Psychological recovery after critical illness

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# Extent of the problem – psychological dysfunction

<table>
<thead>
<tr>
<th></th>
<th>2 – 3 mths (1080 pts/12 studies)</th>
<th>6 mths (760 pts/7 studies)</th>
<th>12 – 14 mths (1041 pts/6 studies)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anxiety</strong></td>
<td>32%</td>
<td>40%</td>
<td>34%</td>
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<tr>
<td>(Nikayin et al 2016)</td>
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<tr>
<td><strong>Depression</strong></td>
<td>29%</td>
<td>34%</td>
<td>29%</td>
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<td>(Rabiee et al 2016)</td>
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<tr>
<td><strong>PTSS/PTSD</strong></td>
<td>25 – 44%</td>
<td>17 – 34%</td>
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<td>(Parker et al 2015)</td>
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Trait Anxiety But Not State Anxiety During Critical Illness Was Associated With Anxiety and Depression Over 6 Months After ICU

Maria I. Castillo, RN, BN (Honors)^1,2,3; Marie L. Cooke, RN, PhD^1,2; Bonnie Macfarlane, BSc, MPH^1,2; Leanne M. Aitken, RN, PhD, FACN, FAAN, FACCCN^1,2,4

CCM 2016

Path of recovery: depression

- **n=89** (100%)
  - **Hospital Wards**
    - **n=61** (69%) HADS-D<8
    - **n=28** (31%) HADS-D≥8
    - **3 months**
      - **n=56** (63%) HADS-D<8
        - **n=5** (6%) HADS-D≥8
      - **n=16** (18%) HADS-D<8
        - **n=12** (13%) HADS-D≥8
    - **6 months**
      - **n=50** (56%) HADS-D<8
        - **n=6** (7%) HADS-D≥8
        - **n=3** (3%) HADS-D<8
        - **n=2** (2%) HADS-D≥8
      - **n=13** (15%) HADS-D<8
        - **n=3** (3%) HADS-D<8
        - **n=3** (3%) HADS-D≥8
        - **n=9** (10%) HADS-D≥8
Risk factors for psychological dysfunction

- Anxiety – psychiatric symptoms during admission, memories of in-ICU delusional experience (Nikayin et al, 2016)
- Depression – pre-ICU psychologic morbidity, in ICU psychologic distress (Rabiee et al, 2016)
- PTSD – in ICU benzodiazepines, post-ICU memories of a frightening ICU experience (Parker et al, 2015)

- Relationship with other aspects of recovery, e.g. physical function
When and how to intervene

Treatment modalities for cognitive dysfunction and psychological morbidity

- Inside the ICU
  - Physical rehabilitation
  - Sleep enhancement
  - Sedation minimalisation
  - Psychological intervention
    - Psychological counselling
    - Therapeutic suggestion

- Outside the ICU
  - Physical rehabilitation
  - Psychological and cognitive interventions
    - ICU follow up and clinics
    - ICU diaries

Karnatovskaia et al, 2015
What do we mean by ‘mixed methods’?

Research in which both qualitative and quantitative approaches or methods are used to collect & analyse data, with the findings integrated in a single study or programme of inquiry (Tashkorri & Creswell, 2007)

Sometimes conceptualised as:

- Qualitative — Quantitative
- Qualitative — Quantitative
- Qualitative — Quantitative
ICU Diaries

What is a diary?
- Written by staff and/or family – not the patient
- Variation in content but might include:
  - Summary of reason for admission
  - Clinical highlights of day
  - Any activities, e.g. walking, trip to operating room or CT scan
  - Visitors
  - Outside happenings – e.g. sport, weather etc
- Might include photos
- Variable length and number of entries

Provision to patient:
- Late in ICU stay or after ICU
- With or without explanation & counselling
ICU Diaries

- Primarily descriptive studies, only 2 RCTs
  - “inadequate evidence to support their effectiveness in improving psychological recovery after critical illness”
  - Benefit identified in post-hoc analysis related to PTSD in 1 sub-group
- Primary purpose described as being to fill in memory
- Highly selective, samples
- Patient & family not always considered separately
- Variable interventions & outcomes
- Ethical & legal issues around diary not addressed
- Lack of clarity regarding potential harm
352 pts in 12 hospitals across 6 European countries

Results:

- Reduced incidence of new cases of PTSD at 3 months (13% vs 5%, p=0.02)

Problems:

- No baseline of PTSD (not possible as diagnosis cannot be made early)
- PTSS used to show similarity of groups at baseline
- No difference in PTSS at 3 mths
- Equal numbers in both groups found their ICU experience traumatic (PDS)

Post-hoc analysis – subgroup analysis - PTSS ≥45 at 1 mth - ↓ PTSS intervention group
Grounded theory – explore how pts and relatives used the diary

Some considered the initial reading of diary as ‘unpleasant’, especially when ‘premature’

Information in diary was considered incomplete, but it was a catalyst for further conversation

Patient not always interested in diary but felt relieved ‘because the diary could entertain his wife and spare him the involvement’
DISCUSS: Methods

- Design: exploratory mixed-methods study in tertiary, metropolitan hospital
- Participants: General ICU patients ICU LOS ≥3 days & relatives
- Semi-structured interviews at 3-5 months after ICU discharge
- Psychological distress:
  - Kessler-10 Psychological Distress Scale (K10)
  - Post-traumatic Stress Disorder Symptom Checklist – Civilian V5 (PCL)
- Perceptions of benefit of an ICU diary: four-point Likert scale (agree/disagree)
- Thematic analysis of perceptions of diary preferences
- Ethics approval & informed consent
Screened = 2171
Excluded = 1942

