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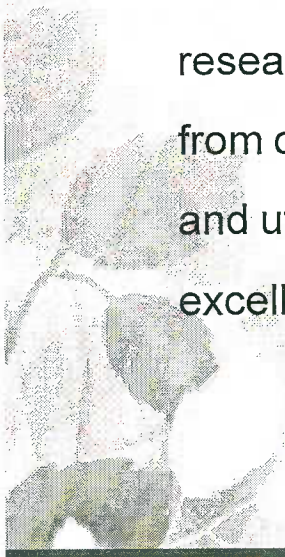
CONTENTS

ABOUT THE CONFERENCE

In the recent years of nursing practice, a number of nurse researchers internationally and locally have contributed much to the development of our profession. Evidence-based practices have gained corresponding recognition in both clinical practice and in the academia. With these scholarly outputs of professional nurses, the **1st Cebu International Nursing Conference** with the theme, *"Nurses: Creating a Positive Environment for Learning and Practice"* is initiated by Cebu Normal University which shall serve as an intellectual forum in which sharing of expertise and successful experiences in research shall be catered.

This conference aims to provide opportunities of sharing research works, developing professional networks, and learning from colleagues. It shall serve as a venue for nurses to disseminate and utilize research findings with other co-nurses, thereby attaining excellence and quality in practice.



Awareness on Peritonitis and Compliance of Primary Caregivers to Peritoneal Dialysis Procedure

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Peritoneal dialysis is a treatment modality undergone by patients diagnosed with End Stage Renal Disease to cleanse their blood of wastes. Being a lengthy procedure it requires the primary caregivers to perform the peritoneal exchanges even in the hospitals. Among the types of peritoneal dialysis available, intermittent peritoneal dialysis is considered to be the cheapest yet equally effective modality. Patients on intermittent peritoneal dialysis commonly experience peritonitis as a complication. Failure to observe strict asepsis during the performance of the exchanges serves as the portal of entry of organisms causing the infection. The signs and symptoms brought about by peritonitis cause not only physical agony to the client but also financial burden to the family.

The study determined the knowledge of primary caregivers on peritonitis in terms of risk factors, signs and symptoms, prevention and control. It also looked into their compliance to peritoneal dialysis procedure.

In depth interviews were conducted with sixteen primary caregivers using a researcher-made interview schedule.

Results revealed that the participants have considerable knowledge on peritonitis. The caregivers were not able to observe the appropriate procedures for peritoneal dialysis exchanges. Though majority of them strictly adhered to some procedure, they do not have the right rationale for doing so. A few of the participants revealed that they were knowledgeable on the proper procedure to follow but were not compliant since they felt that doing what is correct would mean sacrifice on the part of their patients.

The caregivers have high level of awareness on peritonitis but this had no bearing on their compliance to peritoneal dialysis procedure.

Prolonged Weaning in Critically Ill Patients: Case Study

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The phenomenon of prolong weaning in critica patient is impression. Many problems and related factors need to map detail. The capability of the nurse to led weani challenging and needed advance knowledge and skill. The n must neither prepare the patients on the physiological prepara (i.e. hemodynamic monitoring, correction of metabolic electrolyte disorder, and state of consciousness, or psycholo preparation.

The objectives of Phenomenon are: (1) To unders the concepts of prolonged weaning in critically ill patients To describe factors that related to prolonged weaning in crit ill patients; (3) To identify the assessment tool for asse prolonged weaning in critically ill patients (4) To de appropriate intervention for managing prolonged weani critically ill patients.

This study was case study that recruited 3 patients was experiencing and indicating prolonged weaning condition data was taken from the patient who admitted in Songklanag hospital in the RCU and in the ICU of Hatyai hospital, in Tha The nurse identifies the patient's condition by using five steps. are (1) assessing the patients; (2) linking problem, interven and outcomes are needed to identify potential intervention activities, and to select outcomes indicators.; (3) synthe best evidence to assess feasibility, benefit and risk of nu intervention; (4) designing or planning implementation pr and then define the outcomes; (5) implementing and evaluat demonstrate the intervention and evaluate process and outc

Among three cases have different causes of prol weaning. Based on the finding of this phenomenon, the c related to prolonged weaning can be identified includin imbalance work of breathing in inspiration and expiration because of compliance lung and chest wall due to dist rebound tenderness in abdomen; (2) respiratory muscle wea because of there are blocks in myelin to transfer the resp impulse due to the post infection in myelin, (3) dilatat bronchi with thickened walls extending to the lung pe due to bronchiecthasis, and (4) anxiety, as anxiety can in catecholamine and developed physiological impact for p during weaning trial.

