

REDUCING INSTANCES OF PTSD IN ICU SURVIVORS

by

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DEDICATIONS

This paper is dedicated to my husband, Mark, who has supported me through this entire process. I appreciate his patience while I navigated this journey through home, work, and school.

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## GLOSSARY

**Illusions:** Misperceptions of an existing external stimulus. An example would be a patient noticing the IV tubing lying across her bed and thinking that it is a snake rather than plastic tubing.

**Delusion:** Fixed, false beliefs that cannot be corrected by logic and are not consistent with the education of the patient. An example would be that a patient is convinced the hospital staff is attempting to kill him.

**Hallucinations:** False sensory perceptions experienced without real external stimulus.

Examples include hearing voices that are not there, or seeing things that are not there.

**Therapeutic Communication:** Process of interacting between patients and nurses that focuses on advancing the physical and emotional well-being of a patient.

## ABSTRACT

**Rational:** As many as 20-30% of adult ICU survivors will experience PTSD related to their time as a patient in the ICU. The symptoms of PTSD can last months or years and prevent a full recovery from critical injury or illness. Patients that experience ICU delirium are at the highest risk for developing post-ICU PTSD. Many hospitals in Europe have begun using ICU after care programs to help patients cope with traumatic ICU memories and prevent a PTSD diagnosis.

**Purpose and Methods:** The purpose of this project was to develop a nurse-led ICU after care program to prevent instances of PTSD in adult ICU survivors. Patients volunteered to participate in this project after seeing advertisements posted in the ICU and after receiving invitation letters in the mail at home. Patients were screened for PTSD using the PTSS-14, had a chance to speak with an ICU nurse about their experiences in ICU, and one patient was even able to return to the ICU and speak about that experience. Patients were then re-screened for PTSD approximately 2 weeks after their after care experience.

**Findings:** Small sample size precludes any evaluation of this intervention. However, all participants did demonstrate evidence of decreased anxiety scores after their participation.

**Implications:** Future ICU aftercare programs may have increased participation if the data collection period is extended to at least six months and if the patients are contacted closer to 3 months post ICU discharge. PTSD itself and the Rural Nursing Theory may decrease participation in these programs without specific interventions to address them.

## CHAPTER ONE — INTRODUCTION

Significance

Intensive care unit (ICU) survivors often leave the hospital with permanent scars. They may have scars as a result of medical interventions or residual symptoms of their physical illness, but they often have psychological scars as well. Fearful memories of time in ICU are quite common. In fact, in an observational study by Granja, Gomes, Amaro, Ribeiro, Jones, Carneiro, and Costa-Pereira (2008), 80% of ICU survivors report memories of fear of harm or death by the ICU staff that was caring for them. One reason these memories cause distress is because patients are often unable to differentiate which memories from ICU were factual and which memories were delusional (Kiekkas, Theodorakopoulou, Spyrtatos, & Baltopoulos, 2010). However, patients are often ashamed to ask since they believe admitting to delusions will indicate psychological instability (Kiekkas et al., 2010).

Psychological stress for ICU survivors can progress into a diagnosis of post-traumatic stress disorder (PTSD United, 2013). Jones et al. (2010) note that as many as 1 in 10 ICU survivors will develop a diagnosis of PTSD after ICU discharge. Post-traumatic stress disorder can cause increased chronic health conditions, unemployment, and divorce or separation from families (Jones et al., 2010). The cost of lost work and medical treatments for PTSD in the United States is more than \$42 billion (PTSD United, 2013).

Patients often heal physically from a critical illness or injury, but continue to be disabled due to psychological stress incurred while in the ICU. Traditionally an ICU stay was considered successful if patients survived and transitioned to a regular hospital room (Modrykamien, 2012). However, for the patient whose quality of life is dramatically altered due to residual psychological distress, this measure of success is not enough. More and more professionals in the medical community agree that successful ICU treatment should extend beyond tending to the acute physical ailments to include psychological well-being (Gjengedal, Storli, Holme, & Eskerud, 2010).

Intensive care units in Europe have been using diaries for several years as an intervention to reduce instances of PTSD (Engstrom, Grip, & Hamren, 2009). The nurses and the patient's family members write in the diaries as way of documenting the patient's ICU experience. "A diary explaining what happened to the patient in ICU might help patients fill in gaps in their memories, place any delusional memories into context and aid psychological recovery," (Jones, et al. 2010. P.9). However, this intervention has not been widely utilized in the United States. There is, however, increasing research in the United States regarding delirium during critical care and ways to decrease instances of delirium. According to Jones et al (2010), delirium in the ICU is one of the primary reasons patients develop PTSD after discharge. Using less sedation, allowing for more family interaction, early mobilization, and ensuring vented patients wear their glasses and hearing aids during the day are all current interventions used to reduce instances of delirium (Rivosecchi, Smithburger, Svec, Campell, & Kane-Gill, 2015). Although ICU's in the United States are working to reduce the instances of delirium, there are

currently few interventions used to prevent PTSD caused by delirium when it does occur. Due to the nature of a patient's illness, sometimes delirium is inevitable, but Jones et al (2010) point out that with early intervention after the delirium has resolved, a diagnosis of PTSD may be avoided. One successful intervention successfully used in Europe to prevent post-ICU PTSD is the nurse-managed after care clinic for ICU survivors.

