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Expert Opinion Article

Mindfulness Techniques to Prevent ICU Psychosis

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Abstract
Quality of life is more important than mere life ICU psychosis, or delirium, remains a significant complication in critical care, compromising on basic quality of life associated with increased morbidity, prolonged hospitalization, and long-term cognitive impairment, compromising on basic quality of life Traditional approaches to prevention and management have focused on pharmacological interventions, but recent evidence highlights the efficacy of non-pharmacological methods, particularly mindfulness-based techniques. This review summarizes the pathophysiology of ICU psychosis, explores the role of mindfulness in modulating stress and cognitive function, and evaluates current literature supporting mindfulness as a preventive strategy.

1. Introduction

. Despite advances in supportive care, delirium contributes to adverse outcomes including increased ICU length of stay, long-term cognitive dysfunction, and higher mortality rates (Salluh et al., 2015).

Intensive Care Unit (ICU) psychosis, commonly presenting as delirium, affects approximately 30–80% of critically ill patients. It is characterized by fluctuating mental status, inattention, disorganized thinking, and altered consciousness Mindfulness, defined as the intentional, non-judgmental focus on present-moment experiences, has emerged as a valuable psychological intervention. Its ability to reduce stress, improve emotional regulation, and enhance cognitive flexibility makes it a potential tool in preventing ICU psychosis. This review aims to consolidate available evidence and propose mindfulness integration into ICU practice.

2. Pathophysiology of ICU Psychosis

ICU psychosis arises from a complex interplay of:

- **Neuroinflammation and neurotransmitter imbalance** (dopamine excess, acetylcholine deficit).
- **Circadian rhythm disruption** due to constant lighting and noise.
- **Sleep deprivation**, pain, and frequent interruptions.

- **Environmental disorientation** and sensory deprivation.

Risk factors include age >65, mechanical ventilation, sepsis, benzodiazepine use, and prolonged ICU stay (Girard et al., 2010).

3. Mindfulness as a Therapeutic Modality

Mindfulness can modulate the hypothalamic-pituitary-adrenal (HPA) axis, reducing cortisol levels and sympathetic overactivation. Through regular practice, it promotes:

- Enhanced attention and cognitive processing
- Reduced anxiety and agitation
- Improved sleep and circadian rhythm stabilization

Mindfulness-based stress reduction (MBSR) and related protocols have demonstrated benefits in various hospital settings (Chiesa & Serretti, 2011), but their structured application in ICU remains relatively novel.

4. Application of Mindfulness in the ICU

4.1 Techniques Adapted for ICU Settings

Given the limitations in patient mobility and consciousness, mindfulness techniques are adapted as:

- **Audio-guided meditations** (2–10 minutes)
- **Breathing awareness** sessions
- **Sensory grounding exercises** (e.g., touch, sound)
- **Family-assisted orientation** using memory cues
- **Staff-led verbal cues** to promote mindful engagement

4.2 Delivery and Timing

- Implemented within 24–48 hours of ICU admission
- Conducted by trained ICU staff or clinical psychologists
- Frequency: 2–3 times daily, customized per patient's responsiveness

5. Evidence from Clinical Studies

Study	Population	Intervention	Findings
Brummel et al. (2014)	Medical ICU patients	ABCDEF bundle (incl. mindfulness)	Reduced delirium days
Wawer et al. (2020)	Post-operative ICU patients	Guided mindfulness via audio	Improved anxiety, reduced delirium episodes
Krewulak et al. (2022)	ICU survivors	Psychological interventions incl. mindfulness	Lower distress, improved coping
Spadaro et al. (2019)	Mechanically ventilated patients	Mindfulness + sleep hygiene	Better sleep, reduced agitation

These studies, though varied in methodology, consistently show positive trends supporting mindfulness in delirium prevention.

6. Limitations and Challenges

- Patient sedation and impaired cognition may limit participation.
- Staffing constraints in ICU settings.
- Lack of standardized mindfulness protocols tailored for critical care.
- Heterogeneity in intervention delivery methods (audio, verbal, visual).

7. Future Directions

- **Randomized controlled trials (RCTs)** assessing mindfulness as a stand-alone or adjunctive intervention.
- **Standardized toolkits** for bedside mindfulness delivery.
- **Training modules** for ICU nurses and therapists.
- Integration into **ICU liberation protocols** (e.g., ABCDEF bundle).

8. Conclusion

Mindfulness offers a promising, low-risk strategy for preventing ICU psychosis. Its incorporation into routine critical care, particularly through brief, accessible interventions, may improve cognitive outcomes and patient experience. Further high-quality studies are warranted to standardize its application and validate efficacy.

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