Based on the phenomenon finding presente patients with ventilator support can wean successful if the p ready physiologically and psychologically.

PROLONGED WEANING IN CRITICALLY ILL PATIENTS; CASE STUDY

Suhartini[1], Kittikorn Nilmanat[2]

Abstract

Background: The phenomenon of prolong weaning in critically ill patient is impression. Many problems and related factors that need to map detail. The capability of the nurse to lead weaning is challenging and needed advance knowledge and skill. The nurse must prepare the patients for not only the physiological readiness but also psychological readiness.

Aims: The objectives were to describe factors that related to prolonged weaning in critically ill patients and to apply appropriate intervention for managing prolonged weaning in critically ill patients.

Methods: This study was used case study approach to recruit 3 patients who had a problem of prolonged weaning condition. The data were taken from the patient who were admitted in the Respiratory Care Unit (RCU) and in the Intensive Care Unit (ICU) in tertiary hospital in Songkhla province, Thailand. The nurse applied nursing process to develop nursing care for these patients, including assessment; nursing diagnosis; outcome identification; planning; implementation and; outcome evaluation.

Results: The causes related to prolonged weaning can be identified as including: (1) imbalance work of breathing in inspiration and expiration cycle, because of compliance lung and chest wall due to distension rebound tenderness in abdomen; (2) respiratory muscle weakness because of there are blocks in myelin to transfer the respiratory impulse due to the post infection in myelin, (3) dilatation of bronchi with thickened walls extending to the lung periphery due to bronchiecthasis, and (4) anxiety, as anxiety can increase catecholamine and developed physiological impact for patients during weaning trial.

Conclusion: Based on the phenomenon finding presented, the patients with ventilator support can wean successful if the patients ready physiologically and psychologically.

Key words: prolonged weaning, critically ill patients

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Background

Ventilator support is a common procedure when caring in critically ill patients who developed respiratory failure. Ventilator support is indicated when the patient's spontaneous ventilation is inadequate to sustain life (Byrd, 2009). Ventilator support is used to control ventilation of the patients in critically ill condition and as prophylaxis for impending collapse of other physiologic functions.

Prolonged weaning is defined as the need for more than twenty one consecutive days of mechanical ventilation for more than six hour per day (MacIntyre et al., 2005). A retrospective audit of 94 patients who were ventilated for seven or more days in intensive care unit over a one year period, revealed that the patients used ventilator support in average day of 16.8 days (Crocker, 2002). Burns and colleagues (1991) identified that factors related to the prolong weaning in the population included hemodynamic, metabolism, hydration and nutrition status, pain, sleep/rest, anxiety, bowel problems, and hospital-associated pneumonia or ventilator-associated pneumonia. McIntyre (2001) also indentified that neurologic factors, respiratory system muscle/load interactions, metabolic factors, gas exchange factor, cardiovascular factor, and psychological factor that link with pathophysiology of prolonged weaning.

The phenomenon of prolong weaning in critically ill patient is impression. Many problems and related factors that need drawing detail. The capability of the nurse to led weaning is challenging and needed advance knowledge and skill. The nurse must prepare the patients for not only the physiological readiness but also psychological readiness.

Objectives

The objectives of this study were to describe factors that related to prolonged weaning in critically ill patients and to apply appropriate intervention for managing prolonged weaning in critically ill patients.

Methods of the Study

The data were taken from the patient who were admitted in the Respiratory Care Unit (RCU) and in the Intensive Care Unit (ICU) in tertiary hospital in Songkhla province, Thailand. Patients were receiving ventilator support more than seven days and had a problem of prolonged weaning condition were recruited.

The Criteria of Subjects

The criteria of subjects in this case study are following:

1. Patients were receiving ventilator support more than seven days
2. Cooperative
3. Having full consciousness

Instrument for Data Collection

The instruments for data collection were: (1) demographic data questioner, (2) shortened version of State Anxiety Scale (SAI) was developed Chlan, 2003, (3) assessment tool of prolonged weaning was developed by nurse. The description of instruments is presented as follows.