The purpose of this project was the development and implementation of a nurse-managed after care program to reduce PTSD symptoms in adult ICU survivors.

### Conceptual Framework

Peplau's theory of Interpersonal Communication was used for this project. Peplau (1997) noted that hospitals are often places where medical technology and science are prioritized, causing stress for the patient with unmet interpersonal needs. Frequently during a critical illness, patients are sedated and mechanically ventilated, which renders the patient unable to speak during that time. However, the patient still experiences sights, sounds, smells, and tactile stimuli (Engstrom, Grip, & Hamren, 2009). It is during and immediately after this time of critical illness, when patients may feel stress and isolation, that interpersonal relationships become essential (Peplau, 1997).

## CHAPTER TWO — REVIEWING THE EVIDENCE

ICU Survivors

Patients often have a desire to talk to someone about their ICU experiences, but often find it challenging to do so. Family members of patients, who experienced their own trauma of having a critically ill loved one, often want to forget the whole experience and are emotionally unavailable to the patient (Hall-Smith, Ball, & Coakley, 1997). Patients often feel frustration and get very little support from the platitudes from well-meaning people who have never experienced a critical illness or injury (Pattison et al., 2007). Another reason that patients find it difficult to speak about their ICU experiences is that they are afraid they are becoming psychologically unstable. Patients often do not realize that the hallucinations, delusions, illusions and nightmares from their ICU stay were actually hallucinations, delusions, illusions and nightmares. “Patients generally perceive these experiences as factual at the time of their occurrence and question their real nature only after ICU discharge,” (Kiekkas et al., 2010, p. 289). These frightening memories, real or delusional, can haunt patients long after their illness has resolved (Long et al., 2014, p. 825). Because of these memories and nightmares, patients often develop a fear of falling asleep or a fear of becoming psychologically unstable (Kiekkas, Theodorakopoulou, Spyrtatos, & Baltopoulos, 2010). However, real memories, unpleasant though they may be, may protect patients from PTSD by allowing them to question the reality of delusional memories (Kiekkas et al., 2010, Jones, Griffiths, Humphris, & Skirrow, 2001).

### Post Traumatic Stress Disorder

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders-5 lists the diagnostic criteria for PTSD as: A.) exposure to actual or threatened death, serious injury, or sexual violence, B.) the presence of recurrent, involuntary memories of the event, recurrent dreams, flashbacks, and/or prolonged psychological distress at exposure to internal or external cues that resemble the traumatic event, C.) persistent avoidance of stimuli associated with the traumatic event, D.) negative alterations in cognition or mood associated with the traumatic event, E.) marked alterations in arousal and reactivity associated with the traumatic event including sleep disturbances, exaggerated startle response, and/or reckless behavior, F.) duration of these disturbances lasting more than 1 month, G.) causing significant impairment in social, occupational or other important areas of functioning, and H.) the above symptoms are not attributed to alcohol or drugs.

The time spent in an ICU, on a ventilator, sedated, and often restrained can be perceived as a real trauma to many ICU patients. As patients try harder to avoid thinking about their perceived trauma, those unwanted thoughts become more pervasive and lead to a more intense psychological arousal (Jones et al., 2010). Post-ICU PTSD can delay physical healing, contribute to sleep disorders, and intensify feelings of detachment from friends and family, which can all decrease functional recovery from a critical illness (Ballenger & Et al., 2000).

In addition to the pain and discomfort of their critical illness or injury, patients are also often administered stress hormones such as epinephrine and dopamine as part of

their treatment (Griffiths et al., 2005). Griffiths, Radcliffe, and Lawson (2005) propose that if the stress response of a patient is exaggerated during a trauma, as it is with the intravenous administration of these hormones, it may lead to increased instances of PTSD. The use of wrist restraints and sedating medications also increase the risk of PTSD (Long, Kross, Davydow, & Curtis, 2014). Cuthbertson, Hull, Strachan and Scott (2004) suggest that as many as 14%-27% of all ICU patients may develop PTSD. Long, Kross, Davydow, and Curtis (2014) note that healthcare teams can no longer ignore the frequency of post-ICU PTSD and the impact of PTSD may last for years without treatment.

