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Optimizing surgical outcomes through increased familial support in the perioperative period

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Familial support in perioperative care is increasingly being recognized as essential for better surgical outcomes, treatment protocols, and overall recovery. Recent work suggests that standardized family involvement leads to measurable improvements, including reduced postoperative delirium (POD) and complications, lower anxiety, shorter hospital stay, and increased patient and family satisfaction. Examples include the Tailored, Family-Involved Hospital Elder Life Program (t-HELP), which reduced POD incidence from 19.4%–2.6% while preserving functional and cognitive changes in elderly; as well as the Family Involvement Program (FIP), which integrates caregiver training, ward-round participation, and post-discharge support to reduce pneumonia, delirium, and readmissions incidences. Despite these benefits, family engagement remains inconsistently integrated into perioperative settings due to the lack of policies, limited staff training, cultural differences, and workflow concerns. This study reviews recent high-quality evidence, identifies common obstacles, and proposes a structured operational framework for family support comprising: 1. structured perioperative updates at defined milestones; 2. need-based caregiver training; 3. active family inclusion in care planning; 4. integration of digital home monitoring systems; and 5. cultural tailoring of policies and educational materials. If adopted by healthcare systems, this framework can help build perioperative protocols with dedicated resources, supportive policies and leadership endorsement. Future research should explore multicenter implementation, cost-effectiveness, and long-term outcomes of culturally-adapted, digitally-enabled family engagement models.

KEYWORDS

perioperative care, familial support, patient safety, communication, patient satisfaction, patient centered approach, family-centered care

Introduction

During perioperative care, family involvement is not merely supportive; it is clinically impactful. Evidence from multiple trials shows its ability to improve patient safety, adherence, and recovery. The Tailored, Family-Involved Hospital Elder Life Program (t-HELP) reduced POD in older adults from 19.4%–2.6%, preserved functional independence, and shortened hospital stay by over four days (1). The Family

Involvement Program (FIP) offers structured caregiver training, participation in ward rounds, and active involvement in postoperative care, with preliminary data showing reduced pneumonia, delirium, and readmissions (2, 3). In pediatric anesthesia, meta-analyses demonstrate that parental presence at induction of anesthesia (PPIA) reduces both child and parental anxiety without prolonging induction times (4).

These benefits have been observed in pediatric inpatient settings when parents are trained and actively encouraged to engage in their child's care. In a randomized controlled trial (RCT), Çamur and Sarikaya Karabudak (2021) found that structured parental involvement training, covering both routine and moderately invasive care activities, significantly increased parent satisfaction across domains of communication, emotional needs, and overall experience. Importantly, both parent and child anxiety scores decreased more in the intervention group than in controls ($p < .05$), underscoring that the active engagement of caregivers, when supported by targeted education and observation, can enhance emotional well-being for both patient and family (5). These findings, while from pediatric care, reinforce the value of structured, competency-based family involvement in reducing perioperative anxiety and improving satisfaction, two principles easily transferable to adult surgical contexts.

These principles are transferable to adult surgery: structured, purposeful family presence can improve emotional stability and procedural cooperation. In a multicenter RCT, Aslakson et al. (2019) evaluated pre- and post-operative palliative care interventions for patients undergoing curative-intent upper gastrointestinal cancer surgery. While the primary endpoint of health-related quality of life at 3 months did not differ significantly from surgeon-alone management, early improvements in distress scores were observed. This suggests that structured family-inclusive support—starting before surgery and continuing throughout recovery—is operationally possible and may provide early psychological benefits, even if longer-term outcomes require further study (6).

In another RCT, families receiving structured perioperative updates at key milestones reported significantly lower anxiety, ranking their anxiety as 2.48/5 where 5 represents extreme

anxiety on the provided survey and higher satisfaction with communication than those receiving only a final update (7). Moreover, programs such as SAFER Care that use bilingual discharge tools and structured handovers, reduced postoperative ED visits by improving the understanding of care plans (8). Digital home monitoring further extends the benefits of family involvement. After thoracic surgery, digital symptom reporting reduced unplanned healthcare use and enabled earlier interventions, with families trained to assist in monitoring (Nagappa et al., 2025) (9). These tools not only improve recovery but also ensure inclusion through cultural and linguistic adaptation.