Demographic data questionnaire

The demographic data questionnaire was closed-ended questions, designed by the nurse to collect demographic characteristic. It has eleven items: (1) age, (2) gender, (3) marital status, (4) religion, (5) level of education, (6) occupation, (7) diagnosis, (8) mode of ventilator support, (9) day of ventilator support, (10) using Oropharingeal tube or tracheostomy tube (OTT/TT, and (11) past history of illness and medications.

State Anxiety Inventory (SAI)

The State Anxiety Inventory was used in this study to measure the patients' state anxiety. This scale consists of 6 items statement, each rated on a 4 point Likert scale. The scale has anxiety absent items and anxiety present. Each item is given a weight score on 1 to 4. The response range of anxiety present stand from (1) not at all, (2) somewhat, (3) moderately, and (4) very much so. The score one indicates the absence of anxiety state and sore of four indicates the presence of high anxiety. The total score for each scale is the sum of each the items, and ranges from minimum of 16 to a maximum of 24. The score of state anxiety is 6-11 for mild anxiety level, 12-17 for moderate anxiety level, and 18-24 for severe anxiety level.

Assessment tool of prolonged weaning

The tool assessment of prolonged weaning consists of respiratory assessment (sixteen items), cardiovascular assessment (five items), neurological assessment (3 items), gas exchange assessment (2 items), metabolic and nutrition status assessment (6 items), and psychological assessment (4 items). The total item of the assessment tool is 36 items.
The nurse identified nursing care plan for each patient by using five steps of nursing process. They are (1) assessing the patients' data; (2) identifying nursing diagnosis; (3) defining the expected outcomes ; (4) designing or planning implementation process by synthesizing best evidence to assess feasibility, benefit and risk of nursing intervention.and making judgment about ought to be done; and (5) implementing and evaluating to demonstrate the intervention and evaluate process and outcome.

Results of the Study

This phenomena study was conducted in the RCU Songklanagarind hospital. Data collection and implementation was done for 3 weeks on Monday, Tuesday and Wednesday. The patients who meet the criteria were assessed the demographic data, anxious feeling were measured by using SAI, and physiological data of weaning process were measured by using the assessment tool of prolonged weaning. Lastly, the patients then were given the holistic intervention.

Demographic Characteristic

The age of patients in this study is older people were 56 years old (case 1); 63years old (case 2); and 68 years old (case 3). The gender of patients was two female and one male. The religion of them was Buddhist. The length of ventilator support among three cases is difference, the data show they already have prolonged weaning (Table 1). The mode of ventilator support of two patients was CPAP, and one patient was assisted controlled with full support, and it was varied depend on the diagnosis of patients and effort of spontaneous breathing.

Table 1. The Characteristic of Each Case

Characteristics	Case 1	Case 2	Case 3
Age	56 years old	63 years old	68 years old
Gender	Female	Male	Female
Marital status	Married	Married	Married
Religion	Buddhist	Buddhist	Buddhist
Level of education	Senior high school	Bachelor school	Senior high school
Occupation	Retired	Retired	Retired
Diagnosis	Post op laparatomi peritonitis, underlying of COPD	GBS	Bronchiectasis, old CVA, Hypertension
Length of ventilator support	14 days	25 days	56 days
Mode of ventilator	CPAP, PS 14, PEEP 7, Vt 447 cc, f total 23, FiO_2 0.40	CPAP, PS 10, PEEP 0, Vt 700 cc, f tot 22, FiO_2 0.35	A/MV, PEEP 8, Vt 350 cc, f tot 16, FiO_2 0.60 TT
Via	OET	OET	CVA,
Past history of illness	Controlled HT	Controlled HT, no current medication.	hypertension

Note: GBS = Guillain Barre Syndrome, COPD = Chronic Obstructive Pulmonary Disease, CPAP = continuous positive airway pressure, PS = Pressure Support , PEEP = Positive End Expiratory Pressure, OET = oropharingeal tube, TT = tracheostomy tube, Vt = Tidal vomume, HT = hypertension, CVA = Cerebrovascular Accident

Physiological Assessment of Each Case

The physiological assessment was assessed to know the physiological readiness of patients to wean. The assessment result is presented in the below table (see Table 2). Case one was succeed weaning and extubated on August 10, 2009; case two in the trial weaning everyday; case three is difficult to wean and use ventilator support for 56 days.