### Nursing Interventions

When patients are able to speak with someone who is familiar with the ICU and critical illness, they are able to receive and process factual information, which is very beneficial for psychological recovery (Long et al., 2014). Many ICU's around the world use diaries completed by the nursing staff to document a patient's ICU course (Engstrom et al., 2009). However, reading a diary account of their critical illness is often not enough for patients to avoid PTSD. Patients also benefit from speaking about their diary with an ICU nurse. "When a patient recalls a terrifying experience from ICU, and then reads the nurse's description of the event, the ensuing conversation may shed new light on the situation for the patient as well as the nurse," (Gjengedal, Storli, Holme, & Eskerud, 2010, p. 181). Without validation and clarification about the events written in the diaries, patients can have a difficult time moving on and instead ruminate about the events

causing confusion or misunderstanding (Engstrom, Grip, & Hamren, 2009). Also, ICU survivors that had artificial ventilation during their stay often remember the terror of wanting to communicate and not being able to do so. Having the opportunity to finally say out loud what they wanted to say at the time they were being ventilated can be very therapeutic for patients (Pattison et al., 2007). Discussing their fears and memories with a nurse gives patients this opportunity.

Aftercare programs are one way nurses can impact the recovery of patients by providing the time and space for patients to speak openly about their ICU memories. When patients are able to speak with an ICU nurse who is familiar with the course of treatments and the ICU milieu, memory gaps may be filled and clarity may be provided to foggy memories (Jones & O'Donnell 1994). Patients are able to express their feelings and receive validation from someone who knows what ICU is about (Pattison, Dolan, Townsend & Townsend 2005). Rattray and Crocker (2007) reported that in the United Kingdom, the most common model for an ICU aftercare program is a nurse-led approach, where patients meet with nurses to debrief, and nurses assess for ongoing anxiety that could lead to PTSD.

Williams (2009) noted that for patients, if the story about this life-threatening event is not fully understood, there is always the lingering thought that they may be susceptible to a repeat episode. A return to the ICU unit to see the rooms, hear the sounds, and revisit the nurses can increase understanding of their ICU experiences (Samuelson & Corrigan, 2009), and can be a helpful component of an ICU after care clinic. Storli and Lind (2009) revealed that a woman who spent time in ICU had

recurrent nightmares about a man panting at her bedside during her ICU stay. She believed he sexually molested her and just stayed by her bed panting. However, when she returned to the ICU months later and heard the panting noise the ventilators made, she realized that there never was someone panting near her bed, only the ventilator. This after care visit freed her mind from the fear and anxiety of a sexual assault that never occurred.

An ICU after care clinic is a therapeutic intervention that may not only help patients understand and process their ICU experience, but may also help patients have a more realistic expectation for their physical recovery (Rattray & Crocker, 2007). In Europe where ICU after care clinics are used more frequently, the majority of them are nurse-led (Griffiths, Barber, Cuthbertson, & Young, 2006). Rattray and Crocker (2007) note that an after care appointment approximately 2-3 months after hospital discharge is ideal since patients will generally have the strength to participate in the dialogue by that time. This is also an ideal time to assess patients for symptoms of PTSD so that it can be recognized and treated before it progresses into a chronic condition (Jones, Griffiths, Humphris, & Skirrow, 2001). The American Psychiatric Association reports that symptoms of PTSD usually manifest within the first three months after the perceived trauma (2013). The after care appointment should not only consist of therapeutic communication between the patient and the nurse, but a thorough assessment of the psychological well-being of the patient should be completed so that PTSD not resolved through dialogue does not go untreated (Hall-Smith, Ball, & Coakley, 1997). Granja et al. (2008) report using the Post Traumatic Stress Disorder (PTSS)-14 assessment tool

(Appendix A) to assess for symptoms of PTSD. Patients who feel overwhelmed or confused about their experience generally score highest on the PTSS-14, indicating PTSD. Per Jones et al (2010), the Post-Traumatic Stress Syndrome 14 (PTSS-14) screening tool is helpful since it only takes about 5 minutes to complete, and has been validated with ICU patients by the RACHEL group in a previous international study. Patients who score high on the PTSS-14, even after participating in the aftercare program, can be referred to a mental health professional for further treatment.

## CHAPTER THREE — METHODS

The purpose of this project was the development and implementation of a nurse-managed after care program to reduce PTSD symptoms in adult ICU survivors. The after care program consisted of assessment of symptoms of PTSD, an unstructured interview with the graduate student to allow participants to talk about their ICU experiences, followed 2 weeks later by a repeat assessment of symptoms of PTSD. to assess whether or not the interview was helpful and to determine if a mental health referral was warranted.

Population

The participants of this project included adult ICU survivors ages 18 years and older that were in the ICU for at least 48 hours and were on a ventilator at some point during their ICU stay. This sample of participants could read and speak English fluently, and did not have any pre-existing, ongoing psychosis that would complicate a new diagnosis of PTSD. Participants had no history of neurologic trauma or hypoxic brain injury that could potentially alter their neurologic functioning during recovery.

Setting

This project took place at a regional, level II trauma center in the Northern Rockies. This hospital services a 250-mile radius, which includes a popular national park. It has a twenty-bed Level I general ICU, and a nine bed cardiovascular ICU. This is an open ICU, which accepts admissions from any physician privileged to care for patients

at this facility. The ICU has two intensivists physicians and one acute care nurse practitioner who admit or consult on the majority of patients admitted to the ICU. This ICU utilizes diaries kept by the acute care nurse practitioner and the patients' families as a memory tool for ICU survivors.

