The Development of a Novel Family-led Intervention for Delirium Prevention and Management in an Adult Intensive Care Unit

Insights from a Co-Design Qualitative Study

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Outline of the Presentation

Background	Aim of the study	Methods	Key findings
Development of the FAMVR	Pilot implementation	Strengths and limitations	Impact and future directions

Background

Delirium is a common, serious condition in ICUs

Highly prevalent brain dysfunction affects at least 50% of patients [1]

Associated with physiological, psychological and economic risks [2]

Long-term neurocognitive impacts and poor quality of life [3]

Current lack of standardised non-pharmacological interventions [4]

Overreliance on pharmacological interventions without an evidence base [4]
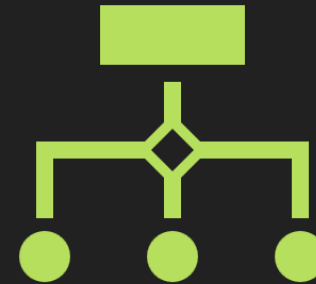
Aim

To co-design a Family Members' Voice Reorientation (FAMVR) intervention for delirium prevention and management

Collaborative process involving people with lived experience of ICU: patients, families, and clinicians

Overall study

Phase One – Co-designing the FAMVR intervention using the Double Diamond model

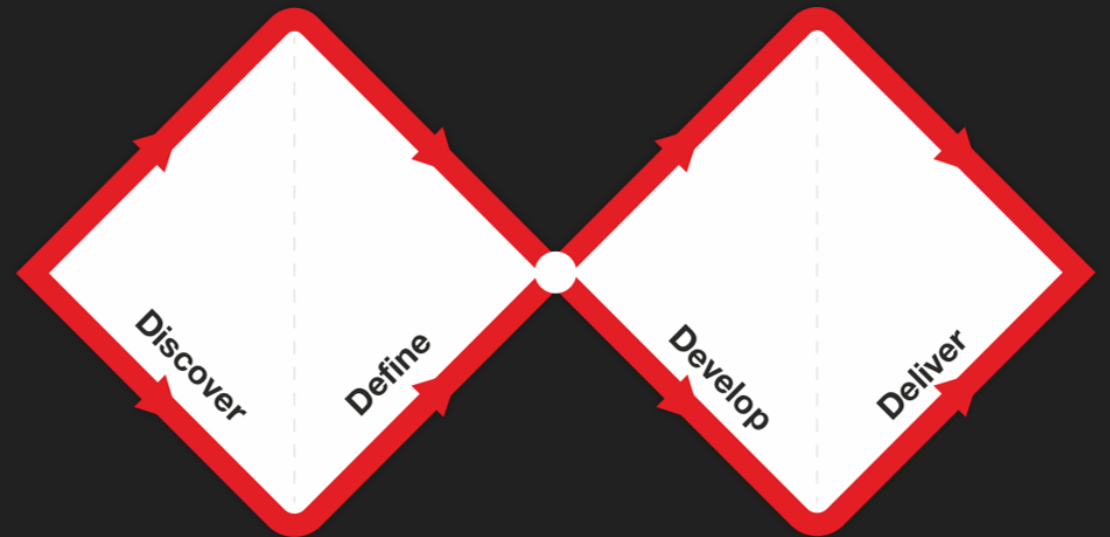Phase Two – Pilot implementation and evaluation using mixed-methods

Methods

- Co-Design approach

  The Double Diamond model [5]

  Four stages: Discover, Define, Develop, and Deliver

  Emphasis on collaboration with patients, families, and clinicians

Participants

- Lived experience of ICU as patients, family members and clinicians

- 12 participants involved in various stages of the study

Key findings

Themes

1. Message Content: Timing and relevance of content

2. Message Wording: Clarity and reassurance

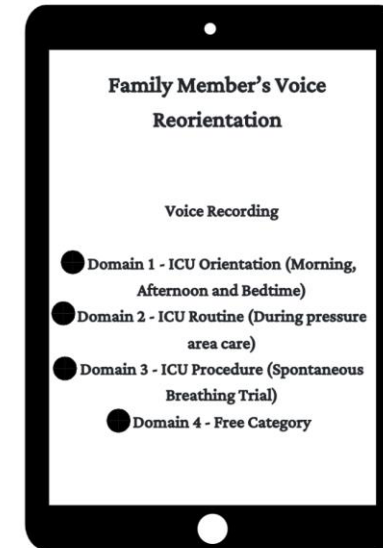3. Reactions to Messages: Emotional responses of patients and families

4. Message Tone: Importance of compassion and calmness

Development of the FAMVR

- FAMVR Structure

    Four domains: General Reorientation, Personal Care, Specific Procedures, Flexible Family Messages

- Process of refining messages based on feedback

Family Member's Voice Reorientation

Voice Recording

- Domain 1 - ICU Orientation (Morning, Afternoon and Bedtime)
- Domain 2 - ICU Routine (During pressure area care)
- Domain 3 - ICU Procedure (Spontaneous Breathing Trial)
- Domain 4 - Free Category

Pilot Implementation

Current Application

FAMVR piloted in an adult ICU.