Anxiety level of each patient

The level of anxiety among three cases was measured for understanding what level they have. This assessment did before and after giving nursing intervention. The assessment of anxiety was a part of psychological assessment. The psychological assessment can used to predict the weaning success program among three cases. Among three cases the patients who had high level of anxiety before and after intervention are case one. However, case three the score of anxiety after intervention could not be measured.

Table 2. The physiological and psychological assessment of each case

Normal parameter	Case 1	Case 2	Case 3
Respiratory Assessment			
1. Normal RR, adequate SBT	RR 28 bpm	RR 19 bpm	RR 30 bpm
2. Sound of lung (vasicular)	Rhonchi, Wheezing*	Rhonchi, Wheezing*	Rhonchi, Wheezing, crepitation*
3. Secretions (no or minimal secretion)	Thick and a lot	Thin and a lot	Thick and a lot
4. Absence of abdominal distension/obesity/ascites (no distention/ascites)	Distension, rebound tenderness*	No distension	No distension
5. Cough and swallow reflexes adequate	Inadequate*	Inadequate*	Inadequate*
6. Negative inspiratory pressure < -20	- 8 bpm	10 bpm	- 20 bpm
7. Positive exspiratory pressure > +30	+ 23 bpm	+ 22 lpm	+ 16 bpm
8. Spontaneous tidal volume > 5 – 10 ml/kg	400-500 cc	700 cc	400 cc
9. Vital capacity > 10 – 15 ml/kg	450 cc	690 cc	500 cc
10. pH 7.30 – 7.45	7.34	7.35	7.32*
11. FiO2 ≤ 40%	0.40	0.35	0.60*
12. RSBI ≤ 105 (f/Vt)	28/500	19/700	30/400
13. Minute ventilation with SBT 10 L/min	10 L/min	10 L/min	10 L/min
14. Normal airway resistance % - 15 cmH_2O	Not assessed	Not assessed	Not assessed
15. Chest x-ray improving or returned to baseline	Not assessed	Not assessed	Not assessed
Cardiovascular assessment			
16. Present myocardial infarction	Hypertension	No data	Hypertension
17. ECG monitoring (sinus rhythm)	ST	ST	ST
18. Blood Pressure (120/80 or 120/70 mmHg)	133/87 mmHg*	143/93 mmHg*	140/90 mmHg*
19. Heart rate (70-80 bpm)	96 bpm	101 bpm*	100 bpm*
20. Abnormal heart sound (not present)	No murmur, no gallop	No murmur, no gallop	No murmur, no gallop
Neurological assessment			
21. Consciousness (GCS 15)	E4V_T M6	E4V_T M6	E4V5 M6
22. Patient has brainstem strokes? (not present)	No history	No history	Yes, 2 years ago No current history
23. Patient has central apnea? (not present)	No history	No history	

Normal parameter	Case 1	Case 2	Case 3
Gas exchange assessment			
24. Acidosis/alcalosis respiratory pH= 7.35 -7.45 pCO_2= 35 – 45 mm Hg pO_2= 80-100 mmHg (elderly: 60 – 80 mm Hg) BE = -2 to +2 mEq/L HCO3 = 22 – 26 mmol/L	- pH 7.35 - pCO_2 48.9 mmHg* - pO_2 98.8 mmHg - BE + 2 - HCO_3 34.8mmol/ L*	- pH 7.43 - pCO_2 34.3 mmHg - pO_2 93.7 mmHg - BE -1.3* - HCO_3 23.6mmol/ L	- pH 7.32* - pCO_2 58.9 mmHg* - pO_2 62.8 mmHg - BE -1* - HCO_3 36.6 mmol/L*
Metabolic and nutrition status assessment			
25. Adequate nutrition - Energy expenditure estimation	Adequate EEE = 1065 kcal/day	AdeAdequate EEE = 1500 kcal/day	Adequate EEE 1286 kcal/day
26. Gastrointestinal infectious (Salmonella/E.coli)	No data	No data	No data
27. Electrolyte balance Na = 135 -145 mmol/L K = 3.5 – 5.1 mmol/L Ca = 8.1 – 10.4 mg% Phosphate= 2.7 - 4.5 mg%	Na 136 mmol/L K^+ 3.04 mmol/L Ca^- 8.1 mmol/L Phosphat no data	Na 129 mmol/L* K 4.38 mmol/L Ca 8.8 mmol/L Phosphat 4.1 mg%	Na 136 mmol/L K 4.32 mmol/L Ca 8.5 mmol/L Phosphat 2.6 mg%
28. Hb level (12-14 gr%)	12, 10 gr%	14 gr%	9.8 gr%*
29. Blood glucose level (81~108 mg/dL)	174 mg/dl	No data	No data
30. Albumin level (4-5g%)	3.0 g%*	3.7 g%*	3.3 g%*
Psychological assessment			
31. Level of anxiety	High*	Moderate*	High*
32. Pain scale	6	1	2
33. Sleep disturbance	2-3 hour sleep*	2 hours sleep*	Cannot sleep*