### Ethical Considerations

Approval was obtained prior to implementing this program from both the Institutional Review Board at Montana State University and the hospital where the interventions took place. Participants volunteered for participation in this project after either seeing a recruitment flyer at the hospital or after receiving an invitation letter in the mail after discharge from the hospital. Recruitment flyers (Appendix B) were placed in the ICU waiting areas and public restrooms, which provided information about the project and who to contact for participation. Invitation letters (Appendix D) were also sent from the graduate nursing student to patients who met inclusion criteria within two to four weeks of discharge. All ICU nurses and physicians were briefed about this project so that they could refer patients they thought would benefit from the intervention.

Participants signed consent forms (Appendix C) prior to the start of the after care program. Because this project intervention was associated with recognizing and treating a psychological condition, participants were at risk for increased anxiety and anguish if they agreed to return to the ICU. It was stressed that participants were free to withdraw their participation at any time for all or part of the intervention. Participants were made aware prior to participation in the intervention that referrals to mental health

professionals would be provided if the nurse or the patient determined it would be beneficial.

Data such as written screening tools, audio recordings of interviews, and any notes made by graduate nursing student were labeled with a number, rather than the participant's name to protect privacy, and kept in a secure file cabinet in the student's home office. Privacy was fully maintained throughout the project.

### Screening Tool

Because the screening for post-ICU PTSD was conducted by a nurse, rather than a mental health professional in this case, there was a need for a simple but accurate tool for assessment. The PTSS-14 was developed for this reason. Previous screening tools were either too lengthy for patients still recovering from critical illness or they did not assess for all the diagnostic criteria set forth by the American Psychiatric Association's DSM-IV, which was the version used to develop the PTSS-14 (Twigg, Humphris, Jones, Bramwell & Griffiths 2008). This tool evolved from the PTSS-10, which was a validated, reliable tool to screen for PTSD, but did not include questions about avoidance and flashbacks, which have been found to be important characteristics of PTSD (Twigg, et al. 2008). The PTSS-14 was developed including this new criteria and has demonstrated 97% specificity (CI=85.8-99.5) and 86% sensitivity (CI= 42.2-97.6) for PTSD (Twigg, et al.)

There are fourteen questions in the PTSD-14 screening tool. Patients rate their answers to each question from 1 (never) to 7 (always). A score of 28 or higher out of 98

possible points is indicative of PTSD. Scores of 27 or lower do not indicate PTSD. The PTSD-14 can be completed in 5 minutes, which is good for ICU survivors that may still have ongoing health issues and limited endurance.

### Procedure

The graduate nursing student spoke by telephone with each patients who expressed interest in the program. During the phone call, eligibility was confirmed and the volunteer nature of the project was explained. Contact information, including telephone number and home or email address was collected from each patient agreeing to participate. An appointment with the graduate nursing student was scheduled to take place at the hospital or via telephone or video chat (Facetime) for patients that were unable to travel back to the hospital due to distance or health concerns. Participants were invited to have with them their ICU diaries, if they had one, and any photos that their family took of them while they were in ICU. Appointments were scheduled approximately 1 month after discharge from ICU. Patients' family members were also welcome to attend the appointment.

For in-person meetings, a) consent to participate was obtained at the start of the meeting and the PTSD-14 (Appendix A) was administered during the meeting. For telephone and Facetime meetings, consent to participate and the PTSD-14 were mailed to each participant to complete prior to the meeting with the graduate nursing student.

During the meeting, for each item on the PTSD-14 to which the participants answered "sometimes" or "always", the graduate nursing student asked the participants to

elaborate on their specific symptoms. If the ICU diary was available, participants were asked to talk about the diary and their feelings regarding the information and photos that were included.

The participants who came to the hospital for a meeting were then brought across the hall into the ICU for a return visit. The participants were introduced to some of the nurses and physicians that may have cared for them. The participants were also able to see the sights and sounds of the ICU, including the monitor alarms, the ventilators, and the staff in uniform. The participants then returned to the conference room and were given an opportunity to discuss their feelings about returning to the ICU. An open-ended, mostly unstructured interview technique was used to allow patients to express their own thoughts and feelings (Appendix E). Patients that met with the graduate nursing student via telephone or Facetime did not have the option of returning to the ICU.

Two weeks after the appointment, a second copy of the PTSS-14 was sent to participants to complete. The tool was sent either electronically or via United States Postal Service with a self-addressed stamped envelope for return to the graduate nursing student. If the PTSS-14 was not received within 10 days, the graduate nursing student called participants to remind them to return the tool. If the assessment tool was not returned after that, it was assumed the participant withdrew his or her participation. Participants that scored higher than 28/14 on the repeat PTSS-14 were referred to a behavioral health professional for further treatment.

