McMaster University

St. Joseph's Healthcare Hamilton

Detecting Psychological Distress in Intensive Care

The Development, Theory and Application of the Intensive Care Psychological Assessment Tool

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"If you think about the sorts of things used for torture, you will experience most of them in intensive care. As a patient, you are often naked and exposed, you hear alarming noises at random times, your sleep-wake cycle is disrupted by being woken up for medical procedures through the night, you will be given drugs that can disorient you, and you will be regularly exposed to discomfort and feelings of threat."

H. Montgomery quotes in an article written by Vaughn Bell in The Guardian. January 19, 2014.

http://www.theguardian.com/science/2014/jan/19/intensive-care-patients-psychological-scars

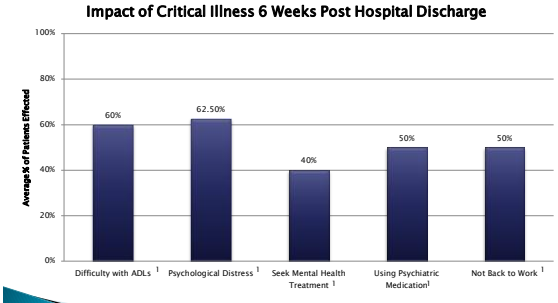
Purpose

1. Demonstrate the need for a tool to evaluate the psychological health of critically ill patients
2. Review the purpose and theory behind the development and use of the IPAT
3. Discuss the application of the IPAT
4. Consider future directions to better address patient mental health in ICU patients

The Psychology of Critical Care

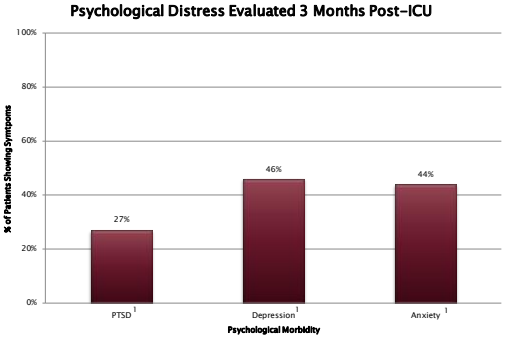
- With increasing ICU survival rates, physical and psychological recovery of patients post-ICU requires greater attention
- Patient's receiving critical care are subject to a plethora of physical and psychological changes both in and out of hospital that impact quality of life
- How can we develop tools to assess the mental health of ICU patients and prevent future psychological morbidity?

Post-ICU Mental Health



ADL – Activity of Daily Living

[1]Cox, 2012. *Intensive Care Medicine*, *38*(8), 1289-1297.

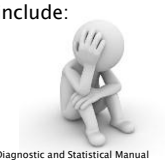


PTSD – Post-Traumatic Stress Disorder

[1]Wade et al., 2012. *Critical Care*, 16(5), R192.

Depression

- Characterized by low mood or loss of interest in everyday life for more than 2 weeks, often in conjunction with a range of cognitive, affective and somatic symptoms[1]
- Risk factors for post-ICU depression include:
  - Low education and unemployment[2,3]
  - Baseline comorbidities[2]
  - Baseline disability[2]
  - Consistently low blood glucose levels[2,3]
  - Prior history of depression[3]



[1]American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. 2013.

[2]Bienvenu et al., 2012. *American journal of respiratory and critical care medicine, 185*(5), 517-524.

[3]Wade et al., 2012. *Critical Care, 16*(5), R192.

Anxiety

- Prolonged or frequent apprehension, agitation, increased motor tension, autonomic arousal, persistent worry and fear are all common symptoms of individuals experiencing significant anxiety[1]
- Post-ICU anxiety symptoms and depression have been associated with worse physical functioning and lower health related quality of life[2]

[1]Chlan L. & Savik K., 2011. *Nursing Research, 38*(8), 1289-1297.

[2]Stevenson et al., 2013. *Journal of psychosomatic research, 75*(3), 287-293.