* Abnormal data

Nursing Diagnosis and Nursing Intervention among Three Cases

Among three cases, they have three similarities of nursing diagnoses. The nursing diagnoses are: (1) anxiety related to need for mechanical ventilation, breathlessness, and inability to speak to communicate needs; (2) dysfunctional ventilatory weaning response related to ineffective airway clearance, sleep pattern disturbances and psychological factors; (3) Impaired spontaneous ventilation related to respiratory muscle fatigue, and metabolic factors (Table 3).

Table 3. Nursing Diagnosis and Nursing Intervention among Three Cases

Supportive Data	Nursing Diagnosis	Nursing Intervention
Subjective data: Patient feel worry during weaning trial Objective data: Face expression look tense Look weakness Look fatigue	Anxiety related to need for mechanical ventilation, breathlessness, and inability to speak to communicate needs	1. Asses patient every 4 hours for signs of anxiety 2. Asses respiratory pattern for synchrony with ventilator 3. Talk to patient frequently; speak slowly and do not shout (i.e. yes/no questions, paper and pencil, or lip reading) 4. Implement interventions to reduce anxiety (i.e. simple explanations before and during procedures, family visitation, diversionary activities such as music or television) 5. Collaborate with the health care team to develop strategies to reduce anxiety and maximize effectiveness of mechanical ventilation: changes in settings, sedation, and complementary therapy
Subjective:-- Objective data - Depending on ventilator support in several days - Many secretion in the airway - Patients experience sleep deprivation - The anxiety score moderate to high level	Dysfunctional ventilatory weaning response related to ineffective airway clearance, sleep pattern disturbances and psychological factors	1. Assess patient's readiness to wean 2. Provide weaning method based on protocols and research evidence 3. Promote rest and comfort throughout the weaning process, especially between weaning trials; ensure that environment is safe and comfortable 4. Support patients in setting goals for weaning 5. Collaborate with the health care team to provide mechanical ventilation and coaching that supports respiratory muscle training.
Subjective data:--- Objective data: - Look weakness - Faced expression is tension - Receiving ventilator support with mode CPAP and A/C. - Inadequate cough - Inadequate swallow - Sound of lungs rhonchi, wheezing	Impaired spontaneous ventilation related to respiratory muscle fatigue, and metabolic factors	1. Maintain artificial airway, secure ETT or tracheostomy with tape or commercial devices. 2. Assess position of artificial airway; auscultate for bilateral sound and observe for abdominal distention Monitor oxygenation and ventilation at all times, and respond to changes: vital signs, total RR, oxygen saturation, ABGs, mental status, and level of consciousness 3. Assess respiratory status at least every 4 hours and respond to changes; breath sounds, respiratory pattern, sign and symptoms of hypoxemia, and patient's ability to initiate a spontaneous breath) 4. Reposition ETT from side to side every 24 hours; assess and document skin condition

Discussion

In this study, the nurse not only focuses in the main intervention to solve the patients' problem, but also emphasize on holistic care as a whole of nursing care. In these cases, the nurse do; assessment, nursing diagnosis, interventions, implementations and evaluations. After the nurse collect the data by assessing the patient and doing physical examination, the nurse formulate nursing diagnosis, and then make a plan to intervene the patients' problems. The nurse is either do the implementation or evaluation during take care of the patients.