## CHAPTER FOUR — RESULTS

Participants

A total of 12 recruitment fliers were placed in the public areas of the ICU and a total of 96 invitation letters were sent out to eligible ICU patients between July and September of 2016. A total of 10 patients reached out to the graduate nursing student. Of those 10 patients, only one of the patients was considered local, living within a 50-mile radius of the hospital. The other nine patients were from out of state and lived more than 500 miles away from the hospital. One of the 10 patients did not meet inclusion criteria (48-hour length of stay in the ICU, ventilator, and sedation). After learning about the program, 4 of the 10 patients declined participation, the most common reason being continued poor health. Two of the 10 patients started the process by signing consent forms, but changed their minds about participation before the first meeting with the graduate student. The final group of participants included one female and two males, with ages ranging from 36 to 81 years of age. Reasons for ICU admission included emergent thoracic surgery (n=1), injuries sustained after a motor vehicle accident (n=1), and cardiomyopathy and heart failure (n=1). All of these patients were on a ventilator for at least 24 hours. The shortest length of ICU stay was 72 hours and the longest was six weeks. Only one patient had a diary kept for him while he was in the ICU, but it did not contain any pictures. Another patient had three photographs of herself while on the ventilator, but did not have a diary written for her. One patient met the graduate nursing

student at the hospital, one patient participated via telephone, and one participated via Facetime.

A score of 28/98 on the PTSD-14 is suggestive of PTSD. Of the three participants that completed the intervention, no one scored high enough on the pre-intervention or post-intervention PTSS-14 to suggest PTSD and post-intervention scores were lower for all three participants. The pre- and post- intervention PTSS-14 scores can be seen in Table 1. Although the plan was to only refer patients to a mental health professional if their PTSS-14 scores were greater than 28/98, each patient that participated in this project was offered a referral to a behavioral health professional regardless of their score. This change in protocol was made because the first patient interviewed expressed ongoing fear and concern about his motor vehicle accident. Because he was offered a referral, the other participants were also offered that referral. However, all three participants declined that referral.

Table 1. PTSS-14 Scores

	Pre-Intervention	Post-Intervention
Participant A	14/98	7/98
Participant B	10/98	8/98
Participant C	7/98	7/98

### ICU Memories

All of the patients had memories of feeling as though the hospital staff was trying to harm them in some way. Each participant recounted memories of trying to remove

monitoring equipment or intravenous (IV) catheters in an attempt to escape from the hospital staff. Once the patients were coherent and understood their situation better, they were embarrassed at having thought the hospital staff was trying to harm them. All the patients believed those thoughts coincided with the administration of sedatives. Patient B stated,

*I remember my arms being tied to the bed and the doctors and nurses standing around me. I felt like I was in a true crime drama and I was being held against my will. I tried to play it cool so that my kidnappers would not know I was panicking, but I was frantically looking around for my husband or my mother because I knew if I saw them, they would not let anything bad happen to me. I was so ashamed when the sedation wore off and I realized where I was. I hope the staff did not know what I was thinking.*

However, despite believing the hospital staff was going to hurt them, all the participants mentioned that they felt as though they received excellent care while in the ICU. Patient A said:

*The nurses tried so hard to keep me comfortable. They brought me medicine whenever I needed it, and they would reposition me and pad me with pillows whenever I needed it. They worked so hard to keep me comfortable. I don't think I have ever had nurses be so concerned with my comfort at hospitals back home.*

Patient C said:

*I feel so lucky that I was life-flighted to this hospital. I could not have asked for better nurses. They all cared so much about me. They got to know me as a person, which made this whole experience easier to handle. They are angels, every single one.*

## CHAPTER FIVE — DISCUSSION

The purpose of this project was to develop an after care program in order to reduce instances of PTSD in adult ICU survivors. Although post-intervention PTSD-14 scores were lower for all three participants, the small sample size precludes any evaluation of the intervention itself. However, valuable lessons were learned about the process of developing and implementing an evidence based intervention to address PTSD in ICU survivors.

Limitations

This project is limited by the small number of participants. One reason for this could be PTSD itself. According to the American Psychiatric Association's (2013) definition of PTSD, avoidance of situations that remind one of the traumatic event is one of the diagnostic criteria. If patients were experiencing PTSD, agreeing to participate in this project could be extremely difficult due to the tendency to avoid reminders of the ICU.

Another reason for the small number of participants could be due to the rural nature of the area this hospital services. The northwest region of America is known for its frontier attitude of resilience and emphasis on individual autonomy. While doing research to develop the rural nursing theory, Long and Weinert (1989) developed a theoretical statement that, "Rural dwellers are self-reliant and resist accepting help or services from those seen as 'outsiders' or from agencies seen as national or regional 'welfare' programs," (p.120). For this reason, local patients may have been wary about

contacting an out-of-state graduate student to discuss sensitive mental health concerns. This could explain why all but one of the patients that responded to the graduate nursing student were from larger cities in other states.