Post-Traumatic Stress Disorder

- A syndrome of symptoms that can follow exposure to an extreme stressor that causes injury, threatens life or physical integrity [1]
- The syndrome includes the following symptom clusters:
  - Intrusion
  - Avoidance
  - Negative alterations in cognitions and mood
  - Alterations in arousal and reactivity[1]

[1]American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. 2013.

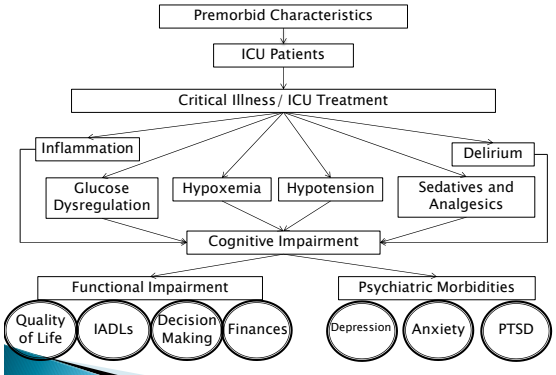
PTSD Continued

- Unpleasant ICU memories and experiences recalled by patients:
  - the endotracheal tube and suctioning[1]
  - inability to speak or effectively communicate[2]
  - family worries[2]
  - sleep deprivation[2]
  - loss of familiarity with one's environment[2,3]
  - a sensation of helplessness and loss of control[2,3]
  - nightmares and fears for one's life [2,3]

[1]Kalfon et al., 2010. *Intensive Care Medicine, 36*(10), 1751-1758.

[2]Granja et al., 2005. *Critical Care, 9*(2), R96.

[3]Wang et al., 2009. *Journal of clinical nursing, 18*(2), 183-190.



Jackson et al., 2009. *Critical Care Clinics, 25*(3), 615-628.

Psychological Effects of Common Critical Care Medications

Class of Drugs	Possible 'psychological' side effects *(British National Formulary 2008)*
Benzodiazepines	Hallucinations, confusion, amnesia, dependence, aggression, delirium
Hypnotics	*Rarely* – aggression, confusion, depression, hallucinations, amnesia
Sympatho-mimetics	Anxiety, restlessness, sweating
Anticholinergics	Memory impairment, confusion, delirium, hallucinations, depression.
Opioids	Restlessness, mood change, disorientation, agitation, delirium, hallucinations, euphoria, mental detachment, anxiety, confusion, sleep disturbances.
Glucocorticoids	Extreme psychiatric reactions – psychosis, insomnia, mood lability, suicidal thoughts, memory impairment.
Antiepileptics	Insomnia, nervousness, confusion, agitation, aggression, amnesia, depression, hallucinations
Antidepressants	Confusion, impaired concentration, abnormal dreams. Withdrawal – anxiety, sleep problems.

Joint Formulary Committee. 2008. *British National Formulary.*

The Need for an Assessment Tool

- High demand for a reliable and valid method of identifying critical care patients at risk for future psychological morbidity
- There is no quick use tool that can provide this information feasibly in a critical care setting

Intensive Care Psychological Assessment Tool I-PAT

Wade, Hankins, Smith et al. (2012) Detecting acute distress and risk of future psychological morbidity in critically ill patients: Validation of the Intensive care psychological assessment tool. Critical Care 2014, 18: 519.

Intensive Care Psychological Assessment Tool (IPAT)

I would like to ask you some questions about your stay in Intensive care, and how you've been feeling in yourself. These feelings can be an important part of your recovery. To answer, please circle the answer that is closest to how you feel, or answer in any way you are able to (e.g. by speaking or pointing.)