Case one

Case one is a case of post operative laparatomy due to peritonitis. The patient required prolonged weaning because ventilation demands can increase as a consequence of increased oxygen demands or increased dead space in patients with underwent surgical. Compliance worsening can be a consequence of chest wall abnormalities such as abdominal distension or surgical dressings (O'Keefe, Hawkins, Boynton, Burns, Golstone, Green, & Moxham, 1994; 2001).

In case one shown that the patient tends to have larger respiratory muscle loads than withdrawn from ventilator support. Thus, the patient failed to respond to ventilator withdrawal attempts because of a capacity/load imbalance tend to display rapid, shallow breathing patterns inadequate (Nseir et al., 2005; Rello et al., 2001). In addition, the breathing pattern is a consequence of a reduced respiratory drive per breath or an inability of ventilatory muscles to respond to an appropriately increased neural stimulus (Laghi et al., 2003; Robriquet et al., 2006; 2005)

In case one, the patients developed prolonged weaning because of two reasons. The first reason is caused by increasing WOB expended adequate ventilation to be obtained. WOB increased energy expenditure requires proportionately more oxygen and glucose. If the WOB becomes too high, respiratory failure may ensue and mechanical ventilatory support may be needed. Therefore the patients need ventilator support for many days and developed prolonged weaning. The second reason is caused by the patient experienced abdominal distension and underwent laparatomy. The respiratory need sustain diaphragm and abdominal muscle to support during inspiration and expiration. When the human inspiration, the diaphragm is initially inhibited and the abdominal muscle becomes increasingly active. Guyton (1991) supported that during negative pressure breathing, respiration is an inspiratory act and only the thorax is subjected to stress. During positive pressure breathing, respiration is on expiratory act and both thorax and abdomen are subjected to the stress. Both the reasons are clearly explained that the patient (case one) required ventilator support and then developed prolonged weaning.

Physiologically, respiratory mechanics is influenced by work of breathing (WOB) and compliance. Work of breathing is influenced by the diaphragm as the major muscle of respiration. Spontaneous breathing relies primarily on diaphragmatic excursion to produce negative intrathoracic pressure (Sole, Klein, & Moseley, 2009). Compliance is a measure of the distensibility of the lung and chest wall. The lung compliance is as the change in lung volume per unit of pressure change. Lung function is altered in most patients requiring mechanical ventilation, resulting in decreased compliance (Sole, et al., 2009). In case of obesity, the lung compliance decrease because inflating the lungs in the presence of increased chest wall (Sole, et al., 2009).

Patient one also had anxiety with moderate level. However after the nurse give the breathing exercise to reduce her anxiety the score level is lower than before. For three days taken care the patient, the nurse always encouraged the patients to do breathing exercise and passive or active range of motion exercise. She was cooperative. Then, lastly she can deliberate from ventilator support on August 10, 2009.

Case two

Case two presented with guillain-barre syndrome (GBS). GBS is a case of muscular weakness and ambulatory difficulty. In GBS case the patients developed muscle weakness in the extremities, abdominal muscle, respiratory muscle, and lastly facial flaccid. Some cases also developed muscle weakness in the gastrointestinal and urinary tract muscle (Davids, Oleszek, & Cha-Kim, 2008).

The ventilatory pump controller in the brainstem is a rhythm and pattern generator, which receives feedback from cortical, chemoreceptive, and mechanoreceptive sensors. The failure of this controller can come from several factors (Byrd, 2009). In GBS case, the neurotransmitter cannot convey the message from the brain to the ventilatory pump, because there is block in myelin as neurotransmitter of impulse.

In case two, the patients develop respiratory muscle weakness. Requiring ventilator support in this case because, in GBS patient weakness develops acutely and progresses over days to week. The weakness is ranging from mild to complete tetraplegia with ventilatory failure. The weakness of muscle respiratory will cause respiratory failure. Therefore, the health care team was anticipating mechanical ventilation in GBS. In 2001, Lawn, Fletcher, Henderson, Wolter and Wijdiks, found that progression to mechanical ventilation was highly occurred in GBS patients with rapid disease progression, bulbar dysfunction and bilateral facial weakness, or dysautonomia. Factors associated with progression to respiratory failure including vital capacity of less than 20 mL/kg, maximal inspiratory pressure less than 30 cm H_2O, maximal expiratory pressure less than 40 cm H_2O, or a reduction of more than 30% in vital capacity. Thus, this case presented prolonged weaning because of respiratory muscle weakness.

