

Surface EMG allows quantification of resting tone, muscle fiber activity, and fatigue characteristics, facilitating classification of functional impairment and supporting individualized rehabilitation planning (Gao et al., 2024). Instrument-based assessments may also extend to overall biomechanics, such as caliper measurement of diastasis recti abdominis (DRA), which has shown acceptable reliability after training ($ICC \approx 0.73-0.83$) and is suitable as a supplementary indicator in outpatient follow-up. Overall, objective methods offer good repeatability and are valuable for monitoring rehabilitation progress, but some techniques require specialized equipment and training, potentially increasing costs or psychological burden. Therefore, selection should be guided by care settings and resource availability, with palpation and basic functional tests prioritized in primary care and multimodal tools such as manometry, EMG, and ultrasound introduced when feasible (Frazão et al., 2025).

3.3 Reliability, validity, and nursing applicability of different assessment tools

Reliability and validity are central to the scientific rigor and clinical value of assessment tools. Overall, psychometric evidence for postpartum PFD instruments is increasing, although variability in quality remains and no universal gold standard has been established. Systematic reviews indicate that at least nine validated postpartum PFD questionnaires are currently available, among which the PFDI-20, PFIQ-7, and ICIQ-based instruments are the most frequently used and recommended. These tools demonstrate relatively robust internal consistency, test-retest reliability, and structural validity. Perinatal-specific instruments (e.g., PFQ-PP and its cross-cultural versions) commonly report Cronbach's $\alpha \geq 0.70$ and domain-specific ICCs of approximately 0.73-0.97, effectively distinguishing women with and without symptom-related distress and supporting repeated measurement and trajectory analysis during pregnancy and the postpartum period (Titulaer et al., 2025; Zhu et al., 2025). The brief screening tool PFHI has also shown good convergent validity with established PFD and sexual function measures, as well as satisfactory test-retest reliability, indicating its suitability for rapid screening in primary care settings.

For objective assessments, reliability studies provide critical guidance for routine nursing practice. Digital palpation measures of maximal voluntary contraction and endurance show acceptable consistency and may serve as primary bedside indicators, whereas findings related to non-voluntary contraction and relaxation require cautious interpretation. EMG is considered sensitive to early pelvic floor dysfunction and is useful for refined functional phenotyping and individualized rehabilitation planning, though its application is more common in specialized or research settings due to equipment and training requirements (Gao et al., 2024). Based on current evidence, a “tiered combination strategy” is recommended (Figure 1): nurses should prioritize well-validated multidimensional questionnaires to assess symptoms and quality-of-life impact, then integrate reliable manual grading and, when available, basic instrument-based indicators (e.g., DRA measurement, EMG, manometry, or ultrasound) for functional quantification and outcome tracking. This approach supports efficient screening, risk stratification, and longitudinal follow-up in postpartum pelvic floor care (Frazão et al., 2025).

4 Case Presentation

4.1 Early postpartum hospitalization assessment

To demonstrate the application of nursing assessment tools in different stages of postpartum pelvic floor function care, Nestor et al. (2025) selected a representative parturient as a case for analysis. The patient underwent routine nursing evaluation during early postpartum hospitalization, followed by systematic assessment at 6 weeks postpartum and subsequent pelvic floor rehabilitation with longitudinal follow-up. During the early postpartum hospitalization period, the patient was in the acute recovery phase following vaginal delivery. At this stage, pelvic floor tissues were likely affected by edema and fatigue, and no overt pelvic floor dysfunction (PFD) symptoms were spontaneously reported. Consistent with clinical practice, the primary nursing objective was not definitive diagnosis, but rapid screening and risk stratification to identify potential PFD risk and guide post-discharge planning (Nestor et al., 2025).

Nurses implemented a brief, low-burden screening approach that could be integrated into routine ward rounds. A short symptom and risk checklist, together with the Pelvic Floor Health Index (PFHI), was administered to screen for urinary incontinence, prolapse-related symptoms, pain, sexual health concerns, and psychosocial impact. The