Time was also a limitation for this project. The IRB approval process took longer than expected, leaving only three months for data collection. Once IRB approval was obtained, it took about three weeks to get approval to post recruitment fliers around the ICU and orient the staff to the project. Significantly more patients responded to the invitation letters towards the end of the project as compared to the beginning. One patient stated that his wife took down the phone number from the flier in the ICU restroom, a case manager in the ICU mentioned this project to them at discharge, and the invitation letter was received a few weeks later. The patients mentioned that those three invitations to participate made him feel as though this project was important, which is why he volunteered. The patients who received letters toward the beginning of the project did not have the opportunity to see the fliers or hear staff referrals. With a little more time, perhaps more patients would have volunteered to participate. If this project were to be repeated, a six-month data collection period may be beneficial.

#### Implications for Future Projects

In the future, a change to the project design may yield more results. At this hospital, patients' families are in possession of the ICU diaries from the beginning and take them home with them at discharge. However, per Hale, Parfitt, and Rich (2010) one hospital kept the patient diaries and only provided them to the patients at an aftercare

appointment approximately one month after discharge. Patients may want to retrieve that diary, which would increase the number of patients who attend the aftercare meetings. A drawback to this approach is not allowing the patients to read through the diary in private before speaking with the nurse. However, Engstrom, Grip, and Hamren (2009) discuss how important it is for patients to speak about the diaries, perhaps reviewing the diary for the first time with a nurse and then returning for a second appointment would be beneficial. This would allow the patients to establish a relationship with the nurse at the initial visit when the diary is presented, which may decrease apprehension at returning for a second visit to discuss the diary and the any symptoms of PTSD.

### Conclusion

Due to the limited participation in this project, no definitive conclusions can be made as to its effectiveness. However, per Jensen, Thomsen, Overgaard, Bestle, Christensen, and Egerod (2015) the literature indicates that new onset PTSD can be significantly reduced with an ICU aftercare program. At the very least, PTSD can be identified and referrals to mental health specialist can be made. Because PTSD can be so debilitating for patients, further research as to how best to deliver that support is warranted.

REFERENCES CITED

- American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition. (DSM-5). Arlington, VA: American Psychiatric Association.
- Ballenger, J. C., & Et al. (2000). Consensus statement on posttraumatic stress disorder from the International Consensus Group on Depression and Anxiety. *The Journal of Clinical Psychiatry*, *61*(5), 60-66.
- Cuthbertson, B., Hull, A., Strachan, A., & Scott, J. (2004). Post-traumatic stress disorder after critical illness requiring general intensive care. *Intensive Care Medicine*, *30*, 450-455.
- Engstrom, A., Grip, K., & Hamren, M. (2009). Experiences of intensive care unit diaries: 'Touching a tender wound'. *Nursing Critical Care*, *14*(2), 61-67.
- Gjengedal, E., Storli, S., Holme, A., & Eskerud, R. (2010). An act of caring-patient diaries in Norwegian intensive care units. *Nursing in Critical Care*, *15*(4), 176-184. <http://dx.doi.org/10.1111/j.1478-5153.2010.00402.x>
- Granja, C., Gomes, E., Amaro, A., Ribeiro, O., Jones, C., Carneiro, A., & Costa-Pereira, A. (2008). Understanding posttraumatic stress disorder-related symptoms after critical care: The early illness amnesia hypothesis. *Critical Care Medicine*, *36*(10), 2801-2809. <http://dx.doi.org/10.1097/CCM.0b013e318186a3e7>
- Griffiths, J. A., Barber, V. S., Cuthbertson, B. H., & Young, J. D. (2006). A national survey of intensive care follow-up clinics. *Anaesthesia*, *6*(10), 950-955. <http://dx.doi.org/doi:10.1111/j.1365-2044.2006.04792.x>
- Griffiths, J., Radcliffe, J., & Lawson, A. (2005). Post-traumatic stress disorder and intensive care. *Care of the Critically Ill*, *21*(2), 37-39.
- Hale, M., Parfitt, L. & Rich T. (2010). How diaries can improve the experience of intensive care patients. *Nursing Management*. *17*(8). 14-18.
- Hall-Smith, J., Ball, C., & Coakley, J. (1997). Follow-up services and the development of a clinical nurse specialist in intensive care. *Intensive and Critical Care Nursing*, *13*, 243-248.
- Jensen, J.F., Thomsen, T., Overgaard, D., Bestle, M.H., Christensen, D. & Egerod, I. (2015). Impact of follow-up consultations for ICU survivors on post-ICU syndrome: a systematic review and meta-analysis. *Intensive Care Med* *41*, 763-775. Doi: 10.1007/s00134-015-3689-1