	Since you've been in intensive care:	A	B	C
1	Has it been hard to communicate?	No	Yes, a bit	Yes, a lot
2	Has it been difficult to sleep?	No	Yes, a bit	Yes, a lot
3	Have you been feeling tense?	No	Yes, a bit	Yes, a lot
4	Have you been feeling sad?	No	Yes, a bit	Yes, a lot
5	Have you been feeling panicky?	No	Yes, a bit	Yes, a lot
6	Have you been feeling hopeless?	No	Yes, a bit	Yes, a lot
7	Have you felt disorientated (not quite sure where you are)?	No	Yes, a bit	Yes, a lot
8	Have you had hallucinations (seen or heard things you suspect were not really there)?	No	Yes, a bit	Yes, a lot
9	Have you felt that people were deliberately trying to harm or hurt you?	No	Yes, a bit	Yes, a lot
10	Do upsetting memories of intensive care keep coming into your mind?	No	Yes, a bit	Yes, a lot

Intensive Care Psychological Assessment Tool (IPAT)

SCORING

Any answer in column A = 0 points
Any answer in column B = 1 point
Any answer in column C = 2 points

Sum up the scores of each item for a total I-PAT score out of 20

Cut-off point ≥7 - indicates patient at risk

Scale Development

- The IPAT was adapted from the 18-item intensive care stress scale (ICUSS)
- Items from ICUSS were selected if they had a medium to large correlation with at least one outcome (PTSD, depression and anxiety) and satisfied NICE CG83 requirements[1]
- Correlations of items selected for the IPAT and psychological outcomes ranged from r=0.25, p <0.01 to r=0.47, p <0.01[1]

[1]Wade et al., 2014. *British journal of health psychology, 18:519.*

Breaking Down the Components of the IPAT

1. Communication

Has it been hard to communicate?	No	Yes, a bit	Yes, a lot

- Inability to communicate was the most recalled ICU experience among post-ICU patients[1]
- 82.3% rated the inability to communicate as moderately or extremely bothersome[1]

[1]Rotondi et al., 2002. *Critical Care Medicine, 30*(4), 746-752.

2. Sleep

Has it been difficult to sleep?	No	Yes, a bit	Yes, a lot

- Factors include patient-ventilator dysynchrony, medications, patient care interactions, and environmental noise and light[1]
- Psychiatric disturbances— Depressive symptoms[2] and increased levels of fatigue, anxiety, and stress[3] in individuals experiencing sleep restriction
- Cognitive dysfunction— Short- and long-term neurocognitive deficits associated with sleep deprivation:
  - Memory, attention and concentration
  - Language
  - Visuospatial abilities
  - Mental processing speed and executive function[4]

[1]Kamdar et al., 2012. *Journal of intensive care medicine, 27*(2), 97-111.
[2]Salas & Gamaldo, 2008. *Critical Care Clinics, 24*(3), 461-476.
[3]Dinges et al., 1997. *Sleep Medicine*, 20(4).
[4]Hopkins & Brett, 2005. *Current opinion in critical care, 11*(4), 369-375.

3. Tense

Have you been feeling tense?	No	Yes, a bit	Yes, a lot

- Related to factors such as fear, upsetting memories or hallucinations, constant worrying, disorientation, etc.[1]
- A major diagnostic criteria for anxiety disorders[1]

[1]American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. 2013.

4. Sadness

Have you been feeling sad?	No	Yes, a bit	Yes, a lot

- Prolonged sadness can be detrimental to psychological health and a predictor of future psychological morbidity, particularly depression
- 25% of patients discharged from the ICU had abnormal levels of depressive mood[1]

[1]Kowalazyk et al., 2013. *European Journal of Anaesthesiology, 30*(3), 111-118.

5. Panicky

Have you been feeling panicky?	No	Yes, a bit	Yes, a lot

- Sudden periods of intense fear or apprehension accompanied by bodily or cognitive symptoms
- A commonly described characteristic in interviews with discharged ICU patients demonstrating symptoms of PTSD[1]
- Characteristic of anxiety disorder[2]

[1]Wade et al., 2014. *British journal of health psychology, 18:519.*
[2]American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. 2013.

6. Hopelessness

Have you been feeling hopeless?	No	Yes, a bit	Yes, a lot

- Negative thoughts or feelings towards the future[1]
- A potential characteristic of people with depressed mood or dysthymia[1]

[1]American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. 2013.