Evaluation metrics: Richmond Agitation and Sedation Scale (RASS)

Experiences of all participants

Strengths and limitations

1

Person-centred, evidence-based co-design involving patients, families, and clinical experts

2

Minimised selection bias by allowing voluntary participation from past ICU patients and family members

3

Balanced input from patients, families and clinical experts ensured a well-rounded intervention design

4

Limitations: Experiences of non-current ICU patients and limited family participants may not fully represent those receiving FAMVR, but phase two addressed this

Impact

- **Potential to improve ICU delirium care through family-centred care** by integrating family members' voices, reducing anxiety, and minimising delirium severity

- Demonstrated that **collaborative intervention design** between ICU staff, patients, and families is feasible

- Provides a **framework for future delirium management** interventions that are collaborative and patient-centred

- Potential to change the focus of delirium management from **reactive to proactive**

Future directions

FUTURE PHASES WILL REFINE FAMVR BY INCORPORATING REAL-TIME FEEDBACK FROM CURRENT ICU PATIENTS AND FAMILIES

FURTHER EVALUATION IS NEEDED TO ASSESS THE FAMVR'S EFFECTIVENESS IN DELIRIUM OUTCOMES

REINFORCES THE NEED FOR TRAINING ICU CLINICIANS IN COLLABORATIVE, FAMILY-INCLUSIVE CARE INTERVENTIONS

Conclusion

- Co-design is essential for effective intervention development

FAMVR has the potential to improve patient outcomes in ICU

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References

○ 1. Pun, B. T., Badenes, R., Heras La Calle, G., Orun, O. M., Chen, W., Raman, R., Simpson, B. K., Wilson-Linville, S., Hinojal Olmedillo, B., Vallejo de la Cueva, A., van der Jagt, M., Navarro Casado, R., Leal Sanz, P., Orhun, G., Ferrer Gómez, C., Núñez Vázquez, K., Piñeiro Otero, P., Taccone, F. S., Gallego Curto, E., Caricato, A., … COVID-19 Intensive Care International Study Group (2021). Prevalence and risk factors for delirium in critically ill patients with COVID-19 (COVID-D): a multicentre cohort study. The Lancet. Respiratory medicine, 9(3), 239–250. https://doi.org/10.1016/S2213-2600(20)30552-X

○ 2. Wu, N.-N., Zhang, Y.-B., Wang, S.-Y., Zhao, Y.-H., & Zhong, X.-M. (2022). Incidence, prevalence and risk factors of delirium in ICU patients: A systematic review and meta-analysis. Nursing in Critical Care, 28(5), 653-669. https://doi.org/10.1111/nicc.12857

○ 3. Goldberg, T. E., Chen, C., Wang, Y., Jung, E., Swanson, A., Ing, C., Garcia, P. S., Whittington, R. A., & Moitra, V. (2020). Association of Delirium With Long-term Cognitive Decline: A Meta-analysis. JAMA neurology, 77(11), 1373–1381. https://doi.org/10.1001/jamaneurol.2020.2273

○ 4. Chen, T. J., Traynor, V., Wang, A. Y., Shih, C. Y., Tu, M. C., Chuang, C. H., Chiu, H. Y., & Chang, H. R. (2022). Comparative effectiveness of non-pharmacological interventions for preventing delirium in critically ill adults: A systematic review and network meta-analysis. International journal of nursing studies, 131, 104239. https://doi.org/10.1016/j.ijnurstu.2022.104239

○ 5. Design Council UK. (2019). The design process: what is the DoubleDiamond? Design Council.

○ 6. Illustration of ICU Delirium Management Intervention. Created with ChatGPT's Image Generator. OpenAI; 2024. Available from: https://www.openai.com/chatgpt

Reference to the full article

- Johnson, G. U., Towell-Barnard, A., McLean, C., & Ewens, B. (2024). The development of a family-led novel intervention for delirium prevention and management in the adult intensive care unit: A co-design qualitative study. Australian Critical Care. Advance online publication. https://doi.org/10.1016/j.aucc.2024.07.076

Thank you!

Questions…

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