Emerging evidence from telerehabilitation studies suggests that delivering core stabilization and DRA-specific exercise programs through synchronous or asynchronous platforms is feasible, well-accepted, and effective in the short term, particularly for postpartum women facing barriers related to childcare, time, or geographic limitations (Skoura et al., 2025). Furthermore, wearable EMG and inertial measurement unit (IMU) sensors combined with machine learning or convolutional neural networks can accurately identify correct versus incorrect exercise execution, enabling automated feedback and quality monitoring in home-based training programs (Radhakrishnan et al., 2024). Future studies should explore hybrid care models that integrate in-person multidisciplinary assessment with digital exercise platforms, sensor-based feedback, AI-assisted ultrasound monitoring, and teleconsultation. High-quality randomized controlled trials with long-term follow-up are needed to compare these models with traditional face-to-face care in terms of effectiveness, safety, cost-efficiency, and patient experience. With the continued integration of multidisciplinary collaboration and digital technologies, DRA management is expected to evolve toward a precision-based, continuous, and patient-centered model of digital healthcare.