Eligible = 229

Consented = 100

Follow-up = 57

Expected ICU LOS <3 days = 1570
  <18 years old = 6
  Insufficient English = 16
  No family or visitors = 16
  Not accessible to interview = 46
  Died in ICU = 130
  Suicide attempt = 16
  Enrolled on previous admission = 9
  Other reasons = 133

Declined to participate = 38
  Failed to capture = 74
  Readmitted to ICU = 17

Withdrawn = 15
  Lost to follow-up = 26
  Died = 2
# Patients

<table>
<thead>
<tr>
<th>Patients’ characteristics</th>
<th>n=100</th>
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<tr>
<td>Gender (male)</td>
<td>63 (63%)</td>
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<tr>
<td>Age (years) – mean (SD)</td>
<td>53.8 (16.2)</td>
</tr>
<tr>
<td>Reason for ICU admission</td>
<td></td>
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<tr>
<td>Medical</td>
<td>42 (42%)</td>
</tr>
<tr>
<td>Surgical</td>
<td>30 (30%)</td>
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<tr>
<td>Trauma</td>
<td>28 (28%)</td>
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<tr>
<td>Mechanical ventilation (invasive &amp; non-invasive)</td>
<td>91 (91%)</td>
</tr>
<tr>
<td>APACHE III</td>
<td>Median 60.0 (IQR: 47.5-79.0)</td>
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<tr>
<td>ICU LOS (days)</td>
<td>Median 6.4 (IQR: 4.3-9.6)</td>
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<tr>
<td>Hospital LOS (days)</td>
<td>Median 23.9 (IQR: 16.3 – 38.8)</td>
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### Psychological health & diary preference

- 47/57 (83%) patients considered a diary would be helpful

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<tr>
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<th>Diary – helpful n (%)</th>
<th>Diary – not helpful n (%)</th>
<th>p-value (Fisher's exact)</th>
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<tbody>
<tr>
<td><strong>PCL-5</strong></td>
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<tr>
<td>Symptomatic</td>
<td>6 (13)</td>
<td>1 (10)</td>
<td>1.0</td>
</tr>
<tr>
<td>Asymptomatic</td>
<td>41 (87)</td>
<td>9 (90)</td>
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<tr>
<td><strong>K10</strong></td>
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<tr>
<td>Distressed</td>
<td>24 (51)</td>
<td>2 (20)</td>
<td>0.092</td>
</tr>
<tr>
<td>No distressed</td>
<td>23 (49)</td>
<td>8 (80)</td>
<td></td>
</tr>
<tr>
<td><strong>Psychological distress (K-10 ≥20 and/or symptomatic PCL-5)</strong></td>
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<tr>
<td>Yes</td>
<td>25 (53)</td>
<td>2 (20)</td>
<td>0.083</td>
</tr>
<tr>
<td>No</td>
<td>22 (47)</td>
<td>8 (80)</td>
<td>(post hoc power 0.47)</td>
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Perceptions of diaries

- Communication within ICU
- Shared memory
- Variable timing
- Diary ownership
- Memory & recall
- Level of detail
- Staff workload
- Impact on stress
- Uncertainty related to survival
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- Uncertainty related to survival
- Diary ownership
Implications

■ Variable views about the desire to ‘remember’
■ If psychological health not related to desire for diary / other intervention how do we identify who will benefit?
■ Diary & other information interventions need to be rigorously tested – particularly to ‘doing no harm’
■ Different structures / formats likely to meet different patient & family needs
Phenomenological – hermeneutic study

Interviews with 7 relatives

Explored the role of diaries for relatives who noted it as:

- A vehicle to express both positive and negative feelings
- “a meaningful activity”
- “allowed them to create a personal space for reflection in the ICU”
- “writing for my own sake”

...Asking the relatives to author a diary for the patient can be an important nursing intervention....
The wish to help
Should diaries only be read by those who wrote them?
Reframing the intervention – possibly 2 different interventions for patients and relatives
Discharge summary

- Pilot cluster RCT
- 2 information books:
  - 1 for patient
  - 1 for family
- Not powered for outcome in this study – effect remains unknown (286 needed for effectiveness study)
- User experience questionnaire:
  - 100% of patients & 96% of ward staff rated summary as ‘of value’
  - Some pts and relatives felt information was too basic or did not reflect pt’s experience completely
Rationale, design and methodology of a trial evaluating three strategies designed to improve sedation quality in intensive care units (DESIST study)

Timothy S Walsh,¹ Kalliopi Kydonaki,¹ Jean Antonelli,² Jacqueline Stephen,² Robert J Lee,³ Kirsty Everingham,¹ Janet Hanley,⁴ Kimmo Uutela,⁵ Petra Peltola,⁵ Christopher J Wei,⁵*: for the Development and Evaluation of Strategies to Improve Sedation practice in Intensive Care (DESIST) study investigators
So what can we take from this?

- Need for interventions to optimise psychological function after critical illness
- Essential for us to test effectiveness and check no harm
- Different ways and time points to intervene
- Mixed methods:
  - Methods driven by research question
  - Quantitative data:
    - Extent
    - Effectiveness
  - Qualitative data:
    - Refine intervention
    - Clarify acceptability / user perceptions
- Consider temporal nature & relative priority of different methods