The patient, in case two, developed anxiety with moderate level. After the nurse do assessment, and do nursing intervention, he wanted to listen to the music. So, the nurse provided Thai music without lyric in 15 minutes, for three days. When the patient was listening to the music he said feel better. The nurse also provided meditation while patient do breathing exercise. The relative was included on this activity. After meditation and breathing exercise, then the patient slept about 2 hours. Similarly, in 1998, Chlan studied the effect of music therapy in patients with ventilator support. The researcher found that the anxiety level in the experimental group was significant lower than the control group.

Case three

Case three is bronchiectasis case with weaning difficulty. The case of bronchiectasis has increased with persistent mucus production and impairment of the mucociliary transport system. Bronchiectasis is characterized by dilated bronchi with thickened walls extending to the lung periphery. Bronchiectasis is further compounded by colonization of organism in the airways such as *Pseudomonas aeruginosa, Haemophilus influenzae*, and *Staphylococcus aureus*, which are difficult and often impossible to eradicate and are associated with poor prognosis. In this case, the patient has infection of *Pseudomonas auroginosae.*

Physiologically, the patient in this case can be maintained. Data from respiratory assessment show that the data was quite normal. But, psychologically, the patient feeling more anxious, sleepy, and sometimes she was reject people who come to her. One nurse said that she worried in many things; however the source of her worried cannot assessed. To try close by the patients, the nurse do closed observation, and present when the patient need. Lastly, in this case, anxiety impacted physiological and psychological.

Anxiety increases the concentration of circulating catecholamines. Cathecholamine increases the heart's afterload (by increasing systemic vascular resistance), its preload (by constricting the great veins and forcing blood towards the heart) and the myocardial oxygen demands (Vassilakopoulus, Zakynthinos, & Roussos, 1996). The data had shown that in case one, the patient has increase blood pressure, heart rate, and respiratory rate.

Other data psychological was also found that patient cannot sleep during the day and the night time. The, the patient gets anti anxiety (lorazepam 1 mg/24 hours). Administer sleep deprivation with anti anxiety might be can solve the problem, patient can sleep and reduce her anxiety, but the medication is innocuous (Honkus, 2003). Sleep deprivation may also cause impairment of the respiratory control system (Cooper et al., 2000) although this may be related to accompanying factors rather than to sleep deprivation (Spengler & Shea, 2000). Nevertheless sleep deprivation can came from the physiological factor that might be patients have (i.e. fear, anxiety, and stress). Patients who have been on prolonged mechanical ventilation are afraid of losing this support. Because psychological barriers can be significant, so provide good nursing intervention, frequent communication and reassurance for the patient and family throughout weaning . Therefore, during weaning from ventilator support, the nurse should evaluate level of anxiety, sensation of breathlessness, and other feelings regarding to procedure.

In conclusion, among three cases have different causes of prolonged weaning. Based on the finding of this phenomenon, the causes related to prolonged weaning can be identified including: (1) imbalance work of breathing in inspiration and expiration cycle, because of compliance lung and chest wall due to distension rebound tenderness in abdomen; (2) respiratory muscle weakness because of there are blocks in myelin to transfer the respiratory impulse due to the post infection in myelin, (3) dilatation of bronchi with thickened walls extending to the lung periphery due to bronchiecthasis, and (4) anxiety, as anxiety can increase catecholamine and developed physiological impact for patients during weaning trial.

Summary

The nurse has to aware about the phenomenon of prolonged weaning in patients with ventilator support. Ventilator support is a life-sustaining therapy fraught with side effects. The weaning successful from ventilator support at any time is associated with many factors and the patient's conditions. The nurse has to have much knowledge to apply nursing intervention to support weaning successful among the patients. Based on the phenomenon finding presented, the patients with ventilator support can wean successful if the patients ready physiologically and psychologically.