- Jones, C., Backman, C., Capuzzo, M., Egerod, I., Flaatten, H., Granja, C., ... Griffiths, R. (2010). Intensive care diaries reduce new onset posttraumatic stress disorder following critical illness: a randomised, controlled trial. *Critical Care*, *14*(5), 1-10. <http://dx.doi.org/10.1186/cc9260>
- Jones, C., Griffiths, R. D., Humphris, G., & Skirrow, P. M. (2001). \_Memory, delusions, and the development of acute posttraumatic stress disorder-related symptoms after intensive care. *Critical Care Med*, *29*(3), 573-580.
- Jones, C., & O'Donnell, C. (1994). After intensive care - what then? *Intensive and Critical Care Nursing*, *10*, 89-92.
- Kiekkas, P., Theodorakopoulou, G., Spyrtatos, F., & Baltopoulos, G. (2010). Psychological distress and delusional memories after critical care: A literature review. *International Nursing Review*, *57*(3), 288-296. <http://dx.doi.org/10.1111/j.1466-7657.2010.00809.x>
- Knowles, R., & Tarrier, N. (2009). Evaluation of the effect of prospective patient diaries on emotional well-being in intensive care unit survivors: A randomized controlled trial. *Critical Care Medicine*, *37*(1), 184-191.
- Long, A. C., Kross, E. K., Davydow, D. S., & Curtis, J. R. (2014). Posttraumatic stress disorder among survivors of critical illness: creation of a conceptual model addressing identification, prevention, and management. *Intensive Care Med*, *40*, 820-829. <http://dx.doi.org/10.1007/s00134-014-3306-8>
- Long, K.A. & Weinert, C. (1989). Rural nursing: Developing the theory base. *Scholarly Inquiry for Nursing Practice*., *3*, 113-127.
- Modrykamien, A. M. (2012). The ICU follow-up clinic: A new paradigm for intensivists. *Respiratory Care*, *57*(5), 764-772. <http://dx.doi.org/doi:10.4187/respcare.01461>
- PTSD United (2013). PTSD Statistics. Retrieved March 30, 2015, from <http://www.ptsdunited.org/ptsd-statistics-2/>
- Pattison, N., Dolan, S., Townsend, P., & Townsend, R. (2007). After critical care: A study to explore patients' experiences of a follow-up service. *Journal of Clinical Nursing*, *16*(11), 2122-2131. <http://dx.doi.org/10.1111/j.1365-2702.2006.01589.x>
- Peplau, H. (1997). Peplau's theory of interpersonal relations. *Nursing Science Quarterly*, *10*(4), 162-167.
- Rattray, J., & Crocker, C. (2007). The intensive care follow-up clinic: current provision and future direction? *Nursing in Critical Care*, *12*(1), 1-3.

- Rivosecchi, R. M., Smithburger, P. L., Svec, S., Campell, S., & Kane-Gill, S. L. (2015). Nonpharmacological interventions to prevent delirium: An evidence-based systematic review. *Critical Care Nurse*, *35*(1), 35-51. doi: 104037/ccn2015423
- Samuelson, K., & Corrigan, I. (2009). A nurse-led intensive care after-care programme- Development, experiences and preliminary evaluation. *Nursing in Critical Care*, *14*(5), 254-263. <http://dx.doi.org/10.1111/j.1478-5153.2009.00336.x>
- Storli, S., & Lind, R. (2009). The meaning of follow-up in intensive care: Patients' perspective. *Scandinavian Journal of Caring Sciences*, *23*(1), 45-56. <http://dx.doi.org/10.1111/j.1471-6712.2007.00589.x>
- Twigg, E., Humphris, G., Jones, C., Bramwell, R., & Griffiths, R. D. (2008). Use of a screening questionnaire for post-traumatic stress disorder (PTSD) on a sample of UK ICU patients. *ACTA ANAESTHESIOLOGICA SCANDINAVICA*, *52*, 202-208. <http://dx.doi.org/doi:10.1111/j.1399-6576.2007.01531.x>
- Williams, S. (2009). Recovering from the psychological impact of intensive care: How constructing the story helps. *Nursing in Critical Care*, *14*(6), 281-288. <http://dx.doi.org/10.1111/j.1478-5153.2009.00354.x>

APPENDICIES

APPENDIX A

PTSS-14 QUESTIONNAIRE

**The PTSS-14**

Participant # \_\_\_\_\_

Pre or Post Intervention

*Please rate each statement from 1 to 7, 1 being never and 7 being always.*

In the past few days, I have noticed that I suffer from:

- Sleep problems
- Nightmares
- Depression. I feel dejected/downtrodden
- Jumpiness. I am easily frightened by sudden sounds or sudden movements
- The need to withdraw from others
- Irritability. I am easily agitated/annoyed and angry
- Frequent mood swings
- A bad conscience, blame myself, have guilt feelings
- Fear of places and situations, which remind me of the intensive care unit
- Muscular tension
- Upsetting, unwanted thoughts or images of my time on the intensive care unit
- Feeling numb (e.g. cannot cry, unable to have loving feelings)
- Avoid places, people or situations that remind me of the intensive care unit
- Feeling as if my plans or dreams for the future will not come true

(Twigg, Humphris, Jones, Bramwell, & Griffiths, 2008, p. 204)

APPENDIX B

RECRUITMENT FLYER



APPENDIX C

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT  
MONTANA STATE UNIVERSITY

## **SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT MONTANA STATE UNIVERSITY.**

I am a graduate nursing student interested in learning how to help ICU survivors reduce the anxiety felt about their memories of ICU. I am piloting an ICU after-care program that will allow ICU patients to spend time with an ICU nurse after discharge from the hospital. During this time patients can speak to the nurse about their ICU experiences, memories, and fears. There will also be an opportunity to return to the ICU to visit the staff. By participating in this project, you may help us develop programs for ICU survivors that will address the psychological impact of being in ICU and help find ways to help patients heal from that experience.

