THE EFFECT OF PROVIDING CONCRETE OBJECTIVE INFORMATION DURING THE PROCEDURE OF TURNING ICU PATIENTS IN BED

LYN DEAN, RN, BN, Grad Dip Nursing (Education)

A thesis submitted in accordance with the total requirements for admission to the degree of Master of Nursing

Faculty of Nursing, Midwifery and Health
University of Technology, Sydney

March 2005
Certificate of Authorship/Originality

I certify that the work in this thesis has not been previously submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help I have received in my research work and in the preparation of this thesis itself has been acknowledged. In addition, I certify that all the information sources and literature used are indicated in the thesis.

Signature of candidate

[Signature]

Lyn Dean
Acknowledgements

I would like to express my gratitude to Professor Sharon McKinley*, principal supervisor, for challenging me to develop a greater understanding of the research process and also for her guidance and advice during my candidature. I would also like to thank Associate Professor Jane Stein-Parbury who acted as co-supervisor, as well as Margaret Kelly and Graeme Prince for final version proofreading and formatting. Additionally, I wish to acknowledge my family and friends who have constantly supported me.

Further, I would like to thank the ICU patients, who although experiencing difficult circumstances, willingly participated with the intent of finding ways to improve clinical practice and also the ICU nursing clinicians who supported this study with the same intent. Without both of these groups assistance, the contribution this study makes to the body of nursing knowledge would not be possible.

Finally, to the many nursing leaders who have shared their experience and wisdom to answer my questions, as well as offering encouragement throughout my nursing career, my passion for quality patient care and to represent the nursing profession is a testimony to their leadership. I truly wish to thank them all.

*Professor of Critical Care Nursing, Faculty of Nursing, Midwifery and Health, University of Technology, Sydney and Royal North Shore Hospital, Sydney.
Table of Contents

*List of Figures and Tables* vii

*Writing Aids* viii

*List of Abbreviations* viii

*Abstract* ix

**Chapter 1 – Background**

1.1 *Being critically ill* 1

1.2 *The intensive care unit environment* 2

1.3 *Addressing the problem of patients’ anxiety in the ICU* 7

1.4 *Outline of thesis* 8

1.5 *Summary* 9

**Chapter 2 – Literature Review**

2.1 *Introduction* 10

2.2 *The impact of anxiety on the intensive care unit patient* 11

2.3 *Theory of coping with stressful experiences* 16

2.4 *Research studies using concrete objective information* 19

   *Interventions*

2.5 *Summary of interventions using concrete objective information* 32

2.6 *Summary of literature review and research hypothesis and aims* 33
Chapter 3 – Method

3.1 Introduction 35
3.2 Preparatory investigation 36
3.3 Research methods 54
   3.3.1 Research design 54
   3.3.2 Research setting and sample 54
   3.3.3 Study intervention 56
   3.3.4 Ethical considerations 58
   3.3.5 Procedures 60
   3.3.6 Data analysis 66
3.4 Summary of methods 68

Chapter 4 – Results

4.1 Introduction 70
4.2 Sample characteristics 71
4.3 The effect of turning on state anxiety and pain 75
4.4 The influence of sedative and opioid drugs on the level of state anxiety experienced after turning 78
4.5 The association of the effects of adrenergic drugs on state anxiety after turning 78
4.6 The relationship of physiological parameters, turning and state anxiety 79
4.7 Sensations reported as being experienced during the turning procedure 80
4.8 Summary of results 82
Chapter 5 – Discussion

5.1 Introduction

5.2 The recognition and treatment of anxiety in ICU patients

5.3 The turning intervention

5.4 Strengths and limitations of the study

5.5 Implications and recommendations

5.6 Summary of discussion

Chapter 6 – Conclusion

6.1 Introduction

6.2 Summary of findings

References

APPENDIX A: Types of Information Instrument

APPENDIX B: Control Script

APPENDIX C: Intervention Script

APPENDIX D: Patient Information Sheet

APPENDIX E: Faces Anxiety Scale

APPENDIX F: Data Collection Form
List of Figures

Figure 1  *Pain reported after patients being turned*  

List of Tables

Table 1  *Experimental studies using concrete objective information and outcomes demonstrated*  