Recommendation

The nurse must always assess the readiness of patients in weaning process off ventilator support by using the existing tool or based on the weaning protocol. Either the physiological or psychological readiness need nurse attention, because patients somewhat

develop psychological problems when she/he is in weaning process, in which can influence her/his physiological responses. The assessment tool of this phenomenon study can be used to assess physiological and physiological readiness of patients during weaning trial. Then, nursing intervention, such as music listening, massage hand and foot, and meditation can be applied to reduce patients' anxiety.

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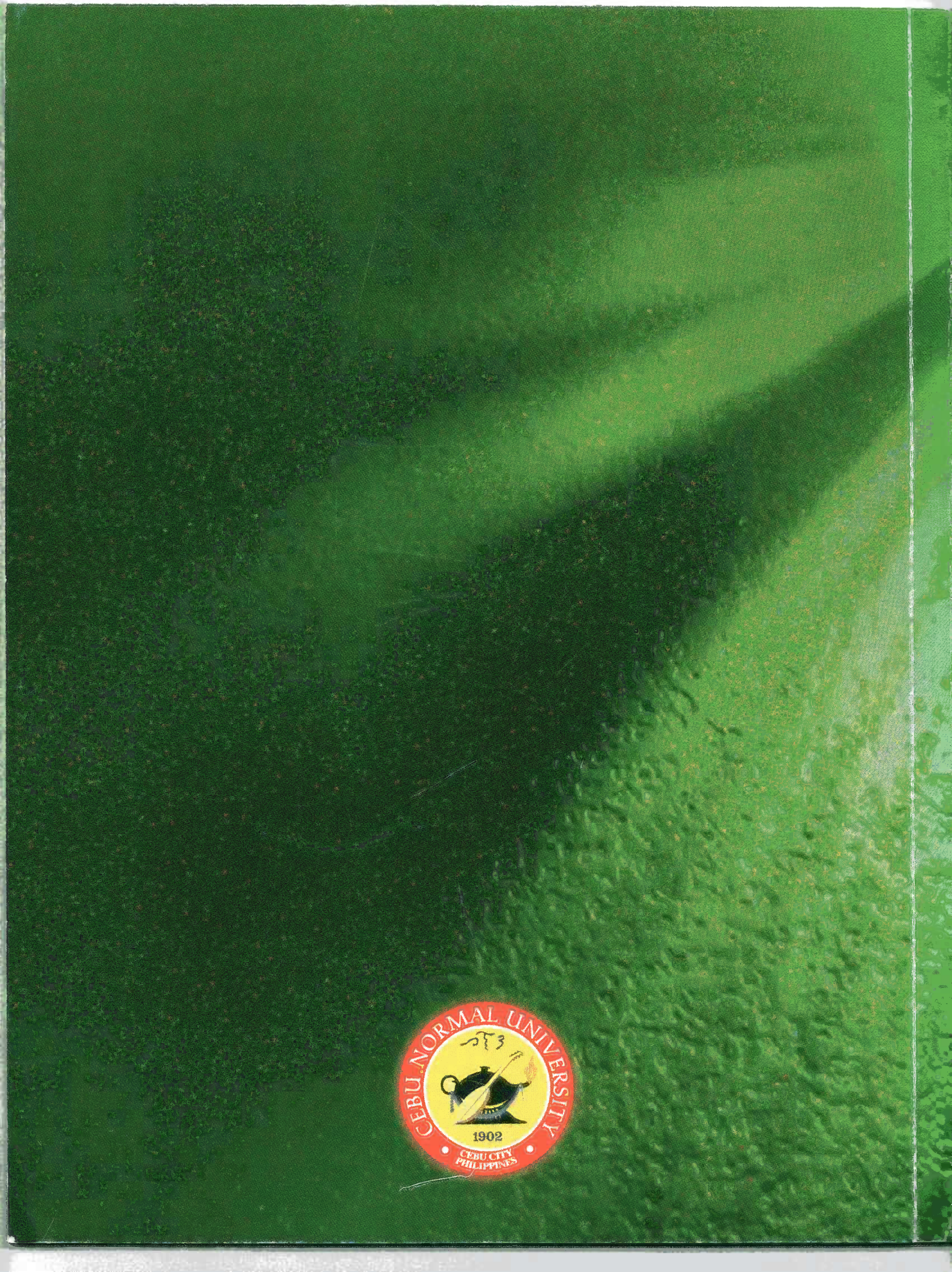
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