If you agree to participate, you will be asked to complete a questionnaire about your anxiety symptoms since leaving the ICU. You will answer interview questions about your answers and be given the opportunity to discuss the ICU diary that was kept for you while you were in ICU. You will also be given the opportunity to visit the ICU again and meet some of your caregivers. You will also be asked to complete another questionnaire a couple of weeks after this meeting to see if your answers have changed. Your participation in this project is voluntary. You can choose not to answer any question that you do not wish to answer and you may withdraw your participation at any time. There is no compensation for participation, and there is no penalty for not participating. Your decision of whether or not participate will have no effect on the medical care you receive.

The risk of participation includes thinking about and re-living the ICU experiences, which may be difficult. The benefits of participating include speaking about the ICU experience with a nurse who understands the ICU experience and gaining insight to the entries written in the diary kept for you while in ICU. There is no cost to participate in this project.

Interviews will be recorded, but the recordings will only be used by the DNP student conducting the project. You will be assigned a numeric code that will be used to label all of your information. Your name will not be associated with any of your answers in order to protect your privacy at all times. Only the MSU student will have access to the numeric codes. Your name will never be made public.

You are welcome to contact me, Becky Wozniak, RN, BSN, CCRN, should you have any questions or concerns about this program. I can be reached at 612-710-0162. You may also contact my primary advisor, Dr. Charlene Winters at 406-243-4608. If you have concerns about your rights as a participant in this

project, please contact Dr. Mark Quinn, the chairman of the Institutional Review Board at Montana State University at 406-994-4707.

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. I, \_\_\_\_\_, agree to participate in this project. I understand that I may later refuse to participate and that I may withdraw from the study at any time. If I withdraw my participation from this project, all of my information will be destroyed by the MSU DNP student. I have received a copy of this consent form for my own records.

Signed: \_\_\_\_\_

Investigator: \_\_\_\_\_

Date: \_\_\_\_\_

APPENDIX D

PATIENT INVITE LETTER



Dear Patient,

My name is Becky Wozniak, RN, BSN, CCRN. I am a doctoral candidate in the Nursing Department at Montana State University. I am also an ICU nurse at Eastern Idaho Regional Medical Center (EIRMC). I am conducting a scholarly project as part of the requirements of my degree, and I would like to invite you to participate. This is not a research study, but rather a pilot project to assess whether this would be a good fit at EIRMC.

I am implementing a project at EIRMC that aims to reduce the instances of post-traumatic stress disorder (PTSD) in adult ICU survivors. If you decide to participate, you will be asked to return to EIRMC for a meeting that will last approximately 1 hour. During that meeting you will be asked to complete a survey about your feelings since being discharged from the ICU. In addition, you will meet with me for an interview about your ICU experience. The interview will be audio taped so that I can accurately reflect on what is discussed. The tapes will only be reviewed by me for transcription and analysis. They will then be destroyed. You will not be required to answer any questions that you do not wish to.

Participation is confidential. Project information will be kept secure. The results of the project may be published or presented at professional meetings, but your identity will not be revealed. Your name will not be associated with any information provided by you.

Taking part in the project is your decision. You do not have to take part in this project if you do not want to. You may also quit being in the project at any time or decide not to answer any question you are not comfortable answering. If you decline to participate, please know that this will not affect your medical care in any way. **There is no cost.**

I will be happy to answer any questions you have about the program. You may contact me at 612-710-0162 or my faculty advisor, Charlene Winters at 406-243-4608 if you have project-related questions or problems. If you have any questions about your rights as a project participant, you may contact the Institutional Review Board at Montana State University at 406-994-4707.

Thank you for your consideration in helping other ICU survivors. If you would like to participate, please contact me to discuss setting up an appointment.

With kind regards,

Becky A. Wozniak, RN, BSN, CCRN  
612-710-0162  
becky.higgins@msu.montana.edu

APPENDIX E

SAMPLE INTERVIEW QUESTIONS

Sample Interview Questions

- Have you read the diary that was kept for you while you were in ICU?
- How did you feel when you read it?
- What parts surprised you?
- Do you have any particularly troubling memories of ICU?
- Do any of your ICU memories make you afraid even now?
- Do you have any other fears now that you are home?
- Who do you talk to about your time in ICU?
- Do you have any good memories of ICU?
- What have you done to cope with your time in ICU that has helped you the most?