7. Disorientation

Have you felt disoriented (not quite sure where you are)?	No	Yes, a bit	Yes, a lot

- Acute delirium is also associated with the development of dementia-like cognitive impairment manifesting in deficits in memory, attention, and concentration[1]
- A key feature of delirium common in ICU patients
- The prevalence of delirium in ICU patients is around 30%[2,3] however mechanically ventilated patients experience a higher prevalence of 60-80%[4]

[1]Wilcox et al., 2013. *Critical Care Medicine*, *41*(9), S81-S98.
[2]Van Rompaey et al., 2009. *Critical care*, *13*(3), R77.
[3]Salluh et al., 2010.*Crit Care*, *14*(6), R210.
[4]Shehabi et al., 2010. *Critical care medicine*, *38*(12), 2311-2318.

8. Hallucinations

Have you had hallucinations (seen or heard things you suspect were not really there)?	No	Yes, a bit	Yes, a lot

- A common perceptual disturbance described by ICU patients[1]
- ICU survivors reported they were more disturbed by frightening hallucinations /delusions than real events suggesting they may have post-psychosis PTSD rather than classic PTSD[1]
- Part of delirium diagnostic criteria

[1]Wade et al., 2014. *British journal of health psychology, 18:519.*

9. Deliberate Harm

Have you felt that people were deliberately trying to harm or hurt you?	No	Yes, a bit	Yes, a lot

- Can be linked to hallucinations and upsetting memories.
- Several documented examples in the literature of individuals who think that their visitors and/or medical staff are "trying to kill them".
- Part of delirium diagnostic criteria

10. Upsetting Memories

Do upsetting memories of intensive care keep coming into your mind?	No	Yes, a bit	Yes, a lot

- A common characteristic of PTSD[1]
- Factual recall and delusional memories were strongly associated with the development of subsequent psychological trauma[2,3]
- Memories of distress due to lack of control throughout ICU treatment was a strong predictor for PTSD-related symptoms, anxiety, and depression at long-term follow up[3]

[1]Karnatovskaia et al., 2015. *Journal of critical care*, *30*(1), 130-137.
[2]Myhren et al., 2010. *Critical Care*, *14*(1), R14.
[3]Wade et al., 2014. *British journal of health psychology, 18:519.*

Administering the IPAT (CYCLE)

- The IPAT is administered after ICU awakening. The patient must not be delirious.
- Determine the patient's location and make contact with the clinical team (typically, the bed-side nurse) preferably in-person
- Introduce yourself as part of the research team and the need to complete a brief interview / questionnaire with the patient that should last about 10 minutes
- Determine with the bedside clinician if the patient could be approached by you to administer the IPAT for a uninterrupted period of about 5 to 10 minutes
- Once suitability has been determined, choose a quiet time to approach the patient

- Show the patient the form with the questions. If the patient can fill out the questionnaire, allow them to take the form and complete it.
- In most cases, you will need to read the instructions to the patient, followed by each question, and show/read them the 3 response options
- Ask the patient if they have any follow-up questions and make any notes on the form.
- If the patient scored ≥7 then ask if they would be interested in someone coming to talk to them about these feelings

Administering the IPAT

- Things to consider when with the patient
  - Try and create a private environment with the patient
  - Help the patient feel comfortable conversing with you about the questions and the experiences they describe
  - Consult with the patient's nurse if the score indicates psychological risk and mention that a psychologist will follow up (if the patient was interested)

Our Experiences so Far

- No awakening assessment has taken more than 10 minutes to complete
- No patient has declined to attempt the questions
- Of the 7 IPAT awakening assessments
  - 4 individuals have scored ≥7 indicating risk of future psychological morbidity
  - Only 1 individual has completed the IPAT themselves (taking the pen and paper)
- What are the next steps for a score ≥7?

Goals for the Future

- To have a reliable and valid method for identifying patients at risk for psychological morbidity following critical care
- Practices for addressing the mental health of patients identified
- Improving long term psychological outcomes for patients

Future Considerations for Assessing Mental Health in Critically Ill Patients