Unfortunately, barriers persist as system-level obstacles include unclear protocols, limited staff resources, and the absence of adequate policy (10). Understanding patient and family needs is essential for designing effective perioperative engagement strategies. In a cross-sectional survey at King Abdullah Medical City, Alsabban et al. (2020) found that both patients and family members prioritized clear communication about surgical progress, emotional support, and updates during recovery. Families expressed a strong desire to participate in care decisions and valued structured opportunities to receive timely information from the surgical team. These findings emphasize that effective perioperative family engagement must be responsive to needs and expectations, which may vary by cultural and institutional context. Cultural expectations vary, influencing the acceptability and form of family involvement (11). Family-level challenges include caregiver readiness and emotional burden, though structured programs like FIP have shown minimal burden when designed appropriately (3). Provider-level barriers include workflow concerns and discomfort with family presence in high-acuity situations (Figure 1).

Some perioperative contexts remain markedly underexplored in terms of family support. For example, a recent scoping review on partner presence during emergency caesarean sections found that, despite widespread parental preference for involvement, the available evidence is sparse, geographically limited, and often of low quality, which represents a priority area for future research (12). Additionally, the use of random domain intercept technology has demonstrated to be a possible efficient and

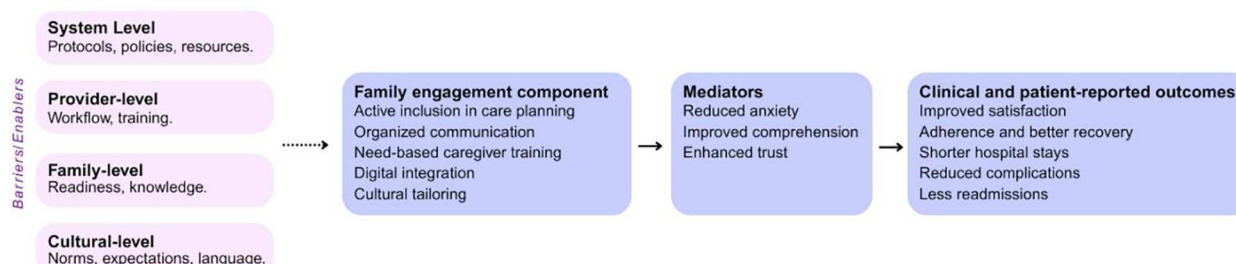


FIGURE 1

Multi-system variables that influence clinical and patient-reported outcomes. Visual representation of how system, provider, family, and cultural level variables can impact and improve clinical and patient reported outcomes through actively engaging family members in a patient's care.

widespread way to survey patients and families regarding their healthcare experiences (13). The ability to gather and analyze these opinions will allow for healthcare centers to improve the perioperative experience for all involved.

Future directions

To transition from theory to practice, healthcare systems should adopt a standardized perioperative familial support framework comprising:

1. **Active inclusion in care planning:** participation in ward rounds and shared decision-making.
2. **Structured communication:** timed updates at surgical milestones, adapted to family preferences and cultural norms.
3. **Need-based caregiver training:** skills in mobilization, wound care, symptom recognition, and medication adherence (2, 14).
4. **Digital integration:** at home monitoring platforms for symptom tracking and telehealth follow-up.
5. **Cultural tailoring:** policies and materials adapted to linguistic, cultural, and religious contexts.

These strategies require policy integration, staff training, leadership endorsement, and evaluation using standardized patient- and family-centered care metrics. Future research should focus on multicenter RCTs, cost-effectiveness studies, and long-term functional outcomes to solidify the case for universal adoption.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding author.

Author contributions

NA: Conceptualization, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review &

editing. HB: Conceptualization, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review & editing. KG: Validation, Writing – original draft, Writing – review & editing. WS: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – review & editing.

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