Table 2  *Frequency of sensations experienced by volunteers during turning in bed*  

Table 3  *Frequency of sensations experienced during turning in bed and having the sheet changed*  

Table 4  *Combined sensations experienced during turning in bed, described as themes*  

Table 5  *Comparison of demographic characteristics and admitting diagnosis to ICU*  

Table 6  *Comparison of drug administration, physiological parameters, state anxiety and pain immediately prior to patients being turned*  

Table 7  *The effect of pre turn state anxiety scores and group as confounders of state anxiety after patients being turned*  

Table 8  *The influence of pain on state anxiety after turning*  

Table 9  *The effect of sedative and adrenergic drugs on state anxiety after turning*  

Table 10  *Physiological parameters after turning*  

Table 11  *Sensations reported as being experienced by patients during the turning procedure*  

vii
Writing Aids


List of Abbreviations (commonly used within the text)

- ANCOVA: Analysis of covariance
- ANOVA: Analysis of variance
- ANZICS: Australia and New Zealand Intensive Care Society
- APACHE II: Acute Physiology and Chronic Health Evaluation
- EMG: Electromyogram
- ETT: Endotracheal tube
- FiO₂: Fraction of inspired oxygen
- HR: Heart rate
- ICU: Intensive care unit
- MAP: Mean arterial pressure
- RCT: Randomised controlled trial
- RR: Respiratory rate
- SaO₂: Arterial oxygen saturation of haemoglobin
- STAI: State-Trait Anxiety Inventory
- VAS: Visual analogue scale
Abstract

Patients in the intensive care unit (ICU) experience anxiety when exposed to factors such as, receiving mechanical ventilation, having an endotracheal tube, the inability to effectively communicate, experiencing pain and frequently undergoing stressful procedures. This thesis reports the results of a randomised controlled trial, testing whether a concrete objective information intervention provided to ICU patients when being turned in bed reduced state anxiety. The associations between sedation, pain, adrenergic drugs, turning and state anxiety, are also described. Further, the relationship between physiological parameters, turning and state anxiety are also examined.

The intervention was tested in a randomised controlled trial of 40 ICU patients. The sample comprised equal numbers of men and women. The mean age was 67 years in the control group and 65 years in the intervention group. Most patients had an admission diagnosis of cardiovascular disease (33%), respiratory (23%), gastrointestinal (23%) or neurological (10%). All patients had an artificial airway, either an endotracheal tube (80%) or tracheostomy tube (20%), and most (90%) were receiving mechanical ventilation at the time of data collection. The groups were similar at baseline with respect to study outcome, state anxiety, as well as clinical characteristics.
Patients randomised to the control group received the usual care of being turned in bed that was standardised and delivered by nurses who were guided by scripts. The intervention group received usual care with additional concrete objective information consisting of the sensations expected to be experienced by the patient when turned in bed. State anxiety was measured with the Faces Anxiety Scale immediately prior to and within three minutes of completing the turning procedure.

Prior to turning, patients reported moderate levels of state anxiety with the means similar for both the control (2.50) and intervention (2.60) (range 1-5) groups. Following turning, the state anxiety mean score for the control group was (2.50) and the intervention group (2.35). The concrete objective information had no effect on state anxiety during turning when analysed with ANOVA (p=.63).

In this study sample, two-thirds of patients who reported anxiety during the turning procedure had not received a sedative agent. Additionally, the physiological parameters of mean arterial pressure, heart rate and respiratory rate tested with Pearson’s correlation, were found to have no relationship to patients’ levels of state anxiety.

It is concluded that the concrete objective information intervention tested in this study, had no effect on the level of state anxiety experienced by ICU patients when they were turned in bed. It is recommended that the implementation of the Faces Anxiety Scale will assist nurses to more accurately assess anxiety and implement treatment therapies, to assist in reducing patients’ experience of anxiety.